

Transcript of the Bridgeport Dike the Bridgeport Dike Rehabilitation and Capacity Improvement Class Environmental Assessment PowerPoint Presentation.

Slide 1 - Introduction

Welcome to the first public information session for the Bridgeport Dike Rehabilitation and Capacity Improvement Class Environmental Assessment. The Grand River Conservation Authority (GRCA) and the City of Kitchener are undertaking this study to find a preferred solution for improving the performance of the Bridgeport Dike along the Grand River. KGS Group is the consulting company conducting the study.

Slide 2 – Purpose of this Public Information Centre

The Purpose of this Public Information Centre is to:

- Provide information on the study purpose and provide some general background information.
- Provide information on the study objectives and process
- Provide an opportunity for stakeholder and public input.

Slide 3 – Study Purpose

The purpose of the study is to explore options to rehabilitate the existing Bridgeport Dike to meet the current and applicable standards, with consideration of public safety, the environment, cost, construction considerations, functionality and potential impacts to neighbouring properties.

Slide 4 - Study Overview

The Bridgeport Dike project is funded in part by the Government of Canada as part of the Disaster Mitigation and Adaptation Fund. The study is expected to be completed over the course of two years, covering the consultation and preliminary design of solutions.

This study will follow the process outlined in Conservation Ontario's Class Environmental Assessment for Remedial Flood and Erosion Control Projects to assess existing conditions, evaluate alternatives and find a solution that considers overall aspects of the structure and its environment. The process also will facilitate input and participation of the community.

Slide 5 – Subsequent work

- Final design and construction would be carried out as future projects within the timelines of the DMAF grant application.
- Consultation and engagement for final design and construction of the preferred alternative or alternatives would be completed as part of those projects
- Two main components, dike repairs and capacity improvements, may be carried out as separate projects.

Slide 6 - Where is the Bridgeport Dike?

The Bridgeport Dike is located in the former Village of Bridgeport, in the City of Kitchener.

The 1.5 kilometers long dike extends along the east bank of the Grand River. It starts near the intersection of Dyson Street and Prince Street, upstream of the Bridge Street Crossing, and follows the riverbank, turning inland to terminate at Bridge Street past Schweitzer Street.

The image in this slide shows the location of the study area relative to the City of Kitchener and the Grand River as it flows through the cities of Kitchener and Waterloo

Slide 7 - What Does the Dike Do?

The dike protects a mix of residential, commercial, industrial, and recreational lands. There are municipal parks and sports fields on either side of the dike, and a trail running along the top of the dike. The sports fields behind the dike were designed to function as a stormwater detention facility to temporarily hold runoff from the areas behind the dike following a storm event.

Overflow and storm sewer outlets equipped with flap gates to prevent backflow, allow drainage to the Grand River. There are approximately 100 residential, 24 industrial, and 3 institutional buildings within the diked area.

This slide shows an aerial image of the community of Bridgeport and development behind the dike.

Slide 8 - Study Area

This slide shows the Class EA study area which is delineated by the shaded area on the photograph. The study area includes the Dike, the Grand River and properties within the protection area of the dike. The

limits of the study area were delineated based on the extents of potential impacts related to Dike capacity and operational improvements and associated construction and rehabilitation activities.

Slide 9 - Flooding History

The Bridgeport Dike was originally constructed in the 1950's to provide flood protection for the community of Bridgeport.

The former village of Bridgeport has had a history of flooding, with serious flooding reported in 1948, 1954, and 1974, when the 1950's-era earthfill dike was overtopped.

The bottom photo in this slide shows from the air, the extent of the flooding in 1974, covering the entire community on the east bank of the Grand River bend, at Bridgeport. The top photo shows the flood water levels within the community for the same flood event.

Slide 10 – Dike History

The original earthen dike was raised in 1980 to provide protection to the Regulatory Flood level.

The Regulatory Flood, by application of provincial policies and guidelines, is the event that defines the extent of the floodplain in this area and corresponds to a storm of the magnitude of Hurricane Hazel, which caused flooding in Southern Ontario in October of 1954.

The image in this slide shows the rebuilt dike, with the original 1950's section, and the raised section built in the 1980's, which included an impervious fill to protect against water infiltration through the dike.

Slide 11 – Recent Flood Events

Recent floods on the Grand River, affecting Bridgeport, occurred in 2014 and 2017. While the dike was not overtopped during these events, the water levels were high on the river (as shown in the first photo to the left in this slide). The sports fields on the “dry” side of the dikes also experienced high water levels, as shown in the photos to the center and the right of the slide.

Those high-water levels on the “dry” side of the dike occurred despite the dike not being overtopped, and can be caused by the collection of local runoff on the sport fields, or by an overall high groundwater level, or combination of these two factors.

Slide 12 – Additional Information

This slide presents some additional relative facts regarding the dike and area infrastructure:

- The sports fields on the dry side of the dike were designed for the temporary storage of water during a flood event.
- The Bridgeport Bridge is a designated a heritage bridge, and any conveyance upgrades cannot impact this bridge.

Slide 13 - What is the Problem? (Why is this study required)

Recent studies have identified that the water levels in the Grand River would overtop parts of the dike if we were to experience flood flows that would be caused by a storm event of the same magnitude as Hurricane Hazel, which is the Regulatory Flood Event in this location.

These studies also determined that the current dike condition does not meet the design standards that are required to ensure that the dike will remain stable during the Regulatory Flood Event.

Slide 14 - What is the Opportunity?

This offers an opportunity to find the best-suited strategy through the Class Environmental Assessment process for addressing the dike deficiencies and provide flood protection for the Bridgeport Community, for events up to the Regulatory Flood.

Such solution will include technical requirements to bring the dike up to standards, and also consider aspects related to the environment, dike constructability and functionality, cost, and impacts to adjacent properties.

Slide 15 - Study Objectives

As indicated previously, the study is following the Conservation Ontario Class Environmental Assessment for Remedial Flood and Erosion Control Projects to determine the best-suited remediation strategy for the Bridgeport Dike, and has the following components:

- Assess the current conditions of the Dike and associated drainage outlets.
- Determine preferred approaches to Dike maintenance work. Maintenance could include:
 - Improving Dike stability by mitigating seepage through and under the Dike
 - Replacing stormwater and drainage outlets through the Dike.
 - Improving gauge stations.
- Develop alternatives for capacity improvements providing flood protection up to the Regulatory Flood Event.

- Select preferred alternative(s) based on environmental, social, technical, economic and operational considerations.
- Consult with the public and First Nations to receive and incorporate input for decision-making.

Slide 16 - Improvements Could Include

This photo shows potential improvements that may include removing the sand bar, improving channel conveyance along the reach of the Grand River, raising portions of the dike, repairing dike outlets, and facilitating pumping.

Slide 17 - Class Environmental Assessment Process

This slide provides an overview of the 5 steps in the Class EA process:

- Step 1 – Definition of the Problem / Opportunity (where we are at now in the process)
- Step 2 – Development of Alternative Solutions and Selection of Preferred Alternative (s) (the next step in the study)
- Step 3 – Development of Design Concepts for the Preferred Alternative (s)
- Step 4 – Completion of the Environmental Study Report
- Step 5 – EA Approval

Slide 18 - Public and First Nations Consultation

As part of the Class EA process, consultation in the form of Public Information Centres (PICs) occurs at key decision making points, to receive and incorporate input:

- PIC #1 – After Step 1, definition of the Problem/Opportunity (where we are at now in the study).
- PIC #2 – After Step 2, the development of alternatives and the selection of the preferred alternative.
- PIC #3 – After Step 3, development of design concepts for the preferred alternative.

In addition, an opportunity to review and comment on the Environmental Study Report (Step 4) when completed will be provided to all interested groups, agencies and individuals.

Slide 19 - How to Stay Connected

Our next PIC is expected to be held in the late fall of 2022. To stay connected to the project please provide your e-mail and / or mailing address and feel free to send us your comments or questions.

Slide 20 - Contact the Project Team

To contact the project team please send an e-mail to the [Bridgeport Dike Rehabilitation and Improvement Class EA study](#). Additional study information as it becomes available will be posted on the study website [Bridgeport Dike Rehabilitation Project](#).

Slide 21 – Thank You

We appreciate the time you have taken to learn more about the Bridgeport Dike Rehabilitation and Improvement Class EA study. Your input is important for the success of the EA process. Please provide your input.

Please send us your comments or questions and leave us your e-mail or mailing address if you would like to be kept up to date as the project progresses.