Hello and thank you for joining us for the Erb Street water supply iron and manganese upgrades Public Consultation Centre #2 (or PCC). We’d like to remind you that a PDF of this presentation including a transcript is available on the Region of Waterloo’s website if you would like to review it in more detail. A link to the website is provided in the video description below.

The purpose of this PCC is to give an update on the project since PCC #1, where we provided an overview of the project and why it’s important. At this PCC we will provide an overview of the evaluation of alternative treatment facility site locations, and an overview of preliminary study recommendations. We are also here to provide you with an opportunity to learn about the project and get involved.

We encourage you to review the information and contact a member of the project team by phone or email if you have any questions or would like to provide your thoughts or comments. Contact information is provided at the end of this presentation and on the Region of Waterloo’s website.

As a refresher from PCC #1, we wanted to answer the following questions:

1. What are we doing?
2. Why are we doing it? and,
3. What does it mean to you?

To answer the first question “What are we doing?”, the Region is planning upgrades to the Erb Street water supply system to provide treatment to reduce iron and manganese levels. This study will look at the best ways to complete these upgrades.

Why are we doing it? Health Canada has recommended more stringent aesthetic drinking water objectives for manganese, and Ontario’s drinking water standards are expected to change to meet the recommendations. The Erb Street water supply system has been identified as requiring upgrades to meet these future aesthetic objectives. As an aside, aesthetic objectives are targets we meet when treating water for taste, odour, and colour. We are taking steps now to ensure we are ready to meet these objectives.

What does it mean to you? These upgrades will require a new building to house the treatment equipment. It is expected that additional property will be required for the new facility. There is no change in the amount of water being taken from the Erb Street water supply wells.
Slide 4 – Iron and manganese in drinking water

Iron and manganese are naturally occurring metals commonly found in soil and are often found in drinking water that comes from underground wells. Iron and Manganese may have aesthetic impacts such as staining of laundry and fixtures, undesirable taste, and discoloration.

Slide 5 – Changes in drinking water standards

The Province of Ontario regulates standards for drinking water to protect health and provides aesthetic objectives to produce drinking water that is pleasant to consumers. The Province is considering a reduction to the manganese aesthetic objective in drinking water from 0.05mg/L to 0.02 mg/L based on guidance from Health Canada. As stated in Slide 4, the Erb Street Wells have been identified by the Region of Waterloo as requiring upgrades to meet this future aesthetic objective.

Slide 6 – The Municipal Class Environmental Assessment Process

The Municipal Class Environmental Assessment, or EA process, is a five-phase planning process that is approved under the Ontario Environmental Assessment Act. All Municipalities in Ontario are required to complete a Municipal Class EA when planning for major infrastructure projects. This project is being planned as a Schedule C project, which means it follows all the steps in the planning process.

These steps include:

- Identifying the problem or opportunity,
- Developing and evaluating alternative options,
- Developing and evaluating alternative designs (or how best to implement the solution),
- Documenting the decision-making process in an Environmental Study Report for the public and stakeholders to review and comment, and
- Implementing the recommendations through design and construction.

We are currently in Phase 3 of the study and have developed and evaluated alternative project designs and selected our preferred site location for the new water treatment facility, which will utilize Traditional Oxidation and Filtration technologies as discussed in PCC #1. This is the second and final PCC, where we will discuss the evaluation of alternative locations and the preliminary recommendations for public review and comment. Following the PCC, the Study team will review input and prepare an Environmental Study Report which will be placed on public record for a minimum 30-day review period.
Erb Street Water Supply Iron and Manganese Treatment Upgrades
Municipal Class Environmental Assessment

Slide 7 – Overview of PCC#1

At our first PCC, we looked at a number of alternative treatment technologies to address iron and manganese at the Erb Street Wells. Based on an evaluation of the social/cultural, natural, technical, and economic considerations, Traditional Oxidation and Filtration was identified as the preferred treatment technology.

At PCC #1 we also identified the need for a new treatment building at a new location, since the existing well sites did not have enough space to accommodate the new facility.

We also looked at alternative options for Residuals Management, which is the management of water leftover from treatment process.

We have now moved on to evaluating the alternative site locations and have developed preliminary recommendations that we are now sharing for stakeholder review and comment.

Slide 8 – Alternative Facility Locations

We have undertaken a number of environmental reviews to assist in evaluating the alternative locations for the new water treatment facility. This includes terrestrial and aquatic habitat assessments, and reviews of built cultural heritage and archaeological potential.

Slide 9 – Evaluation Criteria

A number of criteria have been identified to evaluate potential impacts from the project and alternatives in accordance with the Environmental Assessment process.

Social/Cultural Environmental: This group of criteria includes impact on existing residences, businesses, agricultural uses, and other planned land uses and developments; impacts to archaeological and cultural heritage resources, and health and safety considerations.

Natural Environment: This group of criteria includes impacts to environmental features, wildlife and species at risk, groundwater, streams, and rivers, and the consideration of climate change.

Technical: This group of criteria includes the ability to provide reliable service to meet existing and future needs, the alignment with planned infrastructure improvements, impacts to existing infrastructure, utilities, and other constructability considerations, and the ability to obtain appropriate permitting and approvals.

Financial: This group of criteria includes the consideration for both capital costs, and long-term operations and maintenance costs.
Slide 10 – Summary of Evaluation of Alternative Treatment Facility Locations

We have evaluated the alternative site locations against the criteria identified. Based on this evaluation, Alternative Location #3 has been identified as the preliminary preferred location. The site is closest to the existing reservoir, utilities, and site services, results in the least impact to existing land uses and properties, and does not result in impacts to significant environmental features.

Slide 11 – Residuals Management

We also evaluated the alternative solutions identified for residuals management, which is the management of wastewater leftover from the water treatment process. Two alternatives were evaluated: the first includes the use of an equalization tank with supernatant recycling (or the re-use of leftover backwash water within the treatment process) and discharge of the remaining liquids and solids to sanitary sewer. The second includes the use of settling ponds with liquid/solid separation and then the discharge of liquid to the environment and solids trucking to the wastewater treatment plant.

Based on the evaluation, Alternative 1 – Equalization tank with supernatant recycling and discharge to the sanitary sewer system was identified as the recommended alternative. This alternative results in less environmental impact, less overall community and property impacts, and less long-term operations costs.

Slide 12 – Preliminary Recommendations

Based on the evaluations, preliminary recommendations include the construction of a new water treatment facility at Alternative Location #3 which is located directly adjacent to the existing reservoir site at 960 Erb Street West. As discussed at PCC #1, this treatment facility will utilize traditional oxidation and filtration technology to treat iron and manganese from the Erb Street Wells, and the facility will discharge leftover wastewater into the sanitary sewer to be treated along with municipal wastewater at the downstream Waterloo Wastewater Treatment Plant.

This land is currently owned by the City of Waterloo and has been identified for potential purchase through the West Side Employment Lands Subdivision development.

While no significant natural heritage features were identified on the site, a Tree Preservation Plan will be developed during design, and tree removal on the site will be avoided where possible.

Slide 13 – Next Steps

The next step in the Study is to receive and review your input on the information presented today. We will then document the decision-making process, including the stakeholder input we’ve received, environmental impacts and mitigation, and
commitments to carry forward through design and construction within an Environmental Study Report, which will be made available for public review for at least 30 days.

Following the planning process, the Region will move forward with the design process in 2022 and plans to start construction in 2025.

**Slide 14 – Thank You**

Do you have any questions about the information presented here? Would you like more information on the alternatives or evaluation process? There are many ways to get in touch with the project team:

- You can fill out a comment sheet available on the Region’s website, and return via mail or email to a member of the project team by December 11, 2020; or
- You can contact a project team member directly by email, telephone, or mail.

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