Water Resource Centre

Presented by: Public Works Manager

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Introduction

• Wastewater includes anything that goes down your drain
• All wastewater must be treated... it is the law
• Storm water does not have to be treated
• The Water Resource Centre at the District consists of 4 operators
• Total assets: 2 treatment plants, 9 lift stations, and 69kms of sewer line, total value = $40 million
Sewer Connections

- The District inspects new sewer connections
- The District does not install new connections
- Home owners are given 2 years to connect to a municipal sewer line
- Home owners are responsible for maintaining the sewer line from the residence to the municipal line
- Connecting to the municipal sewer system benefits the community and the environment
- Your sewer fees go toward maintaining the entire sewer system
Wastewater Treatment

• Treatment is regulated by the Ministry of Environment and Environment Canada

• There are 3 levels of treatment:
  1. PRIMARY
  2. SECONDARY
  3. TERTIARY

• The level of treatment is decided by the Provincial and Federal regulatory agencies
Treatment Process

• Wastewater travels by gravity and forcemain to the Water Resource Centre treatment plant
• Large solids are removed by mesh screens
• Wastewater is aerated to mix contents and prevent odours
• Organic waste is broken down by trillions of microbes
• Larger solids are allowed to settle to the bottom
• Smaller solids are filtered out by membrane filters
• All effluent is disinfected with UV light before release to the environment
# Effluent Quality Standards

<table>
<thead>
<tr>
<th></th>
<th>MINISTRY OF ENVIRONMENT</th>
<th>ENVIRONMENT CANADA</th>
<th>RECLAIMED WATER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FLOW VOLUME</strong></td>
<td>&lt; 4750 cubic meters / day</td>
<td>180 cubic meters / day</td>
<td></td>
</tr>
<tr>
<td>B.O.D.</td>
<td>&lt; 10 mg / L</td>
<td>&lt; 25 mg / L</td>
<td>&lt; 5 mg / L</td>
</tr>
<tr>
<td>T.S.S.</td>
<td>&lt; 10 mg / L</td>
<td>&lt; 25 mg / L</td>
<td>&lt; 5 mg / L</td>
</tr>
<tr>
<td>TURBIDITY</td>
<td>N/A</td>
<td>N/A</td>
<td>&lt; 1 NTUs</td>
</tr>
<tr>
<td>pH</td>
<td>6 - 9</td>
<td>6 - 9</td>
<td>6.5 - 9</td>
</tr>
<tr>
<td>AMMONIA</td>
<td></td>
<td>&lt; 1.25 mg / L</td>
<td></td>
</tr>
<tr>
<td>LETHAL TOXICITY</td>
<td></td>
<td>&lt; 50 % mortality</td>
<td></td>
</tr>
<tr>
<td>RESIDUAL CHLORINE</td>
<td></td>
<td>&lt; 0.02 mg / L</td>
<td>&gt; 0.5 mg / L</td>
</tr>
<tr>
<td>FECAL COLIFORMS</td>
<td>&lt; 14 / 100 mL</td>
<td></td>
<td>0 / 100 mL</td>
</tr>
</tbody>
</table>
Average Monthly Chemical Consumption
Sewer System – Clean Pipe
Sewer System – Grease Deposits
Operator Certification

• 4 levels of certification and 4 types of certification
• Operators must acquire plant operating time as well as 1.2 C.E.U.’s per year to obtain/retain certification
• Class 4 treatment plant – level 4 operator
• Class 2 collection system – level 1 operator
• Operators must have level 2 wastewater treatment certification to work alone
Conclusion

• Wastewater treatment is an essential service
• Wastewater treatment is complex; it is a science and an art
• Staff respond to emergency situations 24/7
• Much of the work operators do is behind the scenes
Questions?

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