



RainScapes

Environmentally-Friendly Landscapes for
Healthy Watersheds

Pavement Removal

Why should I remove pavement from my property?



Replacing pavement with turf, native plants, or native trees can help prevent

stormwater runoff and pollutants from entering our streams. This water that runs off can carry pollutants such as dirt, lawn care fertilizer and chemicals, pet waste and trash into our streams. Depending on how your yard is graded, the water flowing from these paved areas may be leaving your property and entering the stormdrain system or causing drainage concerns for a neighbor. By reducing the amount of rainwater leaving your property, you can help improve local streams by reducing stream channel erosion and water pollution. Reducing paved surfaces also supports sustainable living, and adds attractive landscaping to the area.

What are the benefits and incentives?

The RainScapes Rewards Rebate Program offers a rebate payment for converting a minimum of 100 square feet on property used for residential purposes and a minimum of 300 square feet for a commercial, institutional, or multi-family property. Your rebate amount will be calculated per square foot of pavement converted to turf. If the pavement is replaced with native plant species, your rebate will be calculated at a higher dollar amount per square foot. Visit rainscapes.org for additional rebate details.

Replacing pavement with natural vegetation offers many benefits to the community and the local environment, which include:

- Improved aesthetics with more green space
- Improved air quality
- Improved water quality
- Enhanced wildlife habitat
- Native species conservation
- Reduced stormwater runoff
- Reduced erosion

Pavement removal is a great way to help the environment, restore the natural water cycle, and protect your local streams and the Chesapeake Bay.

To apply for a RainScapes Rewards Pavement Removal Rebate, please visit www.rainscapes.org



Sidewalk pavement removal - recycled sidewalk into a stacked wall

How to...

Assess Your Property

Follow these basic steps to assess your property:

1. Locate your property's hard surfaces. The next time it rains, go and look at where the rainwater goes after it lands on the surfaces. Look for opportunities to better manage the water runoff. Your home may have more paved surfaces than you need or even want to maintain. Are there patios, driveways, or walkways that could be replaced by vegetation? Did a previous owner pave extra parking space that you do not use? Consider narrowing your walkways, making your patio smaller, or reducing your driveway to two paved tire tracks with gravel or vegetation in the middle to let the rain soak into the ground.
2. Measure the hard surface area you wish to convert to natural vegetation. Determine if there is adequate space to meet the minimum eligible project size. To receive a rebate, the minimum project size is **100 square feet** for residential properties and **300 square feet** for commercial, institutional, and multi-family properties.
3. Before removing any pavement, decide what type of landscape project you would like to use to replace the pavement. Options for driveways include a grassy strip, short native plants or, when appropriate, gravel. For pavement removal areas that are not driveways, trees or conservation landscapes are recommended.



Remove center of driveway to reduce paved area



Create a conservation landscape after removing pavement



Remove excess driveway and create area to soak in downspout drainage

How to...

Design and Plan

Can I do this project myself?

Yes. Removing pavement can be labor-intensive, but you can rent equipment and use this module as a guide.



Hiring a contractor to remove pavement

If I decide to hire a contractor, what should I ask?

- What experience do you have with removing, disposing and replacing pavement with vegetation or permeable surfaces?
- Can you develop a planting plan? What experience do you have with native plants?
- Can you supply references from previous clients?
- Are you insured and bonded?
- What is included in your services?
 - » Will you haul away excavated materials?
 - » Will you provide all equipment needed?
- How long do you expect the project to take?
- Do you offer a guarantee for your work?
- How much will your services cost?
- What equipment will you use? (Check and follow noise ordinance requirements)

Developing a planting plan

You must include a planting plan in your rebate application. The plan should detail the plant species, container size, number of plants and planting densities, plant material source, soil amendments, and a maintenance plan.

To qualify for the higher rebate, at least 50 percent of plants selected must be native species, which are indigenous to

the Chesapeake Bay Watershed. They are best adapted to local climate, rainfall, and soil conditions.

Review the *Conservation Landscaping RainScapes* module for instructions on how to select native plants. The sample lists of 10 native shrubs and herbaceous plants for sunny and shady landscapes can get you started on choosing plants.

Review the *Tree Canopy RainScapes* module for a list of approved tree canopy species. You could also plant smaller trees for this rebate planting project.

Reserving equipment

Contact your local equipment rental service for a walk-behind pavement saw or jackhammer, pick axe, or excavator, depending on your needs.

Wear proper personal protective equipment

Wear a facemask and protective goggles to prevent pieces of pavement from contacting your eyes, nose, and mouth while you work. Wear appropriate clothing/footwear and use ear protection as needed. You can buy these items at local home improvement stores.

Consider how you will dispose or reuse your pavement:

- Recycle materials on-site
- Use the Metropolitan Washington Council of Governments (COG) Builders Guide to Reuse and Recycling to find a local company who will take the material. www.mwcog.org/buildersrecyclingguide
- Take the excavated materials to the Shady Grove Processing Facility and Transfer Station located at 16101 Frederick Road, Deerwood Maryland 20855, 240-777-6560) For more information visit [Montgomery County Transfer Station](#).
- Hire a licensed solid waste transportation service

How to...

Build and Implement

Once you have selected your location, outline the area using stakes or chalk.

- Notify Miss Utility prior to digging – call 811 or use online tool.
- Remove pavement by breaking it up into pieces using a walk-behind pavement saw or a jackhammer and air compressor. Another option is to rent an excavator.
- Remove the compacted gravel base that is beneath the layer of pavement with a pick axe and shovel. You may need to protect adjacent base of remaining tire tracks if there is no slope to the drive.
- Some traditional paving stones have liners underneath to prevent weeds from growing between the paving stones. If you have a liner, make sure to remove it to allow water to soak into the soil of your new planting bed.
- Dig down to break up the compacted soil below the gravel base. Loosen the soil that remains to a depth of at least 6 inches. This helps create spaces in the soil that will allow the rain water to easily soak into the soil.
- Spread out 2 inches of compost and then mix in the compost with the existing soil to a depth of 6 to 9 inches. Make sure you amend the entire planting bed and not just the planting holes.
- Protect the excavated area from eroding. If project is not stabilized or planted at the same time as pavement removal, cover with

mulch or straw until planting. Replant as soon as possible after pavement removal. If your slope is greater than 5 percent, you must provide erosion control.

To avoid erosion:

- Use straw bales, compost blankets, or commercial silt fencing to reduce erosion during construction.
- As soon as possible, seed or sod the bare lawn areas and place mulch in garden areas.
- Plant and maintain dense plant cover on sloped areas.
- Stockpile areas should be protected from rainfall and runoff by covering.
- If stockpiling, cover the pile with a tarp when not working with the material to reduce the risk of wind and water erosion of materials.

Planting instructions

Review the RainScapes *Conservation Landscaping* and *Tree Canopy* modules for detailed instructions on how to plant native plants and trees.

To prepare the lawn for sod, till the soil, rake the area level, and remove any weeds. Roll the sod with a heavy roller to establish root contact with the soil.

During the first two weeks, water once to twice a day depending on the temperature. For the next three to four weeks, water every other day to allow the sod to establish its root structure.



Breaking up pavement



Preparing a new garden bed

Costs

Costs for pavement removal projects will vary widely depending on the size of the paved area and the types of plants or trees chosen. Costs will increase if the pavement is removed by a professional.

Maintenance

For two track driveways, observe track edges at least twice a year to ensure that tires are not eroding the planted area. Fill and stabilize any ruts as they occur. Adding green space to your landscape requires regular gardening maintenance. Overall, landscaping with native plants and trees requires less maintenance than traditional lawns and gardens.

*Typical gardening activities for **native plants** include:*

- Annual mulching (no more than 2 to 3 inches)
- Weeding (by hand)
- Watering (if it has been more than 3 weeks without rain)
- Pruning (as desired)

*Typical gardening activities for **trees** include:*

- Mulch
 - Place 2 to 4 inches of mulch in a 3-foot-wide ring around the tree, but make sure that mulch does not touch the tree.
 - Re-mulch annually. If trees are part of a larger planting bed, you may allow leaves to remain, which reduces the frequency of needing to add mulch to the tree to conserve water.
- Water trees
 - Keep soil moist, but not soaked.
 - Water trees once a week (less frequently if it rains and more often when it's hot and dry).
- Provide wind protection (using stakes for added stability during the first year). Remove all tree stakes after the first growing season.
- Rake leaves in the fall.
- Properly prune limbs (to protect nearby structures).
- Use pest control if necessary.



Landscaping with native plants

- Use tree-wraps to protect trees from deer rub if necessary.

*Typical gardening activities for **sod** include:*

Watering

- Shady areas require less watering, so adjust your watering patterns to conserve water.
- Water early in the morning to reduce water loss through evaporation.
- Use water from your rain barrel or cistern.
- Stop watering if you observe run off. Make sure that your soil soaks up the water.
- Watering less frequently, but more thoroughly is more efficient than a frequent light spray.
- Adjust watering patterns during periods of heavy rain or extreme heat.

Mowing

- Maintain a grass height of about 2 inches during the spring and fall and 2½ to 3½ inches in the summer. Longer grass blades help protect underlying growth, retain soil moisture, and serve as a natural barrier to weed growth.
- Avoid cutting more than ⅓ of the grass blade length at a time. This will slow growth so you will not have to mow as frequently.
- The best time of day to mow is in the evening, which allows grass to recover overnight before it is exposed to the sun.
- The rule of thumb is to only mow grass when it needs it!

For More Information:

RainScapes Resources: Plant Lists

<http://www.montgomerycountymd.gov/dectmpl.asp?url=/content/dep/water/rainresources.asp>

Environmental Landscaping: Getting Started

<http://www.envirolandscaping.org/howto.htm>

Chesapeake Conservation Landscaping Council's *Eight Essential Elements of Conservation Landscaping*

<http://www.chesapeakelandscaping.org/Guid1207%20.pdf>

Restoring Compacted Soil:

<http://www.soundnativeplants.com/PDF/Restore%20Compact%20Soil.pdf>

Slope Control:

<http://www.erosioncontrol.com/january-february-2010/challenges-slope-stabilization.aspx>

Chesapeake Bay Conservation Landscaping Web Resources

http://www.dnr.state.md.us/bay/cbnerr/download/BayScaping_WebLinks.pdf

American Institute of Architects Chesapeake Bay Foundation Bay Friendly Landscaping and Shoreline Resource List

http://www.aiacbcgreen.org/cbf_resource_list.php

Virginia Department of Conservation and Recreation: Native Plants for Conservation, Restoration, and Landscaping

http://www.dcr.virginia.gov/natural_heritage/nativeplants.shtml

Native Lawns: Buffalo Grass

Lady Bird Johnson Wildflower Center at the University of Texas at Austin

<http://www.wildflower.org/howto/show.php?id=19&frontpage=true>

Brooklyn Botanic Garden

Planting a Native Grass Lawn Step by Step

http://www.bbg.org/gardening/article/planting_a_native_grass_lawn/



Two-track driveway



Goal: healthy soils and watersheds