

LAKE ONTARIO SHORELINE MANAGEMENT PLAN HAZARD MAPS

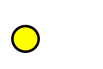
Ganaraska Region Conservation Authority (GRCA)

LEGEND:

Hazard Mapping:

-  100 Year Flood Level
-  Flood Hazard Limit
-  Erosion Hazard Limit
-  Dynamic Beach Setback

Base Mapping:

-  Geographical Names
-  Dynamic Beach (Start Pt)
-  Dynamic Beach (End Pt)
-  Road Network
-  GRCA Administrative Boundary

INTERPRETATION OF THE HAZARD MAPS:

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DATA SOURCES:

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Inset Map: © OpenStreetMap contributors

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Flood Hazard Limit

The Flood Hazard Limit is defined as the 100-Year Flood Level plus an allowance for wave runup and uprush. For the exposed shoreline, wave effects are calculated based on localized nearshore conditions and waves. For embayments, the standardized 15 m setback is applied. Refer to the Lake Ontario Shoreline Management Plan for additional details.

Toe of Bluff

The Toe of Bluff is the transition from the gently sloping beach to the steep portion of the bank or bluff slope.

Stable Slope Allowance

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Erosion Hazard Limit

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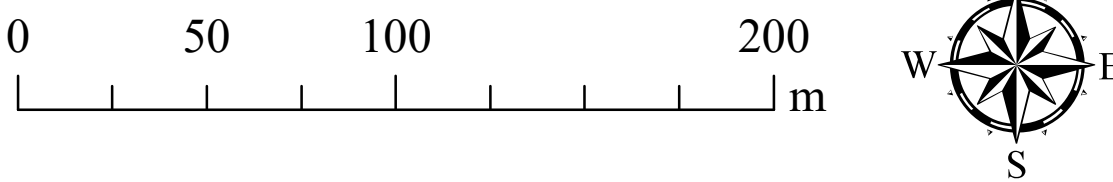
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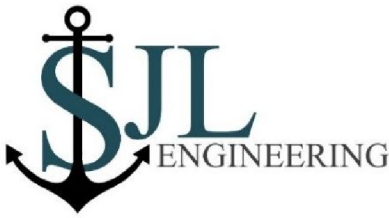
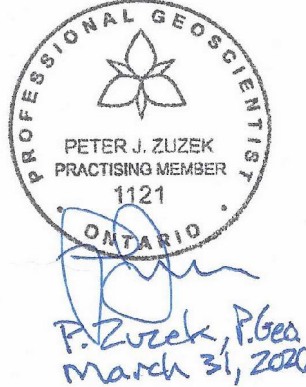
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PREPARED BY:



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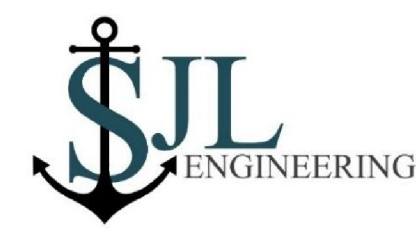
PREPARED BY:



Zuzek inc.
ONE WORLD



PETER J. ZUZEK
PRACTISING MEMBER
1121
ONTARIO
March 31, 2020



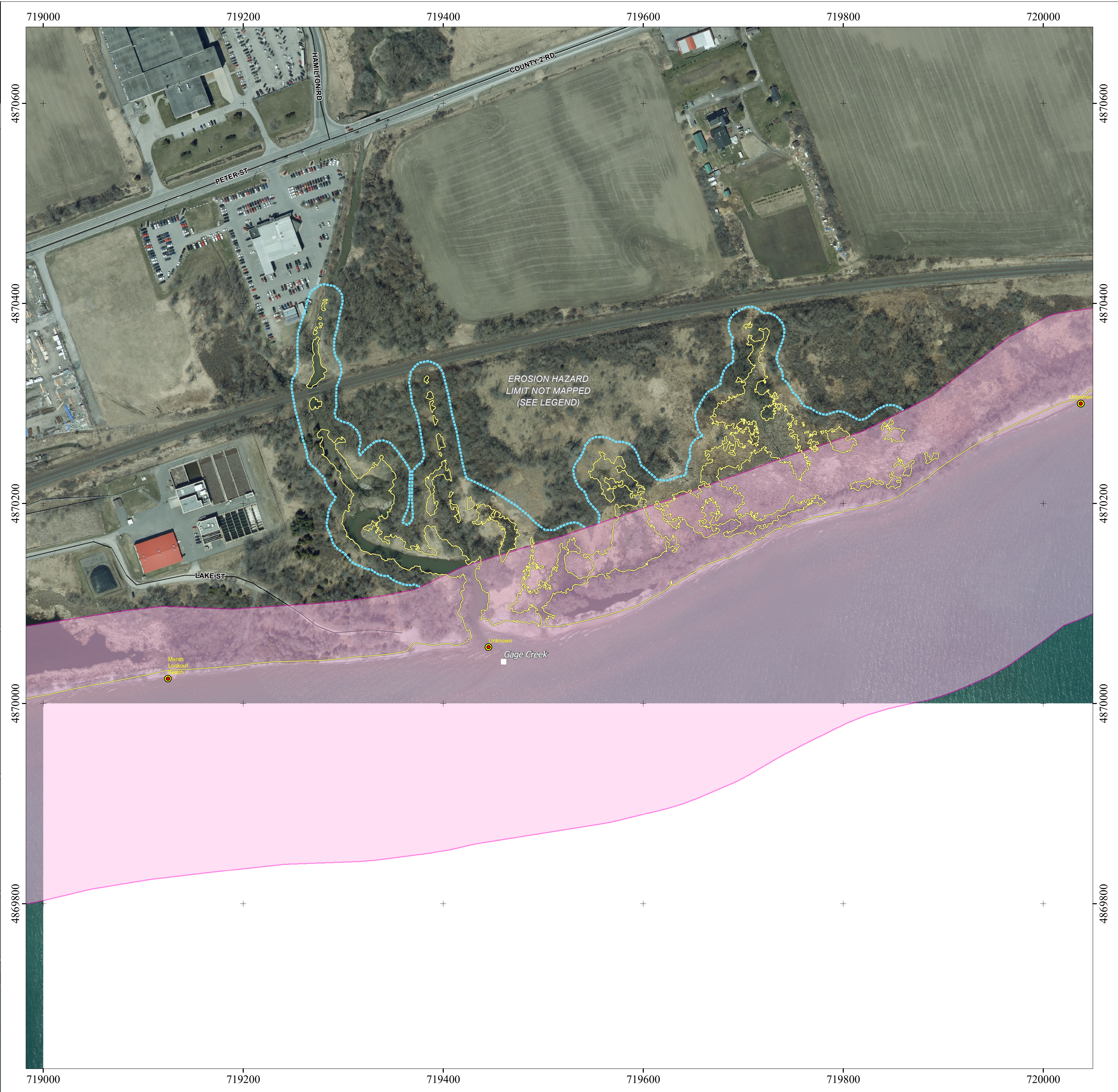
SJL
ENGINEERING



S. J. LOGAN
REGISTERED
MAY 31, 2020
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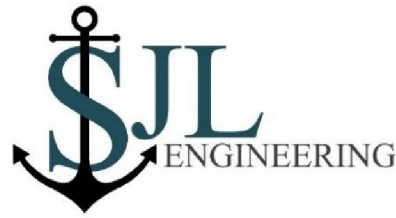
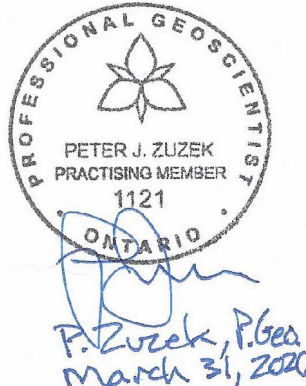
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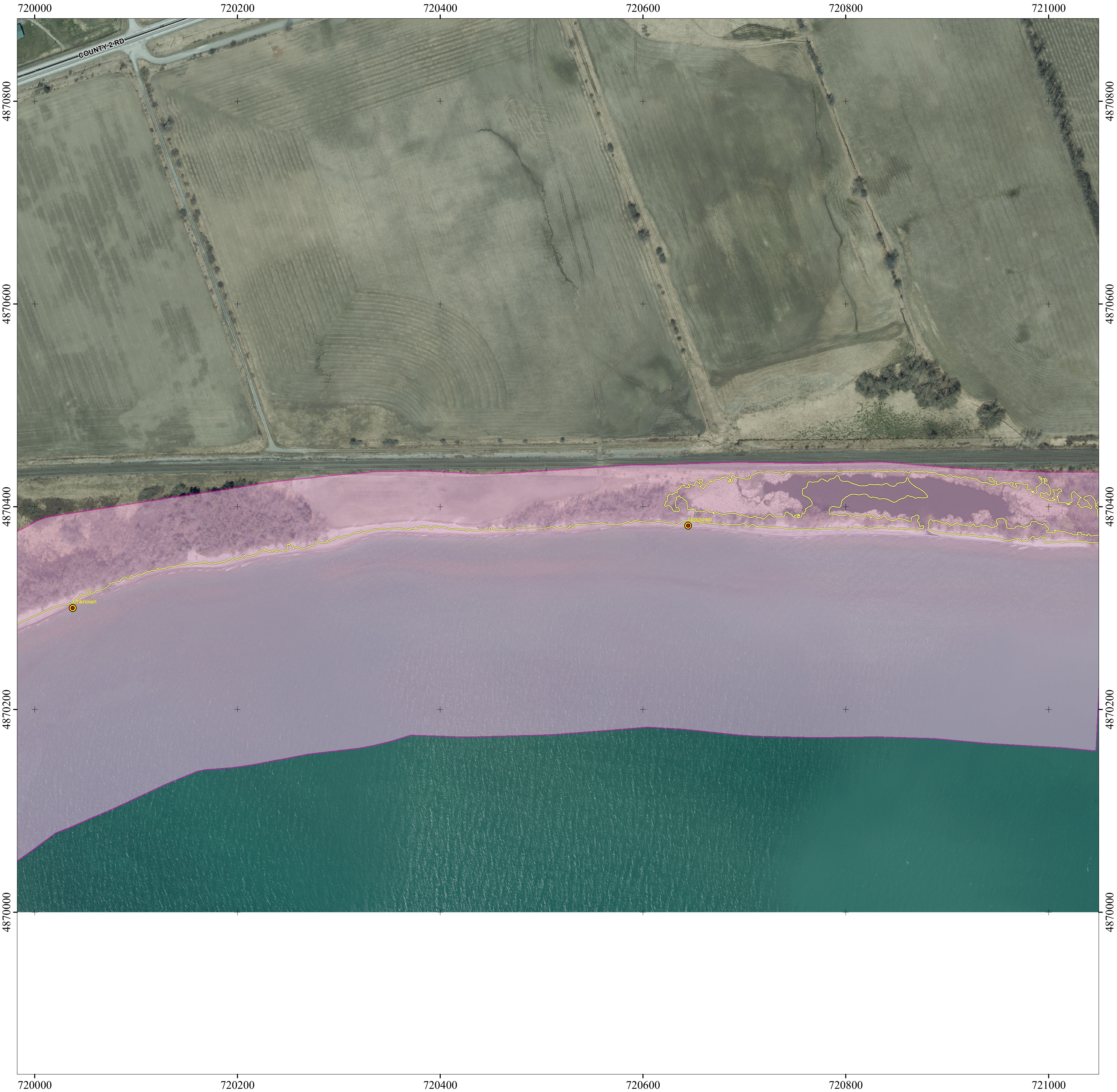
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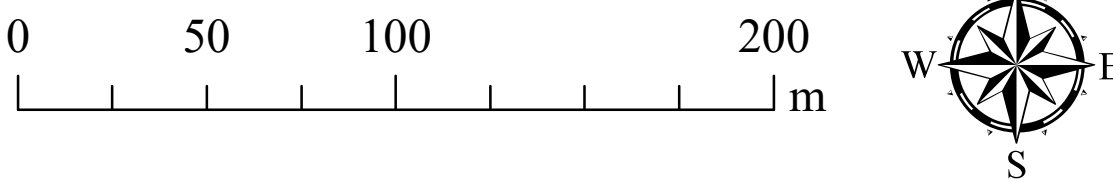
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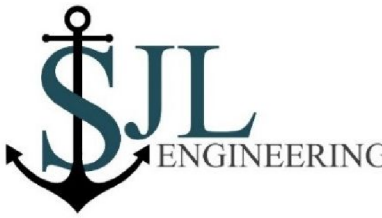
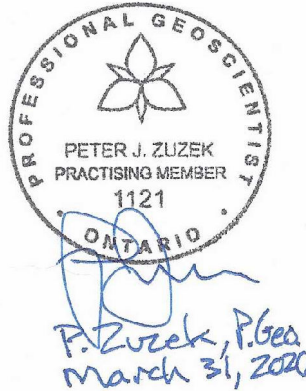
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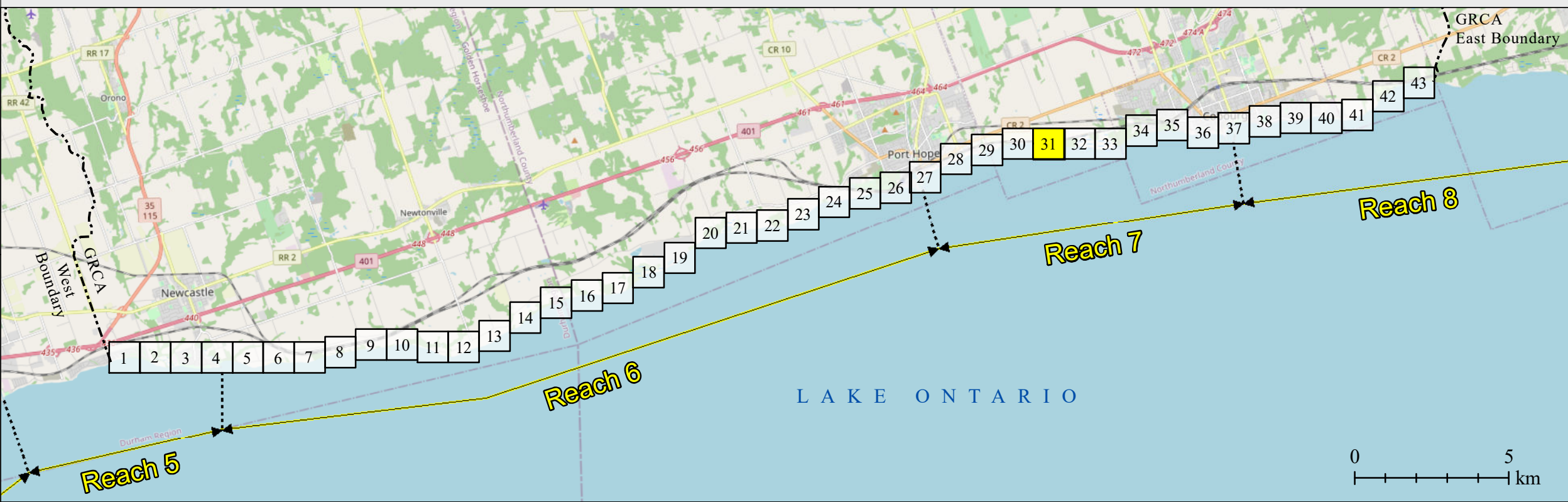


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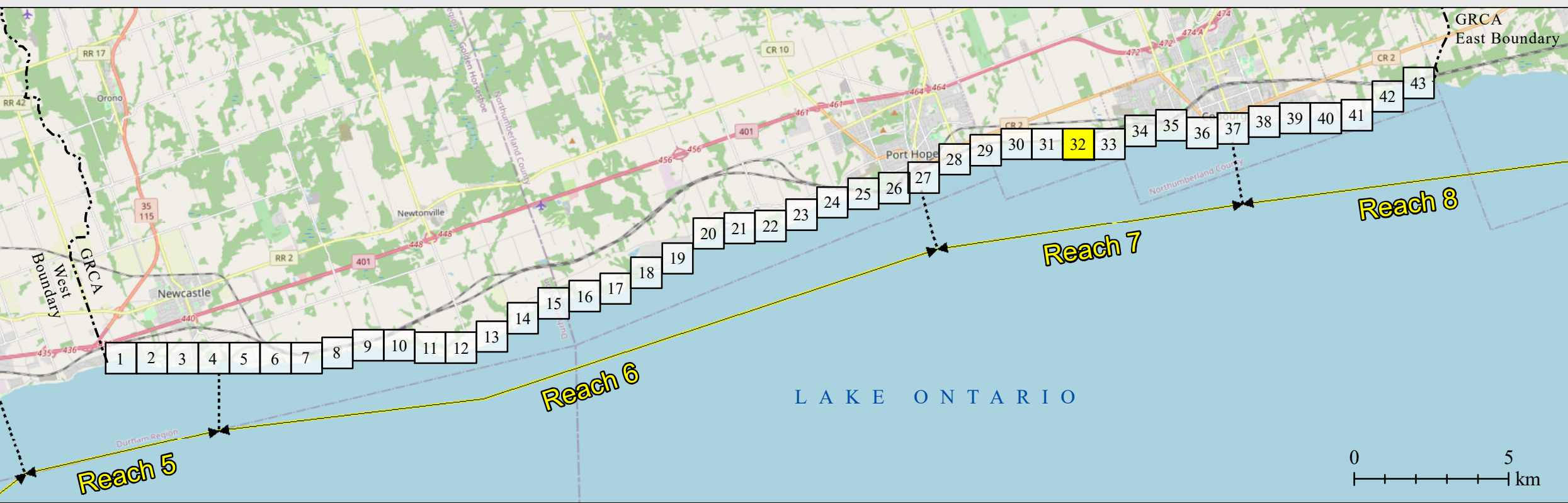
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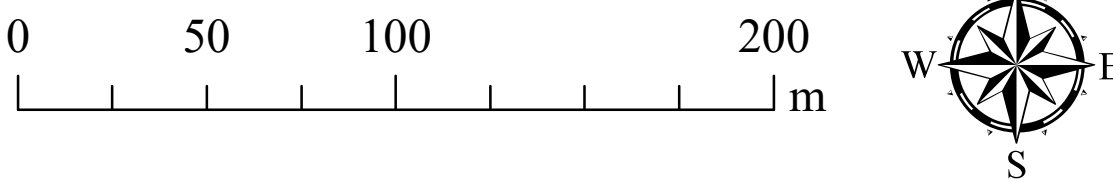
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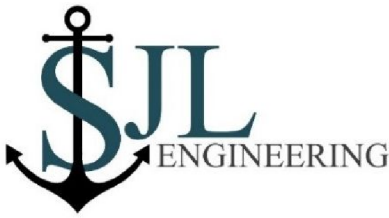
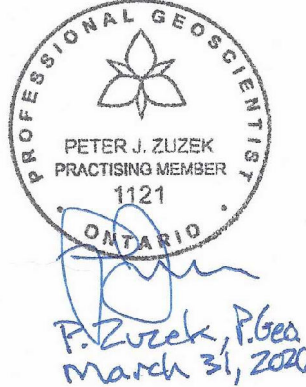
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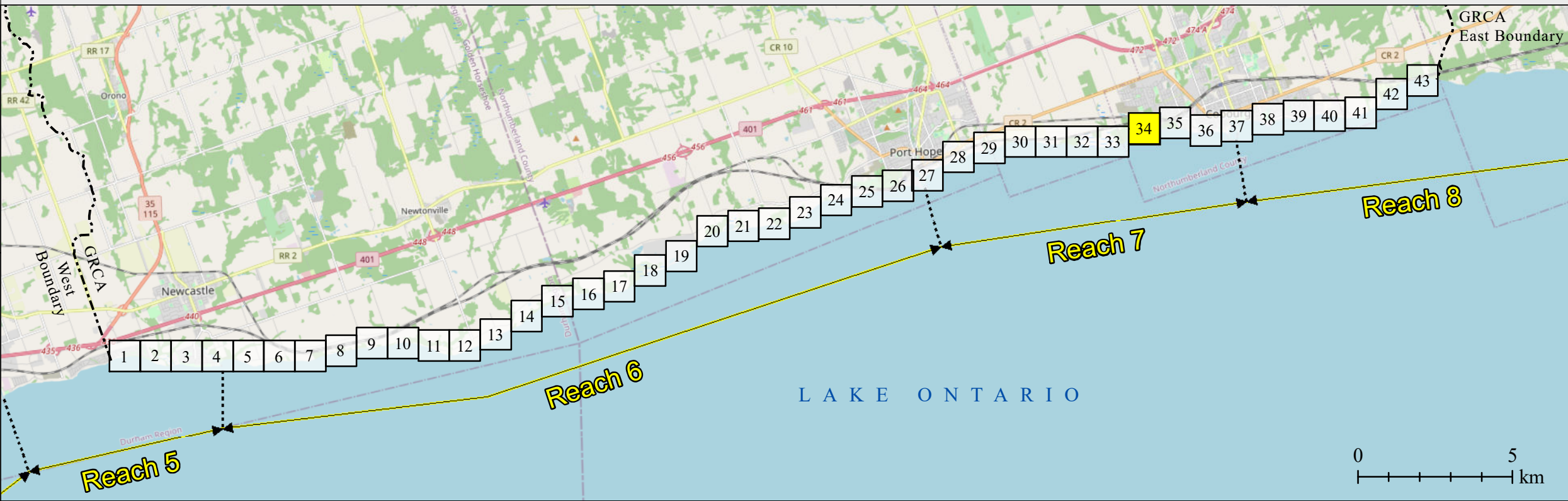


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Statistics Canada Catalogue no. 92-500-X

Inset Map: © OpenStreetMap contributors

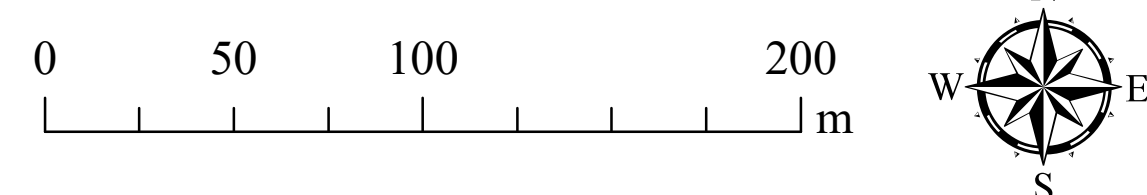
Datums:

Horizontal: UTM 17N NAD1983, metres.
Vertical: CGVD2013, metres

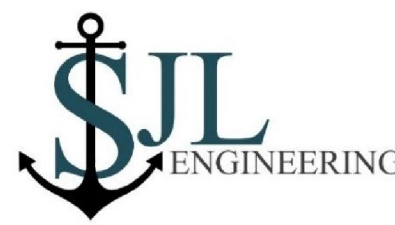
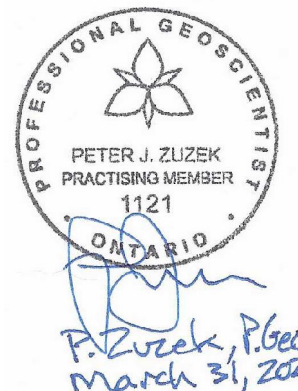
Datum Conversion:

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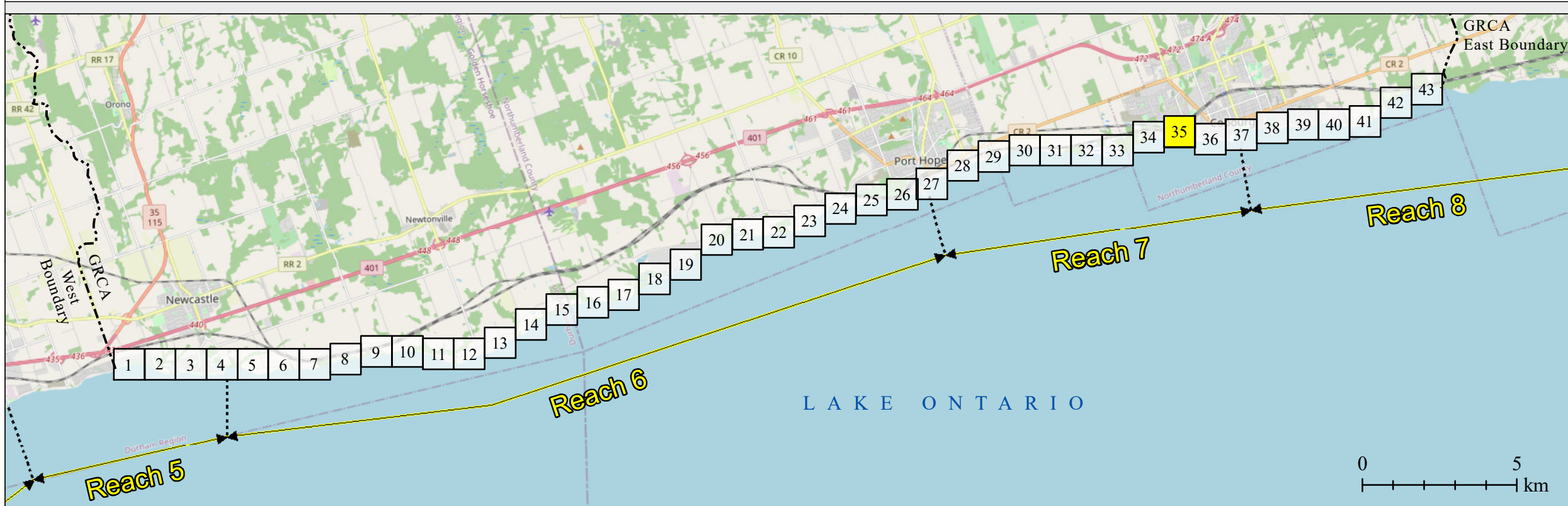


PREPARED BY:



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GRC Map
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LAKE ONTARIO SHORELINE MANAGEMENT PLAN HAZARD MAPS

Ganaraska Region Conservation Authority (GRCA)

LEGEND:

Hazard Mapping:

- 100 Year Flood Level
- Flood Hazard Limit
- Erosion Hazard Limit
- Dynamic Beach Setback

Base Mapping:

- Geographical Names
- Dynamic Beach (Start Pt)
- Dynamic Beach (End Pt)
- Road Network
- GRCA Administrative Boundary

INTERPRETATION OF THE HAZARD MAPS:

The hazard maps were prepared to support the Lake Ontario Shoreline Management Plan. Wetland and riverine floodplains are not included on these hazard maps. The Dynamic Beach Setback is the onshore limit of the shaded pink polygon. The offshore limit in the lake highlights the linkages between overall beach stability and health, nearshore sediment resources, and longshore sediment transport. The hazard limit(s) are not the official regulatory limits of the Conservation Authority. Please contact the Conservation Authority for details on the regulatory limit and implications for any proposed work.

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DEFINITIONS:

100 Year Flood Level

The 100 Year Combined Flood Level considers both static lake level and storm surge, having a combined probability of being equalled or exceeded during any year of 1% (i.e., probability, P =0.01). The 100 Year Combined Flood Level elevation for GRCA is +76.01 m IGLD85 (+75.55 m to +75.60 m CGVD2013).

Flood Hazard Limit

The Flood Hazard Limit is defined as the 100-Year Flood Level plus an allowance for wave runup and uprush. For the exposed shoreline, wave effects are calculated based on localized nearshore conditions and waves. For embayments, the standardized 15 m setback is applied. Refer to the Lake Ontario Shoreline Management Plan for additional details.

Toe of Bluff

The Toe of Bluff is the transition from the gently sloping beach to the steep portion of the bank or bluff slope.

Stable Slope Allowance

The Stable Slope Allowance is defined as a horizontal setback equivalent to 3.0 times the height of the bank or bluff.

Erosion Hazard Limit

The landward extent of the Erosion Hazard is the sum of the 100 year erosion rate plus the Stable Slope Allowance, measured horizontally from the toe of the bank or bluff.

The Erosion Hazard Limit is not mapped in sheltered waters, however, localized shoreline/riverine erosion may occur and is subject to review by the Conservation Authority.

Dynamic Beach Hazard Limit

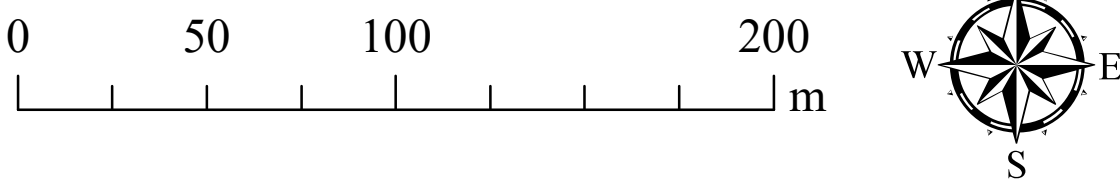
The Dynamic Beach Hazard Limit is defined as the sum of the Flood Hazard plus 30 metres measured horizontally. If the dynamic beach is eroding, an additional erosion allowance is included and a separate Erosion Hazard Limit is not shown. Refer to the Lake Ontario Shoreline Management Plan report for additional details.

Datums:

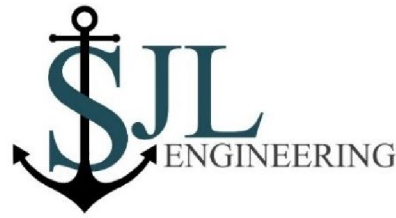
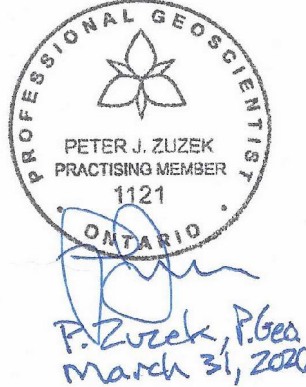
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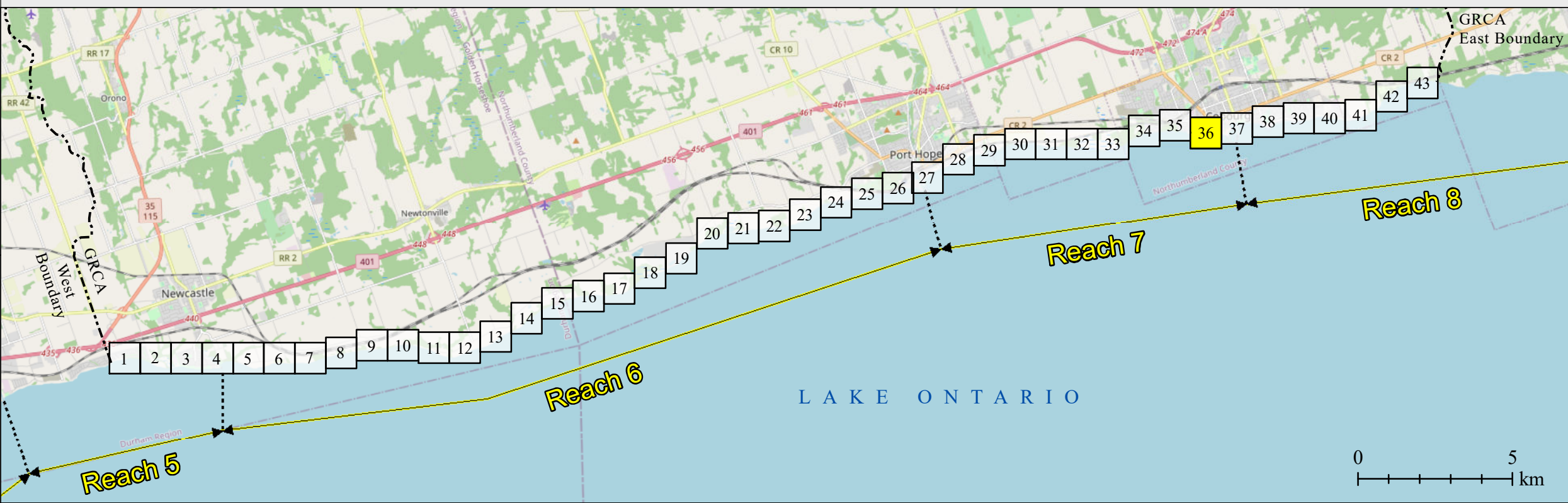


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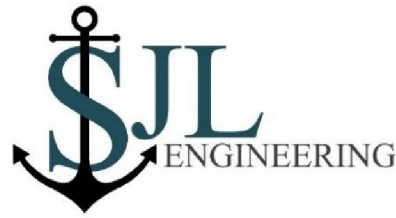
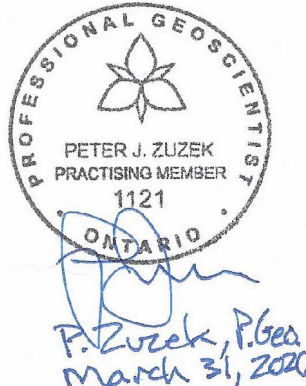
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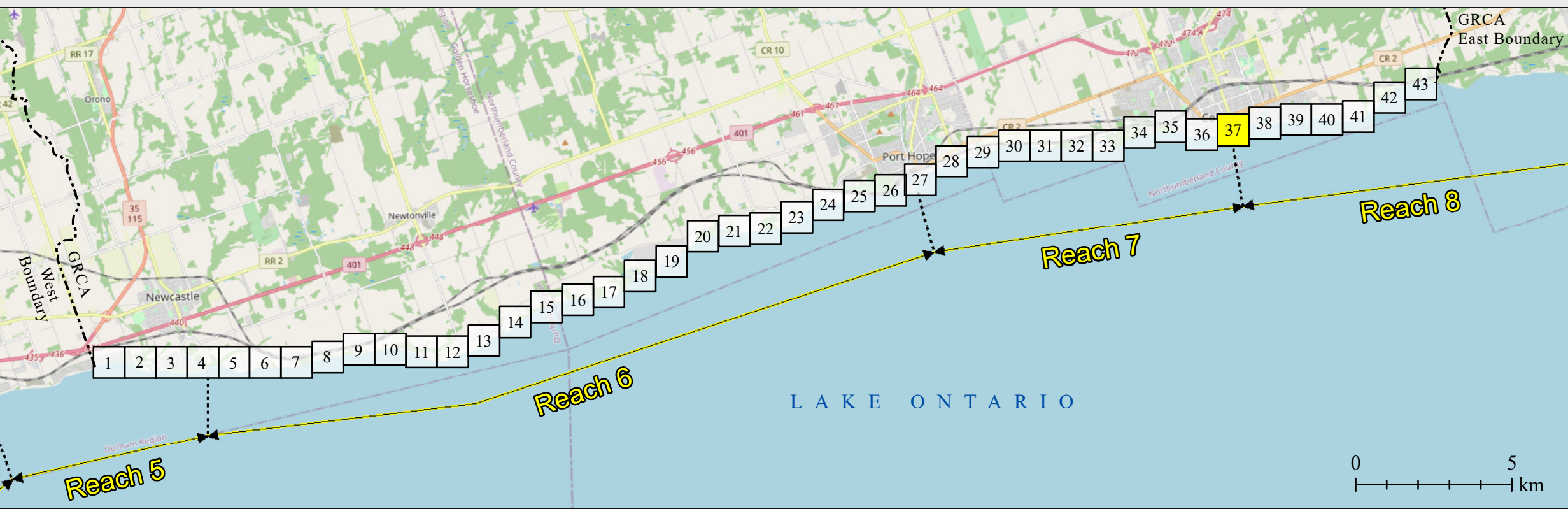
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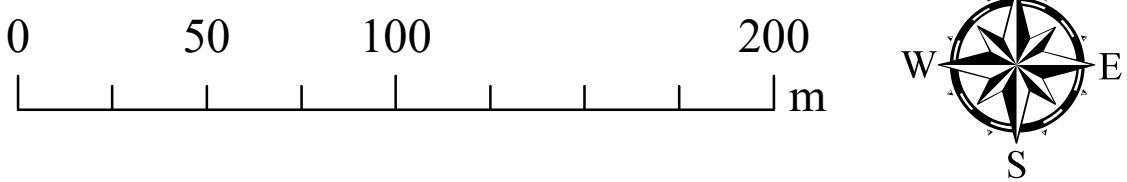
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