

"Inspiring a Healthy Environment"

July 11, 2017

City of London - Development Services
P.O. Box 5035
London, Ontario N6A 4L9

Attention: Larry Mottram (sent via e-mail)

Dear Mr. Mottram:

Re: File No. 39T-17502/OZ-8147 - Application for Draft Plan of Subdivision and Official Plan & Zoning By-Law Amendment
Applicant: Thames Village Joint Venture Corp.
1738, 1742, 1752 & 1756 Hamilton Road, London

The Upper Thames River Conservation Authority (UTRCA) has reviewed the *Hydrogeological Assessment Old Victoria East Subdivision North Parcel, London, Ontario* prepared by Golder dated April 2017. This report was prepared to support the subject/ proposed draft plan of subdivision.

The UTRCA reviews hydrogeological assessments with respect to the development and its possible impact on natural ecological features and functions that are supported by groundwater resources. Each site is unique and the factors considered can change from site to site. The UTRCA also considers the impact of Source Protection Planning. Some portions of the hydrogeological assessment will also need to be reviewed by the City of London. For example, the impact to private or existing wells or de-watering activities is not reviewed by the UTRCA. If de-watering activities will be directed to the natural heritage feature, the UTRCA will evaluate.

Natural Resource Solutions Inc. (NRSI) was retained by Thames Village Joint Venture to complete an Environmental Impact Study. A portion of this report addresses the site identified in the Golder Report. Concurrent to NRSI study, AECOM prepared an EIS and Functional Design Report for the Old Victoria Stormwater Management Facility.

There is a problematic discussion in the NRSI Report p. 107: The potential for indirect impacts to wetlands, seepage areas and the receiving watercourses has been assessed in the Hydrogeological study by exp Services Inc. (February 2015 and Addendum (July 2015) and NRSI directs the review to this hydrogeological assessment. This hydrogeological assessment was incomplete and never demonstrated relationships between natural heritage and groundwater. The study did not meet CO Hydrogeological Assessment guidelines. So this conclusion is without merit.

The Golder Report (April 2017) as written, is a good start to the hydrogeological investigation of the site. The report is succinct and includes many of the required information elements. Further expansion and clarification is required as outlined below.

1. NRSI has identified significant natural heritage features which include locally significant plants, wetlands, seeps and other ecological features. Further, on NSRI p. 108 'Decreases in water quality, such as through discharge of deleterious substances in stormwater runoff, can cause both acute and chronic toxicity impacts within biological communities.' A review of the identified plant species indicates that groundwater dependent ecosystems are present at several locations on the site.
2. Only AECOM seep locations are identified on Figure 1 and discussed in the report. Further, the AECOM and NRSI seep locations are slightly different. Only seeps were investigated in this hydrogeological discussion.
3. Please include all areas of the groundwater dependent ecosystems- wetlands, intermittent water courses and seeps: e.g. skunk cabbage, water cress, mayapple, and possibly joe pye weed to mention a few. Skunk cabbage indicates areas of deeper groundwater discharge as skunk cabbage depends on minerals and constant temperature associated with groundwater discharge. All potential groundwater dependent locations need to be included on figures and evaluated. The analysis also needs to evaluate all impacts both on water quality that includes groundwater temperature and quantity on all groundwater features.
4. To evaluate the impact to natural heritage and map the recharge area of the feature, need to incorporate comparisons of water quality between surface water and aquifers (individual aquifers) to clarify which feature is associated with which aquifer. Therefore need surface and groundwater samples. Water quality needs to include the major anion and cations (calcium, magnesium, sodium, potassium, bicarbonate, chloride, sulfate and metals. Usually a contribution percentage can be estimated on the major cations and anions however, sometimes the major metals help to clarify the origin of the natural heritage feature and the specific aquifer.
5. The hydrogeological assessment needs to be integrated with discussion of risk to natural heritage. The aquifers on site need to be clearly identified with respect to natural heritage. For example, the seeps appear to be associated with a different aquifer than the wetland features based on water levels. Potential aquifers section 2.4.1 need to be more clearly defined. What are the depths of the potential aquifers on site. Depths are included and compare and contrast with the MOECC database. Make a short summary table of the elevations of the statics associated with each aquifer that may be relevant to the natural heritage on site. The Ingersoll moraine is within proximity to the site and it is possible that the deeper aquifers upwell in the area. Include correlations with off-site monitoring wells and boreholes to determine extent of relevant aquifers.

UTRCA staff would be pleased to meet with the applicant and their consultant to discuss our comments.

6. Once a revised hydrogeological report is submitted and accepted, the UTRCA will undertake the review of the NRSI Response (April 12, 2017).

RECOMMENDATION

Given the requirements that need to be addressed in the hydrogeological report which then must be evaluated in conjunction with the Environmental Impact Study, the UTRCA is not in a position to offer conditions of draft plan approval and recommends that the application be deferred. Please note that we are in receipt of a consolidated Geotechnical Report (received July 7, 2017) which is in the queue for review.

UTRCA PEER REVIEW FEE

Consistent with UTRCA Board of Directors approved policy, Authority Staff are authorized to collect fees for the peer review of Technical Reports submitted to support Planning Act applications. Our fee for the review of the Hydrogeological Report is \$1000.00. Please note that our peer review fee includes ***one comprehensive review and one revised report review*** and that additional fees will be collected for subsequent peer reviews.

Thank you for the opportunity to comment. If you have any questions, please contact the undersigned at extension 293.

Yours truly,
UPPER THAMES RIVER CONSERVATION AUTHORITY



Christine Creighton
Land Use Planner
LN/CC/cc

c.c. Sent via e-mail -
Applicant – Thames Village Joint Venture Corp.
City of London – James MacKay, Ecologist
UTRCA – Mark Snowsell & Brent Verscheure – Land Use Regulations Officers