

Grand River Conservation Authority

Report number: GM-06-23-50

Date: June 23, 2023

To: Members of the Grand River Conservation Authority

Subject: Dunnville Two Zone Floodplain Policy and Mapping Update, County of Haldimand

Recommendation:

THAT a Two Zone Floodplain Policy Area for portions of Dunnville be endorsed;

AND THAT the updated floodplain mapping, as prepared by J.L Richards & Associates Limited (June 2022), be used as the guiding document when dealing with planning matters and permit applications in the study area.

AND THAT amendments to the Grand River Conservation Authority's Ontario Regulation 150/06 mapping be approved to incorporate the revisions to the floodplain and associated regulated allowance.

Summary:

At the request of the County of Haldimand, GRCA has participated in the review of a floodplain analysis, completed as part of a Two-Zone Floodplain Policy application for the Frank Marshall Business Park in the community of Dunnville. The purpose of the Frank Marshall Business Park Two-Zone Study was to evaluate the potential for applying Two-Zone Floodplain Policies to create more developable lands within the area. The analysis completed by J.L Richards & Associates Limited has resulted in revisions to the current extent of the floodplain and has identified the limits of the floodway and flood fringe within the floodplain. The Haldimand County Council endorsed these updates as part of the County's adoption of the Official Plan on August 23, 2022.

Report:

J.L Richards & Associates Limited. were retained to prepare a Floodplain Analysis and Scoped Master Servicing Plan for the Frank Marshall Business Park (FMBP) in the community of Dunnville. This work was carried out in support of Phase 2 of the Haldimand County Official Plan Update.

Headwaters of Maple creek are located north-west of the FMBP, flows through the FMBP and discharges into the Grand River downstream of Dunnville. The Regional Storm (Hurricane Hazel) is the standard used to determine the Regulatory Floodline in this area and is simulated as the historical rainstorm pattern which resulted in 285 millimeters of rainfall in 48 hours.

Under the current GRCA and County of Haldimand's One-Zone Floodplain Policies, existing vacant parcels are unable to be developed and existing developed parcels are unable to redevelop, with the exception of minor additions or alterations subject to approval under Ontario Regulation 150/06.

A Two-Zone Floodplain Policy Area would generally prohibit development in the floodway portion of the floodplain while allowing for modifications to existing buildings, infill development and redevelopment in the flood fringe portion of the floodplain. The limit of the floodway considers: flood depths, flow velocities, frequency of flooding and the area needed to safely pass the Regulatory Flood Flow. The flood fringe portion of the floodplain is located between the floodway and the limit of the floodplain. Flood fringe areas must meet requirements such

as: low depths/velocities of flooding, requirements for safe access/egress, flood proofing, and ensuring that development in the flood fringe would not impact upstream or downstream floodplain areas.

The purpose of the FMBP Floodplain Analysis was to determine if and where a Two-Zone concept for the floodplain could be applied within the limits of the FMBP with the goal of permitting development within the flood fringe.

The key findings of the study are as follows:

- Two-Zone application is appropriate.
- The approved fringe limit provides the maximum developable area while providing sufficient flood conveyance through the floodway.
- Floodplain extents have been revised based on more accurate topographic information and hydrologic and hydraulic modelling. In some portions of the study area, the floodplain limits have been reduced and in other areas have expanded.

Figures 1 and 2 show the existing floodplain extent (One Zone Policy Approach) and the proposed extent of the Two Zone Policy Approach.

The Two Zone Policy Area policies recommended in the study will be implemented through the new Official Plan and a future zoning bylaw amendment as well as through GRCA's permitting process.

Financial Implications:

None.

Other Department Considerations:

GRCA Engineering and Resource Management staff were involved in the technical review for this project.

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Figures:

Figure 1 – Regulatory Floodplain (One Zone Approach)

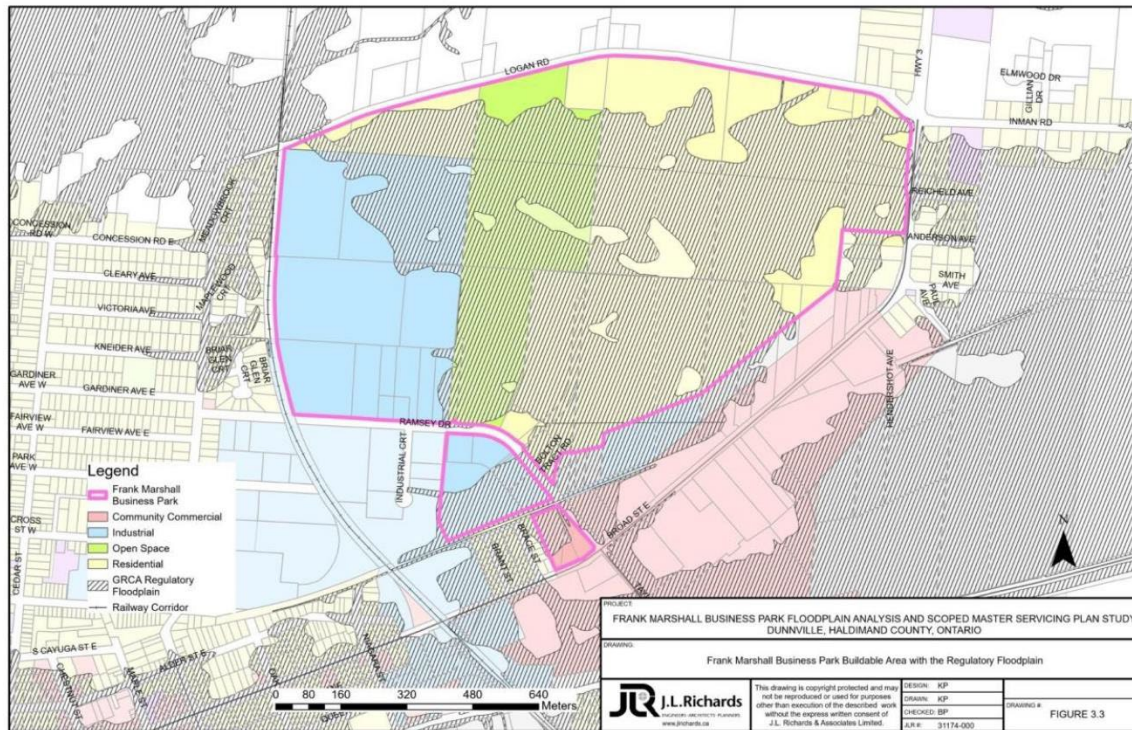


Figure 2 – Regulatory Floodplain with Fringe Overlay (Two Zone Approach)

