

CITY OF ORILLIA

TO: Council Committee (meeting of February 8, 2010)
FROM: Ian Sugden, Director of Planning and Development
DATE: February 3, 2010
REPORT NO: PD-10-02
SUBJECT: Application for a Zoning By-law Amendment
Susan McGill – Peer Review Follow Up
456 Forest Avenue South
Our File: D14-707

Recommendation

THAT Council Committee receives the report of the Director of Planning and Development dated February 3, 2010 (D14-707) as informational;

AND THAT Council refuse Zoning Amendment Application D14-707.

Background

This report has been prepared as a follow up to the direction provided to staff by Council on August 24, 2009.

The following recommendation was **adopted** by Council on August 24, 2009:

“THAT this Committee recommends to Council that, further to the report dated August 17, 2009 from the Senior Planner, staff be authorized to retain RiverStone Environmental Solutions Inc. and Pearson-McCuaig Engineering Ltd. to undertake Peer Reviews of the applicant's Environmental Impact Study at the applicant's expense and Stormwater Management Report on behalf of the City at the City's expense, as per the authorization of the applicant's agent under Section 13 of the City's Zoning By-law Amendment application form;

AND THAT in the instance that a valid appeal of the Zoning By-law Amendment application is submitted to the Ontario Municipal Board further to the appeal originally submitted by the applicant to the City on July 3, 2009, staff is authorized to hire Legal Counsel and to retain the firms of RiverStone Environmental Solutions Inc. and Pearson-McCuaig Engineering Ltd. to provide expert testimony at the Ontario Municipal Board on behalf of the City, as required.”

As a result of the authorization provided, City staff retained the services of RiverStone Environmental Solutions Inc. to conduct an independent peer review of the applicant's Environmental Impact Study (prepared by Azimuth Environmental Consulting Inc.). City staff also retained the services of Pearson-McCuaig Engineering Ltd. to conduct an independent peer review of the applicant's Stormwater Management Report (prepared by C.C. Tatham & Associates).

The Environmental Impact Study (hereinafter referred to as EIS) peer review report was submitted to the City on November 25, 2009. The Stormwater Management Report (hereinafter referred to as SWM) peer review report was submitted to the City on October 28, 2009.

The applicant and their agents were provided with copies of both peer review reports in an order to obtain any rebuttal comments. Comments with respect to the EIS peer review were prepared by the applicant's consultants and are contained within their report dated January 14, 2010. In light of the range of technical issues raised, the City's peer review consultants were asked to provide their comment on the applicant's consultant's rebuttal comments. RiverStone Environmental Solutions Inc. provided their comments with respect to the rebuttal comments on January 19, 2010. Comments with respect to the SWM peer review report were received from the applicant's consultants on January 18, 2010.

Analysis and Options

As a result of the Ministry of Natural Resources' decision to exclude the subject property from the Victoria Point PSW, the lands became "adjacent lands" as defined in the Provincial Policy Statement (PPS).

Section 2.1.6 of the PPS reads as follows:

"2.1.6 Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.3, 2.1.4 and 2.1.5 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions."

The PPS defines "adjacent lands" as follows:

"Adjacent lands: means

- a. for the purposes of policy 2.1, those lands contiguous to a specific natural heritage feature or area where it is likely that development or site alteration would have a negative impact on the feature or area. The extent of the adjacent lands may be recommended by the Province or based on municipal approaches which achieve the same objectives; and
- b. for the purposes of policy 2.6.3, those lands contiguous to a protected heritage property or as otherwise defined in the municipal official plan."

The PPS defines “ecological functions” as follows:

“Ecological function:

means the natural processes, products or services that living and non-living environments provide or perform within or between species, ecosystems and landscapes. These may include biological, physical and socio-economic interactions.”

The PPS defines “negative impacts” as follows:

“Negative impacts:

means

- a. in regard to policy 2.2, degradation to the quality and quantity of water, sensitive surface water features and sensitive ground water features, and their related hydrologic functions, due to single, multiple or successive development or site alteration activities;
- b. in regard to fish habitat, the harmful alteration, disruption or destruction of fish habitat, except where, in conjunction with the appropriate authorities, it has been authorized under the Fisheries Act, using the guiding principle of no net loss of productive capacity; and
- c. in regard to other natural heritage features and areas, degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple or successive development or site alteration activities.”

The PPS contains policies that govern its Implementation and Interpretation. Amongst other matters, the Implementation and Interpretation policies of the PPS state:

“4.6 The policies of this Provincial Policy Statement represent minimum standards. This Provincial Policy Statement does not prevent planning authorities and decision-makers from going beyond the minimum standards established in specific policies, unless doing so would conflict with any policy of this Provincial Policy Statement.”

The subject lands fall within the area of the City of Orillia that is subject to the recently enacted Lake Simcoe Protection Act, and the similarly recent Lake Simcoe Protection Plan. The transition regulations (O. Reg 219/09) state that decisions made with respect to Zoning Amendment applications that apply to lands within 120 metres of the Lake Simcoe shoreline must be disposed of in accordance with the provisions of the Lake Simcoe Protection Plan.

The most relevant policies of the Lake Simcoe Protection Plan are cited below:

“Settlement Areas

Settlement areas are urban areas and rural settlement areas (e.g. cities, towns, villages and hamlets) where *development* is concentrated and lands are designated in municipal official plans for development over the long term. The following policies apply to those *settlement areas* designated in official plans as they existed on the date the Plan came into effect and to *settlement area* expansions.

- 6.32-DP Policies 6.32 - 6.34 apply to *existing settlement areas* and areas of Lake Simcoe adjacent to these lands, including the *littoral zone*, and these areas are not subject to policies 6.1 – 6.3, 6.5, 6.11 and policies 6.20 - 6.29.
- 6.33-DP An application for *development or site alteration* shall, where applicable:
- a. increase or improve *fish habitat* in streams, *lakes* and *wetlands*, and any adjacent *riparian areas*;
 - b. include landscaping and habitat restoration that increase the ability of native plants and animals to use *valleylands* or *riparian areas* as *wildlife habitat* and movement corridors;
 - c. seek to avoid, minimize and/or mitigate impacts associated with the quality and quantity of urban run-off into receiving streams, *lakes* and *wetlands*; and
 - d. establish or increase the extent and width of a vegetation protection zone adjacent to Lake Simcoe to a minimum of 30 metres where feasible.
- 6.34-DP Where, through an application for *development or site alteration*, a buffer is required to be established as a result of the application of the PPS, the buffer shall be composed of and maintained as *natural self-sustaining vegetation*."

Environmental Impact Study:

The City's EIS peer review consultant investigated the matter of the Victoria Point Provincially Significant Wetland (PSW), by discussing the previous boundary adjustment decision with the Ministry of Natural Resources. As noted in previous staff reports, the Ministry of Natural Resources confirmed that the PSW boundary was removed from the subject lands (and relocated to the southernmost property boundary of the subject lands) as a result of a Ministry decision made to respect the historic land use (Official Plan) designation and zoning. The Ministry of Natural Resources confirmed that their decision to relocate the boundary of the PSW was not related to the subject property's hydrological and biological connection to the rest of the Victoria Point PSW. It should be noted that the subject property is currently designated Living Area in the existing City of Orillia Official Plan as amended, and is currently zoned Second Density Residential (R2) in part and Environmental Protection (EP) in part under By-law 2005-72 as amended. The subject property is comprised of a number of lots on a registered plan of subdivision, which have been merged by virtue of the passage of a deeming By-law. The subject property could currently be developed with a maximum of two residential dwelling units within a permitted Duplex Dwelling.

Notwithstanding the Ministry of Natural Resources authority and decision to adjust the boundary of the Victoria Point PSW to avoid the subject lands, the City's EIS peer review consultants have found that the subject property is still hydrologically and biologically connected to the PSW. The City's consultants identified negative impacts on the features and functions of the adjacent PSW that would likely occur as the result of the proposed development. The identified negative impacts include the following:

- impacts to local hydrology
- the loss of buffering function currently performed by the proposed development area
- road mortality of Species At Risk reptiles
- loss of direct fish habitat.

The applicant's consultants provided rebuttal comments in the attached January 14, 2010 document, which can be summarized as follows:

- The total loss of wetland (resulting from the proposed development) is 0.5 ha (1.2 ac.), which represents approximately 0.37% of the total wetland area (if considered as part of the adjacent Victoria Point PSW).
- The peer reviewer's conclusion about the development having "at least some impact upon the hydrology" of the wetland is not substantiated.
- The typically required 30 metre wide buffer is unreasonable and impossible to accommodate the proposed development of the subject property. A 12 metre wide buffer is proposed to be provided, which is sufficient, and is better than the existing conditions at the end of MacIsaac Drive.
- The potential for road mortality of Species At Risk reptiles is minimal as the site, once developed, will not contain any habitat to attract Species At Risk.
- The applicant's consultants disagree with the peer reviewer's suggestion that there is direct fish habitat, but note that the Department of Fisheries and Oceans must be consulted to address any potential loss of fish habitat.

The City's EIS peer review consultants analyzed the applicant's consultant's rebuttal comments and provided further clarification to support their (RiverStone's) conclusions. That clarification is provided in the attached January 19, 2010 document, and can be summarized as follows:

- The loss of wetland and its replacement with hard surfaces (roofs and asphalt driveways and parking areas) is a self-evident example of a negative impact to local hydrology.
- The applicant's proposal to provide a 12 metre wide buffer is negated by the fact that the buffer is largely comprised of an asphalt road / driveway.
- Road mortality of Species At Risk reptiles is a possibility especially during the early stages of the development.
- There will be a loss of direct fish habitat as a result of site development.

The City's peer reviewers have concluded that the proposed development will likely result in negative impacts on the natural features or the ecological function of the adjacent PSW.

Stormwater Management Report:

The City's Manager of Development, Mr. Glen Harriss has reviewed the Stormwater Management Report, the peer review report prepared by the City's peer review consultant, and the applicant's consultants' rebuttal comments. Mr. Harriss has provided the following summary comments:

- We are recommending that the developer's consultant engineer (C.C. Tatham and Associates) re-evaluate their Stormwater Management Design criteria based on the comments and suggestions provided by Pearson-McQuaig Engineering Ltd.
- It is imperative to ensure that any proposed design changes to the Stormwater Management Facility do not negatively impact abutting existing lands.
- Upon submission of the revised engineering plans, we are also requesting that a site-specific Geotechnical Soils Analysis Report be submitted along with recommendations to facilitate underground municipal services, laneway and parking lot structures and dwelling units.
- We would also request that the engineering submission be forwarded to the Ministry of the Environment for their review specifically related to storm water Quality Control.

Financial Impact

The cost to conduct the peer review of the applicant's Stormwater Management Report was \$2,835.00. This cost has been paid by the City in accordance with the direction provided by Council. The cost to conduct the peer review of the applicant's Environmental Impact Study has been paid by the applicant in accordance with the direction provided by Council.

Comments from Other Departments

Not applicable.

Policy Impact

Council's decision with respect to the proposed Zoning Amendment application must conform to the Lake Simcoe Protection Plan, and shall be consistent with the Provincial Policy Statement. Additionally, Council's decision must conform to the Growth Plan of the Greater Golden Horseshoe, and the City's Official Plan.

Summary

The proposed land use (a 24-unit multiple residential development) requires the excavation and removal of the existing, underlying peat soil, and its replacement with engineered granular fill. The development will include a condominium road / driveway that will run parallel with the southern property boundary, and which will be located approximately 4.0 metres from the northern (adjusted) boundary of the adjacent Victoria Point PSW.

Despite the design and study efforts undertaken by the applicant and her agents, it has not been demonstrated that the development will have no negative impacts on the adjacent

Victoria Point PSW. The subject property is currently functioning both as a wetland, and as a buffer between the surrounding residential development and the Victoria Point PSW. The development of this site will result in the loss of its wetland and buffer functions, thereby transferring the buffering function into the adjacent PSW.

As Council may recall, the Zoning Amendment application was submitted on November 21, 2006. The application was presented to the Planning Advisory Committee on January 31, 2007. The statutory Public Meeting was held by Council on April 2, 2007. Council deferred their decision on the application at that time and requested that the matter be returned for their consideration after the applicants had completed a full Stormwater Management Plan, and had obtained Site Plan Approval in principle.

The City's peer review consultants (engineering), and Manager of Development have identified some shortcomings in the applicant's consultants' Stormwater Management Report. The shortcomings are identified as inadequate or missing geotechnical evaluation, and the need to further evaluate the impact of the proposed development on the surrounding developed properties.

The applicants have prepared the required Stormwater Management Plan (which has been peer reviewed), but they have neither applied for, nor obtained Site Plan Approval in principle. As the property is within 120 metres of the Lake Simcoe shoreline, an application for Site Plan Approval must now be in conformity with the Lake Simcoe Protection Plan. Therefore, the applicant's engineers would be required to further revise their proposed Stormwater Management Report and design in order to satisfy the policies of the Lake Simcoe Protection Plan.

Options:

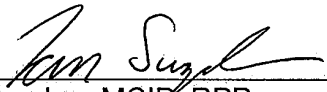
1. ***Council Committee could defer the matter and request that the applicant provide the further information recommended by the City's Stormwater Management Report peer review consultants.*** If this option is pursued, it would be necessary to then have the City's peer review consultants conduct a further review of the additional information and Stormwater Management Report / Design in order to determine if the concerns have been addressed. Additionally, a further staff report to present the findings of the additional engineering work and peer review to Council Committee would be required.
2. ***Council Committee could refer the matter to Council in order to complete the Zoning Amendment process.*** Council could decide to approve the Zoning Amendment application, refuse the Zoning Amendment application, or defer their decision in order to allow an additional Public Meeting.

The staff report that accompanied the application to the Planning Advisory Committee in January 2007 included a recommendation of approval. Subsequent to the statutory Public Meeting held by Council, the applicant retained consultants to undertake an EIS. The applicant's EIS alerted City staff to potential issues that were not considered prior to the January 2007 Planning Advisory Committee staff report. The subsequent peer reviews (of

the EIS and SWM report) have given cause to the undersigned to formulate an opinion that differs from that of the authors of the January 2007 staff report.

Based on the technical studies prepared and reviewed, a potential exists that the proposed land use may have a negative impact to the adjacent Victoria Point PSW. Additionally, the proponent's proposed site design, construction methodology and stormwater management approach fail to satisfy City staff's concerns associated with potential negative impacts to the adjacent residential development. It is the undersigned's opinion that the application does not conform to the Lake Simcoe Protection Plan, and is not consistent with the Provincial Policy Statement, and as such, does not represent good land use planning. It is recommended that Council refuse the Zoning Amendment application.

Prepared and Respectfully Submitted by:



Ian Sugden, MCIP, RPP
Director of Planning and Development

Attachments:

1. November 25, 2009 EIS Peer Review Report (Prepared by RiverStone Environmental Solutions Inc.)
2. January 14, 2010 EIS Peer Review Report – Rebuttal Comments (Prepared by Azimuth Environmental Consulting Inc.)
3. January 19, 2010 EIS Peer Review Report – Clarifications (RE: Rebuttal Comments) (Prepared by RiverStone Environmental Solutions Inc.)
4. October 28, 2009 SWM Peer Review Report (Prepared by Pearson-McQuaig Engineering Ltd.)
5. January 18, 2010 SWM Peer Review Report – Rebuttal Comments (Prepared by C.C. Tatham & Associates Ltd.)
6. January 29, 2010 Memo of Mr. Glen Harriss, Manager of Development, City of Orillia



RIVERSTONE

ENVIRONMENTAL SOLUTIONS INC.

November 25, 2009
RS# 2009-50

Mr. Ian Sugden
Director of Planning and Development
City of Orillia
50 Andrew St. S. Suite 300,
Orillia, ON
L3V 7T5

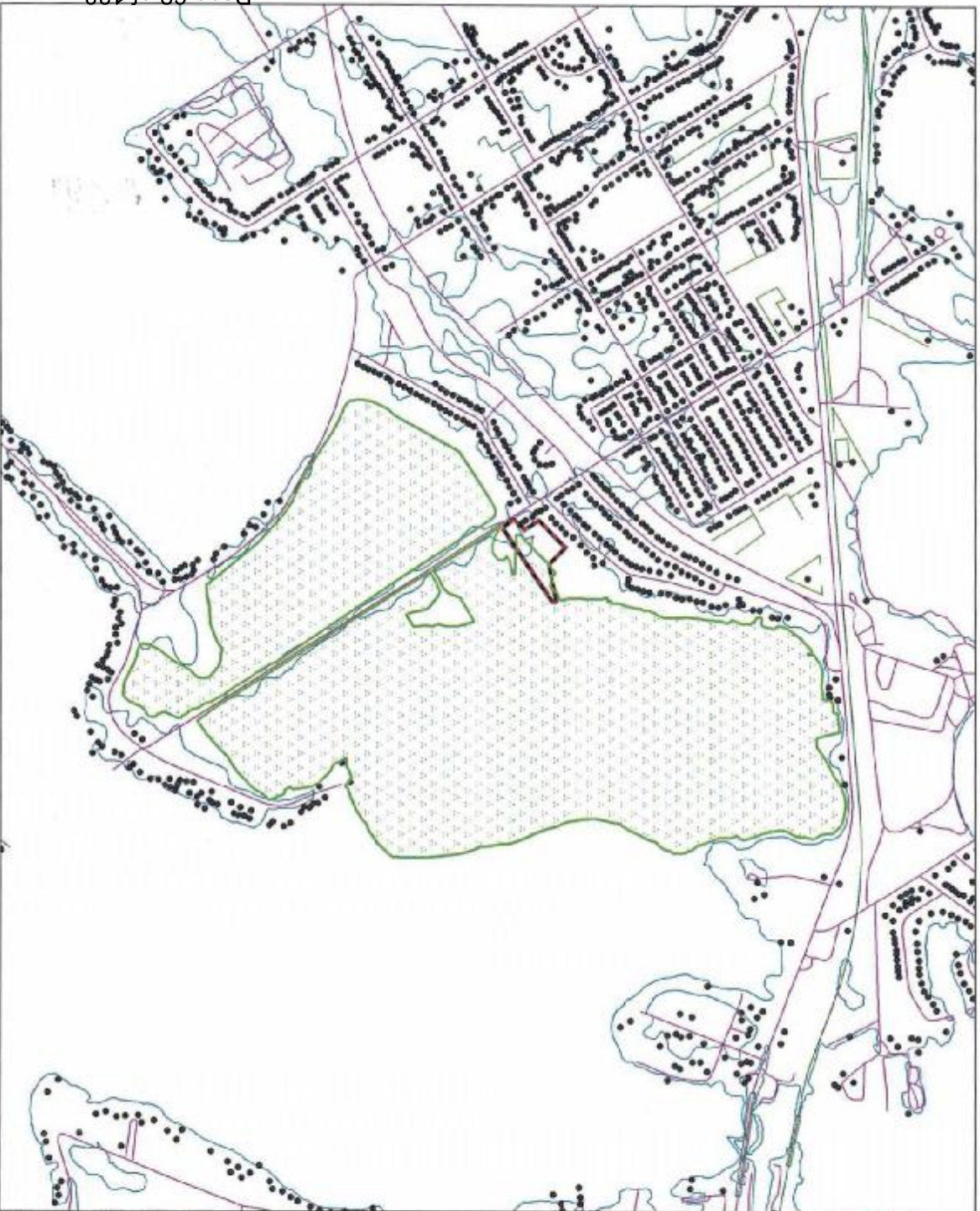
SUBJECT: Peer Review of Scoped Environmental Impact Statement (EIS) prepared by Azimuth Environmental Consulting Inc.

Dear Mr. Sugden:

RiverStone Environmental Solutions Inc. is pleased to provide our peer-review of the Scoped Environmental Impact Study (EIS) prepared by Azimuth Environmental Consulting (Azimuth), dated August 2008. We have also reviewed Azimuth's follow-up letter submitted to the City of Orillia on April 13, 2009, as it provides important information regarding the evaluation of impacts. In our review of the EIS and Azimuth's follow-up letter, we have considered the City of Orillia Official Plan and Zoning By-law, the 2005 Provincial Policy Statement (PPS), and the Ontario Wetland Evaluation System manuals. In addition, we have had telephone and email communications with Mr. Graham Findlay (Area Biologist, Midhurst District, Ministry of Natural Resources; MNR). Finally, we visited the area of interest on September 16, 2009 to familiarize ourselves with the site's features.

I. INTRODUCTION

Based on the documents noted above, it is our understanding that on November 27, 2006, an application was filed with the City of Orillia to amend the Zoning By-law as it related to the property located at 456 Forest Avenue South, Orillia. Following a subsequent Public Meeting of Council, the applicant proposed to rezone the property from Second Density Residential (R2) and Environmental Protection (EP) to Fourth Density Residential Exception Eleven (R4-11(H)). Upon reviewing the application, it was determined by City planning staff that the property fell within 120 m of the Victoria Point Provincially Significant Wetland (PSW) (**Figure 1**) and corresponding Environmentally Sensitive lands (City of Orillia designation); 120 m is the distance from a PSW within which potential



Legend

- Victoria Point PSW Boundary (Feb 2009)
- McGill Property Boundary

Scale	RS Project No.	Date Last Updated	By
1:10,000	2009-50	Nov 26, 08	AS

0 100 200 Meters

Figure 1. Boundary of Victoria Point Provincial Significant Wetland, showing location of McGill Property, City of Orillia

Prepared for: City of Orillia

Note: this figure is for illustration purposes only and should not be used in place of a professional survey.

impacts should be evaluated for proposed developments as per provincial recommendations. Based on this determination, an EIS was requested by the City of Orillia to ensure that the proposed development was consistent with the PPS and met the intent of the City's Official Plan.

The EIS was submitted by Azimuth to the City of Orillia in August 2008. As a result of discussions with the City of Orillia and the MNR, a follow-up letter was submitted by Azimuth (April 13, 2009), discussing the boundary of the Victoria Point PSW (**Figure 2**) as it related to the proposed area of development. The follow-up letter also provided rationale supporting Azimuth's conclusion that impacts of the proposed development on the features and function of the PSW would be negligible and thus consistent with the relevant provision of the PPS.

In completing this peer review our intent was to focus on the key issues of importance, rather than to address minor shortcomings that may be found in the study's field assessment and report. Moreover, it was not our intention to duplicate any of the field assessments completed by Azimuth. With these objectives in mind, we have evaluated the key issues as determined by our discussions with the City of Orillia planning staff, MNR staff, and our professional experience and knowledge of similar situations.

Our peer review of Azimuth's EIS and follow-up letter was completed by asking the following questions:

- **Was the level of study appropriate?** – Did the type and extent of investigations appropriately reflect the site's conditions and the scale of the proposed development?
- **Are the interpretations and conclusions appropriate?** – Do they provide a reasonable and logical interpretation of the information available?

The interpretations and conclusions we evaluated were the following:

- the boundaries of the Victoria Point PSW
- the assessment of impacts on the Victoria PSW
- the mitigation recommended to ensure impacts to the PSW will be prevented
- the consistency of the application with the PPS and compliance with the Official Plan and Zoning By-law



- Legend**
- McCall Property Boundary
 - Victoria Point PSW Boundary (Feb 2005)

Orthorectified aerial photo - spring 2008

Scale	RS Project No.	Date Last Updated	By
1:1,200	2009-50	Nov 26, 08	AS

Figure 2. Location of McCall Property in relation to Victoria Point Provincially Significant Wetland, City of Orillia

Prepared for: City of Orillia

Note: this figure is for illustrative purposes only and should not be used in place of a professional survey.

2. WAS THE LEVEL OF STUDY APPROPRIATE?

The assessment of natural features on the subject lands was noted in the EIS to have been completed on the following occasions:

- wildlife and plant surveys April 27, 2007, and May 16, 2008
- wildlife and breeding bird surveys June 5 and 18, 2008
- anuran breeding surveys April 23, June 6 and 23, 2008
- fish collection and habitat assessment Fall 2007, June 5 and 6, 2008

Given the relatively small size of the property (1.6 ha), it is our opinion that the number of site visits was more than adequate to provide an acceptable assessment of the site's natural features. The timing of the site visits was appropriate for wetland evaluation, Ecological Land Classification and floral assessment, breeding birds, breeding frogs, as well as salamander and reptile presence.

Azimuth used the online databases of the Natural Heritage Information Centre (NHIC) to assess the likelihood that the subject property and adjoining lands provided habitat for Species at Risk (SAR), species of conservation interest, and significant natural areas. Azimuth also consulted the Ontario Breeding Bird Atlas databases to assess breeding bird potential on the property and adjoining lands. Although the Ontario Breeding Bird Atlas databases provide recent, comprehensive information regarding the potential for SAR birds to breed on and in the vicinity of specific properties, the NHIC databases have the following limitations: (1) the observation records in the NHIC databases do not provide complete geographic representation for any species; that is, there are many sites where a species is known to occur that are not represented by records in the database; (2) many species have only recently been recognized as SAR or of conservation interest and, therefore, have distributions that are poorly represented in the database; and (3) the method used by the NHIC to geographically represent species occurrences does not reflect the way the species being represented moves or uses space. Consequently, we recommend that SAR range maps be consulted in addition to, and in concert with, the NHIC databases (see http://www.sis.ec.gc.ca/cc_species/cc_species_e.phtml and <http://www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/246809.html>). This will increase the likelihood that SAR evaluations appropriately assess the potential of features on a property to function as habitat. However, despite the additional information sources that should have been consulted, as indicated above, we agree with Azimuth's general conclusion that the property offers little potential

habitat for SAR, with the exception of Eastern Ribbonsnake (Special Concern—Provincial Rank) and Snapping Turtle (designated Special Concern provincially in September 2009).

With regard to fish sampling and habitat assessment, we also agree that the type of assessment, methodologies, and level of detail were appropriate to evaluate whether fish habitat was present on the subject property and to provide an indication of fish presence/absence. However, the effort to collect fish was limited (three minnow traps over one night) and, therefore, little inference can be made beyond presence/absence (i.e., no conclusions can be made regarding species diversity or size of populations).

Ecological Land Classification was appropriately applied to describe the site's ecological communities, and the delineation of wetland boundaries was appropriately completed using the southern manual of the Ontario Wetland Evaluation System.

3. ARE THE INTERPRETATIONS AND CONCLUSIONS APPROPRIATE?

3.1. Boundaries of Victoria Point Provincially Significant Wetland

In both the EIS and the follow-up letter, we found the details regarding the PSW boundary to be presented in a confusing manner. For the purposes of our review, our interpretation of the course of events regarding the designation of the PSW and the classification of the subject lands is as follows:

- Victoria Point wetland was designated a PSW following an evaluation in the early 1980s based upon Allen et al. (1984); the PSW boundaries at that time did not encompass the area proposed for development
- In 2007, Azimuth was retained to complete an EIS on the subject lands because the proposed development was located within 120 m of the Victoria Point PSW and corresponding Environmentally Sensitive lands (City of Orillia designation); 120 m is the distance from a PSW within which potential impacts should be evaluated for proposed developments
- Based on fieldwork completed in 2007 and 2008, Azimuth determined that the area proposed for development was wetland, specifically, deciduous swamp (ELC Code: SWD6-1)
- Because the deciduous swamp unit is hydrologically and likely functionally linked to the PSW, there are compelling ecological reasons why the area should be included as part of the PSW; that is, if the assessment follows the Ontario Wetland Evaluation System methodologies used to determine the boundaries of wetlands, the deciduous swamp would almost certainly be included within the Victoria Point PSW—if not deemed to be part of a single, large, contiguous wetland, then certainly it would meet the criteria necessary to consider it part of a wetland complex
- Partly because the deciduous swamp unit was not considered part of the PSW in the MNR's or City's mapping, Azimuth requested the MNR accompany them on a site visit to assess the wetland

boundaries; clarification of PSW boundaries in the field by the MNR is common practice (Graham Findlay personal communication)

- The MNR visited the site with Azimuth and concurred with the classification of the area proposed for development as deciduous swamp (wetland)
- Despite the biological and hydrological reasons to add the deciduous swamp to the PSW, the MNR was asked to consider the Second Density Residential (R2) zoning that was in place for the site as an over-riding factor, and consequently not to add the proposed development area to the PSW
- The MNR agreed not to add the proposed development area to the PSW (**Figure 2**)

Our interpretation of the events, as presented above, differs slightly from the statements made by Azimuth in their follow-up letter. For example, Azimuth states on page 2 of the letter that “MNR staff attending the site for the wetland habitat delineation concurred with our classification of the proposed development site as wetland habitat, Silver Maple Deciduous Swamp. The portion of the property being proposed for development was not originally located within the Victoria Point PSW (Allen et al., 1984), and is zoned and designated for residential development. MNR was provided the City of Orillia planning information and asked for the current Victoria Point Lake PSW mapping to be updated based on the results of the site visit and current planning status.” It is clearly stated here that the proposed development area was not originally located within the Victoria Point PSW; therefore, we do not see why the MNR was asked to update its mapping of the PSW boundaries with respect to the development area. Instead, as we stated above, the MNR only needed to agree that the proposed development area would not be added to the PSW, despite the biological and hydrological reasons to do so, and that the boundary would be based solely on prior zoning designations.

Our discussions with Graham Findlay (Nov 2009) confirmed that the MNR was willing to recognize the zoning that was in place on the subject lands at the time of the site visit with Azimuth in October 2009, and consequently, to agree that the deciduous swamp would not be incorporated into the PSW (**Figure 2**).

Whether a change in zoning on the lands upon which development is proposed would ultimately have an effect on the MNR’s prior decision to exclude the deciduous swamp from the PSW is unknown. However, for the purposes of evaluating issues related to *adjacent lands* (as per the PPS), we assume that the deciduous swamp will remain outside of the PSW.

3.2. Assessment of Impacts on the Victoria Point Provincially Significant Wetland

The following provision of Section 2.1 of the PPS is directly relevant to the Azimuth EIS and this peer review:

2.1.6 Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.3, 2.1.4, and 2.1.5 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

Policy 2.1.3 pertains to significant wetlands and, as such, refers here to the Victoria Point PSW. The following definition of *adjacent lands* is provided in the PPS:

a) for the purposes of policy 2.1, those lands contiguous to a specific natural heritage feature or area where it is likely that development or site alteration would have a negative impact on the feature or area. The extent of the adjacent lands may be recommended by the Province or based on municipal approaches which achieve the same objectives...

To date, an adjacent land extent of 120 m has been the most commonly accepted approach when evaluating potential impacts on a PSW. However, it should be recognized that the extent of adjacent lands to be considered can vary depending on both the sensitivity of the feature to be protected and the scale and type of development proposed (Natural Heritage Reference Manual 1999 and 2009 Draft; OMNR). Policies within the City Of Orillia have similar adjacent lands requirements.

In the case under discussion, a development of 24 condominiums is proposed for the lands that are to be rezoned. The entirety of the development is within 57 m of the PSW boundary and the proposed laneway to access the development is only 12 m from the boundary. This proposed laneway is the closest land use to the PSW. Because of its proximity to the PSW boundary, the proposed development and the associated site alteration must be evaluated for potential impacts on the natural features and ecological functions of the PSW.

Although Azimuth seemingly recognized that one of the primary purposes of the EIS was to determine whether the development being proposed would have an impact on the features and functions of the PSW—this is inferred from Azimuth's reference to the *adjacent lands* provision of the PPS, the EIS failed to evaluate this possibility. Azimuth likely realized this omission subsequent to the submission of the EIS, and thus, an impact assessment was provided in their follow-up letter. We have, therefore, provided comments on Azimuth's arguments presented in their letter that concluded that the proposed

development would have no negative impacts upon the PSW. The relevant points in the letter were as follows:

The proposed development site is adjacent to residential development located north and east. The MacIsaac Drive municipal road easement contains a sanitary sewer and watermain that crosses the property in a general northeast/southwest alignment. Beyond the MacIsaac Drive municipal road easement, the Victoria Point PSW occupies the eastern part of the property that will remain undisturbed and abuts Lake Simcoe. Water levels of the Victoria Point PSW are wholly controlled by the water level of Lake Simcoe therefore the hydrology of the wetland and the associated wetland habitat and vegetative communities will not be impacted by the proposed development. The existing vegetation communities of the adjacent PSW will remain post-development. The sustainability of the Provincially Significant Wetland habitat relates [to/] is dependent upon the water levels of Lake Simcoe and not by adjacent land use to the north and east. The presence of the existing adjacent residential development will have already impacted the habitat quality for wildlife and restricted species present to those adapted to human disturbance or urban areas. There is no interior forest habitat on the property. Potential amphibian breeding habitat that exists within Victoria Point PSW will remain. None of the wildlife species observed on site is of federal or provincial conservation concern.

We agree with Azimuth that the water levels of the majority of the PSW are controlled by the water level of Lake Simcoe, and therefore, development and site alteration on the subject lands are unlikely to have a significant impact on the hydrology of the wetland. It is likely, however, that there will be at least some impact on the hydrology and resulting vegetation directly south of the municipal road easement (e.g., as a result of vegetation removal associated with the laneway and hardtop surfaces proposed).

Although Azimuth is likely correct in stating that the sustainability of the PSW is largely dependent upon the water levels of Lake Simcoe and not by adjoining land use to the north and east, the threshold above which negative impacts from adjacent lands would be deemed to be significant and, therefore, unacceptable should *not be* solely assessed at the level of the entire PSW. If one were only to consider impacts likely to affect the entirety of the Victoria Point PSW, then it is difficult to see how the intent of provincial policy to protect the features and functions of this significant area could be achieved in the long term—the ecological integrity of a PSW could be continuously diminished as a result of cumulative impacts from small-scale developments.

We agree with Azimuth's statement that the presence of the existing adjacent residential development will have already impacted the habitat quality for wildlife and will have restricted species present to those adapted to human disturbance or urban areas; however, one of the key functions, currently, of the proposed development area is as a buffer. The primary reason to provide buffers around sensitive

features is to absorb impacts that would otherwise be detrimental to the feature. This function is demonstrated remarkably well by the amount of human refuse and disturbance present in the proposed development area (**Photograph 1** and **Photograph 2**). If this area is developed in the manner proposed, then the width of land remaining to buffer these and other types of impacts will be reduced to approximately 12 m. Impacts resulting from human refuse discarded into a wetland can certainly be negative depending on the type of items discarded. For these reasons, we feel that it is unlikely that “The lands designated Environmental Protection on the southeast side of the MacIsaac Drive Road allowance will remain undisturbed, in their natural state” as suggested by Azimuth in their follow-up letter.

An additional impact that should have been considered was the road mortality likely to occur on the private road proposed adjacent to the municipal easement. In this case, amphibians and reptiles are the taxonomic groups most likely to be negatively impacted by road mortality. Both Eastern Ribbonsnake (probable occurrence on the subject property) and Snapping Turtle (found on the subject property) are likely to experience road mortality on the laneway. Although Snapping Turtle was only designated a Species at Risk in September 2009, it is known to have high wetland affinities and, therefore, would be considered a feature of the PSW.



Photograph 1. View of human refuse in the proposed development area, Sept. 16, 2009.



Photograph 2. View of human refuse abutting proposed development area, Sept. 16, 2009.

3.3. Assessment of Impacts on Fish Habitat

We agree with Azimuth that “the portion of the property proposed for development provides direct fish habitat” and that the “resident populations are (likely) small.” We also agree that “... water depths north of MacIsaac Drive can be expected to fluctuate with lake levels and groundwater conditions.” However, we do not agree with the statement, “... this area is not directly connected to the lake” based on the presence of fish on the subject property, and the lack of any upstream watercourses. Also, it should have been acknowledged that an intermittent and fluctuating water regime could provide significant fish habitat at key times of the year for many fish species. Finally, although Azimuth’s field investigations were sufficient to make conclusions regarding the presence or absence of fish, additional sampling of fish would have been required to draw conclusions regarding populations sizes or species diversity; therefore, conclusions that the “... potential long-term viability of the [fish] population should be limited.” is premature given the level of uncertainty.

It was noted that the excavation of the channel through the right-of-way “facilitated the colonization of fish onto the site” and that “until the creation of the channel, this land did not represent viable long-term fish habitat”. However, there was no assessment of water permanency on the subject lands and, further, the numerous site visits throughout the year did not suggest that water was absent from the site at any time. During our assessment on September 16th, water was present in select areas of the lands proposed for development, with the majority of the lands having saturated soils, despite the dry conditions of September 2009. Whether or not a Harmful Alteration, Disruption, or Destruction (HADD) would be triggered as a result of the proposed development would be decided by the Department of Fisheries and Oceans (DFO), under the guidance of the “no net loss” principal in their Policy for the Management of Fish Habitat. The EIS clearly demonstrates that the property is used directly by fish. Stickleback spawn in the spring, possibly during the time when they were collected onsite, and therefore could potentially be using the site for spawning. We agree with the recommendation that DFO be consulted; however, we would recommend that they be consulted sooner than the intended time of construction. It has already been demonstrated that the site functions as direct fish habitat, and it is our opinion that the loss of that habitat constitutes a HADD. Given our experience with similar applications, we expect that the DFO would likely consider approving a development proposal that would result in the loss of the habitat, but also predict that a HADD would be triggered, which would require compensation for the habitat lost. We believe the potential for negative impacts

on fish habitat is higher than the EIS suggests, particularly because of the direct connection with the Victoria Point PSW and Lake Simcoe.

3.4. Mitigation Recommended to Ensure Impacts to PSW are Prevented

We support the mitigation measures recommended by Azimuth regarding restriction of construction activities to periods outside of the breeding bird season, silt control, and artificial light reduction; however, we do not believe these measures will be sufficient to mitigate the potential negative impacts on the features and functions of Victoria Point PSW that we have identified in Sections 3.2 and 3.3. An additional mitigation measure that we would recommend for developments adjacent to any wetland, regardless of whether it was a PSW, is that development be appropriately set back from the wetland edge (i.e., a buffer around the wetland feature be established). Given that the land use proposed to be immediately adjacent to the PSW boundary is a road, we suggest that a 30 m setback be the minimum considered. Unfortunately, the buffering capacity of the municipal road easement has already been diminished considerably as a result of vegetation clearing and regular disturbance.

3.5. Consistency with the PPS and Compliance with Official Plan and Zoning By-law

With regard to ensuring that the proposed development would be consistent with the PPS, the relevant sections to consider are 2.1.3, 2.1.5, and 2.1.6.

Section 2.1.3 states the following:

Development and site alteration shall not be permitted in:

b) significant wetlands in Ecoregions 5E, 6E and 7E1...

If the MNR remains in agreement that the residential zoning on the lands to be developed supersedes the site's hydrological and biological connection to the rest of the PSW, then the proposed development and associated site alteration will not occur within the Victoria Point PSW; thus, we are in agreement that consistency with Section 2.1.3 will be ensured.

Section 2.1.5, as follows, pertains to fish habitat:

Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.

Until the development proposed in fish habitat is evaluated by the DFO, the application cannot be considered to be consistent with Section 2.1.5.

Section 2.1.6, as quoted below, pertains to adjacent lands and the required demonstration that there will be no negative impacts on the natural features of PSWs or on their ecological functions.

Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.3, 2.1.4, and 2.1.5 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

Demonstrating that the proposed development would be consistent with this provision is a more difficult prospect, particularly because the area of concern is a wetland that, in the absence of prior zoning for residential development, would have been considered part of the PSW in our opinion. We have identified several potential negative impacts on the features and functions of the PSW, specifically the following: (1) impacts to local hydrology, (2) the loss of buffering function currently performed by the proposed development area, (3) road mortality of SAR reptiles, and (4) loss of fish habitat.

It is therefore our conclusion that Azimuth has failed to demonstrate that there will be no negative impacts on the Victoria Point PSW's natural features or on their ecological functions as a result of the proposed development. Thus, consistency with Section 2.1.6 of the PPS has not been demonstrated.

The policies related to wetlands in the City of Orillia's Official Plan (1999) are largely crafted to be consistent with the PPS, and in this case the 2005 PPS is more recent than the Official Plan. The one policy that does pertain specifically to PSWs is Section 4.5.4 that refers to adjacent lands. Adjacent lands are described as lands within 120 m of an EP designation (the Victoria Point PSW is designated EP), and it is stated that "no new development shall be permitted in these adjacent lands unless an Environmental Impact Study and Management Plan are completed and approved by council." Further, there is recognition that building setbacks should be imposed from lands designated EP "relative to the extent and severity of the identified hazard or natural feature".

Our comments regarding consistency with the adjacent lands provision of the PPS, and mitigation in the form of development setbacks from the PSW, apply equally to these Official Plan requirements.

4. RIVERSTONE'S CONCLUSIONS

- Azimuth's level of field study was appropriately scoped to the subject property's potential terrestrial features and functions; however, the fisheries assessment did not provide enough detail to draw conclusions about fish population sizes or species diversity.
- Consistency with Section 2.1.3 of the PPS regarding development and site alteration in significant wetlands will be ensured if the MNR's position is that the residential zoning on the lands to be developed supersedes the site's hydrological and biological connection to the rest of the PSW. It should be noted, however, that it is our opinion and understanding based on discussions with the MNR that there is no biological rationale for excluding the proposed development lands from the PSW as it is correctly classified as deciduous swamp; the exclusion is based solely on prior zoning considerations.
- Until the development proposed in fish habitat is evaluated by the DFO, the application cannot be considered to be consistent with Section 2.1.5 of the PPS. In this regard, we predict that a HADD would be triggered as a result of the proposed development and that the DFO would therefore request habitat compensation.
- With regard to Section 2.1.6 of the PPS, dealing with development on adjacent lands, we have identified negative impacts on the features and functions of the PSW that would likely occur as the result of the proposed development, specifically the following: (1) impacts to local hydrology, (2) the loss of buffering function currently performed by the proposed development area, (3) road mortality of SAR reptiles, and (4) loss of direct fish habitat. It is therefore our conclusion that the arguments presented to demonstrate no negative impact on the features and functions of the Victoria Point PSW are insufficient; thus, we conclude that consistency with Section 2.1.6 of the PPS has not been demonstrated.

Should you require clarification or additional information please do not hesitate to call us directly.

RiverStone Environmental Solutions Inc.

Per:



Al Shaw, M.Sc.

Senior Aquatic Ecologist/Principal



Rob Willson, M.Sc.

Senior Terrestrial Ecologist/Principal
Species at Risk Specialist

5. REFERENCES

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Environmental Assessments & Approvals

January 14, 2010

AEC 07-101

City of Orillia
50 Andrew St. S., Suite 300
Orillia, ON
L3V 7T5

Attention: Ian Sugden, Director of Planning and Development

RE: Response Comments to Peer Review by RiverStone Environmental Solutions, Inc. of the Scoped Environmental Impact Study by Azimuth Environmental Consulting, Inc. for the Property Located in Part of Lot 12, Concession 6 and Part of Lots 88 to 93 and Part of MacIsaac Drive, Registered Plan 1339, City of Orillia

Dear: Mr. Sugden

In August 2008, Azimuth Environmental Consulting, Inc. (Azimuth) produced a scoped Environmental Impact Study (EIS) for a proposed residential development on the property defined above. The City of Orillia had the EIS report peer reviewed by RiverStone Environmental Solutions, Inc. (RiverStone) in November 2009. The following letter represents Azimuth's response to the peer review comments.

Comments Relating to Species at Risk (pg. 5 of peer review)

The Natural Heritage Information Centre (NHIC) and Ontario Breeding Bird Atlas (OBBA) information was not relied on to assess the likelihood that the subject property provided habitat for Species at Risk; our assessment of site specific data was used as the primary indicator for the presence of SAR and their habitat. Inclusion of the NHIC and Ontario Breeding Bird Atlas information was used as supplementary information to the findings of our field investigations, habitat assessment and to provide historical background information and context within the landscape. This approach has been supported by the conservation authorities and approval authorities in numerous EIS studies.

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telephone: (705) 721-8451; fax: (705) 721-8926 info@azimuthenvironmental.com



Comments Relating to Exclusion of Property from Provincially Significant Wetland (pg. 6-7)

The Ministry of Natural Resources is the sole authority responsible for decisions relating to the location of the boundaries of Provincially Significant Wetlands (PSW). Our involvement of MNR was required to determine the appropriate location for the PSW boundary. From the results of our field investigations and the application of the Ontario Wetland Evaluation System: Southern Manual (OMNR, 1993 with 2002 updates), Azimuth concluded, that from a natural heritage perspective, the property meets the criteria to be included within the boundaries of the Victoria Point PSW. However, from a planning perspective, because of the long standing residential designation within the City of Orillia's Official Plan and zoning by-laws that have been applied to the property, the MNR agreed that the Municipal planning policies should take precedence in this situation. This MNR decision is permitted under their Wetland Evaluation System (OMNR, 1993 with 2002 updates) and was done following review of the Azimuth report and a site visit by MNR staff.

The proposed development will result in the loss of 0.5ha of wetland habitat adjacent to the 134ha Victoria Point PSW. Although not within the PSW limit defined by MNR, if the property was it would represent the removal of 0.37 % of wetland habitat the area. This insignificant change to the adjacent habitat within this designated residential area surrounded by existing residential development will have no discernable impact on the features or functions of the PSW.

Comments Relating to Potential Impacts upon the Victoria Point PSW (pg. 8-10)

Wetland Hydrology

The peer reviewer agrees with our assessment that existing and future adjacent development will not have a significant impact upon the hydrology of the wetland, however state that there will be "at least some impact on the hydrology" that will result in impacts upon the wetland vegetation south of the Municipal road easement. The peer reviewer provides no explanation of how or why they think this will occur to the PSW which is down gradient of the site and surrounded by Lake Simcoe on three sides.

Buffer

The principle of development has been established for the property by its exclusion from the Victoria Point PSW and the long standing land use designation and zoning. Because of the small size of the site, the recommended 30m buffer is unreasonable, if not impossible to permit any development of the property. We recognized that a 12m wide buffer does not meet the typical standard of 15m wide buffer for wetlands and, as such,



recommended that the amount of light directed into the adjacent wetland be limited to that required for safety. We have also recommended the planting of additional vegetation within the buffer to mitigate the impacts of development upon the adjacent wetland habitat.

Buffers work to protect aquatic and wetland features in many ways such as flood capacity, attenuation of sediment, attenuation of pollutants, capture of phosphorus, nitrogen and other nutrients responsible for eutrophication, moderation of water temperatures, provision of wildlife habitat, among others (Wenger, 1999). A 12m wide buffer would be adequate to protect the adjacent Victoria Point PSW from the potential impacts of the proposed development, as long as the proposed mitigation measures are implemented.

Additionally, it is important to note that there is a total lack of any buffer to the wetland associated with MacIsaac Drive and the associated existing residential development, yet, the wetland habitat form and function has persisted over time.

Potential Road Mortality of Species at Risk

Post-development, the portion of the property being proposed for development will no longer contain any wetland habitat with all wetland habitat being located south of the proposed development. As a result, the wetland habitat located south of the proposed development will remain unfragmented and fully connected with Lake Simcoe to the east and the rest of the Victoria Point PSW located to the south.

The peer reviewer raised concern for potential turtle and snake mortality to be associated with the proposed private laneway. The critical habitat requirements for turtle and snake survival most importantly include areas for nesting, foraging, overwintering and routes connecting these habitats. The site is currently surrounded by existing residential development and lacks these critical habitats therefore development will not significantly impact this function or migration corridors. Post-development, the lands would contain none of the required habitat to support any of these critical life stages for the majority of wetland affiliated wildlife species. There is no expectation for regular access to the proposed development by turtles and snakes.

Comments Relating to Assessment of Impacts on Fish Habitat

Permanency of Habitat and Connection to the Lake

The reviewers do not agree that “this area is not directly connected to the lake” and that Azimuth’s report did not comment on the permanency of this habitat, thereby implying that it may have represented permanent habitat prior to the excavation of the channel.



Although historically (Spring 2007) there was a direct surface water connection between the back portion of the lot and Lake Simcoe, we do not believe that prior to the channel excavation (or post summer 2007 when the channel was filled along the easement) this area was directly connected to the lake. We note that our initial report failed to comment on the permanency of the water at the back of the lot. We would like to point out that Paul Neals (Azimuth Vice-President) was on site on October 23, 2008 and noted that this portion of the site did not have any standing water, but did display moist soil conditions. The peer reviewers comment that, “despite the dry conditions of September 2009”, the presence of water at the site on September 16th suggests the permanent nature of this habitat. We argue that while the first two weeks of September 2009 did have very little rain (4mm), that precipitation levels in the month of August (which is likely a better reflection of ground water levels and lake levels in a regulated system), were the highest in recent history (Mean August Precipitation 2001-2008 = 68mm compared to August 2009 = 152mm; source: the Weather Network, Environment Canada).

We also argue against the reviewers’ suggestion that this area was historically permanent habitat given the topography and elevation of the site. The elevation in the vicinity of the easement is 219.5 masl, which is above Lake Simcoe’s average high water mark of 219.15 masl and above the highest recorded level for Lake Simcoe of 219.49 masl (Parks Canada). Given the regulated nature of the Lake Simcoe watershed, it is highly unlikely that water levels will exceed 219.5 masl and allow fish to disperse into this area.

It is highly likely that any fish inhabiting the backwater area of the lot accessed this area while a connection existed in the spring of 2007. Given the lack of permanency of this habitat, the infilling of this channel at the easement, and considering the elevations in this area are above the HWM, it is also highly unlikely that colonization would occur in the future. Consequently, the population viability in this area is limited and there is no evidence it historically provided direct fish habitat. These facts confirm that the development will not have an adverse impact on fish habitat.

Conclusions Regarding Diversity and Population Status

The reviewers comment that although the type of assessment, methodologies and level of detail was appropriate to evaluate the fish presence, no conclusions can be made regarding fish diversity or population sizes of fish occupying the back of the lot.

We agree that our assessment does not provide the level of detail required to identify all species that may have inhabited the backwater area on the lot when the dug channel was in place or is sufficient to quantify the size of the stickleback population. The intent of our assessment was to assess the implication of the development with respect to the



Fisheries Act, which is simply directed at the presence or absence of fish habitat and does not differentiate between species identities or their population sizes. The fact the site has no direct surface connection to the lake even under high water conditions and dries up, makes the issue of fish diversity and population size insignificant for the purpose of evaluating fisheries impacts.

We acknowledge that species diversity may play a role in the degree of habitat compensation that may be requested from DFO. It should be noted that according to the same MNR website quoted by the reviewers, as well as DFO's Aquatic Species at Risk mapping for the Lake Simcoe area, the only Species at Risk in the area are Lake Sturgeon and American Eel. Both of these species are considered extirpated from the Lake Simcoe watershed and therefore the habitat on the property does not provide habitat for any aquatic Species at Risk.

Consultation with Fisheries and Oceans Canada (DFO)

The reviewers comment that DFO is to be consulted "sooner than the intended time of construction" and that compensation may be required. We did not intend to imply that DFO is to be contacted at the time of construction. We strongly agree that DFO is to be consulted and that an Authorization or Letter of Advice will be required by DFO prior to any earth works or any other alteration to the site. In addition, we do not argue that compensation *may* be required by DFO to offset any potential loss of fish habitat. Any loss of direct habitat would be associated with the construction of MacIsaac Drive and its proximity to the dug channel, and is not related to the form of the proposed residential development on the property, given that this dries up and would not represent fish habitat.

In summary we believe that development of the subject site will not negatively impact the features and functions of the Victoria Point PSW.

We trust the information provided adds additional clarification regarding the issues relating to the proposed development of Part of Lot 12, Concession 6 and Part of Lots 88 to 93 and Part of MacIsaac Drive, Registered Plan 1339 in the City of Orillia.



Should you require further information or have any questions regarding the natural history of the property, please contact the undersigned.

Yours truly,

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

electronic signature

Bonnie Clayton, B.Sc.
Senior Biologist

electronic signature

Scott Gibson, M.Sc.
Senior Aquatic Biologist

BAC:

Encl:

c.c. Susan McGill, Property Owner
Celeste Phillips, MCIP, RPP, Meridian Planning



References

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RIVERSTONE
ENVIRONMENTAL SOLUTIONS INC.

January 19, 2010
RS# 2009-50

Mr. Ian Sugden
Director of Planning and Development
City of Orillia
50 Andrew St. S. Suite 300,
Orillia, ON
L3V 7T5

SUBJECT: Comments on Peer Review Response by Azimuth Environmental Consulting Inc.

Dear Mr. Sugden:

RiverStone Environmental Solutions Inc. is pleased to provide comments on the "Peer Review Response" prepared by Azimuth Environmental Consulting (Azimuth), dated January 14, 2010. For efficiency sake, we have focused our comments on what we consider to be the key issues, particularly those where we disagree with Azimuth's conclusions.

First, we accept and agree with Azimuth's comments regarding its assessment of Species at Risk potential and that it is the responsibility of the Ministry of Natural Resources (MNR) to make decisions relating to the boundaries of Provincially Significant Wetlands (PSW's).

The key provision of the 2005 Provincial Policy Statement (PPS) that is under consideration here is Section 2.1.6, as quoted below, and pertains to Adjacent Lands and the required demonstration that there will be no negative impacts on the natural features of PSW's, or on their ecological functions.

Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.3, 2.1.4, and 2.1.5 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

Given the proximity of the subject property to the Victoria Point PSW, it undoubtedly qualifies as Adjacent Lands for the purposes of the PPS, and as such requires evaluation to demonstrate that the proposed development and site alteration will not negatively impact the wetland's natural features or ecological functions.

In our Peer Review, we stated that the arguments Azimuth made to demonstrate that there will be no negative impacts on the natural features or ecological functions of the Victoria Point PSW were insufficient; specifically as they pertain to (1) impacts to local hydrology, (2) the loss of buffering function currently performed by the proposed development area, (3) road mortality of SAR reptiles, and (4) loss of direct fish habitat.

The contents of Azimuth's Peer Review Response indicate that it is in disagreement regarding these four components; we therefore discuss them in turn below.

Impacts to Local Hydrology

Azimuth stated that the "proposed development will result in the loss of 0.5 ha of wetland habitat adjacent to the 134 ha Victoria Point PSW.", and that "Although not within the PSW limit defined by MNR, if the property was it would represent the removal of 0.37 % of wetland habitat the area."

As stated in our Peer Review, we conclude that the loss of this wetland community, and its replacement with hard top surfaces, will affect the local hydrology, by reducing the local storage capacity. When wetland area is lost, we consider it to be self evident that the local hydrology will be affected, and that consequently vegetation would potentially be affected. In this case we did not feel it was our role to investigate this potential impact in detail.

Buffers and Setbacks

Azimuth stated the following:

"The principle of development has been established for the property by its exclusion from the Victoria Point PSW and the long standing land use designation and zoning. Because of the small size of the site, the recommended 30m buffer is unreasonable, if not impossible to permit any development of the property. We recognized that a 12m wide buffer does not meet the typical standard of 15m wide buffer for wetlands and, as such, recommended that the amount of light directed into the adjacent wetland be limited to that required for safety. We have also recommended the planting of additional vegetation within the buffer to mitigate the impacts of development upon the adjacent wetland habitat."

Because the land use proposed to be immediately adjacent to the PSW boundary is a road, we do not agree that a 12-m setback is sufficient to ensure there are no negative impacts to the features or functions of the wetland. Given the number of recent studies demonstrating the negative impacts of roads, as well as the inadequacy of wetland buffer sizes recommended in the past, we are doubtful that a buffer width of 12 m adjacent to a PSW would be deemed sufficient to mitigate impacts.

Regarding Azimuth's statement that "...it is important to note that there is a total lack of any buffer to the wetland associated with MacIsaac Drive and the associated existing residential development, yet, the wetland habitat form and function has persisted over time. "; we respond that we are unaware of any monitoring studies conducted to evaluate the impacts of that development on the Victoria Point PSW. Furthermore, contemporary research does suggest that buffers are important to minimize impacts.

Road Mortality of SAR reptiles

As stated in our Peer Review, the lands within the municipal easement have at least moderate potential to function as habitat for Eastern Ribbonsnake and Snapping Turtle. While we agree with Azimuth that the proposed development, including the access road, is unlikely to disrupt use of a migration corridor (i.e., there are few habitat opportunities beyond the edge of the PSW), a road that parallels this easement would still have the potential to negatively impact these species via road mortality, at least at the initial stages. Both these reptiles are known to use open areas adjacent to wetlands as habitat.

Although we do not consider the potential SAR habitat on the subject property or adjoining portion of the PSW to be high quality or significant when considered in isolation, it becomes important in the context of the Adjacent Lands test of the PPS.

In this case the proposed development has the potential to negatively impact two Special Concern species; when evaluated in the context of the Adjacent Lands provision of the PPS, we consider it irrelevant that the impacts will not be long term.

Loss of Direct Fish Habitat

In our Peer Review, we identified the potential loss of direct fish habitat, as demonstrated by the findings reported in Azimuth's EIS, as a negative impact on the Victoria Point PSW. The rationale provided by Azimuth in its Peer Review Response suggests that the area in question only functioned as direct fish habitat at the time of the EIS investigations because of a past connection to the lake. Azimuth also contends that it is unlikely that the area in question will function as direct habitat in the future because of the site's relief relative to the municipal easement and Lake Simcoe. However, Azimuth does acknowledge that there may be loss of direct fish habitat associated with the construction of MacIsaac Drive and its proximity to the dug channel. As recognized by Azimuth, the Department of Fisheries and Oceans (DFO) may require compensation for the loss of direct fish habitat associated with the channel. If this is the case, then we would consider the loss of fish habitat to be a

negative impact on the Victoria Point PSW, as per the evaluation required to satisfy the Adjacent Lands provision of the PPS.

Conclusions

For the reasons stated above, it remains our conclusion that the development plan and site alteration, as proposed, will have a negative impact on the natural features and/or ecological functions of the Victoria Point PSW. It is our opinion that when considered in isolation, none of the four potential impacts represent substantive threats to the features and functions of the PSW; however, cumulatively we feel the impacts would not permit the development proposal to be consistent with the PPS's intent to protect significant features by ensuring no negative impacts.

Should you require clarification or additional information please do not hesitate to call us directly.

RiverStone Environmental Solutions Inc.

Per:



Al Shaw, M.Sc.
Senior Aquatic Ecologist/Principal



Rob Willson, M.Sc.
Senior Terrestrial Ecologist/Principal
Species at Risk Specialist



PEARSON-McCUAIG
ENGINEERING LTD.

October 28, 2009

File: 09057

Attention: Mr. Glen Harriss

City of Orillia
50 Andrew St. S.
Barrie, Ontario
L3V 7T5

Dear Mr. Harriss,

RE: CCTA SWM Report - Peer Review
Proposed McGill Residential Development, City of Orillia

1. INTRODUCTION

Pearson-McCuaig Engineering Ltd. (PEARSON-McCUAIG) has been retained by the City of Orillia (City) to perform a peer review of the Stormwater Management (SWM) Report and associated design works for the proposed McGill Residential Development (Project) completed by C.C. Tatham & Associates Ltd. (CCTA) in December 2007 (File No. 107209). The Project site is located east of Forest Avenue, south of Roger Road and west of MacIsaac Drive in the City of Orillia. Legally, the site is described as Parts 1 to 9 and 11 or Registered Plan 51R-30390 in the City of Orillia, County of Simcoe.

As indicated in the CCTA report, the site is situated adjacent to a wetland with the ultimate outlet for stormwater being Lake Simcoe. The report indicates that the intention of the design was to provide Enhanced Level of protection as set out in the *Stormwater Management Practices Planning and Design Manual (MOE Manual, 2003)*. The report indicates that a treatment train approach, with grassed swales, goss traps in the catchbasins, directed roof leaders to pervious areas and an exfiltration (or infiltration) trench. The CCTA report indicates that the proposed exfiltration trench will be sized to meet the MOE Enhanced Level criteria.

The objective of our work is to review the existing SWM Report and analyze the design with regards to the suitability of the proposed works to the existing setting, while ensuring the site conforms to MOE regulations and achieves positive run-off and quality control regarding phosphates entering Lake Simcoe. We have visited the site and review the SWM Report in order to formulate our review.

2. OVERVIEW

The Project site is about 1.54 ha in size and is surrounded by existing residential single family homes to the east, north and west and open space to the south. The site is sparsely treed and there is a drainage course located in the southeast quadrant of the property which drains to Lake Simcoe located approximately 150m southeast of the site. The Project proposes six buildings to be located on a condo type development accessed by Forest Avenue.



The CCTA SWM Report proposes to raise the site to between elevation 220.5 to 220.95 in the area of the development and create a drainage swale around the perimeter of the Project site to convey external flows either around the site or through the 525mm diameter storm sewer which bisects the site in a north/south direction. There is no quantity control proposed for the site and quality control is proposed in the form of an exfiltration trench.

Of importance to note is that the high water elevation of Lake Simcoe is 219.15m geodetic.

3. GENERAL CONCERNS/COMMENTS

3.1. GEOTECHNICAL REPORT

Given the nature of the proposed SWM quality control in the form of an exfiltration trench, a geotechnical report outlining soil type, infiltration rate and groundwater elevation should be completed in order to support the proposed SWM controls.

3.2. EXFILTRATION TRENCH

Based on *Soil Survey of Simcoe County, Report No.29 of the Ontario Soil Survey, Ministry of Agriculture and Food*, the Project site is comprised of Lovering Silty Clay Loam which is characterized as having imperfect drainage. Based on Table 4.1 of the MOE Manual which details the suitability of various SWM facilities, a site should be considered for exfiltration trenches if the infiltration rate is greater than 15 mm/hr. A soils investigation should be completed to verify the infiltration rate of the native soils.

Also, the bottom of the exfiltration trench is set at an elevation of 218.80m which is 0.05m below the typical lake level and 0.35m below average annual highwater elevation. The section B-B on the design drawings DP-2 is incorrectly drawn wrt to the elevation of the existing grade, subdrain invert elevation, etc.

Exfiltration trenches should typically be located a minimum of 1.0m above the known high ground water elevation. A geotechnical investigation of the site should be completed and high groundwater elevation established in order to set the exfiltration trench.

It appears that based on the Lake Simcoe water elevations and the proximity of the Project site to the Lake that this system is not suitable for this Project.

3.3. SWM CONVEYANCE SYSTEMS

The site's storm system proposes to develop perimeter swales along the northern boundary of the site which would convey flows from the properties to the north towards either Forest Avenue to the west, a 525mm diameter storm sewer in the middle to the site or to the drainage course located at the southeast corner of the Project site.

A review of the provided Otthymo modeling was completed. It was found that some of the input data was not consistent with the detailed calculations provided, resulting in lower peak flows. These lower peak flows may result in the perimeter swales being undersized, potentially overflowing to neighboring properties. However, it is our opinion that the grassed swale cross-section can be increased in the area provided to allow for additional conveyance without impacting the neighboring properties.



Some sections of the on-site pipe works and grassed swales have inverts below the Lake Simcoe Average Annual Highwater elevation and consideration of this condition has not been provided. As portions of this site may be inundated on a regular basis, the on-site systems should be designed to function with the anticipated downstream tailwater conditions and not a free-flowing condition. Also, the 525mm storm pipe invert at the upstream inlet is higher than the adjacent property elevation, suggesting it would flood adjacent properties when flowing full.

3.4. GRASSED SWALES

Within the text, the proposed grassed swales are indicated to promote initial water quality treatment. The grassed swales appear to run the perimeter of the site, conveying external flows around the site or towards a conveyance pipe through the site. The grassed swales only appear to capture a small hardened surface area in the north east corner of the development. Therefore, it is unclear how the grassed swales are providing the pre-treatment as suggested, as the majority of the site is not directed towards the grassed swales.

3.5. NATURAL HAZARDS

The CCTA report indicates that the 1:100 year high water level of Lake Simcoe is 219.62m geodetic and the City of Orillia minimum opening elevation of 220.50m geodetic is to be considered. The Post Drainage Plan indicates that grades on the proposed travelled portion of the Project site are all above 219.62m with most of the elevations above elevation 220.50m. The proposed building first floor elevations range from 220.95m to 221.05m which is well above the City of Orillia's minimum lowest opening requirement.

3.6. SILTATION AND EROSION CONTROL

A review of the proposed siltation and erosion control measures was completed and found that these measures are in-line with industry standards.

4. CONCLUSION


Our review of the CCTA report suggests the following concerns with the overall design:

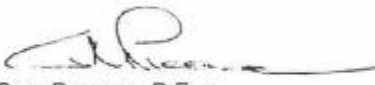
- A Geotechnical Investigation of the site is required in order to determine the soils conditions, infiltration rates and groundwater elevation in considering an exfiltration system for SWM quality control.
- The perimeter drainage swales and bisecting 525mm storm sewer should be re-evaluated to ensure adjacent properties are protected from flooding.

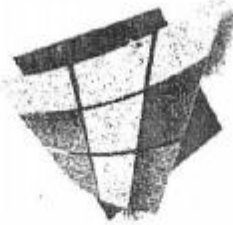
We trust the enclosed meets information will assist in the overall review of the SWM and storm systems for this Project. If you require additional information or have any questions regarding the enclosed, please call to discuss.

Regards,

PEARSON-MCCUAIG ENGINEERING LTD.


Jeff McCuaig, P.Eng.
Senior Associate


Gary Pearson, P.Eng.
Principal



C.C. Tatham & Associates Ltd.
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January 18, 2010

via e-mail
CCTA File 107209

Ian Sugden, MCIP
Director of Planning
City of Orillia
Orillia City Centre
50 Andrew Street South
Orillia, ON L3V 7T5

**Re: Proposed McGill Residential Development
Response to Stormwater Management Report Peer Review**

Dear Mr. Sugden:

We are in receipt of Pearson-McCuaig's peer review letter dated October 28, 2009 which provided comment on the stormwater management report prepared for the proposed McGill Condominium Development at 456 Forest Avenue South in the City of Orillia. We note that we believe that all comments can be readily addressed and do not provide reason to prohibit this development from proceeding. We would like to take this opportunity to respond to the comments summarized in the conclusions of their letter to ensure they are properly understood allowing this file to continue to move forward through the planning process. Specifically, Pearson-McCuaig summarized their comments to two concerns as follows:

1. *A Geotechnical Investigation of the site is required in order to determine the soils conditions, infiltration rates and groundwater elevation in considering an exfiltration system for SWM quality control.*

The existing site soils are known to be peat to a depth of approximately 1.5 m – 2.5 m over silty clay. As identified in the Functional Servicing Report for this property the peat will be removed and replaced with an appropriate free-draining soil to allow development to proceed. In fact this has already occurred across a portion of the site when the trunk sanitary sewer was installed for the servicing of MacIsaac Drive. Given that the soils used to replace the peat will be specified, it will be possible to select a soil for the perimeter swales and exfiltration trench area that encourages infiltration. In this regard, we note that the primary intent of the exfiltration trench is not to introduce water into the groundwater/peat but is to allow the storm runoff to filter through a stone media gallery for water quality cleansing prior to discharging to the outlet. This filtration through a properly selected stone media will, in our opinion, provide the necessary water quality control for this small site.



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If groundwater or lake level conditions remain a concern it is possible at the final design stage to raise the grades of the exfiltration trench to ensure it operates under appropriate groundwater conditions. Currently, the preliminary design has the base of the trench located at an elevation of 218.80 with the subdrain feeding the trench at 219.20. As per our letter to Mr. Glen Harriss dated May 9, 2008 (which may not have been included in the peer review) this grade could be raised as required to ensure less frequent surcharging. By raising the grade of the gallery by 0.3m and including a bottom drain to the trench at 219.15 the gallery could be designed to function completely above the average annual high lake level. These grade adjustments can be reviewed at the final design stage.

Lastly, if the function of the gallery remains a concern to the City a more conventional water quality control device such as a stormceptor manhole could also be used. Although our preference would be to use a Low Impact Stormwater Management Measure such as an exfiltration gallery for this site the addition of a stormceptor manhole type device would on its own provide adequate quality controls should they be warranted. We suggest this also is not appropriately resolved at the final design stage.

2. *The perimeter drainage swale and bisecting 525 mm storm sewer should be re-evaluated to ensure adjacent properties are protected from flooding.*

The purpose of the perimeter swale along the north property line is to collect external drainage from the properties north of the site and convey it to the outlet in an efficient manner. Currently, external lands drain onto this site and pond in various low lying areas which is a condition that can be improved. The swale is currently set with an invert elevation set at 219.22 for this purpose which is above the annual high water level of the lake of 219.15 but below the grades of the adjacent properties which are in the range of 219.45 to 219.7. We have reviewed the hydrology of the external catchment and can confirm that the expected external flow from the 1:100 year event can be conveyed to the outlet and not cause a backwater condition that would impact neighbouring properties even under annual high water lake level conditions. Some additional simple adjustments to the proposed storm sewer system will be considered at the final design stage such as:

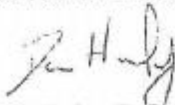
- The storm sewer that conveys the external drainage can be twinned or a different style of pipe (horizontal elliptical pipe) can be used to ensure increased capacity is available for all storm event conditions.
- The storm sewer system that conveys the external flows can be designed as a completely separate system dedicated to only convey the external flows further guaranteeing it has adequate capacity and function.
- We note the perimeter swale currently has an emergency overflow capability around the site for the external drainage set at 219.55. This can be reviewed and adjusted at the final design stage if deemed necessary to ensure a second outlet is available for blockage conditions if they arise. Additional survey of the perimeter grades can be completed at the final design stage to confirm details in this regard.

- As per our May 9, 2008 letter the owner is committed to entering into a legally binding maintenance agreement for the storm system to ensure its continued operation will be monitored and maintained.

We have considered the comments received to date and confirm they can be addressed as noted above and through final design. The details provided to date we believe are satisfactory to allow this project to move forward to the detailed design and approval stage and confirm the proponent is committed to further evaluating and improving the storm drainage system through the final design process.

We trust that the above adequately responds to the questions raised and confirms additional details of the proposed SWM plan to be implemented for the subject site at the final design stage. If you require further information please do not hesitate to contact the undersigned.

Yours truly
C. C. Tatham & Associates Ltd.



Dan J. Hurley, P. Eng.
Manager – Water Resources Engineering
DJH:rlh

Copy C. Phillips
S. McGill
G. Harriss

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CITY OF ORILLIA

TO: Ian Sugden, Director of Planning and Development
FROM: Glen Harriss, Manager of Development
DATE: January 29, 2010
SUBJECT: **Storm Water Management Peer Review**
For Proposed McGill Residential Development
City of Orillia
File Nos. D14-707 and D22-667

I acknowledge receipt and have reviewed Person-McQuaig Engineering Ltd. peer review report dated October 28, 2009.

This addresses the request by City Council to review C.C. Tatham's (C.C.T.) Storm Water Management Report dated December 2007 previously prepared to support the design of the proposed Storm Water Management Facility for the above subject development.

Person-McQuaig have also supplied C.C. Tatham with a copy of their review comments for their consideration and reciprocal comments have now been provided by C.C. Tatham to City staff and Person-McQuaig.

The following represents a summary of Design Criteria items reviewed for re-evaluation as a result of comments received by all parties involved.

A) Geotechnical Investigation/Exfiltration Trench

Pearson-McQuaig's report questions the suitability of the proposed exfiltration trench to address quality control of storm water run-off to the lake due to the proximity of Lake Simcoe and water levels and assumed soil types of peat being prevalent on the site.

C.C. Tatham have indicated they are prepared to review their design based on Person-McQuaig's comments.

- The City has questioned the operational integrity of the proposed exfiltration trench since the initial engineering submission.
- A geotechnical Soils Report has not been submitted for this proposed site.

B) The perimeter drainage swale and bisecting 525mm storm sewer outlet

- Pearson-McQuaig are of the opinion that the design can be improved.
- C.C. Tatham have suggested several options to explore and improve overland flow conveyance.

Recommendation Summary

We are recommending that the developer's consultant engineer (C.C. Tatham and Associates) re-evaluate their Storm Water Management Design criteria based on the comments and suggestions provided by Pearson-McQuaig Engineering Ltd.

It is imperative to ensure that any proposed design changes to the Stormwater Management Facility do not negatively impact abutting existing lands.

Upon submission of the revised engineering plans, we are also requesting that a site specific Geotechnical Soils Analysis Report be submitted along with recommendations to facilitate underground municipal services, laneway and parking lot structures and dwelling units.

We would also request that the engineering submission be forwarded to the Ministry of the Environment for their review specifically related to storm water Quality Control.

