Oyster Shell Retrofits in Catch Basins: Pilot Study for Non-proprietary Dissolved Metals Treatment

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Stormwater Workgroup Meeting – June 3, 2020
Oyster Shell Retrofit

Example diagram – actual design may vary
Project Overview

- 4 catch basins monitored
  - 2 pairs of treated & untreated

- Preliminary data from 4 storms
  - July 9, 2019
  - October 16, 2019
  - November 18, 2019
  - December 18, 2019 (not shown today)
Dissolved Copper

- Untreated West
- Treated West
- Untreated East
- Treated East
- Untreated East
- Treated East
- Untreated West
- Treated West

<table>
<thead>
<tr>
<th>Catch Basin Area</th>
<th>Storm #</th>
<th>Untreated</th>
<th>Treated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>11</td>
<td>12</td>
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<tr>
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<td>3</td>
<td>8</td>
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</tbody>
</table>
Total Suspended Solids

<table>
<thead>
<tr>
<th>Untreated</th>
<th>Treated</th>
<th>Untreated</th>
<th>Treated</th>
<th>Untreated</th>
<th>Treated</th>
<th>Untreated</th>
<th>Treated</th>
</tr>
</thead>
<tbody>
<tr>
<td>West 1</td>
<td></td>
<td>East 2</td>
<td></td>
<td>East 3</td>
<td></td>
<td>West 3</td>
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</tbody>
</table>

mg/L

- Influent
- Effluent
Why didn’t it work?
Contact time likely too short
Clogging event
Final installation
Continuing applications

- Small stormwater basins
- Cisterns
- Polishing layer
Thank you to:

• Keunyea Song (Ecology representative)
• Patrick Yamashita (City of Mercer Island)
• Jane Dewell and Scott Silcox (Port of Seattle)
• Houston Flores (Field Lead, KCEL)
• Katherine Bourbonais (Lab PM, KCEL)
• Herrera Environmental Consultants (Design)
• Debra Bouchard (King County support)
• Dean Wilson (King County technical support)