Town of The Blue Mountains Westside Storage Class EA

Presented by: J.L. Richards & Associates
Date: June 25, 2020
JLR No.: 29304
Agenda

• Project Overview
• Class Environmental Assessment (EA) Process
• Existing Storage and Water Infrastructure
• 2019 Master Plan Findings
• What is Water Storage?
• Updates to the 2019 Master Plan
• West Pressure Zone Storage and Options
• Proposed Additional Studies
• Future Consultation Opportunities and Next Steps
JL Richards (JLR) has been retained to prepare a Municipal Class Environmental Assessment (Class EA) for improving water storage and pumping for the Town’s west pressure zones.
Class EA Process Overview

- Under the Environmental Assessment Act, municipalities **must** consider potential environmental effects before a potential water and/or wastewater project begins.

- The streamlined MEA Class EA process allows municipalities to consider impacts without having to obtain project-specific approval under the Environmental Assessment Act.
Existing Storage

Existing storage/pumping in the EA area is provided by:

- Victoria Tower – 747m³
- Thornbury Reservoir - 3,400m³
- Camperdown Reservoir – 2,600m³
- 10 Line Booster Pumping Station

Additional Town Storage:

- Happy Valley Road Reservoir – 5,000m³
- Swiss Meadows Standpipe – 536m³
Existing Water System

- Thornbury Water Treatment Plant
- Thornbury Reservoir Site
- 10th Line BPS
- Victoria Street Elevated Tower
- Camperdown Reservoir Site
- Arrowhead Road BPS
2019 Master Plan Findings

JLR completed a Town-Wide Master Plan under the Municipal Class EA framework in 2019. The findings related to pumping capacity and storage in the preliminary recommendations in the western pressure zones were:

- Conduct a Schedule B Class EA
- Replace the Victoria St. Tower with a tower at Tomahawk Golf Course
- Build a new storage facility in Lora Bay (location/type unknown)

Preferred solution needs to address (1) aging infrastructure in Pressure Zone 1 (Thornbury) and (2) inadequate storage and/or pumping to Pressure Zone 2 and 2a (Lora Bay).
Future Water Distribution, 20-Years and Build Out Pressure Zones 2 and 2a (Lora Bay)
Future Water Distribution, 20-Years and Build Out Pressure Zones 1-West (Thornbury and Clarksburg)
Future Water Distribution, 20-Years and Build Out Pressure Zones 1a, 1-West and 3 (Camperdown)
Why is Water Storage Important?

Treated water storage facilities should be designed to allow maintenance of adequate flows and pressures in the distribution system during peak hour water demand, and to meet critical water demands during fire flow and emergency conditions. Water storage reservoirs must be suitably sized to serve required flows but not too big as to be wasteful and inefficient.

Examples of when the Town needs water storage:
• Everyday to maintain system water pressures (e.g. for your shower)
• On a hot summer day to water your vegetable garden (peak hour flows)
• During a big fire event (fire flow)
• If a water main breaks or during an extended power outage (emergency)
Updates to the 2019 MSP

- Update to 20-year and Build-Out Growth Projections

- Confirmation of Design/Service Life Horizon (typical lifespan 40 – 60+ years)

- Confirmation of Design Water Demands (2019 MSP used 350 L/cap/day)

- Consideration of un-serviced Lots in Clarksburg

- Calculation of Fire Component of Storage Volume

Goal: Determine how much storage and/pumping is required to meet the fire, equalization, and emergency needs in each pressure zone.
What are the Storage and Pumping Alternatives?

- Elevated tower
- At grade storage reservoir
- Below ground storage reservoir
- Max day and/or fire pumps
Elevated Tower

- Similar to existing Victoria St. Tower
- ~60 year service life
- Low energy costs (less pumping)
- Steel tanks require periodic re-coating
- High visual impact
At Grade Storage

- Similar to existing in Camperdown
- 40 to 60 year service life
- Low energy costs (less pumping)
- Requires minimal maintenance
- Construction may be very challenging if located on the escarpment
- Moderate visual impact
Below Ground Storage

- Similar to existing Thornbury Reservoir
- 40 to 60 year service life
- Requires a booster pumping station
- Pumping station requires maintenance
- Tank requires minimal maintenance
- High energy costs
- Moderate visual impact
Potential Storage & Pumping Alternatives

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<tr>
<th>Preliminary Option</th>
<th>Replace Thornbury Tower</th>
<th>Expand Thornbury Reservoir</th>
<th>Floating Storage in Lora Bay</th>
<th>In-Ground Storage at 10th Line</th>
<th>Upgrade Feedermain and Pumps at 10th Line</th>
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Proposed Studies and Investigations

• Geotechnical investigation
• Ecological study
• Archeological assessment
• Cultural heritage assessment
Future Consultation

- Public opinion and input is important to determine the best alternative
- There will be additional presentations to update the public on project progress (PIC 2 Fall 2020)
- Questions, concerns, and comments can be directed via the online form at
  https://www.thebluemountains.ca/west-side-water-storage-ea.cfm?is=2
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Questions?