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CONSERVATION SUDBURY

401 – 199 rue Larch Street
Sudbury, ON P3E 5P9
705-674-5249
ConservationSudbury.ca

July 14, 2023

Conservation Sudbury File 2521

City of Greater Sudbury
200 Brady Street
Sudbury, ON P3A 5P3

Attn: Mauro Manzon, Senior Development Planner

Re: Zoning By-law Amendment, 751-6/23-009
0 Algonquin Rd, Sudbury
Owner: 11415573 Canada Inc., Agent: Tulloch Engineering

Conservation Sudbury staff has reviewed the above-noted application to amend By-law 2010-100Z being the City of Greater Sudbury Zoning By-law from “FD”, Future Development, to “R3-1 Special”, Medium Density Residential Special. The application would permit a six-story retirement home with 150 rooms. This review focuses specifically on the distributed Stormwater Management Memorandum, by Tulloch Engineering, dated June 16, 2023.

Staff has reviewed this application as per our delegated responsibility from the Province to represent provincial interests regarding natural hazards identified in Section 3.1 of the Provincial Policy Statement, 2020 (PPS) and as a regulatory authority under Ontario Regulation 156/06. The application has also been reviewed through our role as a public body under the *Planning Act* as per our CA Board approved policies.

Recommendation

The provided Stormwater Management Memorandum does not provide sufficient detail to prove the feasibility of the required floodplain cut compensation or stormwater quantity control.

The report calculated approximately 750 cubic meters of cut required to balance the proposed fill volume within the floodplain. It is proposed that this cut compensation volume is obtained within underground chambers. Conservation Sudbury’s typical requirements for cut compensation is that the cut and fill be incrementally balanced at intervals of 0.5 m, and that the cut areas be hydraulically connected via overland flow. The goal of this direction is to mimic the original cross section of the channel and floodplain to the maximum extent possible to not only ensure consistency with the flood storage volume, but also the flood conveyance capacity for a given area. The filling of an existing surface level conveyance area with an equivalent cut volume provided within underground chambers neglects the value of the original surface level conveyance for the property. Further consideration as to the feasibility of utilizing underground storage chambers for cut compensation will require an assessment of the original conveyance function of the floodplain within the property.

Furthermore, the report does not flush out if and how the required storage volume can be obtained within an underground storage system considering the elevation of the system outlet to the adjacent ditch, the height of cover required over the system within the parking lot, and the potential groundwater table within the site. In addition to the above assessment of flood conveyance, to further explore the feasibility of this plan it is recommended the proponent circulate a grading plan demonstrating how the fill volume was calculated, and how the proposed underground chambers would be configured. In support of this, additional geotechnical information identifying the elevation of the groundwater table would be required.

The report approximates that an additional 260 cubic meters of stormwater storage will be required to attenuate post-development stormwater runoff from the site during the 100 year event. The storage requirements of the Timmins Storm event have not been modelled. Please note, that the Timmins Storm is the regulatory storm event for the larger watershed, and the stormwater design must include evaluation and attenuation of peak runoff from both the 100 year and Timmins storm events.

Underground chambers for stormwater quantity control could be an acceptable solution for design storms where the chamber outlet is at a higher elevation than the water elevation in the downstream receiver (ie. where water will not be backed up into the system). Conservation Sudbury's current flood mapping model does not include an evaluation of return periods lower than the Regulatory Storm event. At points where water is backing up into the storage area from the downstream outlet, the loss of this capacity must be included in the stormwater control model. It is anticipated that during the regulatory storm event the chambers will be fully inundated, and the possibility of providing storage volume for attenuation of stormwater runoff is lost. In this case, stormwater quantity control would need to be provided at surface level, which may include rooftop storage. To further explore the feasibility of the proposed site plan and associated stormwater control plan, it is recommended the proponent circulate a grading plan and supporting high level stormwater design demonstrating how the site can accommodate the required quantity control facilities.

Sincerely,



Melanie Venne, MES

Office and Communication Coordinator

Melanie.Venne@ConservationSudbury.ca