Hyperion Water Reclamation Plant
Water Recycling Program

At: LA Chamber of Commerce
October 3, 2019

Huub Cox
LA Sanitation & Environment
Clean Water Program by numbers

- 4.7 million people served
- 600 square miles over two service areas
- 29 contract agencies
- Hyperion Service Area:
  - Tillman WRP
  - Los Angeles Glendale WRP
- Terminal Island Service Area
  - Terminal Island WRP
- 6,700 miles of sewer lines
- 47 pumping plants
- $ 1.18 billion program budget (FY 19/20, SCM)
- 1,377 Clean Water Program employees
Water Recycling Progress – Our History

- 1976: Los Angeles Glendale WRP
- 1985: Tillman WRP Phase I
- 1995: Hyperion partners w West Basin MWD for RW
- 1991: Tillman WRP Phase II
- 2002: Terminal Island WRP Phase I AWPF
- 2017: Terminal Island WRP Phase II AWPF
Water Recycling to Date

<table>
<thead>
<tr>
<th>WRP</th>
<th>Design capacity (mgd)</th>
<th>Average flow (mgd)</th>
<th>Recycled water (mgd)</th>
<th>Recycled water uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyperion</td>
<td>450</td>
<td>260</td>
<td>71</td>
<td>In-plant water, West Basin, DWP</td>
</tr>
<tr>
<td>LA/Glendale</td>
<td>20</td>
<td>18</td>
<td>15</td>
<td>In-plant water, landscape irrigation, industrial use, LA River</td>
</tr>
<tr>
<td>Tillman</td>
<td>80</td>
<td>43</td>
<td>32</td>
<td>In-plant water, Japanese Garden, LA River, Balboa Wildlife Lakes</td>
</tr>
<tr>
<td>Terminal Island</td>
<td>30</td>
<td>12</td>
<td>12</td>
<td>In-plant water, Dominguez Gap Barrier</td>
</tr>
<tr>
<td>Total</td>
<td>580</td>
<td>333</td>
<td>130</td>
<td>40% recycled and beneficially used</td>
</tr>
</tbody>
</table>

The opportunity for expansion of RW lies at Hyperion
LASAN: 100% recycled by 2035

Mayor Garcetti’s press conference at Hyperion, February 21, 2019

Green New Deal targets

• Source 70% of LA’s water locally by 2035
• Recycle 100% of all wastewater for beneficial reuse by 2035

Green New Deal milestones and initiatives

• Produce 1.5 – 5 mgd of recycled water at Hyperion for use at LAWA and others
• Recycle 15 – 25 mgd at Tillman for groundwater recharge
Hyperion in the 1920’s
Hyperion now

1. Sewer lines
2. Headworks
3. Primary sedimentation tanks
7. Effluent pump station
6. Clarifiers
8. Digesters
4. Pump station
5. Secondary treatment tanks
100% HWRP Water Recycling Current Efforts

- Advanced Water Purification Facility
  - Produce 1.5 mgd of advanced treated water for LAX and others
  - Demonstrate proof of concept

- Membrane Bioreactor Pilot Program
  - Test three different vendor types of Membrane Bioreactors
  - Obtain design data for conversion to 100% recycled water
  - Facilitate regulatory approval processes
HWRP Recycled Water Program

Hyperion MBR Pilot Facility

2019
- 35 MGD to West Basin
- 36 MGD for In-Plant Use

2021

2022

2025

2035

Hyperion AWPF

100% Recycling at HWRP

1. Membrane bioreactors

2. Reverse osmosis

3. Advanced oxidation
100% HWRP Water Recycling – Road Map

- Construct a 1.0-MGD MBR Pilot Facility by April 2021
- Construct a 1.5-MGD AWPF (Proof of concept) by May 2022
- Finalize Feasibility Report by December 2022
- Finalize Environmental Impact Report by December 2022
- Final Independent Advisory Panel Report by January 2023
- Complete Design of AWPF for 100% Water Recycling by 2024
- Complete Construction of AWPF for 100% Water Recycling by 2034

Produce 160 MGD of advanced-treated recycled water by 2035