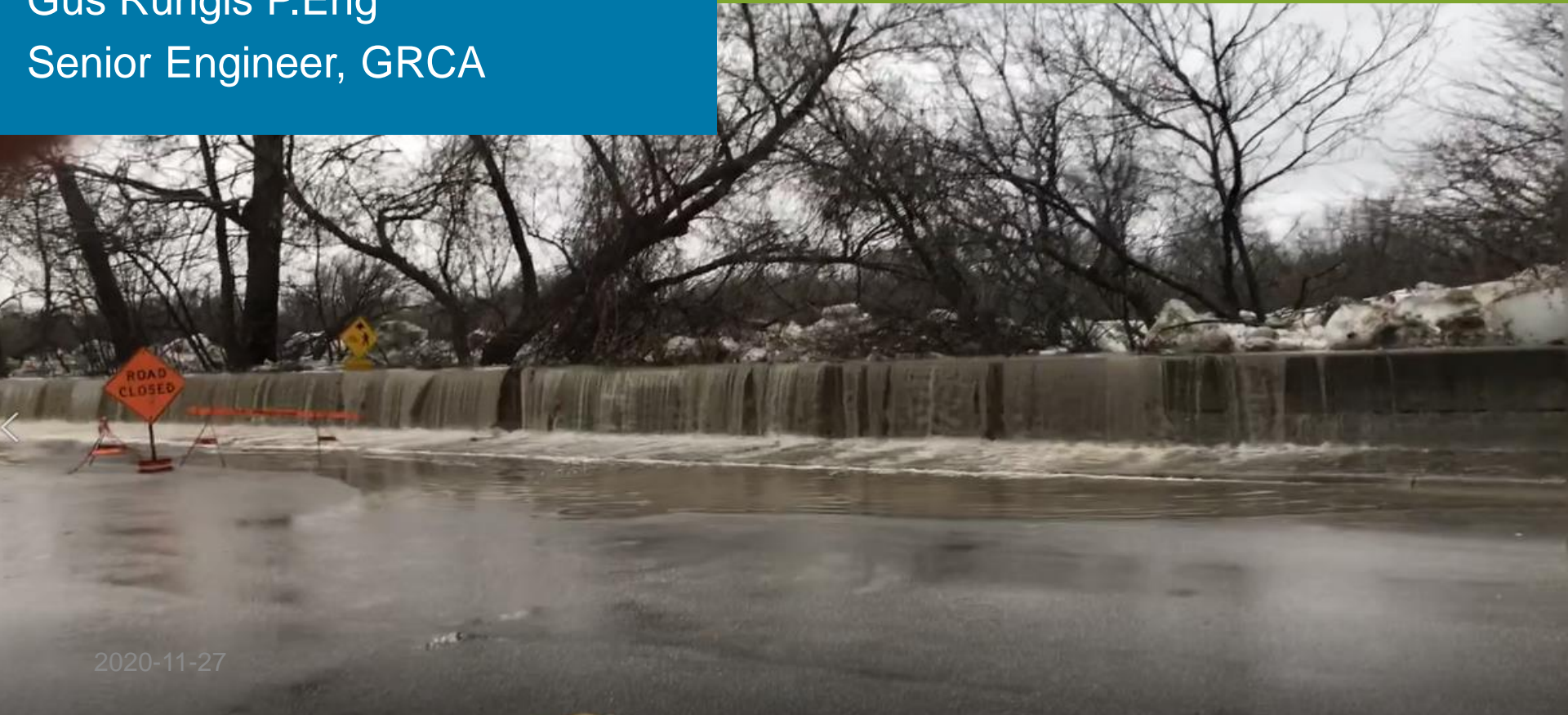


Brantford Ice Jam Feb 2018

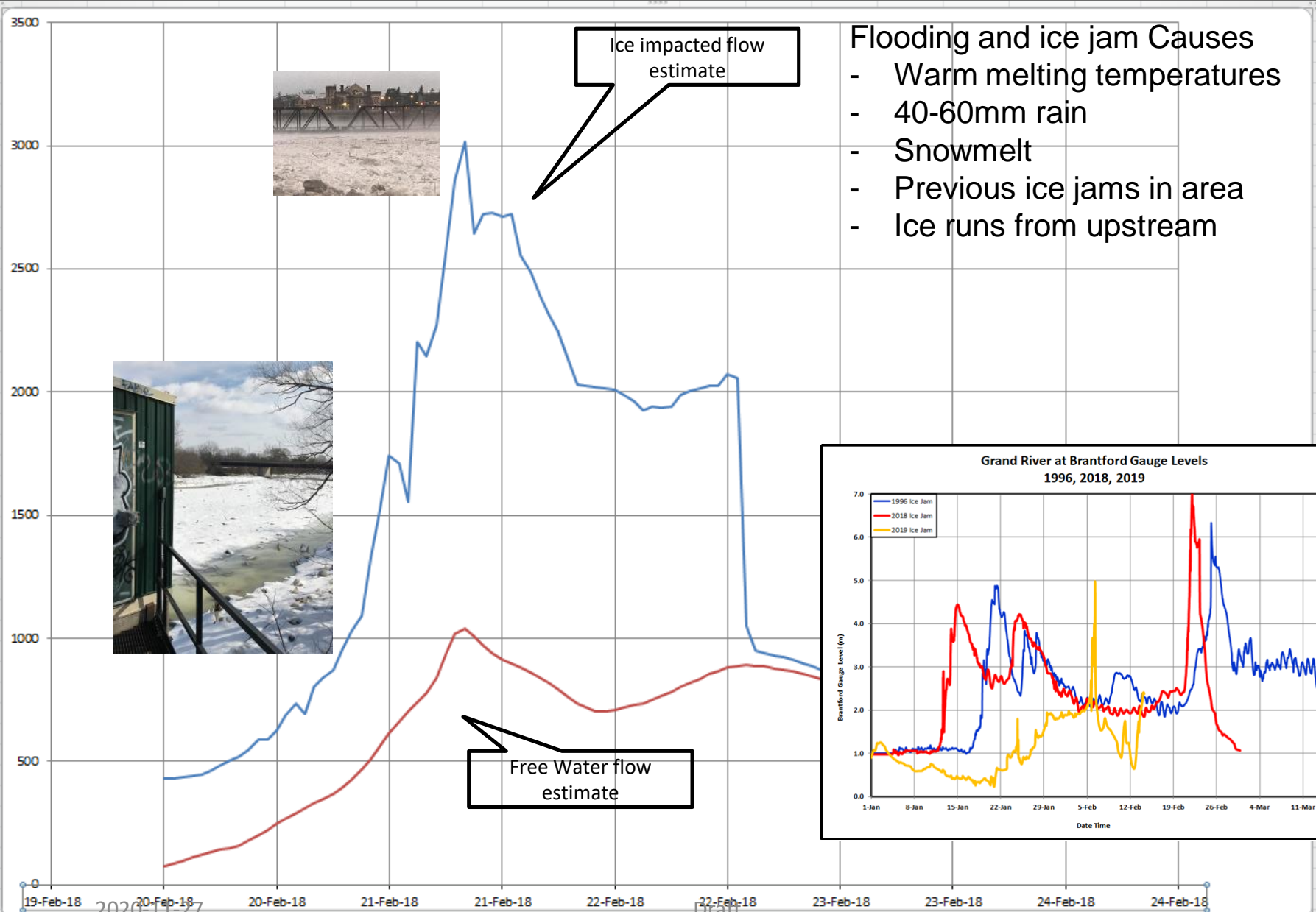


Ice Jam Study Update and Next Steps
GRCA Board
April 2020

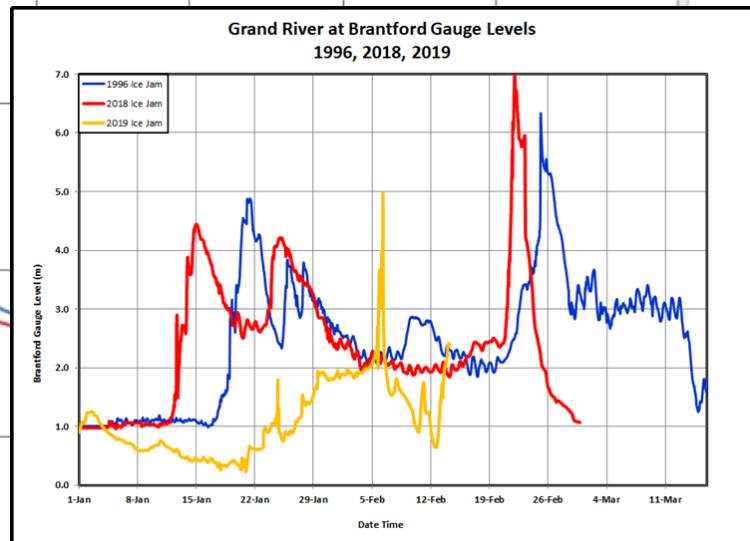
Gus Rungis P.Eng
Senior Engineer, GRCA



21 February 2018 Ice Jam



- Flooding and ice jam Causes
- Warm melting temperatures
 - 40-60mm rain
 - Snowmelt
 - Previous ice jams in area
 - Ice runs from upstream



Ice Jam



2020-11-27

Overtopping of River Road floodwall

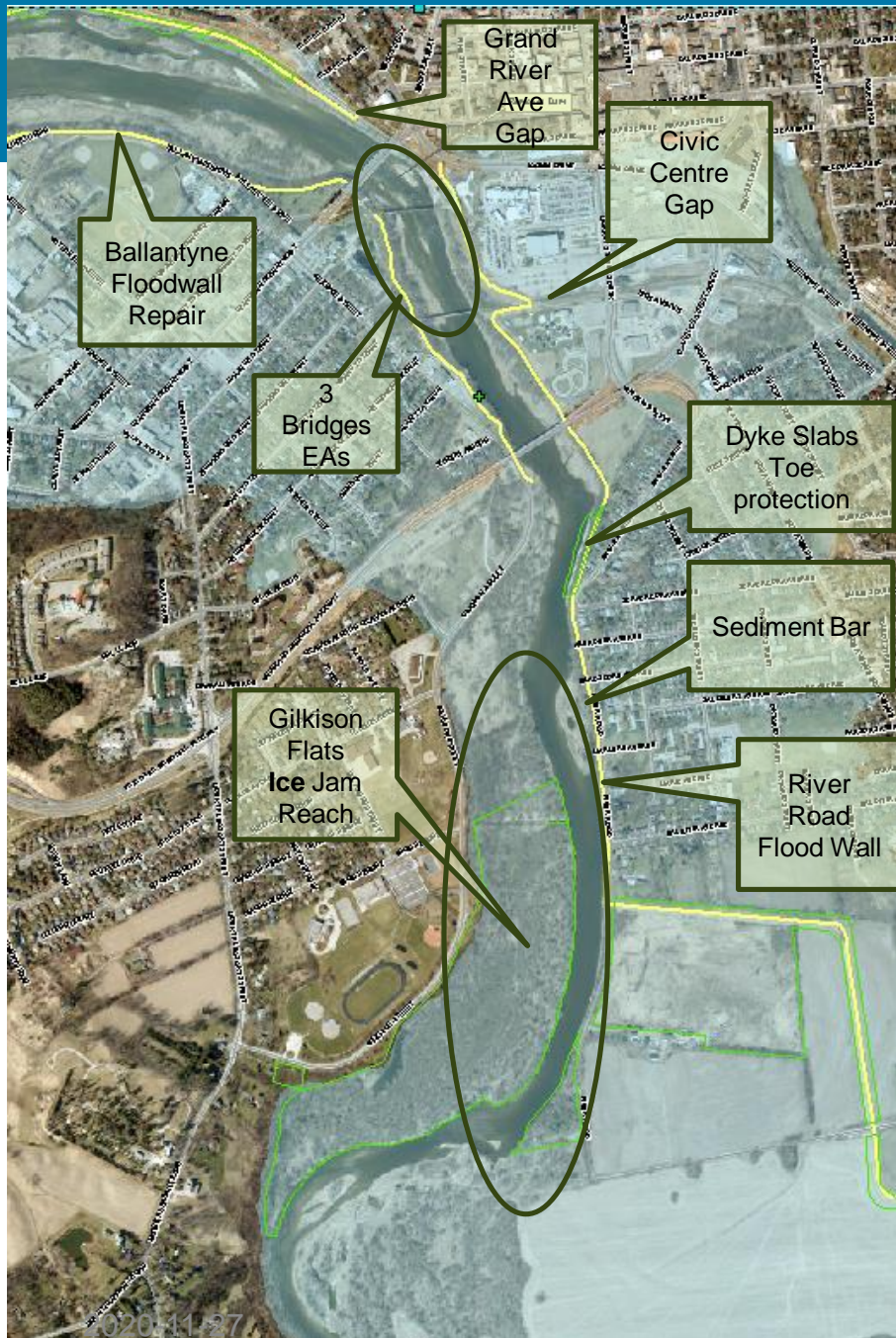


2020-11-27

Ice Jam – City Flooding



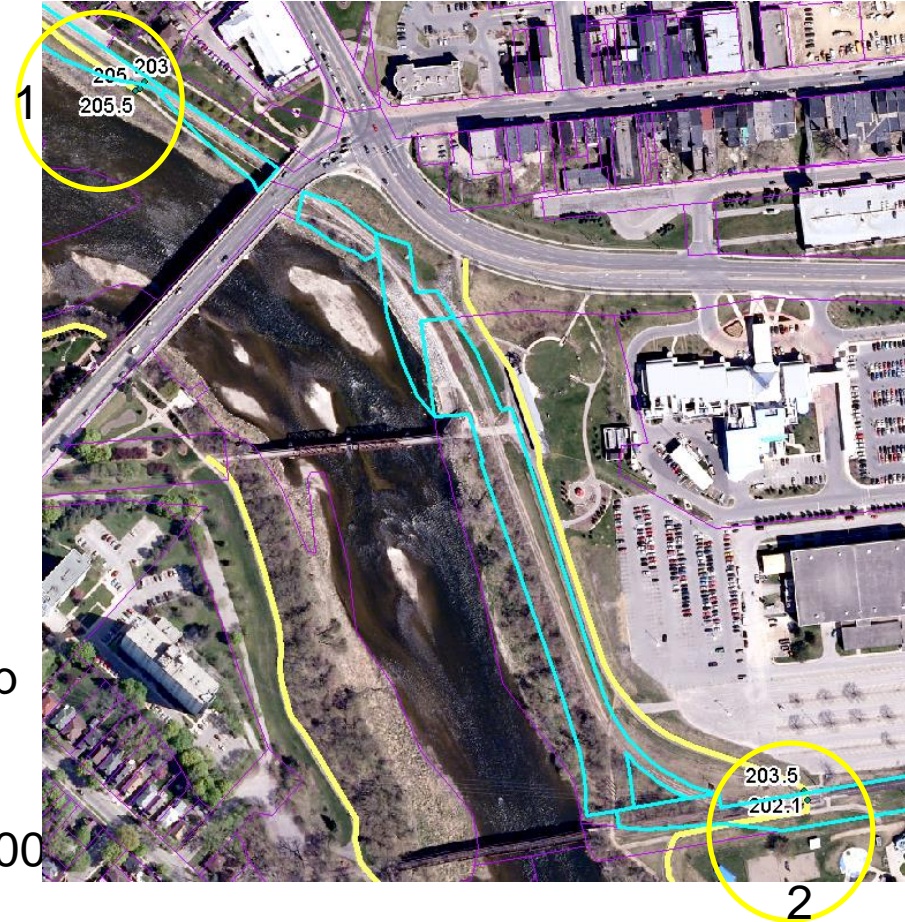
Projects



1. Grand River Ave Gap – **City**, GRCA
2. Civic Centre Gap – **City**, GRCA
3. Eagle St Dyke Slabs Rip Rap protection - **GRCA**
4. River Road Sediment Bar at Gladstone - **GRCA**
5. River Road Floodwall - **GRCA**
6. Ballantyne Floodwall Repair - **GRCA**
7. Gilkison Flats – Ice Jam Reach Study - **GRCA**
8. 3 Bridges EAs - **City**
9. General Maintenance and Cleanup **City, GRCA**

Project Lead and \$ contributors identified.
All GRCA funding had 50% Provincial Grant.

Dyke Gap Completion



1. Grand River Ave Gap
2. Civic Centre Gap

Design – GRCA - \$30,000
Repair – City - \$75,000



Dyke Slabs Remediation and Sediment Bar Reduction



Studies, Repairs – GRCA
\$1,200,000

Bridge Environmental Assessments



21 - User Footage - Drone - Jared Houliston

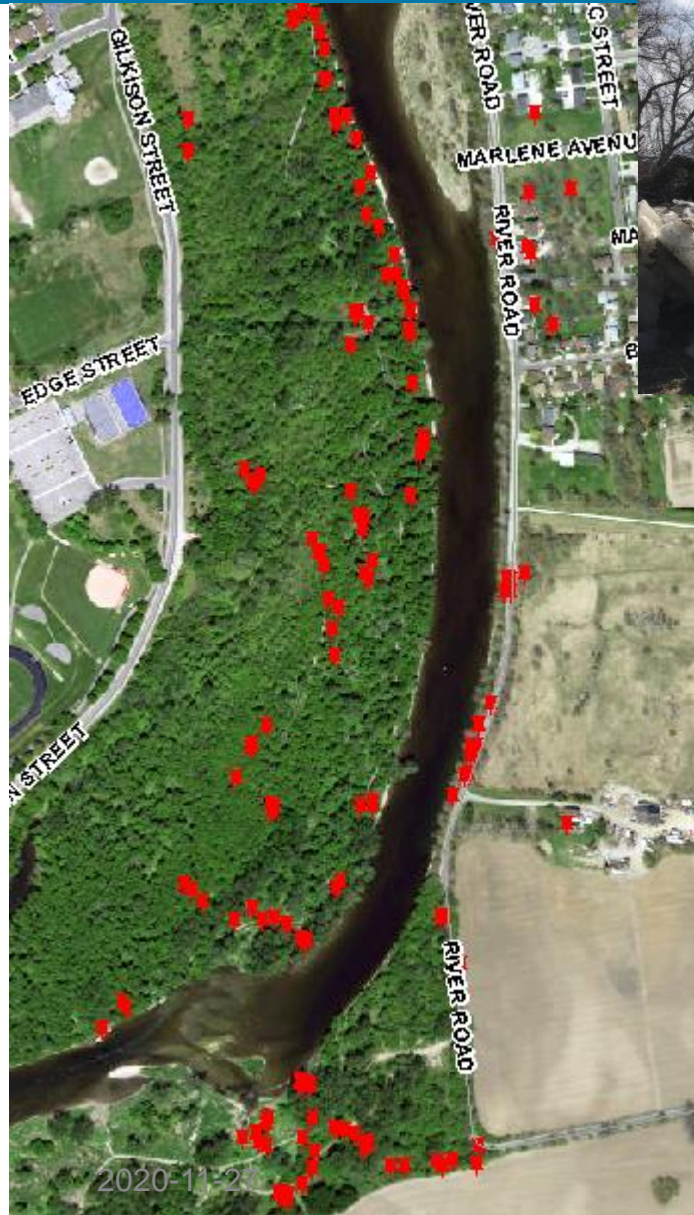
Environmental Assessments

- Lorne Bridge \$275,000
- TH&B and Brant Crossing \$200,000

City



Gilkison Flats - Ice Damage and Cleanup



Floodwall Assessment and Repairs

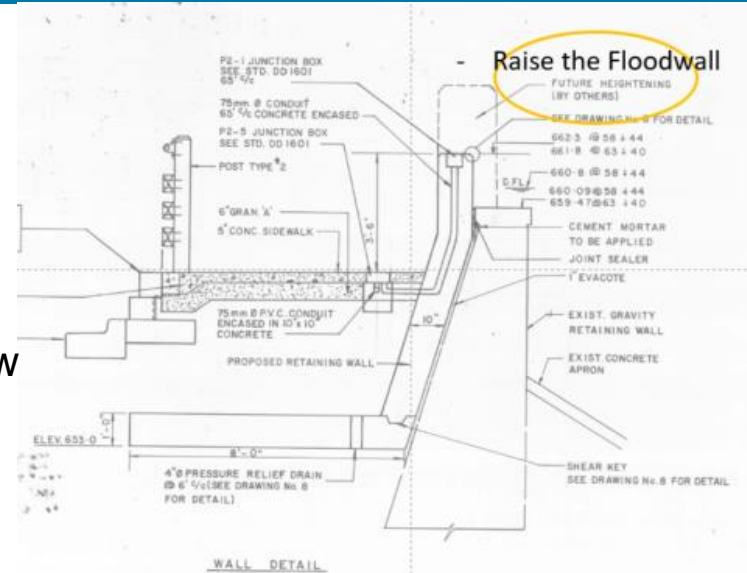
Figure 1 – Key Plan, Dike Section 6 on River Road



RPT-2016-08-Field Investigation Report-00561904 - Edited Docx

AECOM - inspection and functional assessment -

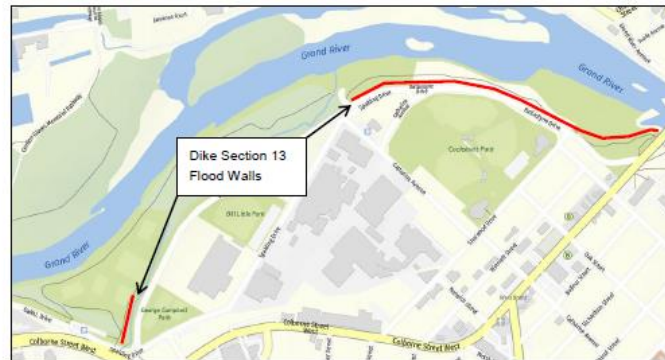
- River Road – Assessment complete
- Preliminary review of wall raising \$60,000 – Study Complete GRCA



AECOM

Grand River Conservation Authority
DRAFT Field Investigation Report
Ballantyne Drive & River Road Floodwalls

Figure 2 – Key Plan, Dike Section 13 on Ballantyne Drive

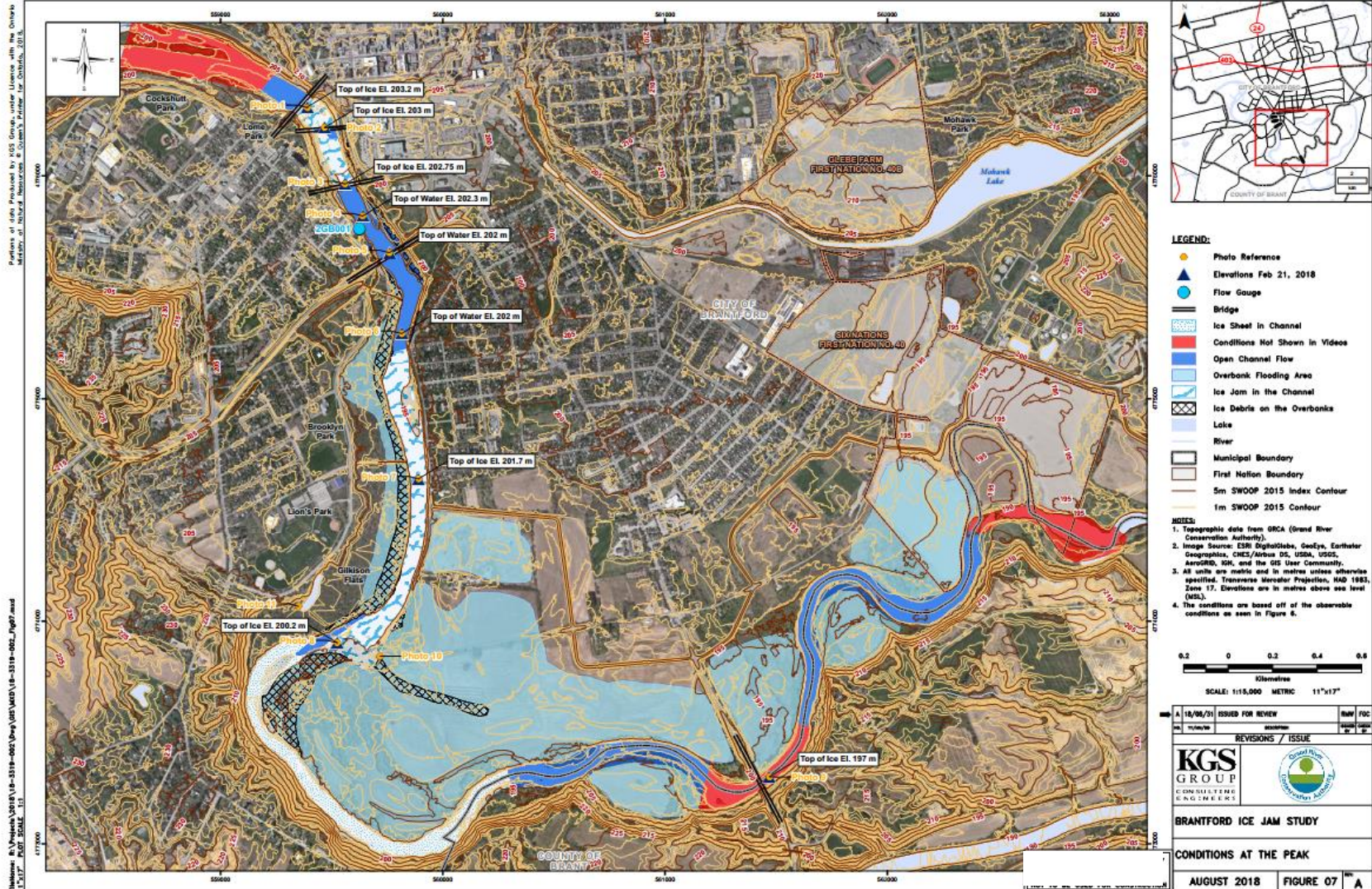


- Ballantyne Floodwall – Foundation repair 100m section \$600,000 – repair complete GRCA



Ice Jam Study

- Document Event
- Analysis and Understanding
- Remedial Measures



Mitigation Options

1. Dike Floodwall Protection
2. Floodplain Relief – grading and tree management
3. Ice Cutting/Weakening/Breaking
4. Ice Control Structures Upstream of Brantford
5. Channel Modifications
6. Channel Relief/Ice Storage
7. Flow Regime Modification
8. Flood Forecasting/monitoring improvements

The feasibility, efficacy, acceptability and cost of those options is largely site dependant. Some options have been extensively used and proven in the past, these generally rely on principles that are clearly understood and relatively straightforward, while others involve complex mechanisms and confirmation of their performance could even be beyond the state-of-the-art of river ice engineering and modelling. Therefore, the ability to anticipate with certainty their effectiveness varies among alternatives.

Feasibility Study

Recommendation – GRCA and City

A Feasibility Study is intended to assess the practicality related to the technical and financial implications, timing and the potential challenges of the options that were identified in the “Ice Jam” Study

and

To develop a strategic plan to successfully achieve a beneficial approach for reducing the risk of flooding for the residents of the City of Brantford.

The Feasibility Study will also identify if the proposed improvement would trigger the need for a Municipal Class Environment Assessment. This is a mandatory process required under the Environmental Assessment Act, that offers the opportunity for public consultation on the proposed undertakings.

Thank You

Hands up for questions

2020-11-27

