



Embro Dam Class Environmental Assessment

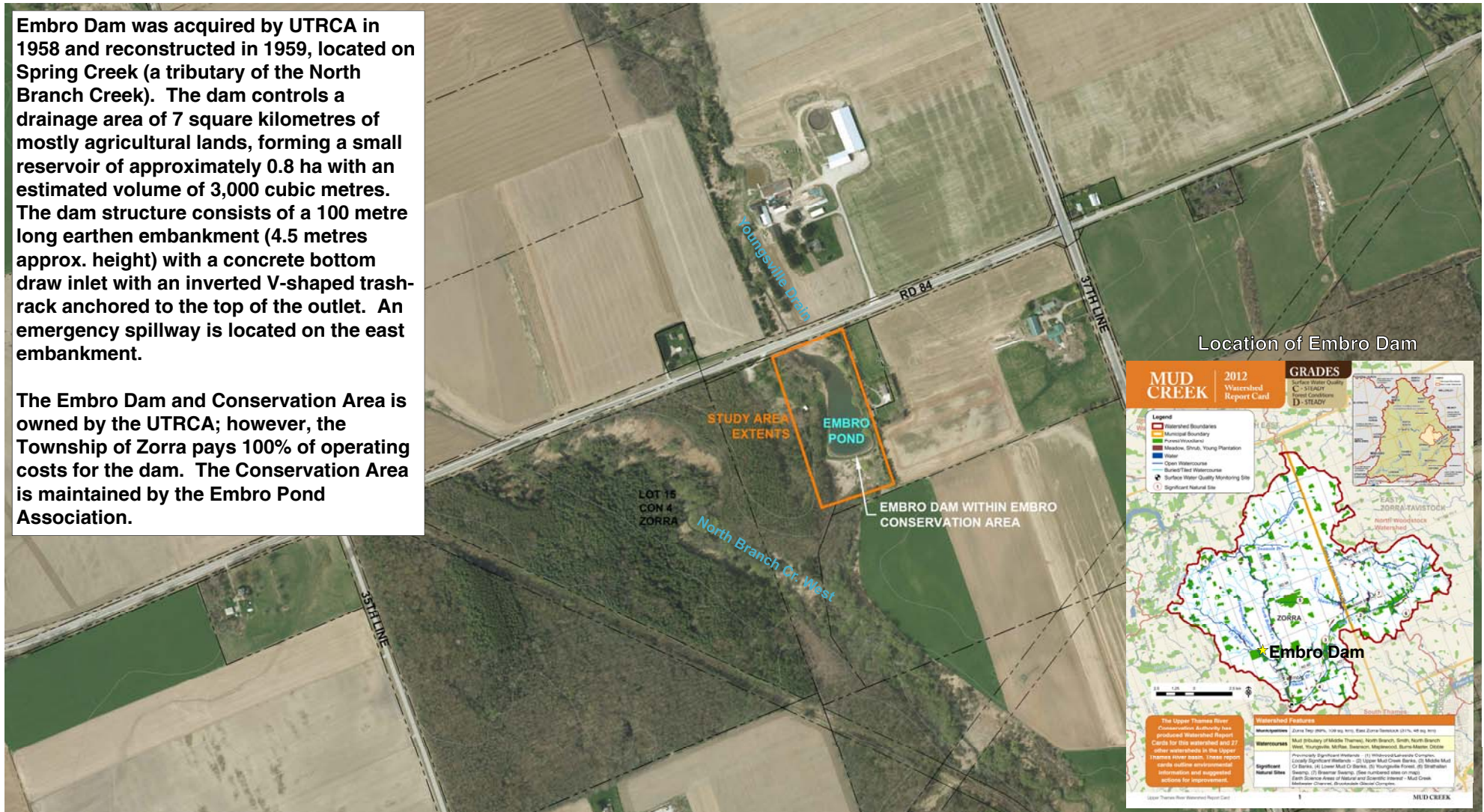
Public Information Centre #1

Upper Thames River Conservation Authority
Embro Zorra Community Centre
June 23rd, 2015 7:00 p.m. to 9:00 p.m.

Embro Dam Study Area

Embro Dam was acquired by UTRCA in 1958 and reconstructed in 1959, located on Spring Creek (a tributary of the North Branch Creek). The dam controls a drainage area of 7 square kilometres of mostly agricultural lands, forming a small reservoir of approximately 0.8 ha with an estimated volume of 3,000 cubic metres. The dam structure consists of a 100 metre long earthen embankment (4.5 metres approx. height) with a concrete bottom draw inlet with an inverted V-shaped trash-rack anchored to the top of the outlet. An emergency spillway is located on the east embankment.

The Embro Dam and Conservation Area is owned by the UTRCA; however, the Township of Zorra pays 100% of operating costs for the dam. The Conservation Area is maintained by the Embro Pond Association.



Problem Statement: Why is a Class EA Necessary?

Significant concerns related to the structural integrity and hydraulic capacity of the Embro Dam have been identified through recent engineering assessments.

- **Acres International. July, 2007.** *Dam Safety Assessment Report for Embro Dam: Upstream and downstream embankment slopes do not meet stability acceptance criteria*
- **Naylor Engineering Associates. September 2008.** *Geotechnical Investigation Embro Dam Embankment Stability Assessment: The existing dam does not meet current standards and is not considered stable under existing conditions*

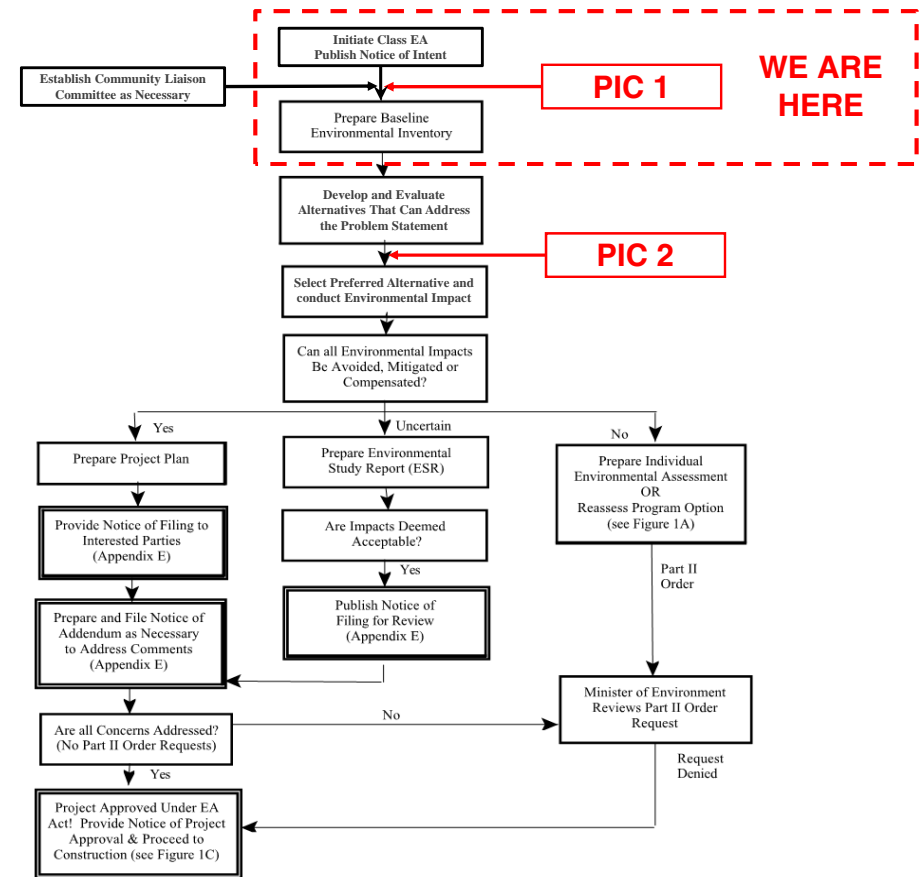
A Class Environmental Assessment has been initiated to evaluate a range of alternatives to address the identified issues in consideration of the environmental, social, economic, and technical aspects of the dam.

Class Environmental Assessment Process and Problem Statement

Class EA Process for Conservation Ontario Class Environmental Assessment for Remedial Flood and Erosion Control Works

In a nutshell:

- Publish Notice of Intent to advise all affected about the study
- Undertake a program to collect background information and relevant data on the study area
- Prepare a characterization of the study area as it relates to the problem statement, this includes technical, social and cost factors
- Develop alternatives that could address the issues
- Evaluate alternatives against a criteria (technical, social and cost)
- Select the preferred alternative
- Prepare concept level plans to depict the preferred alternative
- Prepare the EA report (project plan) and file for 30 days



Public Participation as Part of the Class EA Process

The process requires that proponents make public contact at two occasions, typically the Notice of Intent and Notice of Filing. These Notices invite interested members of the public to review and comment on the study process and results.

The UTRCA has elected to conduct three Public Information Centres (PICs) in addition to the two mandatory public contact notices, to deliver information to the community and to receive comments, feedback and input into the study. The PICs occur:

- **June 2015** – Introduction to the Study and Class EA Process
- **September 2015** (planned) – Presentation of Baseline Characterization and Potential Alternatives
- **November 2015** (planned) – Presentation of Preferred Alternative

Embro Dam and Area Description



The Embro Dam is approximately 100 m in length, 4.5 m in height and includes 1.1 m of freeboard. The entire dam is founded on overburden as opposed to bedrock or engineered soil.



The dam contains water year round and includes approximately 3.4 m of head acting across the dam.



Low earth fill embankment, a grassed, emergency spillway is located at the east end of the embankment. This spillway has a clear width of about 4.0 m and the inlet invert is 0.6 m below the crest of the dam.



The outlet of the dam includes a concrete bottom draw inlet structure covered with grated trashrack.



A 762 mm diameter (inner) concrete pipe conveys flow from the pond to a pool at the creek outlet.



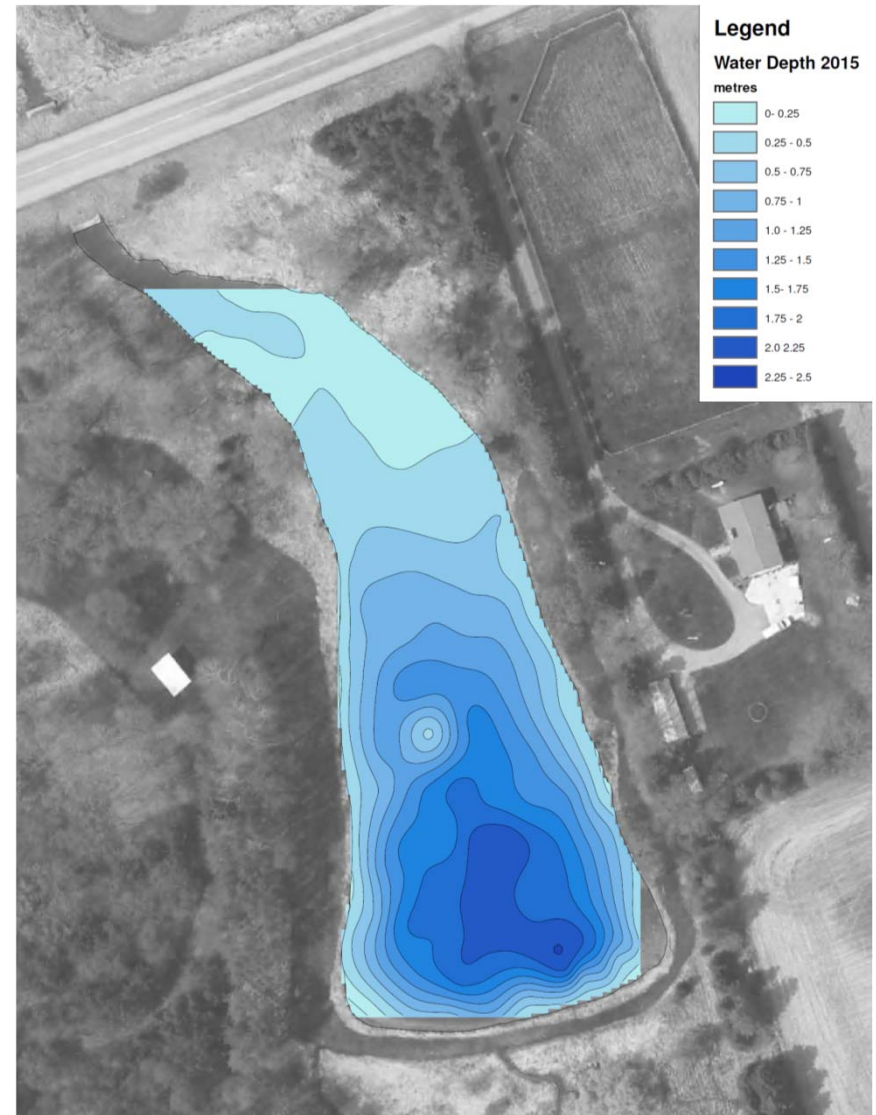
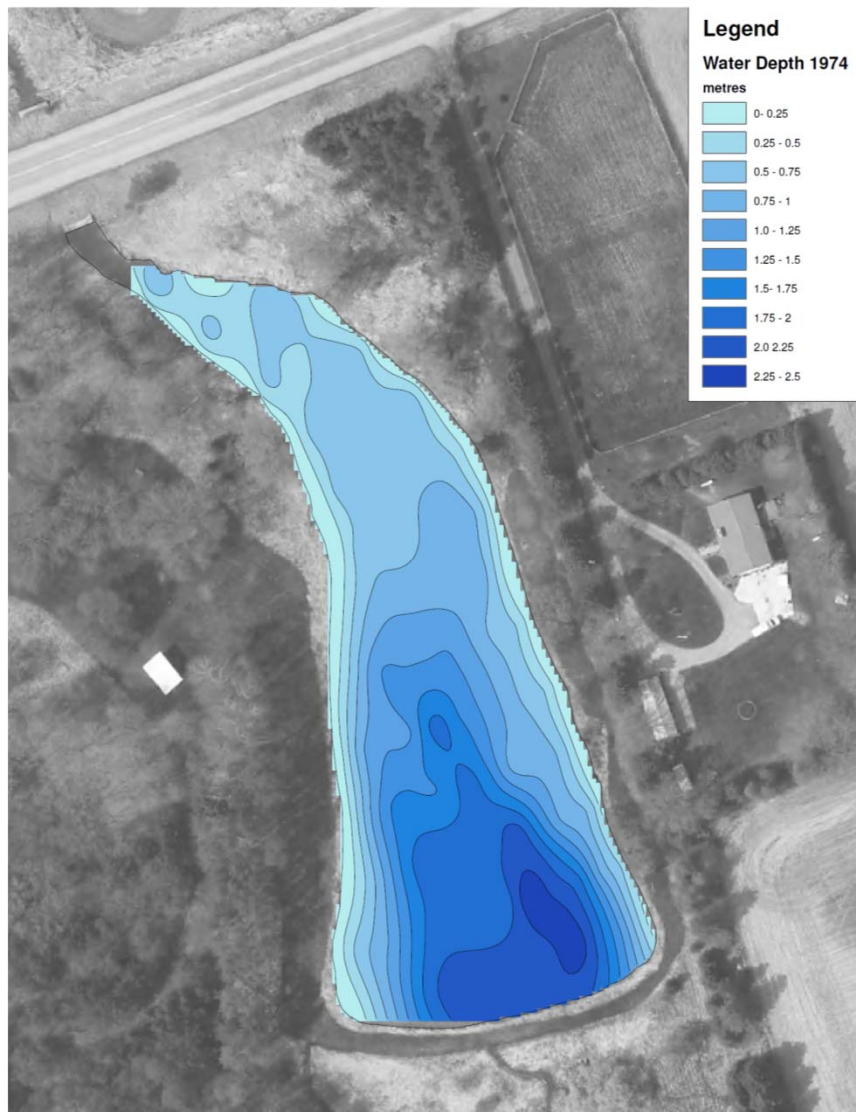
The Embro Dam is located within the Embro Conservation Area, with recent restoration and improvement works undertaken by the Embro Pond Association.

Field Data Collection and Site Characterization

A range of technical, environmental, and social factors will be characterized at the study site to provide insight into the generation of potential alternatives for the dam, as well as the evaluation of those alternatives.

Topographic Survey	Aquatic Biology	Geotechnical Engineering and Hydrogeology	Civil Engineering (Dam Structure and Hazard Assessment)
Hydrology	Terrestrial Biology	Sediment Quality	Water Quality
Fluvial Geomorphology	Cultural/Social Environment	Archaeology	Sediment Survey

Field Data Collection and Site Characterization – Sediment Survey



Next Steps and Contact Information

Next Steps for our project team include:

- Compile and review feedback from this Public Information Centre
- Complete field investigations and characterization of the study area
- Develop alternatives for the Dam to present at the next Public Information Centre, currently planned for September 2015
- Determine if community interest exists for a tour of dam reconstruction and removal projects in southwestern Ontario

To provide feedback and comments to the project team, please send all correspondence to the project email address:

embro_dam@thamesriver.on.ca

For further information please contact:

Mr. Rick Goldt, C.E.T.
Supervisor, Water Control Structures
Upper Thames River Conservation Authority
1424 Clarke Road
London, Ontario, N5V 5B9
Tel: 519-451-2800 ext. 244
Fax: 519-451-1188
goldtr@thamesriver.on.ca

Mr. Wolfgang Wolter
Senior Project Manager
Ecosystem Recovery Inc.
550 Parkside Drive, Unit B1
Waterloo, Ontario, N2L 5V4
Tel: 519-621-1500
Fax: 226-240-1080
wolfgang.wolter@ecosystemrecovery.ca

Upper Thames River Conservation Authority
Public Information Centre

**ecosystem
recovery** inc.
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