Welcome to the Public Information Centre for the Town of The Blue Mountains Municipal Master Plan for the Town-Wide Water Distribution System

We want to hear from you.

Please fill out the comment sheet provided at today’s Public Information Centre and leave it in one of the boxes provided.

Additional information is available on the project website at https://www.thebluemountains.ca (under “Town Hall” select “Infrastructure Projects”) and at the Town’s Office.
THE MUNICIPAL CLASS EA PROCESS

Phase 1 – Problem/ Opportunity

WE ARE HERE
Consult with Review Agencies and Public

Data Collection and Review → Identify Problems and Opportunities → Identify and Evaluate Solutions

Prepare Master Plan document for public comment

Phase 2 – Alternative Solutions

The purpose of the Town-Wide Water Distribution System Master Plan is to evaluate the Town’s long-term water distribution needs and identify preferred solutions to be implemented immediately and as required to match the Town’s growth over the next 20-years and to Build-Out of the service area boundary.
KEY INFRASTRUCTURE ISSUES

Issue No. 1 - East Side Supply:
There is a need to provide adequate, secure water supply to meet projected demands east of Arrowhead Road Booster Pumping Station. These areas include Pressure Zone 4 (Craigleith), Zone 5 (Swiss Meadows) and Castle Glen.

Issue No. 2 – Zone 1, 2, 3 Storage:
At Build-Out there are storage deficits in Pressure Zone 1 (Thornbury/Clarksburg), Zone 2 (Lora Bay) and Zone 3 (Camperdown) combined. There are near-term storage deficits in Zone 2 (Lora Bay).

Issue No. 3 – Zone 4 Storage:
At Build-Out approximately 8,300 m$^3$ of storage is required in Zone 4 (Craigleith). There is currently 5000 m$^3$ of built storage that serves that pressure zone, which leaves a deficit of 3,300 m$^3$.

Issue No. 4 – Zone 5 Storage and Fire Protection:
In the Build-Out scenario there is a 715 m$^3$ storage deficiency in Zone 5 (Swiss Meadows). Currently, not all areas are serviced with adequate sized watermains and hydrants.

Issue No. 5 – Supply & Storage for Castle Glen:
For Build-Out of Castle Glen, municipal water supply will be required.
SELECTION OF ALTERNATIVES

Step 1 – Initial Screening: For each of the five (5) issues identified, a long-list of potential solutions was developed. Based on a pass/fail criteria, the list was shortened to 3 – 4 feasible alternatives to advance to detailed evaluation.

Step 2 – Detailed Evaluation: Criteria were identified by the study team and project stakeholders to guide the evaluation of different servicing options. Each option was evaluated using the criteria and an impact score (see details below).

Natural Environment and Archaeology

- Effect on Fish and Aquatic Habitat
- Effect on Wetlands, Woodlands, Wildlife Habitat
- Effect on Archeological or Heritage Resources

Technical Considerations

- Opportunities for Phased Implementation
- Optimized Use of Existing Infrastructure
- System Redundancy
- Maintenance/Operations Requirements

Social Environment

- Impacts During Construction
- Compatibility with Surrounding Land Use

Economic Considerations

- Land Acquisitions Required
- Capital Costing
- Lifecycle Costs

<table>
<thead>
<tr>
<th>Impact Score</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Positive</td>
<td>+2</td>
</tr>
<tr>
<td>Low/Moderate Positive Impact</td>
<td>+1</td>
</tr>
<tr>
<td>No Anticipated Impact</td>
<td>0</td>
</tr>
<tr>
<td>Low/Moderate Negative Impact</td>
<td>-1</td>
</tr>
<tr>
<td>High Negative</td>
<td>-2</td>
</tr>
</tbody>
</table>

Step 3 - Selection of Preferred Alternative: The highest scoring alternative was selected as the preferred and is being presented to the public for consideration.
OVERVIEW OF STORAGE FACILITY TYPES

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

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

Below Grade Storage (at low elevation)
- Similar to existing Thornbury Reservoir
- 40 to 60 year service life
- Requires a booster pumping station
- High energy costs
- Tank requires minimal maintenance
- Pumping station requires maintenance
- Moderate visual impact
Proposed Project Overview:

1. Complete Schedule “B” Class EA to determine preferred system for West Side Storage. Potential alternatives include:
   - Alternative 2.1 New Zone 1 Elevated Tower (Existing Location)
   - Alternative 2.2 New Zone 1 Elevated Tower (Tomahawk Municipal Lands or as determined by Class EA)
   - Alternative 2.3 Zone 1 Elevated Tower and In-ground Storage at 10th Line Booster Station
   - Alternative 2.4 Zone 1 Elevated Tower and Zone 2 Floating Reservoir - Preliminary Preferred Alternative
   - Alternative 2.5 Expand Thornbury Reservoir and In-ground Storage at 10th Line Booster Station

2. Add two additional PRVs to provide emergency and fire flows.
Proposed Project Overview:

1. Complete Schedule “C” Class EA for East Side Water Supply to determine the preferred water supply alternative. Potential alternatives include:
   - Alternative 1.1 Upgrade Mountain Road Booster Station to supply water entirely from Collingwood
   - Alternative 1.2 Upgrade Arrowhead Road Booster Station and supply water entirely from Thornbury Water Treatment Plant - Carried forward for budget purposes
   - Alternative 1.3 Supply water from Collingwood and Thornbury Water Treatment Plant
   - Alternative 1.4 Construct a new Water Treatment Plant in Craigleith and supply water entirely from this new plant

2. Complete Schedule “B” Class EA to determine preferred system for West Side Storage (refer to Pressure Zone 2).

3. Decommission the Victoria Tower.
Proposed Project Overview:

1. Complete Schedule “C” Class EA for East Side Water Supply to determine the preferred water supply alternative (refer to Pressure Zone 1 – Thornbury and Clarksburg).
2. Implement recommendations from the Hidden Lake Class EA.
3. Install new check valve at Grey Road 40 and Timberleif.
Proposed Project Overview:

1. Complete Schedule “C” Class EA for East Side Water Supply to determine the preferred water supply alternative (Refer to Pressure Zone 1 – Thornbury and Clarksburg).

2. Complete Schedule “B” Class EA to determine preferred system for East Side Storage. Three potential alternatives for storage in Zone 4 include:
   - Alternative 3.1 Expand Storage at Happy Valley Reservoir - Preliminary Preferred Alternative
   - Alternative 3.2 Build Elevated Tower at a New Location
   - Alternative 3.3 Build At- or Below-grade Reservoir at a New Location

3. Complete Zone 4C Pressure Zone modifications

4. Implement the recommendations established in Castle Glen Development Corporation Phase 1 Water Supply Cass EA. Connect Castle Glen groundwater system to the Town’s water system.
Preliminary Capital Costing

0 To 5-Year Capital Costs

<table>
<thead>
<tr>
<th>Proposed Project</th>
<th>Budget</th>
<th>Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule ‘B’ Class EA and Pre-Design for West Pressure Zones Storage</td>
<td>$0.25M</td>
<td>Development Charges</td>
</tr>
<tr>
<td>Schedule ‘C’ East Side Water Supply and Water Storage Class EA and Pre-Design</td>
<td>$0.75M</td>
<td>Development Charges</td>
</tr>
<tr>
<td>Pending Outcome of Class EA-1,700 m³ Zone 2 reservoir (excludes feedermain)</td>
<td>$3.50M</td>
<td>Development Charges</td>
</tr>
<tr>
<td>Implement findings from Hidden Lake Class EA</td>
<td>TBD</td>
<td>Development Charges</td>
</tr>
<tr>
<td>Check valve at Grey Road 40 and Timberleif</td>
<td>$0.15M</td>
<td>Non-Growth</td>
</tr>
<tr>
<td>Implement findings from Zone 4c Pressure Modification Conceptual Design</td>
<td>$0.35M</td>
<td>Non-Growth</td>
</tr>
<tr>
<td>Add pressure Zone 4b into 4 (PRV not operating)</td>
<td>---</td>
<td>Non-Growth</td>
</tr>
</tbody>
</table>

Total 5-Year Capital Costs = $5.00M

5 To 20-Year Capital Costs

<table>
<thead>
<tr>
<th>Proposed Project</th>
<th>Budget</th>
<th>Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implement findings from Schedule ‘C’ Water Supply Class EA for East Zones</td>
<td>$14.00M</td>
<td>Development Charges</td>
</tr>
<tr>
<td>Pending Outcome of Class EA – Decommission Victoria Street Tower and construct 1,000 m³ elevated tank on Municipal Lands (excludes feedermain)</td>
<td>$3.10M</td>
<td>Development Charges/Non-Growth</td>
</tr>
<tr>
<td>Pending Outcome of Class EA - 1,000 m³ reservoir near Happy Valley Reservoir</td>
<td>$3.00M</td>
<td>Development Charges</td>
</tr>
<tr>
<td>Looping of watermain in existing distribution system</td>
<td>$2.50M</td>
<td>Non-Growth</td>
</tr>
<tr>
<td>Extend existing watermain into new growth areas (includes road reinstatement)</td>
<td>$9.00M</td>
<td>Developer Built &amp; Development Charges</td>
</tr>
</tbody>
</table>

Total 20-Year Capital Costs = $31.60M

20-Year To Build-Out Capital Costs

<table>
<thead>
<tr>
<th>Proposed Project</th>
<th>Budget</th>
<th>Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pending outcome of Class EA - Expand the storage near Happy Valley Reservoir</td>
<td>$3.40M</td>
<td>Development Charges</td>
</tr>
<tr>
<td>Add two additional PRVs in Zone 2a</td>
<td>$0.35M</td>
<td>Development Charges</td>
</tr>
<tr>
<td>Extend existing watermain into new growth areas</td>
<td>$14.40M</td>
<td>Developer Built &amp; Development Charges</td>
</tr>
</tbody>
</table>

Total Build-Out Capital Costs = $18.15M

Total Capital Costs 2019 to Build Out = $54.75M
NEXT STEPS

Data Collection and Review → Identify Problems and Opportunities → Identify and Evaluate Solutions

Phase 1 – Problem/Opportunity

WE ARE HERE
Consult with Review Agencies and Public

Identify Preliminary Alternatives → Prepare Master Plan document for public comment

Phase 2 – Alternative Solutions

1. Public comments will be incorporated in the draft Master Plan Report on the Class EA to be presented to Town Council this spring.

2. Draft Master Plan report to be presented to Council for acceptance.

3. Town can implement Schedule A and A+ projects.

4. For Schedule B (e.g. water storage) and Schedule C projects (e.g. treatment plant expansions), Class EA’s must be completed prior to implementation.