Bioretention Swales and Rain Gardens are attractive landscape features that filter and infiltrate storm run-off. Properly designed swales include 18”-24” of Bioretention Mix to allow almost 100 percent of run-off to infiltrate soil without surface ponding.

**Corliss Resources Bioretention Soil**
- A mix of compost and well-graded aggregate to meet the rigorous specifications of public agencies.
- Compost: 35-40 percent volume.
- Aggregate: 60-65 percent volume.
- Infiltration Rate: Meets WDOE requirements of 1-12 inches/hour (ASTM D-5084).

**Corliss Utility Sand**
- Consistent well graded sand manufactured through a wash plant.
- Originating from an approved WSDOT pit.
- Tested in accordance with WSDOT standard specifications.
- Corliss Resources maintains rigorous testing parameters with monthly testing.

**Cascade Compost**
Feedstocks:
- 98 percent landscape waste (Type I).
- 2 percent food waste (Type III).
- Organic Content: 40-60 percent dry basis.

Dispersed Bioretention Swales can be a cost-effective alternative to sewers or large detention ponds.
BIORETENTION MIX MEETS PUBLIC UTILITY AND WSU SPECIFICATIONS

Bioretention Soil shall consist of a well-blended mixture by volume of 2 parts compost and 3 parts mineral aggregate meeting the requirements below. Organic matter in the mix should be as close to 5 to 9 percent as possible. **Approved product include CORLISS RESOURCES Bioretention Mix.**

MINERAL AGGREGATE FOR TURF AND LANDSCAPE BIORETENTION SOIL

Mineral aggregate shall be analyzed by an accredited lab using #200, #100, #60, #40, #20, #10, #4, 3/8 and 1-inch sieves; and meet the following:

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percent Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot;</td>
<td></td>
</tr>
<tr>
<td>3/8&quot;</td>
<td>100</td>
</tr>
<tr>
<td>No. 4</td>
<td>95-100</td>
</tr>
<tr>
<td>No.10</td>
<td>75-90</td>
</tr>
<tr>
<td>No. 40</td>
<td>25-40</td>
</tr>
<tr>
<td>No. 100</td>
<td>4-10</td>
</tr>
<tr>
<td>No. 200</td>
<td>2-5</td>
</tr>
</tbody>
</table>

Efforts should be made to use aggregate with gradation meeting Coefficient of Uniformity equal to 4 or above; and Coefficient of Curve of 1 to 3.

COMPOSTED MATERIAL

Compost shall be the result of the biological degradation of Type I or III Feedstocks, under controlled conditions designed to promote aerobic decomposition, per WAC 173-350-220, and meet the following physical criteria.

1. Compost shall be certified in compliance with U.S. Composting Council Seal of Testing Assurance (STA) program.
2. Compost shall meet the following particle size gradation:

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percent Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot;</td>
<td>99-100</td>
</tr>
<tr>
<td>5/8&quot;</td>
<td>90-100</td>
</tr>
<tr>
<td>1/4&quot;</td>
<td>40-90</td>
</tr>
</tbody>
</table>

3. pH shall be between 5.5 and 8.0.
4. Manufactured inert material shall be less than 1.0 percent by dry weight.
5. Organic matter content shall be between 45 and 65 percent by dry weight.
6. Soluble salt content less than 6.0 mmhos/cm.
7. Maturity shall be over 80% per TMECC 05.05-A, “Germination and Vigor.”
8. Stability shall be 7 or below per TMECC method 05.08-B.
9. Contain a minimum of 65 percent by volume recycled plant waste as defined in WAC 173-350-100 as “Type 1 Feedstocks.” May contain a maximum of 35 percent by volume of “Type III Feedstocks” including post-consumer food waste, as defined in WAC 173-350-100, but not including biosolids.
10. Feedstocks shall originate from local recycling collection programs.
11. Carbon to nitrogen ratio shall be less than 25:1. For plantings composed entirely of plants native to the Puget Sound Lowlands region, carbon to nitrogen ratio may be 35:1.

Cascade Compost is a product of Corliss Resources