2018
HERMISTON RECYCLES WATER
Plant Upgrade

- Why? Ammonia limits and Temperature limits
- Cost - $27 million
- Design Capacity – 6.2 MGD
- Slightly Under Budget
- Changed to a Membrane Bio-Reactor (MBR) Process
- The MBR’s went fully operational on Oct. 1, 2014
- First Seasonal Canal Outfall began August 16, 2016
New Building
## Treatment Comparison

<table>
<thead>
<tr>
<th></th>
<th>Old (RBC) August 2014</th>
<th>New (MBR) October 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Daily Flow</td>
<td>1.335 MGD</td>
<td>1.357 MGD</td>
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<tr>
<td>Turbidity</td>
<td>20 mg/l</td>
<td>&lt;0.1 mg/l</td>
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<tr>
<td>Suspended Solids (SS)</td>
<td>14 mg/l</td>
<td>1 mg/l</td>
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<tr>
<td>Biological Oxygen Demand (BOD)</td>
<td>18 mg/l</td>
<td>1 mg/l</td>
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<tr>
<td>Ammonia (NH₃)</td>
<td>16.1 mg/l</td>
<td>&lt;0.1 mg/l</td>
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<tr>
<td>E-Coli Organisms</td>
<td>26/100ml</td>
<td>&lt;2/100ml</td>
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<tr>
<td>Percentage Removal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SS</td>
<td>96.9%</td>
<td>99.7%</td>
</tr>
<tr>
<td>BOD</td>
<td>93.3%</td>
<td>99.7%</td>
</tr>
</tbody>
</table>

All values are monthly averages

- Results are Class A Recycled Water
Outfall

• Summer Discharge May 1\(^{st}\) to October 31\(^{st}\)
  • Discharge to West Extension Irrigation District for Beneficial Agricultural Use
Irrigation Opportunities

WEID Irrigation District
10,000 acres
Outfall

- Winter Discharge November 1\(^{st}\) to April 30\(^{th}\)
  - Discharge to Umatilla River near USBOR Three Mile Dam
    - Into an outfall diffuser system for proper mixing submerged on the south side of the dam
Options

• Kennedy Jenks Consultants

• Many options considered
  – Chillers
  – Ground Infiltration – Green Property
  – Neighboring Farmer
  – Other Irrigation District
Solids Handling

- New MBR Process produces a lot more solids
- Installation of a new drying process will begin in a few months.
- Will Produce Class B biosolids
Questions??

Where Life is Sweet™