



**WELCOME**

Municipal Class EA for Emma St to  
Earl St Pedestrian Bridge  
**PUBLIC INFORMATION CENTRE #1**  
October 25<sup>th</sup>, 2016

Your comments are encouraged and appreciated, as this will provide us an opportunity to address project issues and concerns.



## STUDY PURPOSE / PROBLEM DEFINITION



Emma St to Earl St Pedestrian Bridge  
Class Environmental Assessment

**The study is being carried out to determine if a pedestrian bridge is warranted between Emma St. and Earl St. crossing the Speed River. If warranted, this study will determine which style of bridge will be constructed.**

## PUBLIC INFORMATION CENTRE PURPOSE

**To gain community input on:**

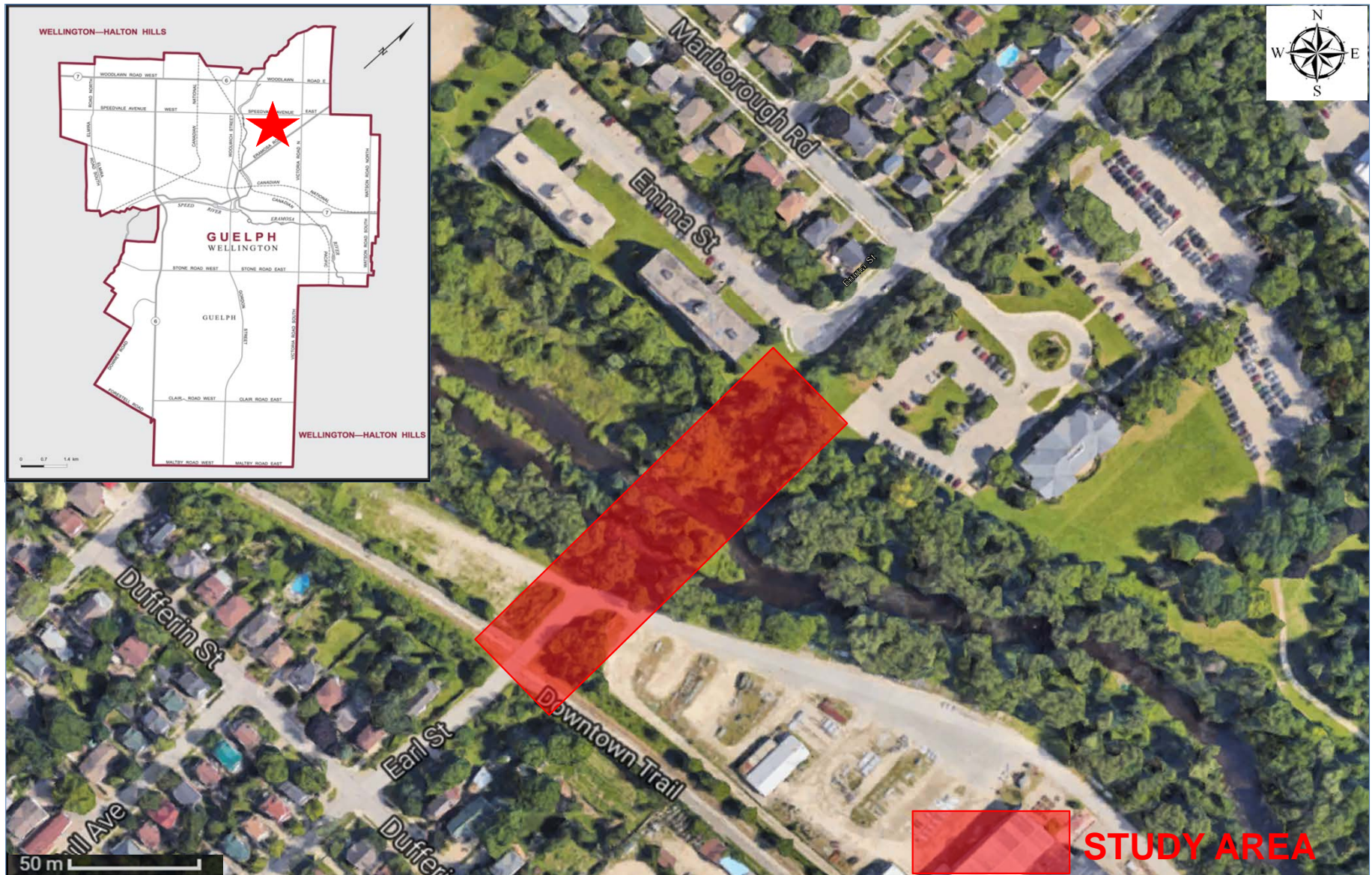
- Existing conditions information
- Community interests
- Identification of opportunities and pedestrian bridge design preferences

**This Public Information Centre (PIC) is Designed to:**

- Present information on existing conditions (Natural, Social, Environment)
- Discuss preliminary bridge alternatives
- Present study process and timelines

# STUDY AREA

The proposed location for the pedestrian bridge is shown below, from Emma St to Earl St crossing the Speed River



# MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT PROCESS

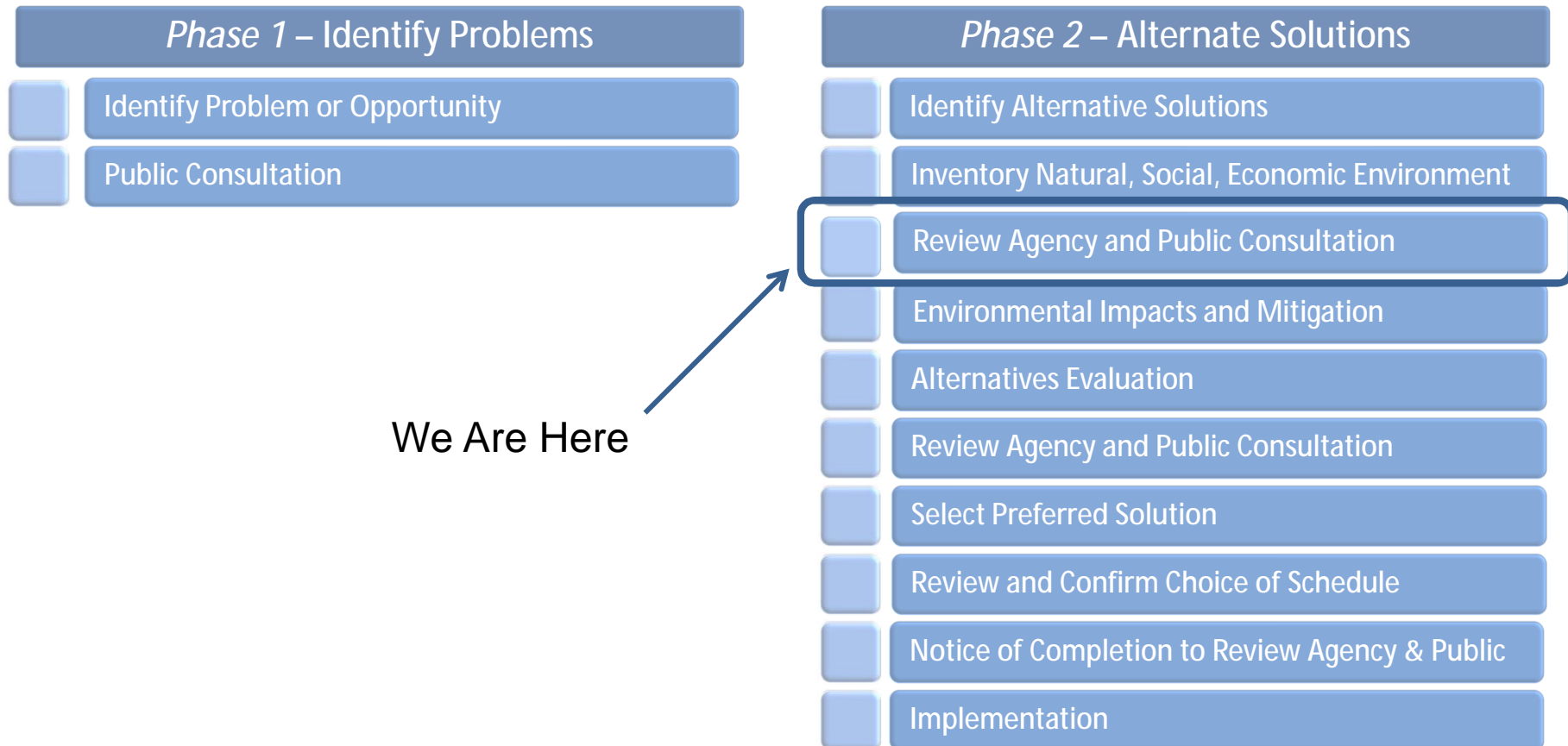


Emma St to Earl St Pedestrian Bridge  
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## CLASS EA PROCESS - SCHEDULE B

Many projects related to municipal systems are similar in nature, are carried out routinely, and have predictable and mitigatable environmental effects which are investigated according to the Municipal Engineers Association “Municipal Class Environmental Assessment” (October 2000, as amended in 2007, 2011 & 2015).

This study is being undertaken as a Schedule B project under the Municipal Class Environmental Assessment process. The flow chart illustrates the key steps to be undertaken as part of the EA process.



Studies have been conducted to identify the possible bridge connection for the study area.

## **Trail Master Plan - 2005**

- Identified the Emma to Earl Street connection as a future trail

## **Local Growth Management Strategy - 2007**

- City Council has endorsed a 2031 population of 169,000 and an additional 31,000 jobs over the 25 year planning horizon within the Greenfield area
- Additional bridge connections are in need to accommodate the increase in traffic and population

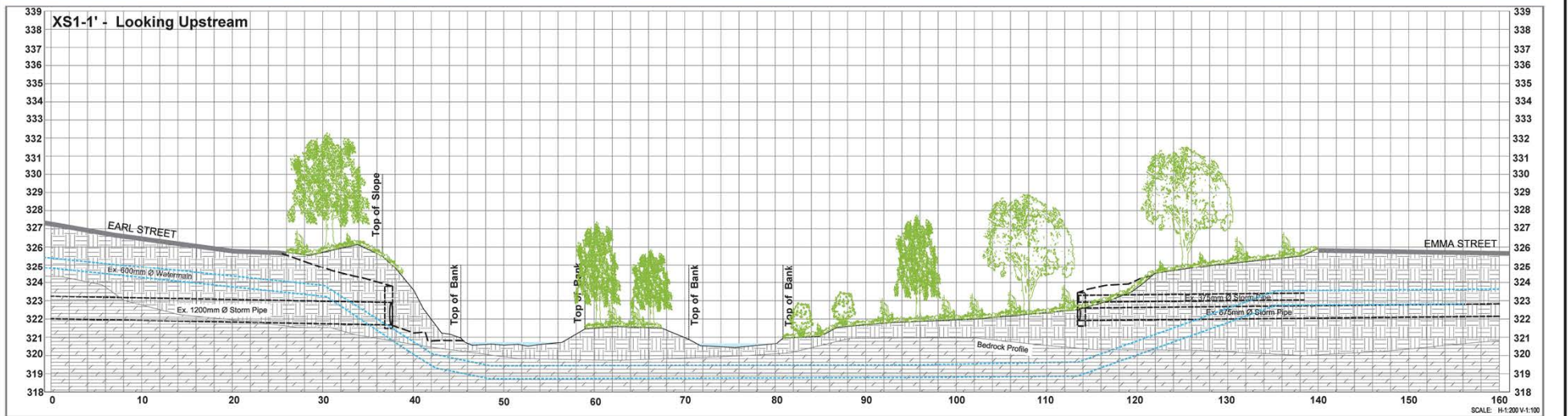
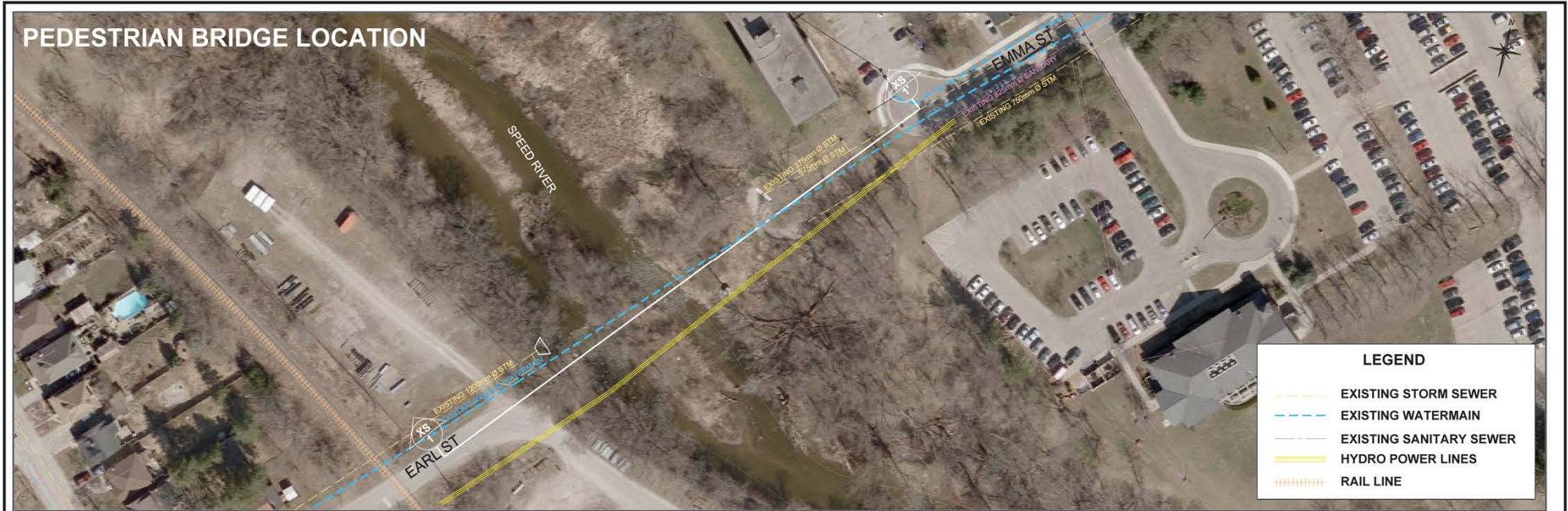
## **City Council Resolution – July 20, 2015**

- City Staff was directed to conduct an Environmental Assessment for a possible pedestrian bridge connecting Emma Street to Earl Street.

**In July 2016, Aquafor was retained by the City of Guelph to conduct a Municipal Class EA for the Emma St to Earl St Pedestrian Bridge.**

# TOPOGRAPHY & UTILITIES

The Speed River corridor is ~90m wide between Emma Street and Earl Street



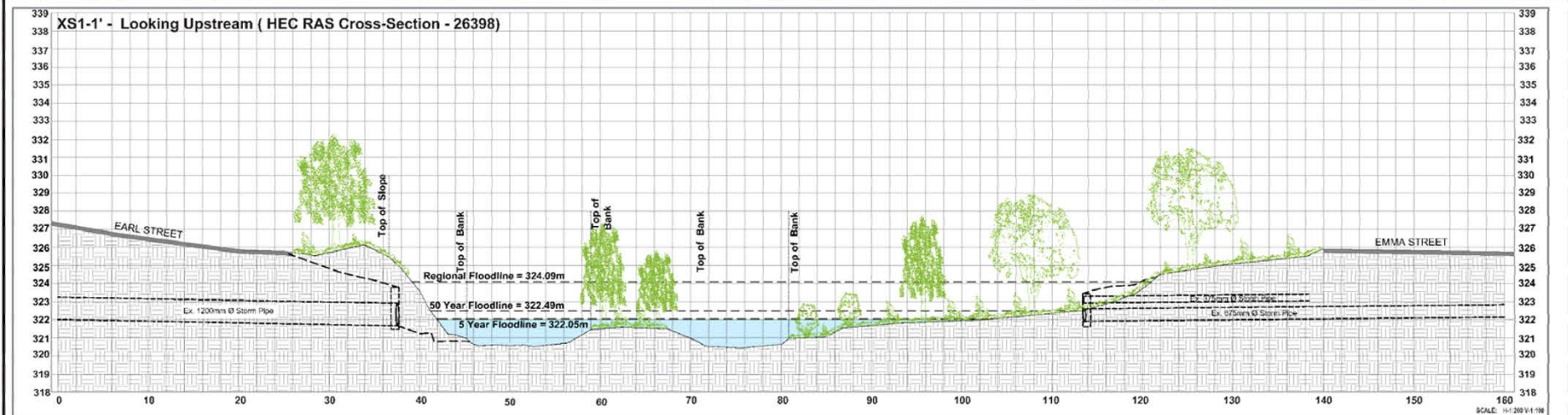
<p>Consultants</p>									<b>EMMA STREET TO EARL STREET PEDESTRIAN BRIDGE</b>				
									Plan And Section				
MANAGER OPERATING DIVISION	1	15/04/2013	ISSUED FOR APPROVAL					DESIGN: RA	DRAFTING: PS	CHECK: DM	CONTRACT No.		SHEET No.
	No.	DATE	REVISIONS	INITIAL	SIGNED			SCALE: Horizontal 1:500	DRAWING NUMBER:				
								DATE: 23/09/2016					

# HYDROLOGY AND HYDRAULICS



Emma St to Earl St Pedestrian Bridge  
Class Environmental Assessment

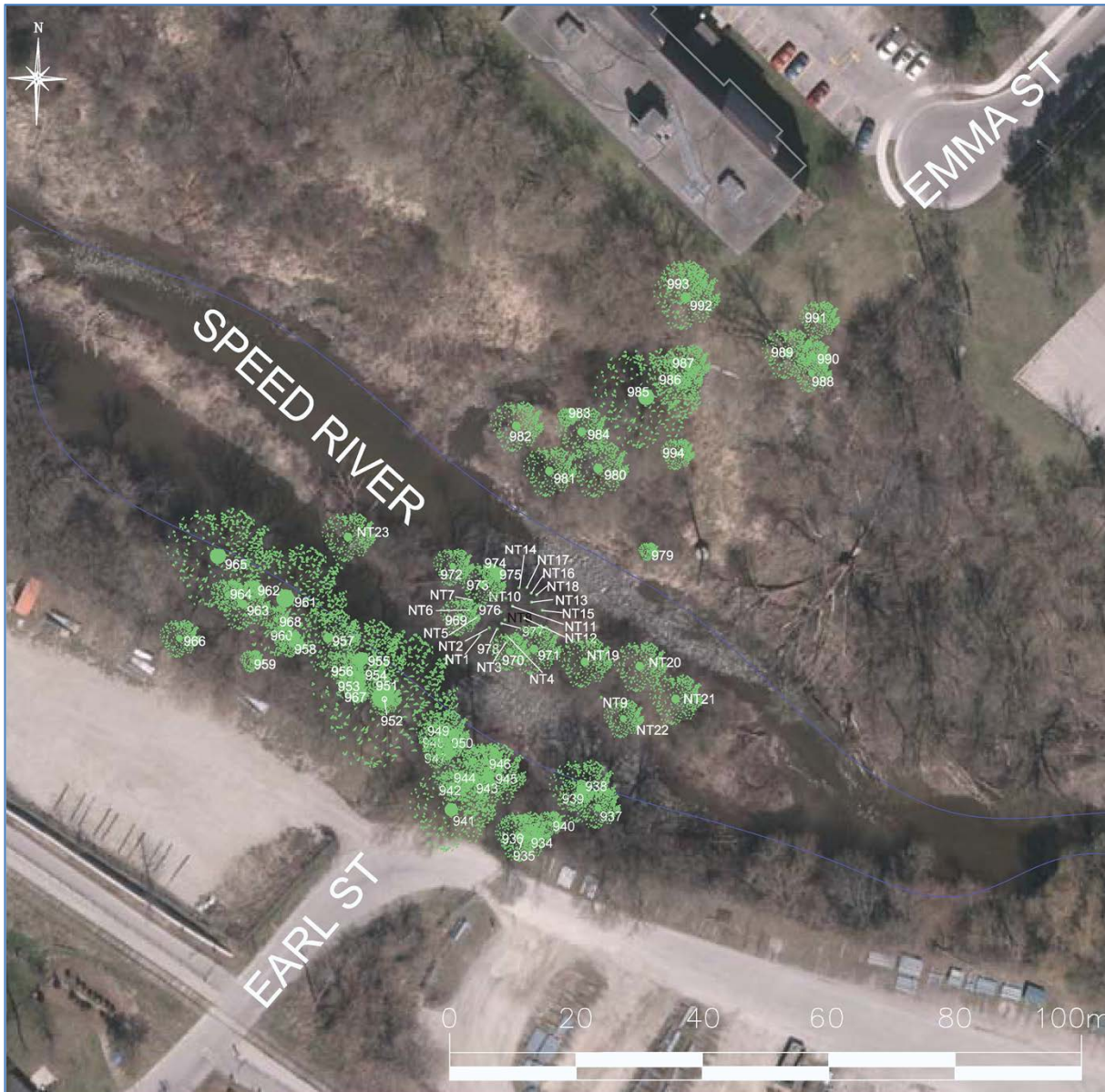
The study looked into existing Hydrology and Hydraulics of Speed River in order to understand how water flows through the river, the forces it exerts under normal and flood flow conditions.



								<b>EMMA STREET TO EARL STREET PEDESTRIAN BRIDGE</b>	
CONSULTANTS MANAGER OPERATING DIVISION		No. 1 DATE 15/04/2013		ISSUED FOR APPROVAL REVISIONS		INITIAL SIGNED		Plan and Section DESIGN: RA DRAFTING: PS CHECK: DM CONTRACT No. SCALE: Horizontal 1:500 DRAWING NUMBER: DATE: 23/09/2016 SHEET No.	

# TREE INVENTORIES

Trees greater than 10cm diameter were inventoried. Removal of trees will be required to accommodate channel and culvert works.



## Representative species include:

Tag #	Species Common Name	Species Botanical Name	DBH (cm)	Tag #	Species Common Name	Species Botanical Name	DBH (cm)
934	Small leaved Linden	<i>Tilia cordata</i>	17	976	Black Locust	<i>Robinia pseudoacacia</i>	23.9
935	Black Walnut	<i>Juglans nigra</i>	37	977	Black Locust	<i>Robinia pseudoacacia</i>	16
936	Siberian Elm	<i>Ulmus pumila</i>	56	978	Black Locust	<i>Robinia pseudoacacia</i>	14.8
937	Crack Willow	<i>Salix fragilis</i>	61	979	Manitoba Maple	<i>Acer negundo</i>	18
938	Crack Willow	<i>Salix fragilis</i>	68	980	Manitoba Maple	<i>Acer negundo</i>	[14,18,26,19,10]
939	Manitoba Maple	<i>Acer negundo</i>	26	981	Crack Willow	<i>Salix fragilis</i>	46
940	Black Walnut	<i>Juglans nigra</i>	12	982	Black Walnut	<i>Juglans nigra</i>	31
941	Manitoba Maple	<i>Acer negundo</i>	26,23,16,2	983	Black Walnut	<i>Juglans nigra</i>	12
942	Manitoba Maple	<i>Acer negundo</i>	35	984	Black Walnut	<i>Juglans nigra</i>	[27,19]
943	Crack Willow	<i>Salix fragilis</i>	(32,40,38,36)	985	Crack Willow	<i>Salix fragilis</i>	131
944	Manitoba Maple	<i>Acer negundo</i>	(16,21,17)	986	Manitoba Maple	<i>Acer negundo</i>	18,13,29,23
945	Crack Willow	<i>Salix fragilis</i>	(41,39)	987	Black Walnut	<i>Juglans nigra</i>	22
946	Norway Maple	<i>Acer platanoides</i>	26	988	Manitoba Maple	<i>Acer negundo</i>	43
947	Manitoba Maple	<i>Acer negundo</i>	21	989	Manitoba Maple	<i>Acer negundo</i>	45,28
948	Norway Maple	<i>Acer platanoides</i>	19	990	Manitoba Maple	<i>Acer negundo</i>	19
949	Norway Maple	<i>Acer platanoides</i>	21	991	Black Locust	<i>Robinia pseudoacacia</i>	20,17,10
950	Crack Willow	<i>Salix fragilis</i>	58	992	Manitoba Maple	<i>Acer negundo</i>	23,26,30
951	Crack Willow	<i>Salix fragilis</i>	75.66	993	Manitoba Maple	<i>Acer negundo</i>	26
952	White Elm	<i>Ulmus americana</i>	21,29	994	White Elm	<i>Ulmus americana</i>	16
953	Manitoba Maple	<i>Acer negundo</i>	11,27	NT1	Black Locust	<i>Robinia pseudoacacia</i>	11
954	Manitoba Maple	<i>Acer negundo</i>	40	NT2	Black Locust	<i>Robinia pseudoacacia</i>	10
955	Crack Willow	<i>Salix fragilis</i>	80	NT3	Black Locust	<i>Robinia pseudoacacia</i>	11
956	White Elm	<i>Ulmus americana</i>	26	NT4	Black Locust	<i>Robinia pseudoacacia</i>	14
957	Crack Willow	<i>Salix fragilis</i>	62(46,46)	NT5	Black Locust	<i>Robinia pseudoacacia</i>	13
958	Manitoba Maple	<i>Acer negundo</i>	34	NT6	Black Locust	<i>Robinia pseudoacacia</i>	14
959	Manitoba Maple	<i>Acer negundo</i>	16,10	NT7	Black Locust	<i>Robinia pseudoacacia</i>	17
960	Manitoba Maple	<i>Acer negundo</i>	18	NT8	Black Locust	<i>Robinia pseudoacacia</i>	14
961	Crack Willow	<i>Salix fragilis</i>	74	NT9	Black Locust	<i>Robinia pseudoacacia</i>	17,15
962	Manitoba Maple	<i>Acer negundo</i>	42	NT10	Black Locust	<i>Robinia pseudoacacia</i>	18,19,15
963	Manitoba Maple	<i>Acer negundo</i>	60	NT11	Black Locust	<i>Robinia pseudoacacia</i>	11
964	Manitoba Maple	<i>Acer negundo</i>	26	NT12	Black Locust	<i>Robinia pseudoacacia</i>	16,20
965	Crack Willow	<i>Salix fragilis</i>	72,71	NT13	Black Locust	<i>Robinia pseudoacacia</i>	14
966	Manitoba Maple	<i>Acer negundo</i>	28	NT14	Black Locust	<i>Robinia pseudoacacia</i>	18
967	White Elm	<i>Ulmus americana</i>	11	NT15	Black Locust	<i>Robinia pseudoacacia</i>	26
968	Manitoba Maple	<i>Acer negundo</i>	17	NT16	Black Locust	<i>Robinia pseudoacacia</i>	17
969	Black Walnut	<i>Juglans nigra</i>	11	NT17	White Elm	<i>Ulmus americana</i>	15
970	Black Walnut	<i>Juglans nigra</i>	16	NT18	Black Locust	<i>Robinia pseudoacacia</i>	19
971	Black Walnut	<i>Juglans nigra</i>	33	NT19	Black Walnut	<i>Juglans nigra</i>	n/a
972	Black Locust	<i>Robinia pseudoacacia</i>	30	NT20	Black Walnut	<i>Juglans nigra</i>	n/a
973	Black Walnut	<i>Juglans nigra</i>	26	NT21	Black Walnut	<i>Juglans nigra</i>	n/a
974	Black Locust	<i>Robinia pseudoacacia</i>	20	NT22	Black Walnut	<i>Juglans nigra</i>	n/a
975	Black Locust	<i>Robinia pseudoacacia</i>	15	NT23	Black Walnut	<i>Juglans nigra</i>	n/a



The study looked into the existing fish communities of Speed River to define existing habitat conditions and fish species.

The Ministry of Natural Resources and Forestry has listed the Speed River as coolwater fish habitat. There are no fish collection records within the study area, but sampling at downstream stations has listed the following species present in the Speed River:



In addition, Common Carp was observed during field investigations. These are warm to coolwater species, common in Ontario and fairly tolerant to disturbance within their habitats.

# NATURAL HERITAGE ASSESSMENT



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The Speed River corridor consists of a mosaic of woodland, wetland, and aquatic communities. The corridor is part of the City of Guelph's Natural Heritage System, within which the City has identified several natural heritage features, including:

- Significant Woodlands;
- Significant Wildlife Habitat;
- Significant Valleylands;
- Surface Water & Fisheries Resources (cool water); and
- Locally Significant Wetlands.



Using both primary and secondary data sources, Aquafor has confirmed and refined the limits of natural heritage features within the study area. These results will be presented to the City of Guelph and other applicable agencies (e.g. the GRCA) for review and comment.



# TERRESTRIAL NATURAL HERITAGE



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Aquafor characterized the existing vegetation communities of Speed River according to Ecological Land Classification (ELC) protocols. Vegetation communities within the study area are illustrated in the adjacent map.

## Significant Wildlife Habitat:

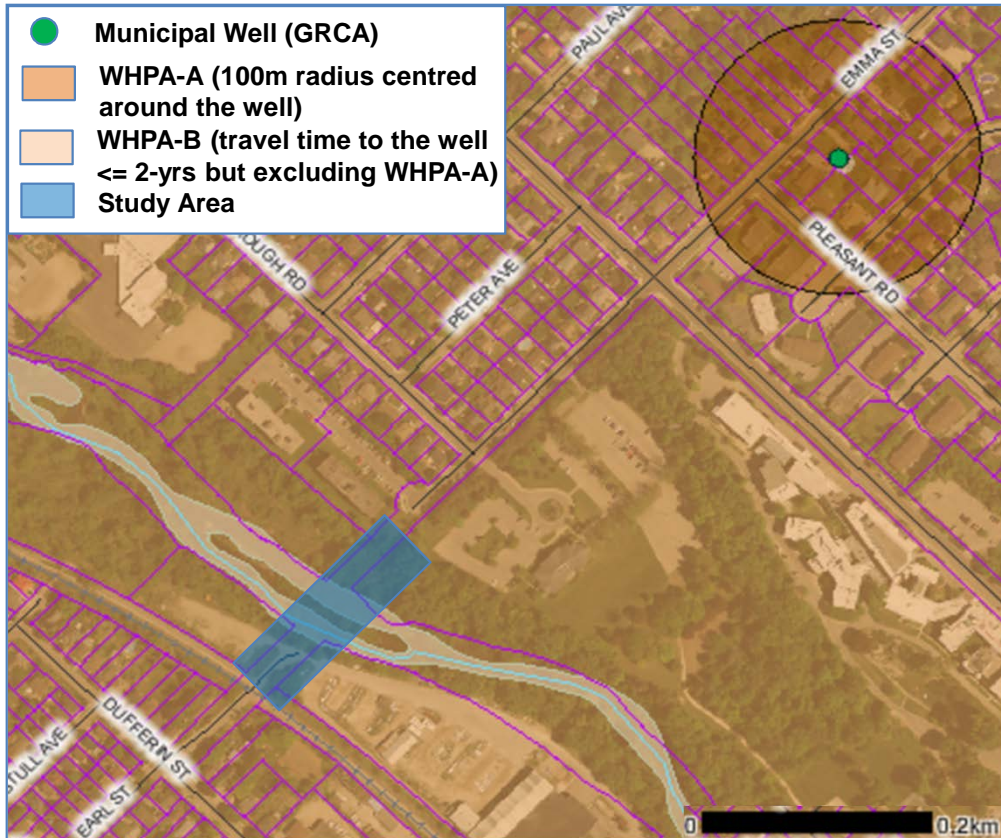
- Confirmed habitat for Snapping Turtle (a Species-At-Risk ) is also shown.
- Potential foraging and mating habitat for Snapping Turtle consists of the Speed River and vegetation units 2-5 & 7-9.
- Suitable nesting habitat was not observed within the study area.

A groundwater seepage area is present in vegetation unit 9.

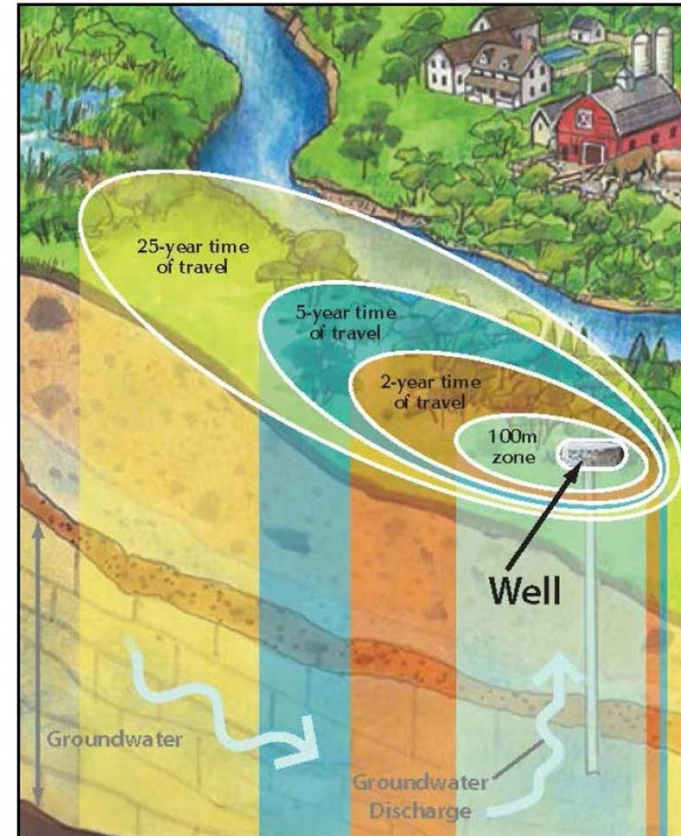
# SOURCE WATER PROTECTION

The Provincial Policy Statement (2014) contains policies that protect Ontario’s natural heritage and water resources, including designated vulnerable areas mapped in source water protection assessment reports under the *Clean Water Act* (CWA).

The study area is defined as a Vulnerable Area for Groundwater, with a municipal well ~400m from study area.

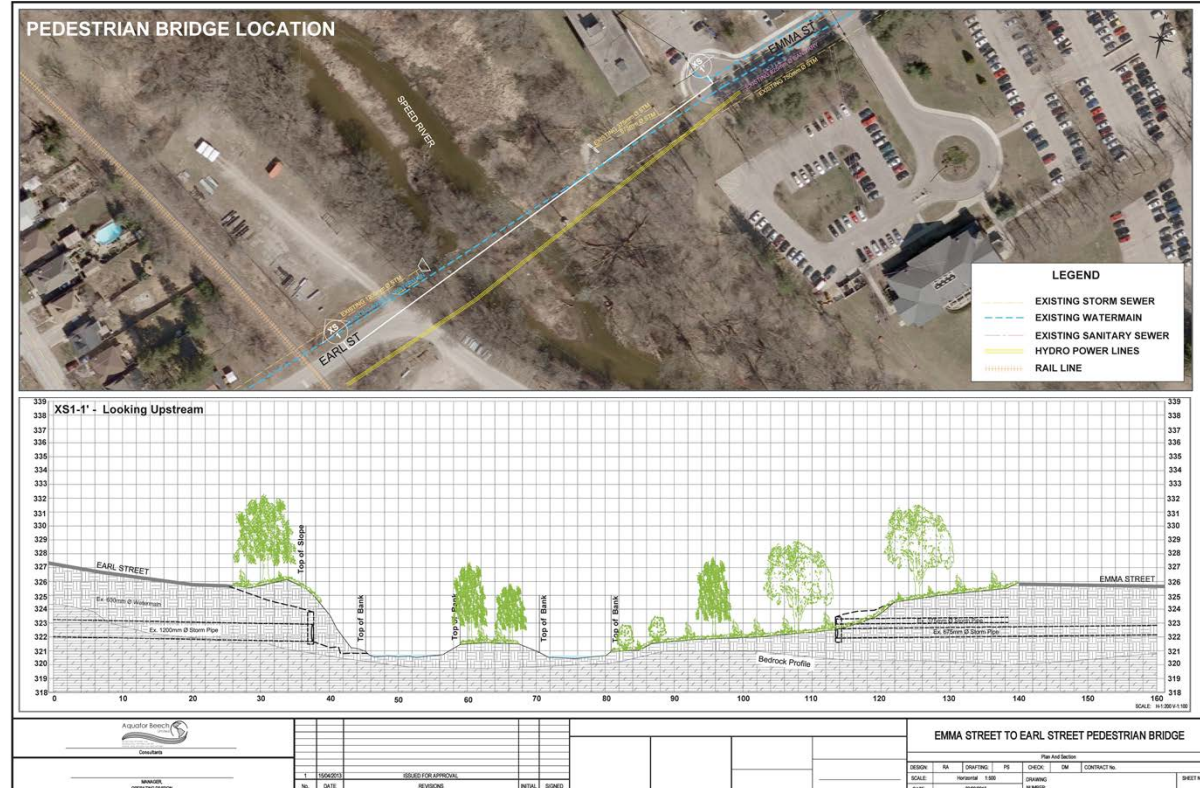
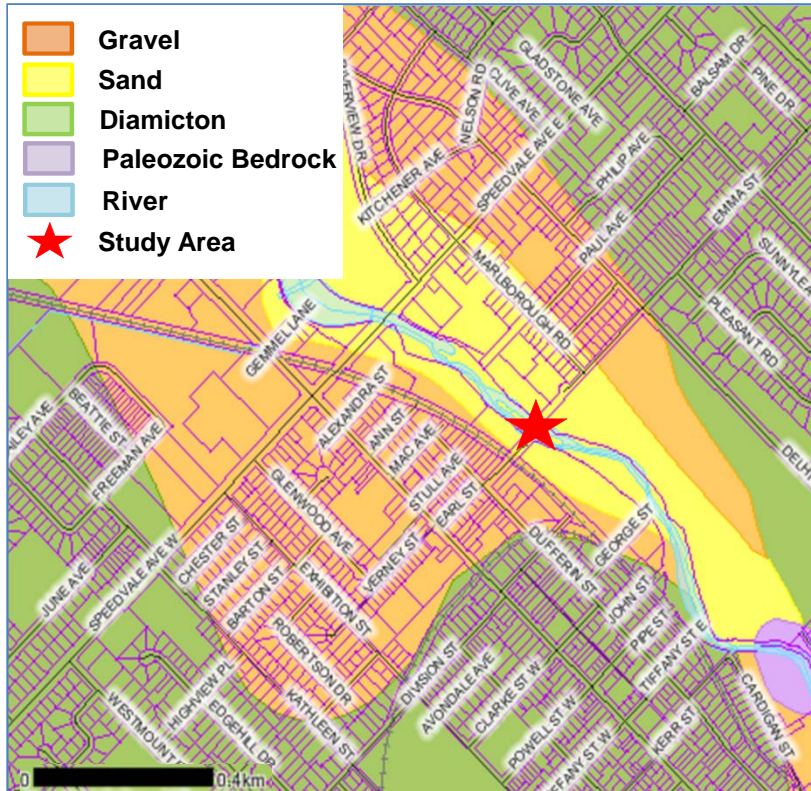


Wellhead Protection Area (WHPA) (GRCA)



# GEOLOGY

The maps below illustrate the soil composition and bedrock elevation at the study area.



Surficial Geology Map (GRCA)

Bedrock Elevation	315 – 326.5 m	Source: MNDM and City of Guelph
Surficial Geology	Mainly Sand	Source: GRCA GRIN mapping tool

# ALTERNATIVE EVALUATION CRITERIA



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The following criteria will be used to evaluate each alternative. It will help determine which alternative should be selected as the Preliminary Preferred Alternative.

Comment Sheets are provided to gain public input in evaluation criteria.

## Social Environment

- Land Use
- Construction Impacts
- Cultural Heritage Resources
- Archaeological Resources
- Quality of Life - Health and Safety
- Aesthetics

## Technical

- Level of Service
- Regulatory requirements/approvals
- Difficulty of Construction
- Reliability
- Service Life Expectancy
- Utilities
- Operation and Maintenance

## Natural Environment

- Areas of Natural and Scientific Interest (ANSIs)
- Woodlands, Wetlands and Wildlife Habitats
- Wildlife (including Species at Risk)
- Fish habitat and surface water features
- Valleylands
- Urban Forest (Hedgerows and trees)
- Ground water features

## Cost

- Capital Costs (engineering, land and construction)
- Annual Operating and Maintenance Costs
- Life Cycle Cost

# PRELIMINARY ALTERNATIVES

## BRIDGE TYPE



Steel Truss Bridge



Steel Arch Bridge

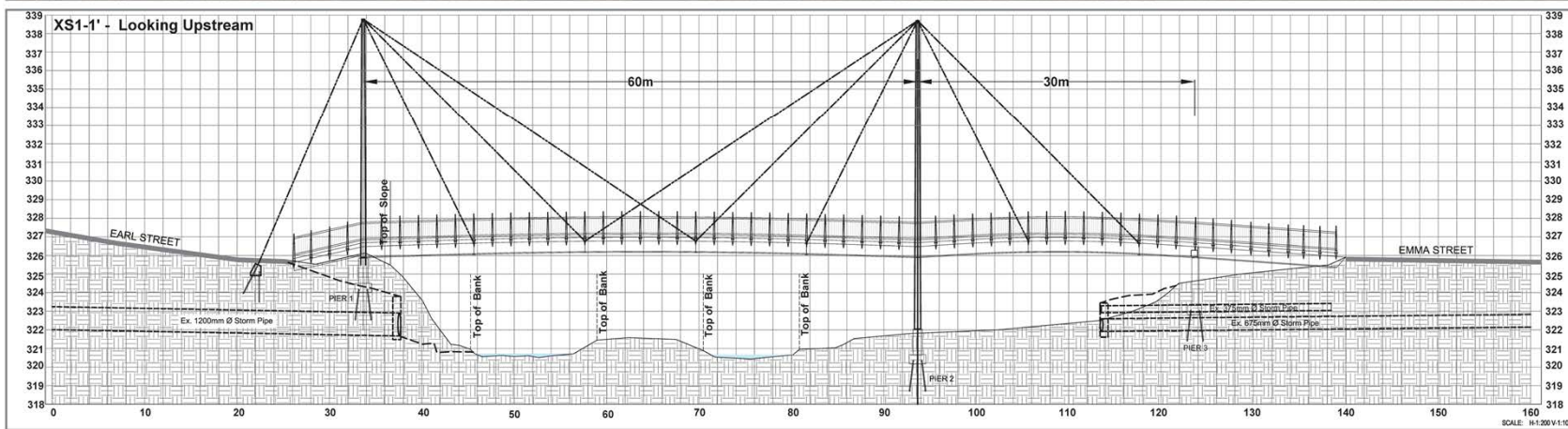
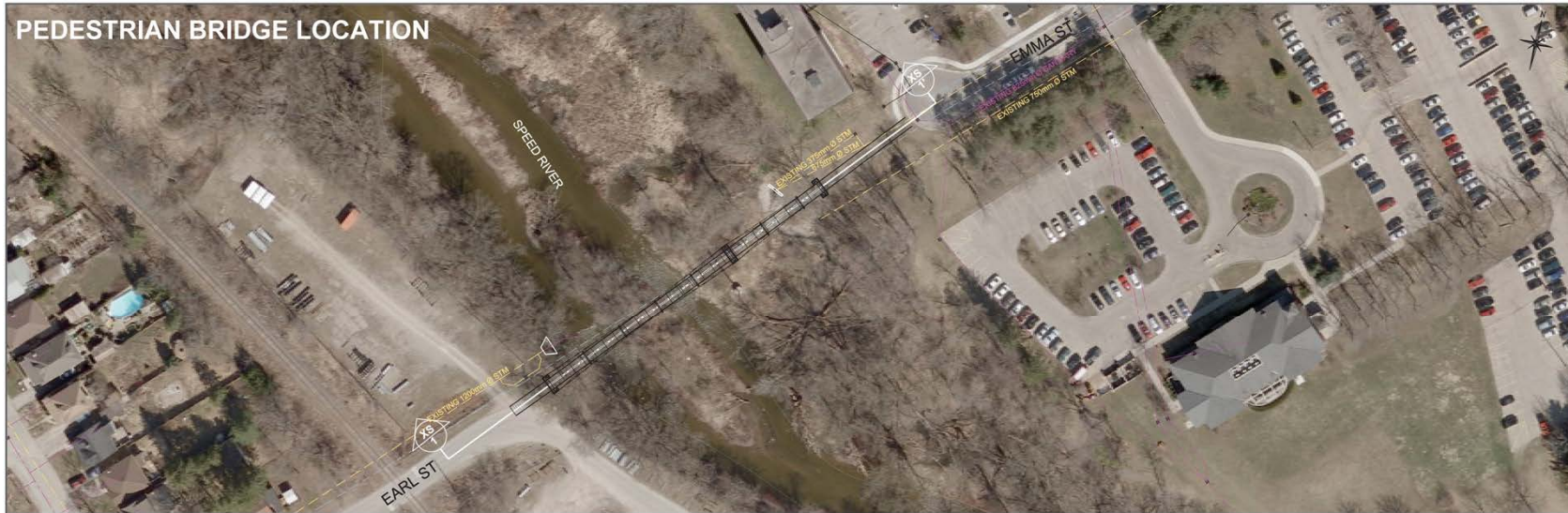


Steel Cable Bridge

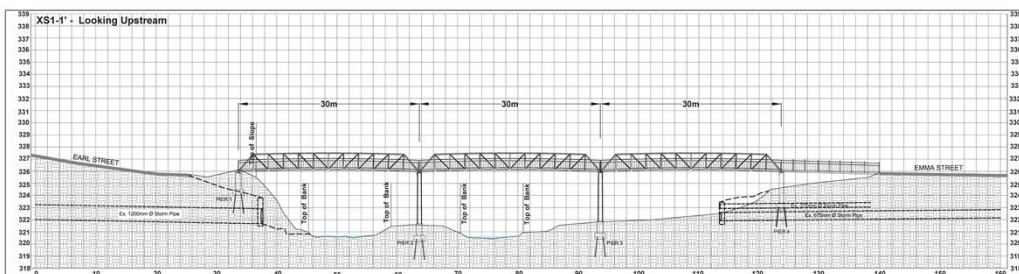
# PRELIMINARY ALTERNATIVES SPANS & ABUTMENTS



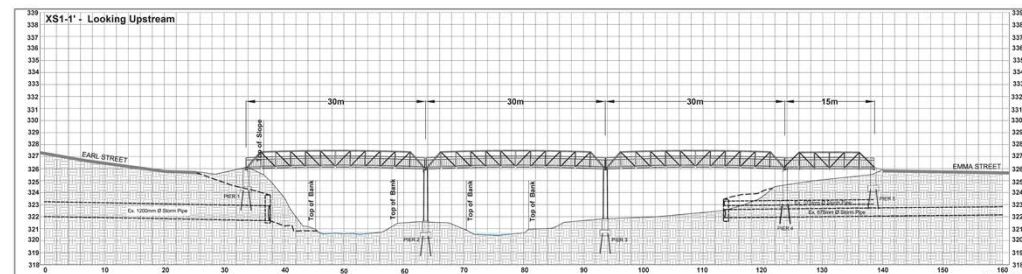
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2-Span Bridge



3-Span Bridge



4-Span Bridge



## NEXT STEPS

### PUBLIC CONSULTATION, October 2016

- Comment forms available for input.
- Compile and review feedback. Confirm evaluation criteria and preliminary alternatives.

### PRELIMINARY ALTERNATIVES EVALUATION, November 2016

- Develop, analysis and evaluation of preliminary alternatives.

### PUBLIC CONSULTATION, December 2016

- Comment form available for input.
- Compile and review feedback. Confirm or adapt preferred alternative.

### COMPLETE ENVIRONMENTAL ASSESSMENT

- Submit Project File Report to Ministry of Environment & Climate Change for 30 Day Review.

TO PROVIDE COMMENT, OR TO BE ADDED TO THE STUDY  
STAKEHOLDER LIST, PLEASE CONTACT:

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Guelph, Ontario N1H 3A1  
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E-mail: [andrew.janes@guelph.ca](mailto:andrew.janes@guelph.ca)

# THANK YOU

FOR PARTICIPATING IN THE  
EMMA STREET TO EARL STREET PEDESTRIAN BRIDGE  
CLASS ENVIRONMENTAL ASSESSMENT