

October 27, 2025

Timberline Custom Homes
5584 Highway 28
Woodview, ON K0L 3E0

Attention: Riley Martens

Dear Riley:

**Re: 34 Fire Route 14, Municipality of Trent Lakes
Floodplain Letter
Engage File No. 25102**

Engage Engineering has been retained by Timberline Custom Homes to review the delineation of the floodplain in support of a proposed dwelling located at 34 Fire Route 14, within the Municipality of Trent Lakes. The property is situated on the north shore of Lower Buckhorn Lake, east of Buckhorn. The existing dwelling on the site is proposed to be demolished and replaced with a new two story building that includes a screened room and deck facing the lake. The proposed dwelling is located directly adjacent to Fire Route 14. The site layout, proposed dwelling, and the floodplain elevation are shown on the attached Site Plan.

Engage Engineering Inc. completed a site visit and elevation investigation on October 21, 2025, to validate the extent and accuracy of the floodplain presented on the Site Plan. The site elevations were obtained using an RTK GPS unit benchmarked based on the water level of Lower Buckhorn Lake on the date of the site visit obtained from Parks Canada Water Management website CGVD28.

The Municipality of Trent Lakes Zoning By-Law document references a regulated flood level of Lower Buckhorn Lake of 244.31 masl. The Otonabee Region Conservation Authority (ORCA) published updated floodplain elevations for Lower Buckhorn Lake in their Watershed Planning & Regulation Policy & Procedures Manual 2025. According to the manual the floodplain elevation for Lower Buckhorn Lake is 243.94 masl and the floodproofing elevation is 0.3 m higher at 244.24 masl. All elevations noted are referenced to the CGVD28 vertical datum.

The floodplain extent of both Trent Lakes Zoning By-Law Elevation (244.31 masl) and the ORCA Regulatory Floodproofing Elevation (244.24 masl) were reviewed and compared to the flood contour elevation on the Site Plan. Based on the site visit and

elevation investigation, the floodplain contour shown on the plan accurately represents the Floodplain Limit and elevation at 244.31 masl.

The floodplain limit of 244.31 masl covers the majority of the site, including the proposed deck and a portion of the screened room and first level of the dwelling. Based on information provided, the deck and screened room will be supported on piers or posts, allowing these structures to be elevated such that the finished floor elevation of these structures is above 244.31 masl. This construction approach will minimize potential flood impacts to the dwelling by maintaining an appropriate level of clearance above the floodplain.

The adjacent section of Fire Route 14 is located above the floodplain, providing safe access during a flood event. The site grading is expected to remain generally unchanged and given the large storage capacity of Lower Buckhorn Lake, the proposed building is not anticipated to have any measurable impact on floodplain elevations.

It is recommended that the proposed building be floodproofed to a minimum elevation of 244.24 masl, consistent with ORCA's floodproofing standards, and that all mechanical and electrical systems be located above this level where feasible.

It is my professional opinion that the floodplain elevation identified on the site plan is accurate and provided the recommended finished floor elevation and floodproofing measures are implemented, the proposed dwelling can be safely constructed with reduced impacts of flooding compared to existing conditions.

Sincerely,



Logan Mattern, P.Eng.
Water Resources Engineer

Attachments:

Site Plan illustrating the Proposed Building and Floodplain elevation

