Project Background
In need of additional parking, Powdermill Nature Reserve sought an environmentally sensitive solution that handles increased visitors and related traffic loads without an ugly scarring of the surrounding landscape. To accomplish this, the Reserve added:

- A new driveway with Driving Surface Aggregate* (DSA-as modified) to improve circulation and provide second access to Rte. 381;
- 2 new parking areas: a bus parking lane underlain with Geogrid® (see photo below) and a pervious grassed automobile lot (60’ x 100’).

Project Considerations
Where the new driveway crossed two small drainage ways (see Site Plan below), French mattresses*, constructed of clean stone wrapped in non-woven geotextile fabric, were installed. This low-cost, low-maintenance technique connects the hydrology on either side of the road allowing water to percolate through the stone while the fabric prevents sediment movement.


Project Facts

<table>
<thead>
<tr>
<th>Project: Nimick Nature Center Driveway &amp; Parking Lot</th>
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<tbody>
<tr>
<td>Project Owner: Powdermill Nature Reserve</td>
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<td>Affected Watershed: Powdermill Run, Youghiogheny River</td>
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<td>Project Length: 550 ft</td>
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<td>Date Completed: October 2003</td>
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Cost Summary

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<tr>
<th>Project Cost: $35,049</th>
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<tr>
<td>Geoblock® Parking Lot: $26,833</td>
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<td>Contract: $1,980</td>
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<td>Materials (geosynthetics): $1,580</td>
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<td>Stone: $4,056</td>
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<td>Tree Removal: $600</td>
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<td>In-Kind Contributions: $8,300</td>
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For More Information
The Center for Dirt and Gravel Road Studies
(814) 865-5355
www.dirtandgravelroads.org

Powdermill Nature Reserve
1847 Route 381
Rector, PA 15677
(724) 593-6105

Above: Construction of the bus parking lane. Geogrid® was used to add support and tensile strength.
Driveway Construction Sequence
1. Trees were cleared along the proposed right-of-way and non-woven geotextile fabric was rolled out. Additional lengths of fabric were laid perpendicular to the driveway at two locations to allow construction of the French mattresses (see photo 1).
2. #3 stone was tailgated on top of fabric along the entire length of the right-of-way.
3. The perpendicular fabric sections were wrapped over the #3 stone to create the French mattresses (see photos 2 & 3).
4. #2b stone was tailgated over the entire length of the driveway, including the French mattresses. A modified version of DSA was placed over the #2b stone and rolled to create the driving surface (see photo 4).

Project Results
Environmentally sensitive maintenance practices were employed to minimize cost, reduce future maintenance demands and expand visitor infrastructure while staying in tune with natural surroundings. This collaborative project brought together several diverse partner organizations to reinforce Powdermill’s environmental ethic that teaches respect for nature by showcasing how human handiwork can “lay lightly on the land.”

Project Partners
Powdermill Nature Reserve
Center for Dirt & Gravel Road Studies
Westmoreland Conservation District
Sustainable Forestry Initiative of PA
Kennametal Inc

Site Map & Directions
From the PA Turnpike (Interstate 76), exit at Donegal/Ligonier/PA 711 (#91). Turn left onto Route 31 after the toll booth. Follow Route 31 to Route 381 north. The Nimick Nature Center is 6 miles ahead on the left.

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