ecoStorm® plus

STORMWATER FILTRATION SYSTEM

GRAVITY SEPARATION

PARTICULATE AND DISSOLVED FILTRATION

protect TODAY by building for TOMORROW

Royal ENVIRONMENTAL SYSTEMS, Inc.
A Division of Royal Enterprises America
ecoStorm® plus is an affordable stormwater filtration system designed to remove sediments, heavy metals and nutrients.

**Benefits of the ecoStorm® plus**
- Small Footprint
- Cost Effective
- Maintainable
  - Filters can be regenerated with backflushing

**Removal Efficiency**
Removal efficiencies for relevant pollutants meet or exceed typical standards for stormwater runoff.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Removal Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Suspended Solids (TSS)</td>
<td>&gt;80%</td>
</tr>
<tr>
<td>Zinc (Zn)</td>
<td>&gt;90%</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>&gt;95%</td>
</tr>
<tr>
<td>Copper (Cu)</td>
<td>&gt;80%</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>&gt;60%</td>
</tr>
</tbody>
</table>

*Removal efficiencies for additional pollutants available upon request.*

**ecoStorm® plus is ideal for new construction or retrofit applications including:**
- Parking lots
- Treatment of runoff from metal roofs (copper, zinc and others)
- Industrial manufacturing facilities
- Commercial/retail developments
- Municipal/residential drainage improvements
- Transportation/maintenance facilities
- Water quality improvement of ponds/lakes
ecoStorm® plus units are equipped with a maintenance pipe allowing access to the sediment storage chamber. This pipe can also serve as an emergency overflow in heavy rainfall events when design treatment flows have been exceeded. While the standard ecoStorm® plus filter additives target removal of dissolved nutrients and heavy metals, the filter can be modified to remove various target pollutants.

**ecoStorm® plus Treatment Process**

**Sedimentation and Filtration**
Sediment is removed via hydrodynamic separation (gravity) and filtration. Up-flow filtration and scour by the inlet velocities promote self cleaning of the filter. Settled solids are isolated below the cyclonic separator to prevent resuspension.

**Adsorption**
The adsorptive properties of the filter provides for the removal of dissolved pollutants.

**Chemical Precipitation**
The filter buffers the pH of the stormwater, which is typically acidic, promoting precipitation and accumulation of dissolved substances. The fine pores of the filter allow water to seep slowly through the media providing greater opportunity for interaction between water and the alkaline composition of the filter.

www.royalenterprises.net
<table>
<thead>
<tr>
<th>Royal Environmental Systems, Inc.</th>
<th>Royal Concrete Pipe, Inc.</th>
<th>Royal Erosion Control Systems, LLC</th>
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</thead>
<tbody>
<tr>
<td>ecoStorm</td>
<td>Gravity separation stormwater treatment system</td>
<td>ecoStorm plus</td>
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<tr>
<td>ecoStorm plus</td>
<td>Gravity separation plus upflow adsorptive stormwater filtration</td>
<td>ecoStop</td>
</tr>
<tr>
<td>ecoSep</td>
<td>Catastrophic hydrocarbon spill control system</td>
<td>ecoSep line-b</td>
</tr>
<tr>
<td>ecoline-b</td>
<td>Below-grade, high efficiency oil/water separators</td>
<td>ecoTop</td>
</tr>
<tr>
<td>ecoline-a</td>
<td>Above-grade, high efficiency oil/water separators</td>
<td>ecoline-a</td>
</tr>
<tr>
<td>IntraFlow</td>
<td>Sanitary sewer inside drop system</td>
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</tbody>
</table>

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www.royalenterprises.net