



Planning Report

Zoning By-law 18-18 – Inland Flood Plain Interpretation

Prepared by Peter Tonazzo, RPP

Date: October 7, 2022

Purpose: This report discusses utilizing the new flood risk areas identified by Hatch Ltd for the purpose of restricting development within or adjacent to those areas.

Background

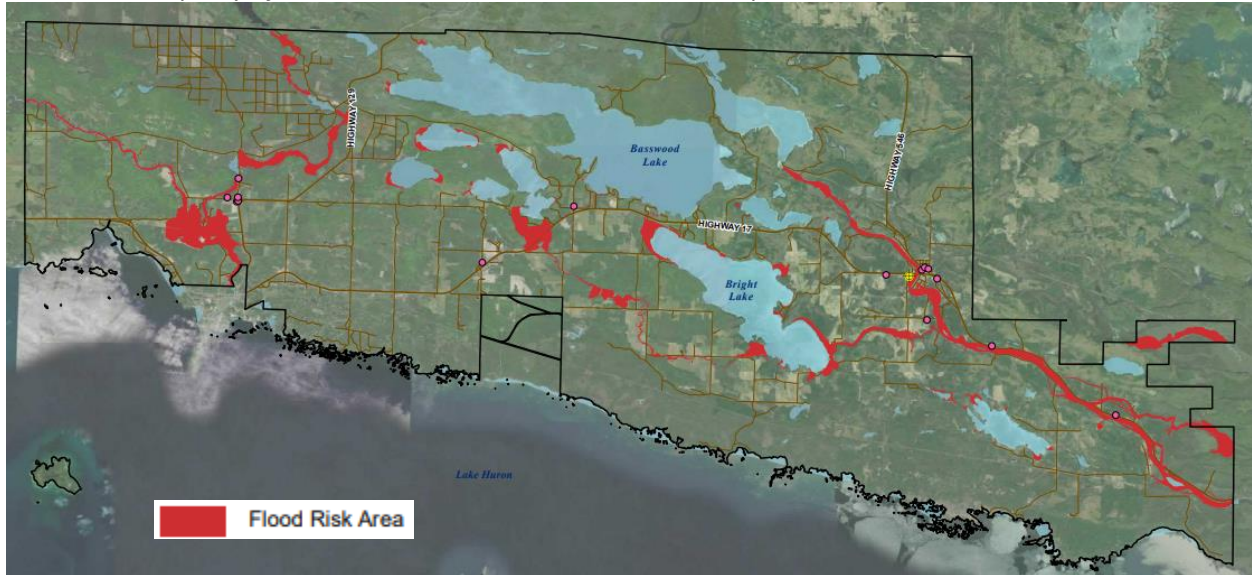
Utilizing partial funding from the Federal Government’s National Disaster Mitigation Program (NDMP), the Municipality retained Hatch Limited to complete a Flood Risk Assessment¹ for the following inland lakes and rivers:

| Major Rivers | Minor Rivers | Lakes |
|---------------------|------------------------|----------------------|
| Mississagi River | Bolton River | Basswood Lake |
| Thessalon River | Harris River | Birch Lake |
| | Pickereel River | Bright Lake |
| | Pahpashcah River | Brownlee Lake |
| | Potomac River | Clear Lake |
| | Little Thessalon River | Cranberry Lake |
| | | Dean Lake |
| | | Little Basswood Lake |
| | | Little Dean Lake |
| | | Warnock Lake |

¹ https://huronshores.ca/wp-content/uploads/2022/09/H366743-0000-228-230-0003_Rev0-Flood-Risk-Assessment.pdf

Flood Risk Areas Identified by Hatch Flood Risk Assessment 2022

Source: Municipality of Huron Shores Flood Risk Assessment Report – Hatch Ltd.



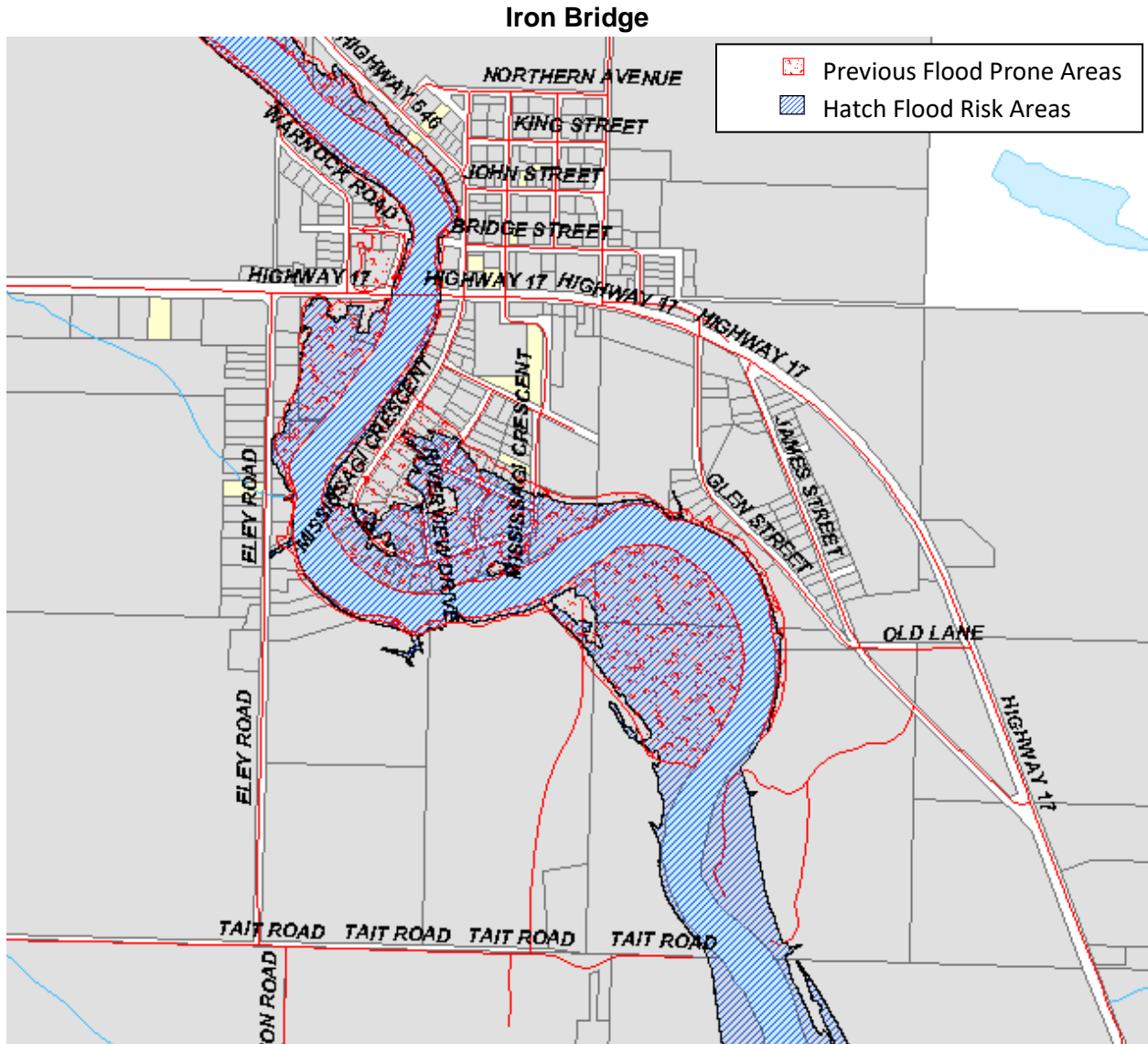
Hatch's Risk Assessment identified additional flood prone areas, notably along the Thessalon and Little Thessalon Rivers, and altered a number of existing areas, as discussed in greater detail below. As a result of the Risk Assessment, Hatch is recommending that specific flood mapping be conducted for the following areas/waterbodies:

- Mississagi River
- Thessalon River
- Little Thessalon River
- Bright Lake
- Bolton River
- Pickerel Creek

The Flood Plain Mapping exercise will result in the identification of a flood plain and a flood fringe, with development significantly restricted within the flood plain and the identification of minimum elevations for building openings within the flood fringe.

Comparing Previous and New Flood Lines in Key Areas

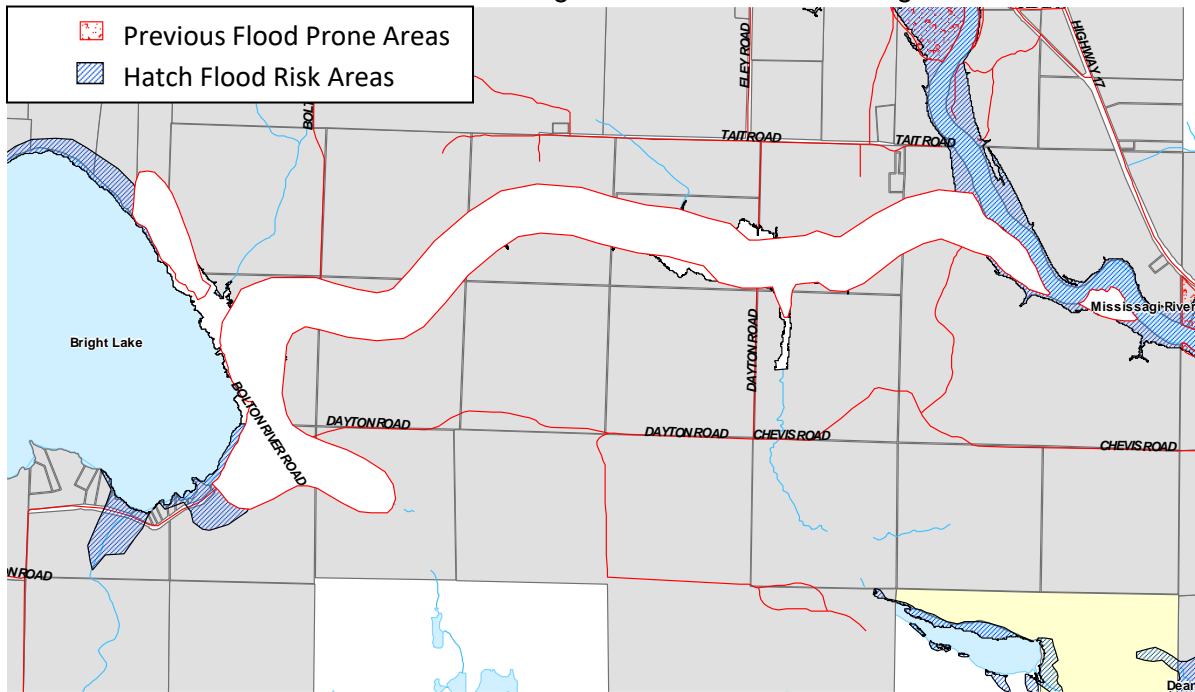
The following maps are GIS screenshots showing the previously identified flood prone areas and newly identified flood risk areas along the key inland lakes and creeks that were reviewed by Hatch.



In Iron Bridge, the newly identified flood risk areas are generally consistent with what currently exists; however, it is noted that a number of lots along Mississagi Crescent are beyond the new flood risk area.

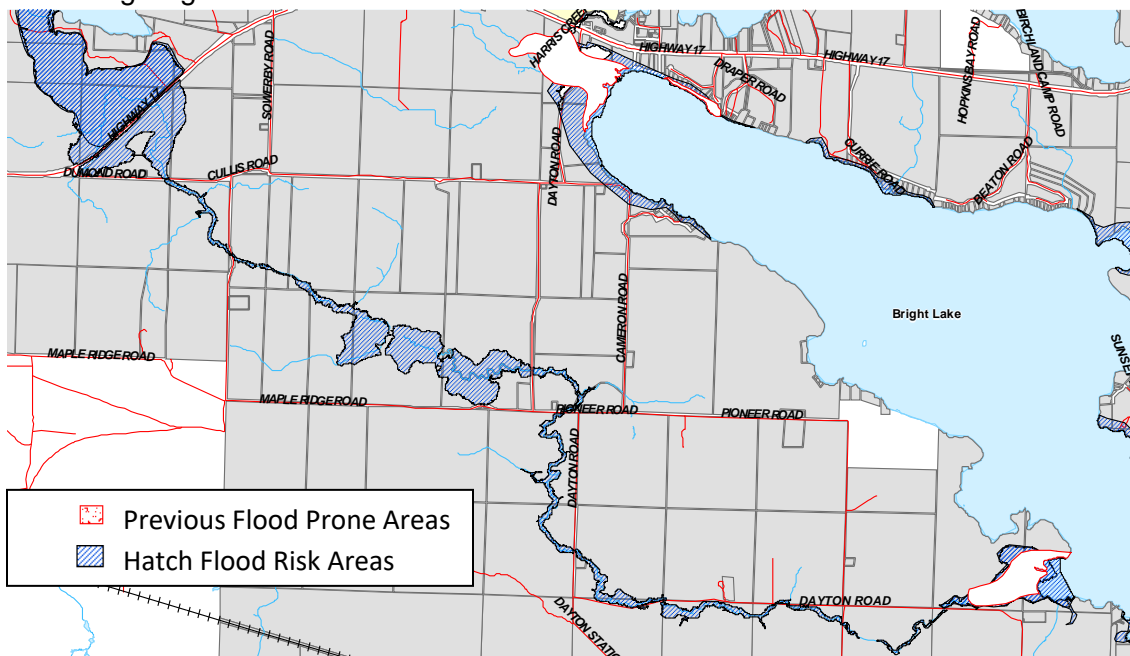
Bolton River

The new flood risk area of the Bolton River is generally smaller than that which was previously identified. There are also differences along the eastern shores of Bright Lake.



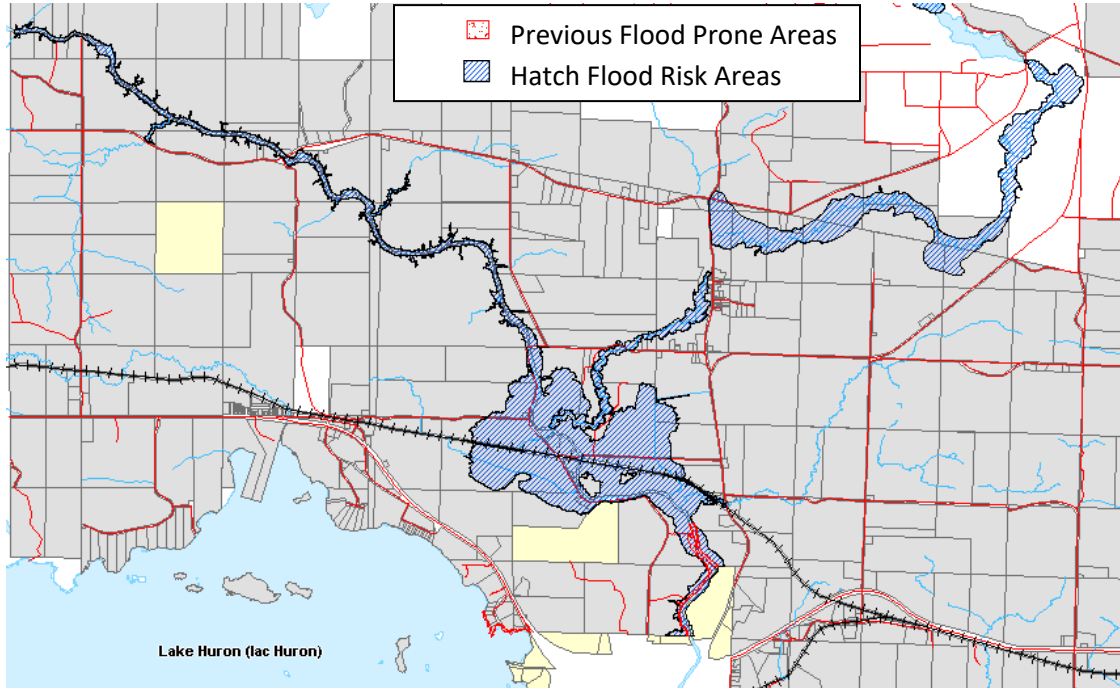
Pickrel Creek

There are significant increases to the new flood risk areas along the Pickrel Creek and Bright Lake. Having said this, the larger flood prone areas near Highway 17, north of Maple Ridge Road and along Bright Lake coincide with identified wetlands.



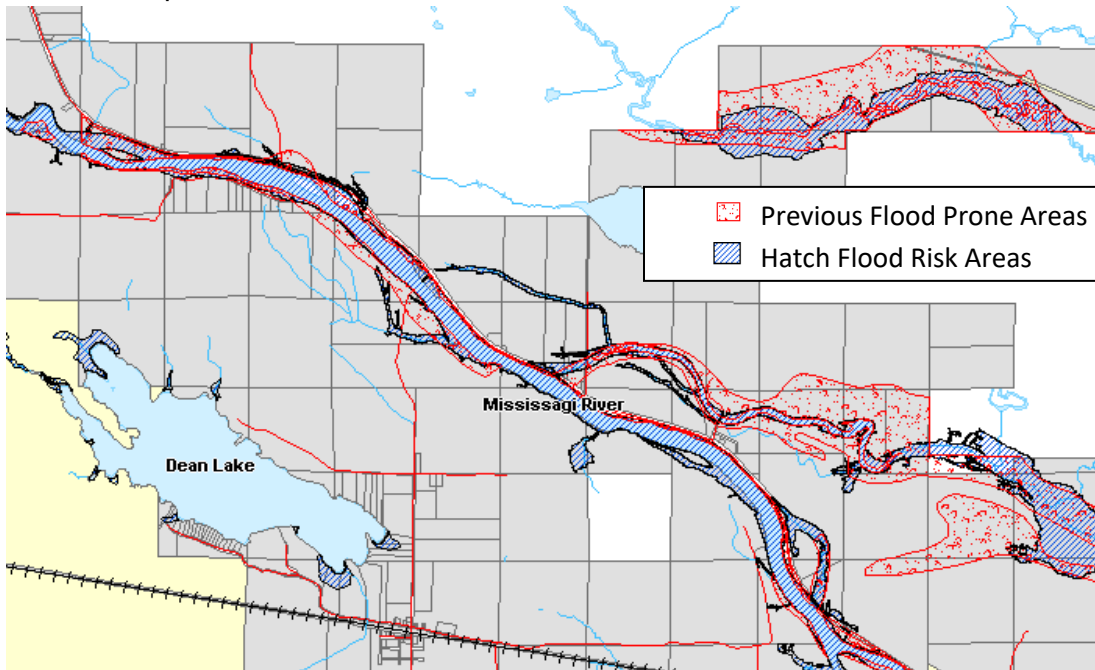
Thessalon and Little Thessalon Rivers

A new, large flood risk area is identified where the Little Thessalon outlets into the Thessalon River. The area includes lands occupied by Midway Lumber and active, productive farmland. The upper reaches of the Little Thessalon River, north of Little Rapids corresponds with identified wetlands.



Mississagi, Potomac and Pahpashcah Rivers

Generally speaking, the identified flood risk areas along the Mississagi River east of Iron Bridge and the Pahpashcah Rivers are smaller in area.



Zoning By-law 18-18

Section 4.11 of Zoning By-law 18-18 speaks to flood plains and states: *'The following provisions shall apply to areas located below any engineered or photo interpreted flood line or as determined by the agency having jurisdiction'*. Albeit a first step, Hatch's Flood Risk Assessment identifies flood prone areas and represents an *'engineered flood line'*. As previously discussed with Council, current inland flood plain mapping is quite dated and in some cases the source of this information is unknown. Appropriately, Section 4.11 is worded in a manner to give the Municipality, which is *'the agency having jurisdiction'*, the ability to utilize updated information without the need to amend the Zoning By-law.

Section 4.11.4 of Zoning By-law 18-18 requires all buildings and structures to be located at least 15m back the 'flood line'. This 'factor of safety' was likely included due to the lack of detailed flood plain mapping. Although Hatch has clearly indicated that additional flood plain mapping is recommended and required, the flood plains outlined in the Flood Risk Assessment Report represent a significant improvement to existing mapping. The LiDAR imagery submitted as part of this study also makes it relatively easier to determine land elevations, thus reducing the need for the 'catch-all' 15m setback and allowing a future zoning approach that is based upon identifiable elevations. This is especially true for flood risk areas along lakes.

Conclusion

Given that Section 4.11 of the Comprehensive Zoning By-law gives the Municipality the flexibility to utilize any engineered flood line, it is recommended that the flood risk areas identified by Hatch Ltd. in the Flood Risk Assessment Report be utilized as the 'engineered flood line' for the purposes of Section 4.11 of Zoning By-law 18-18.

Upon completion of more detailed mapping, it is recommended that the Zoning By-law be amended to implement a two-zone, elevation-based approach in areas with detailed flood plain mapping and along inland lakes.

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read 'P. Tonazzo'.

Peter Tonazzo, RPP
Planning Consultant for the Municipality of Huron Shores