Water Conservation Plan

Water Supply System:

Prepared by:

Date:
Water and water conservation are important to our community because ______________________

______________________________________________________________________________

The purpose of this plan is to develop and implement a long-term strategy addressing water quality and quantity issues to protect both public and environmental health.

______________________________________________________________________________

It is important for our water supply system to conserve water because ______________________

______________________________________________________________________________

The scope of this water conservation plan is _________________________________

______________________________________________________________________________

This water conservation plan fits with these other plans ____________________________

______________________________________________________________________________

This water conservation plan is prepared following the steps in the Water Conservation Planning Guide for British Columbia’s Communities from the University of Victoria’s POLIS Project (Wong et al. 2009). The planning process is shown in Figure 1.
The Action Team for this plan includes: ____________________________________________

__________________________________________

This water conservation plan is supported by _______________________________________

__________________________________________

2. Water Supply System Profile

Our water supply comes from _______________________________________________________

__________________________________________

Water is treated _________________________________________________________________

__________________________________________
Water is stored ___________________________________________________________________________

_____________________________________________________________________________________

Sewage is ____________________________________________________________________________

_____________________________________________________________________________________

Our water supply system provides water to _____________________________________________________________________________

_____________________________________________________________________________________

_____________________________________________________________________________________

Current data for the water supply system are shown below in Tables 1, 2 and 3.

Table 1. Water System Data

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total population currently served by system</td>
<td></td>
</tr>
<tr>
<td>Maximum future population served by system</td>
<td></td>
</tr>
<tr>
<td>Annual water supply capacity of system</td>
<td></td>
</tr>
<tr>
<td>Maximum daily supply capacity of system</td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Service Connections Data

<table>
<thead>
<tr>
<th>Service Connections</th>
<th># of connections</th>
<th># of connections metered</th>
<th>% of connections metered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential connections</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public connections (e.g. hydrant, park, community centre)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other connections (e.g. commercial, industrial, institutional, agricultural)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total service connections</strong> (add up all the connections listed above)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3. Water Use Data

<table>
<thead>
<tr>
<th>Type of Water Use</th>
<th>Maximum Day (m³)</th>
<th>Annual (m³)</th>
<th>Annual Per Capita (m³)</th>
<th>Average Day (m³)</th>
<th>Average Day Per Capita (litres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculation</td>
<td></td>
<td></td>
<td>= [Annual] / [population]</td>
<td>= [Annual] / 365</td>
<td>= [Average day] x 1000 / [population]</td>
</tr>
<tr>
<td>Residential Connections</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total System</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A comparison with other jurisdictions for average day per capita water use is shown in Figure 2.

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Figure 2: Average Day Water Use Comparison

Sources: Canada and BC - 2011 Municipal Water Use Report (Environment Canada)
3. Forecasting Demand

The amount of water that will be used by our system in the future depends on our population growth and our reductions in per capita water use.

Figures 2 and 3 show possible water use futures for our system. The possible futures shown are:

- No Reductions – we continue to use the current amount of water per capita
- 0.5% Annual Reduction – every year we reduce our water use per capita by 0.5% from the previous year
- 2% Annual Reduction – every year we reduce our water use per capita by 2% from the previous year

The calculations for these forecasts are shown in Tables 4 and 5.
Figure 4: Maximum Day Water Use Forecasts

We expect that our population will __________________________________________________

If we continue to use the same amount of water per capita ____________________________
### Table 4. Annual Water Use Forecasts

<table>
<thead>
<tr>
<th>Service Population</th>
<th>2012</th>
<th>2022 (10 years)</th>
<th>2032 (20 years)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total System Annual Water Use (m³)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Reductions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>= Current Total System Water Use</td>
<td>= [Total System Annual Per Capita (Table 3)] x [2022 pop]</td>
<td>= [Total System Annual Per Capita (Table 3)] x [2032 pop]</td>
<td></td>
</tr>
<tr>
<td>0.5% Annual Reduction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>= Current Total System Water Use</td>
<td>= [2022 no reductions water use] x 0.951</td>
<td>= [2032 no reductions water use] x 0.905</td>
<td></td>
</tr>
<tr>
<td>2% Annual Reduction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>= Current Total System Water Use</td>
<td>= [2022 no reductions water use] x 0.817</td>
<td>= [2032 no reductions water use] x 0.668</td>
<td></td>
</tr>
</tbody>
</table>

### Table 5. Maximum Day Water Use Forecasts

<table>
<thead>
<tr>
<th>Service Population</th>
<th>2012</th>
<th>2022 (10 years)</th>
<th>2032 (20 years)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total System Maximum Day Water Use (m³)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Reductions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>= Current Total System Water Use</td>
<td>= [Total System Annual Per Capita (Table 3)] x [2022 pop]</td>
<td>= [Total System Annual Per Capita (Table 3)] x [2032 pop]</td>
<td></td>
</tr>
<tr>
<td>0.5% Annual Reduction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>= Current Total System Water Use</td>
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</tr>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>= Current Total System Water Use</td>
<td>= [2022 no reductions water use] x 0.817</td>
<td>= [2032 no reductions water use] x 0.668</td>
<td></td>
</tr>
</tbody>
</table>
Benefits we would like to achieve through water conservation are listed as our water conservation goals in Table 6.

**Table 6. Water Conservation Goals**

1. 

2. 

3. 

4. 

5. 

Our targets for water conservation are listed in Table 7.

**Table 7. Water Conservation Targets**

1. 

2.
5. Current Water Conservation Measures

Table 8 lists the water conservation measures we already have in place in our water system.

Table 8. Current Water Conservation Measures

<table>
<thead>
<tr>
<th>Description of Conservation Measure</th>
<th>Year Implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

The most effective water conservation measure has been _________________________________

________________________________________________________________________________

________________________________________________________________________________

________________________________________________________________________________

________________________________________________________________________________

The least effective water conservation measure has been _________________________________

________________________________________________________________________________

________________________________________________________________________________

________________________________________________________________________________

________________________________________________________________________________
6. Conservation Measures to Implement

To help select conservation measures for our system, we have rated a number of potential measures according to the selection criteria shown in Table 9.

Table 9. Selection Criteria

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
</tr>
</tbody>
</table>

Each measure was given a score out of 5 for each selection criterion (5 is the best, 0 is the worst). The scores were added up to give a total score. Table 10 shows the results of the rating.

We plan to implement ____________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________
<table>
<thead>
<tr>
<th>Conservation Measures</th>
<th>Selection Criteria</th>
<th>Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7. Implementation Strategy

The next steps to implement this water conservation plan are:

1. ________________________________________________
   ________________________________________________
   ________________________________________________
   This will be performed by: _________________________
   This will be completed by the following date: _________

2. ________________________________________________
   ________________________________________________
   ________________________________________________
   This will be performed by: _________________________
   This will be completed by the following date: _________

3. ________________________________________________
   ________________________________________________
   ________________________________________________
   This will be performed by: _________________________
   This will be completed by the following date: _________