RIVERSMART
DEPARTMENT OF ENERGY AND ENVIRONMENT

PERMEABLE SURFACE REBATE PROGRAM

APPLICANT GUIDE

Permeable surfaces **allow rainwater to be captured where it falls, filtering back into the ground and replenishing the water table, rather than running into the street, sewer, and local rivers.**

WHY DOES THE DISTRICT GOVERNMENT PROVIDE REBATES FOR INSTALLING PERMEABLE SURFACE?

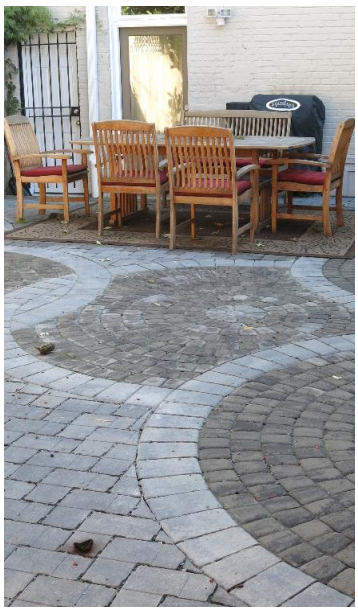
The District Department of Energy and Environment (DOEE) offers rebates for installing permeable surface because rainwater that flows off impermeable surfaces, such as rooftops, driveways, and roads, carries pollutants into our local rivers and streams. Permeable surfaces can capture rainwater and allow it to seep back into the ground slowly and filter out pollutants, recharge the water table, and prevent stream erosion during heavy storms. See doee.dc.gov/riversmartrebates for additional stormwater rebate programs in the District.

HOW MUCH IS THE REBATE?

Rebates are issued as a direct reimbursement to property owners at a rate of $8 per square foot (sf) of impermeable surface replaced with vegetation and $15 per sf replaced with permeable pavers. A minimum of 200 sf must be replaced for vegetation projects, and 100 sf must be replaced for permeable paver projects. **There is a rebate of up to $6,000 per property for all qualifying properties.Rebates will be awarded on a first-come, first-serve basis and are subject to available funds. All projects must be reviewed, approved for construction, installed, approved for a rebate, and completely paid for by the property owner before funds are issued.**

WHO IS ELIGIBLE FOR THE REBATE?

Property owners of residential buildings, commercial buildings, community spaces,renters and houses of worship in the District are eligible, including those who have already received RiverSmart Homes or RiverSmart Communities funding. Qualifying impervious surfaces include but are not limited to; asphalt, concrete, and brick pavers. Rebate funding cannot be used to fulfill a DOEE required Stormwater Management Plan. We prioritize projects in the MS4. To determine if your project is eligible, please refer to the current program guidelines.



10 STEPS TO A PERMEABLE SURFACE REBATE

1. **Review** program requirements, outlined in this guide, to ensure your project qualifies. ***p. 2-6***
2. **Select** an approved contractor. ***p. 3***
3. **Test** your soil to see if it can filter the water that will be directed towards it (some contractors will include this in their quote). ***Application p. 2***
4. **Submit** all required rebate application materials to the Alliance for the Chesapeake Bay (the Alliance) via email or post.
5. **Obtain** relevant permits from Department of Buildings (DOB) and Department of Licensing and Consumer Protection (DLCP) and written approval for construction from the Alliance **(requires pre-construction inspection unless property had Stormwater Audit from DOEE).**
6. **Call** Ms. Utility to mark utilities and ensure they will not be impacted.
7. **Install** project, using approved materials and design. ***p. 2-4***
8. **Notify** the Alliance that your project is complete and submit post-construction paperwork (including proof that the balance is paid in full to your contractor).
9. **Schedule** a post-construction inspection once paperwork is reviewed.
10. **Receive** a rebate check at the address provided within two-six weeks of final approval.

PLEASE RETURN APPLICATION FORMS TO:
Nancy Reyes at the Alliance for the Chesapeake Bay
nreyes@allianceforthebay.org |202-394-3732

ALLIANCE for the Chesapeake Bay
DEPARTMENT OF ENERGY & ENVIRONMENT
GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

PROJECT SPECIFICATIONS

Refer to the required specifications for each project type listed below, when designing your project. Any application materials that do not meet these requirements will need to be adjusted before the project can be approved for construction. For additional guidance on project design, please refer to DC's Stormwater Guidebook.

Note: The portion of the roof and other areas draining into a permeable paver project may not exceed 5 times the project area of the permeable pavers, although 2 times is recommended. For example, if stormwater from 700 sf of roof area is redirected into the project, the paver project area should measure at least 140 sf. See page 6 for additional permeable paver resources.

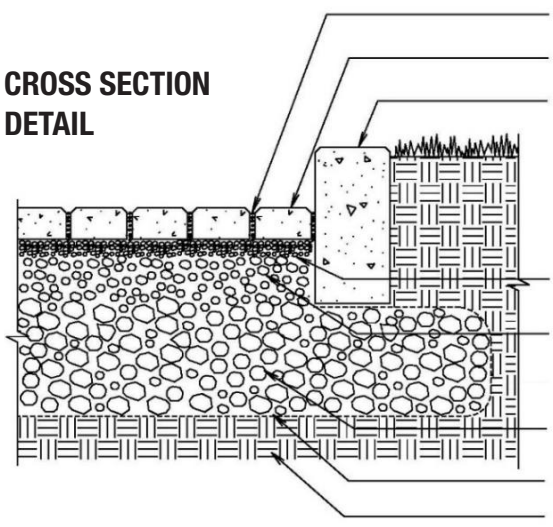
REPLACEMENT OF IMPERMEABLE SURFACE WITH VEGETATION

- **Size:** The project area converted from impermeable to permeable surface must be at least 200 sf.
- **Fill Material:** Existing soil **must be tilled** (so that it's no longer compacted) and vegetated (with native plants, sod, and/or seed/straw) shortly after surface removal in order to avoid erosion. If waiting to plant, surface must be covered with straw, mulch, or a weighted tarp to prevent sediment runoff. Artificial turf is not an eligible fill material. Not eligible in areas to be used for parking.
- **Downspout Extension:** This is not required for vegetation projects, but encouraged when the converted permeable area can accommodate the volume of stormwater directed to it.

REPLACEMENT OF IMPERMEABLE SURFACE WITH PERMEABLE PAVERS

- **Size:** The project area (area converted from impermeable to permeable surface) must be at least 100 sf and must be large enough to capture the volume of stormwater directed to it.

CROSS SECTION DETAIL



Joint fill: No. 8, 89, or 9 stone

Permeable interlocking paver blocks: 3 1/8" min. depth

Concrete edge restraint

Bedding layer: No. 8, 89, or 9 stone, 1 1/8" – 2" deep

Base layer: No. 57 stone, 4"

Subbase layer: No. 2 stone, 6" min. depth, under or beyond edge

Optional geotextile on subgrade: 120 min. gpm, #70 sieve, non-woven

Soil subgrade

TYPICAL TIMELINE

The rebate timeline is designed to move at the property owner's pace and is dependent on how quickly applicants move through the steps outlined on page 1. Typically, the parts of the process that take the longest are selecting a contractor and submitting all of the required paperwork. The timing of projects will be affected by season, weather, and the availability of contractors and RiverSmart staff at any given time.

On average, you can expect it to take . . .

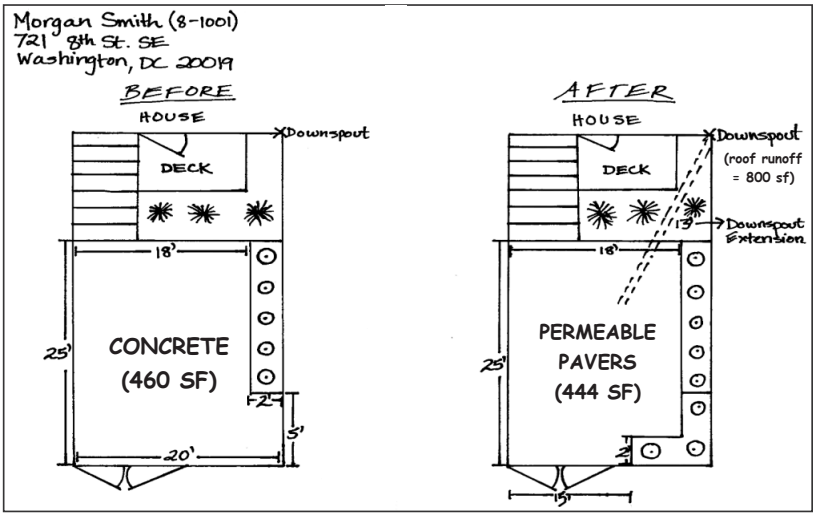
- 1-3 weeks for rebate application to be reviewed and approved for construction, once all required paperwork has been received
- 1-3 weeks for postconstruction approval, once all required paperwork has been received
- 2-6 weeks to receive rebate check once the project has been approved for rebate

- **Depth:** Contractors must comply with the manufacturer's design specifications and total depth of bedding, base, and sub-base layers combined must be no less than 10 inches (in). See diagram below for layer identification.
- **Fill Material:** Contractors must comply with the manufacturer's design specifications for quantity and size of gravel used for the joint, bedding, base, and sub-base layers. One cubic foot (6.25 gallons) of fill material must be left behind after project is installed for maintenance purposes. Fill material may not be required if using permeable articulating concrete blocks.
- **Edging:** Concrete edging must be used. Poured concrete or a concrete bond beam with overlying pavers is acceptable.
- **Downspout Extension:** This is required for permeable paver projects 1,200 sf or smaller. For larger projects, please refer to *Large Project Supplement*. PVC piping must be firmly attached to downspout and buried at 1-2 degree downward slope away from house. Piping may not be perforated within 10 ft of foundation. A cap should be attached to end of pipe.
- **Filter:** A filter must be attached to any downspout, including those connected to rain barrels, or area drain that is directed to the project. It is important that the filter selected accommodates amount of water directed to it. See page 6 for filter resources.
- **Impermeable Liner:** Required if project is within 10 ft of a building with a basement, to protect the structure from seepage, or on sites with contaminated soils.
- **Underdrains/Overdrains:** Not allowed for projects 1,200 sf or smaller. For projects over 1,200 sf, please refer to *Large Project Supplement* for additional details.

DESIGN SKETCH REQUIREMENTS

The design sketch for your project can be hand-drawn or computer-generated. It must illustrate all of the project specific requirements outlined on page 2 to be considered complete (see example below). Additionally, it must include:

- Property owner name, address, and audit number (if DOEE Stormwater Audit conducted);
- Dimensions, project area, and treatment area;
- Distance from structures, property lines, and public space;
- Location of downspout and downspout extension;
- Location descriptors (front yard, back yard, fence, alley, etc.); and
- Before and after sketches, side by side, for comparison.



SELECTING A CONTRACTOR

The services provided and materials available vary greatly from one contractor to another. We recommend seeking estimates from at least three different contractors before making a final decision. You may also want to research which materials you'd like to use ahead of time so you can have an informed conversation with contractors when receiving quotes. See page 6 for useful web resources.

Contractor Requirements:
All permeable paver projects must be installed by a contractor who has previous experience with permeable pavers and has a PICP Record of Completion. They should also have a DC Business License and relevant insurance.

Please reference our Contractor List for local contractors familiar with the rebate program requirements and process.

Considerations when selecting a contractor:

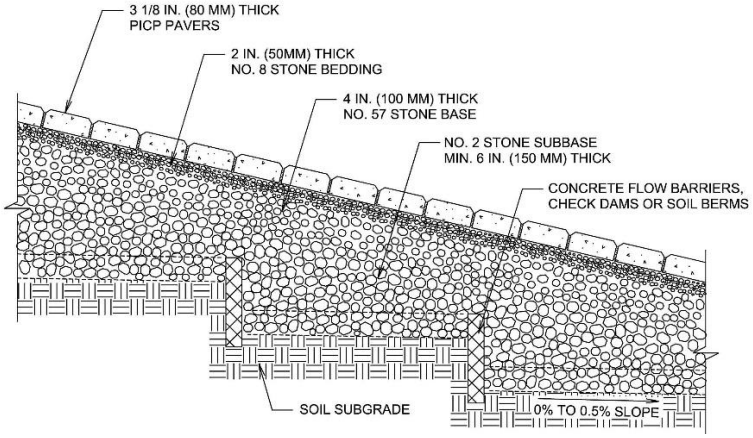
- Price
- Materials
- Experience
- Rapport
- Scheduling
- Willingness to help with perc test & paperwork

Please note: Single design sketches combining both before and after conditions will not be accepted. It is very difficult to get a clear picture of the proposed changes to any space from a single sketch. Submitting two copies of the same sketch, however, using color and/or shading to indicate what is concrete in one and what will be vegetation or pavers in the other, is sufficient.

Projects over 1,200 sf: Add the Maintenance Block (see *Large Project Supplement*) to the design sketch. The Large Project Supplement is not needed for re-vegetation projects over 1,200 s.f.

SLOPED SITE CONSIDERATIONS

The bottom of a permeable paver project should be as flat as possible to optimize distribution and infiltration of stormwater. Designs with slopes over 2% should consider adding check dams or soil berms to slow down flow. The depth and spacing of barriers is dependent on the underlying slope and infiltration rate. Water retained by barriers must infiltrate within 48 hours.



Source: *Permeable Interlocking Concrete Pavements, Smith, 2011.*

APPROVED MATERIALS

The qualifying parameters for each required material in a permeable paver project are described here. **Any differences in material components from those listed below must be approved prior to installation.**

- **Permeable Pavers:** any interlocking concrete pavers designed for use in permeable paver systems. See examples on page 6. Some clay pavers and permeable articulating concrete blocks will be considered. **No grid or turf pavers will be accepted.**
- **Stones:** must be double-washed, clean, and free of all fines.
- **Geotextile Fabric:** optional, must have a minimum of 120 gpm, #70 sieve, and must be nonwoven. It's recommended where a paver system is installed next to a vegetated area, to prevent soil and sediment migration into the project.

PROJECT EXCEPTIONS AND CHANGES

Exceptions to program requirements, process, and materials can be made, but approval from the Alliance and DOEE must be obtained before construction begins. Failure to do so may result in disqualification for funding.

To request an exception, send written justification, along with photos to support the justification, to the Alliance for the Chesapeake Bay along with the application materials. Exceptions will be considered on a case-by-case basis. The more information included in the justification regarding additional stormwater capture, the stronger the case will be.

If changes are made to approved designs, or occur by necessity during construction because of unexpected circumstances, please notify the Alliance and include the justification for making the change. Funds are not guaranteed for any installation that differs from the approved design.

- **Edge Restraints:** required, must be concrete edging, either poured concrete or concrete grade beam. Paver bricks may cover the top of the concrete edging to give a more attractive border. If installing a border along one side, please consider installing it all the way around the project, to provide a clean and complete appearance. Edging is required along all sides of a project.
- **Downspout Extensions:** required for projects 1,200 sf or smaller, must be PVC and non-perforated within first 10 feet of house, and perforated after first 10 feet (to disperse water moving at high velocity). A solid cap must be attached to end of the pipe so water distributes evenly throughout.
- **Downspout Filters:** required, even if connected to a rain barrel. An in-line filter is sufficient for small roofs, 400 sf of runoff or less. A larger filter is required for more than 400 sf of runoff. Downspout filters must be firmly attached to the downspout and covered. Filters without a cover cause water to splash out against house and/or foundation and prevent water from entering project.

In-line filter ok for runoff area less than 400 sf

Larger, covered filter required for runoff area more than 400 sf

Uncovered filter not permitted

- **Area Drain Filters:** required if connecting an impermeable patio drain to a paver project. See suggested area drain inlet kits with filters on page 6.
- **Underdrains/Overdrains:** optional for projects larger than 1,200 sf, and not permitted for projects 1,200 sf or smaller. Must use perforated PVC pipe, include an observation well, and be encased in No. 57 stone with minimum 2 inch cover over the top.
- **Impermeable Liner:** required if project is within 10 ft of a building with a basement, to protect the structure from seepage, or on sites with contaminated soils. Use a 30-mil (minimum) PVC geomembrane liner, and follow the manufacturer's instructions for installation. Field seams must be sealed according to the liner manufacturer's specifications. A minimum 6-inch overlap of material is required at all seams.
- **Check Dams:** may be constructed from: soil berms (non-excavated soil subgrade), concrete curbs, geotextile over impervious geomembrane, or aggregate wrapped in geotextile.

PHOTO GUIDELINES

We rely on clear, accurate, and functional *before* and *after* photos to assess project sites and determine the eligibility, status, and quality of the projects we fund. Please follow the guidelines laid out here. **Failure to do so may lead to additional steps and delay construction and/or receipt of rebate.**

DO:

- Submit photos as separate JPG files, saved as "Property Owner Last Name – Before Photo # – Date.jpg"
- Take before and after photos from the same angle, distance, and orientation (vertical/horizontal) such that they can be used to compare the same project area
- Include before and after photos of any downspout directed towards project
- Take photos from a distance that shows the item being highlighted in the context of the entire space (i.e. don't send a photo of just another downspout filter, send one that shows it's firmly connected to *your* building)

AVOID:

- Crooked or blurry photos
- Sun glare and over-exposure
- High contrast light and shadow
- Cutting off part of the project
- Downspout filter close-ups

TIPS:

- Use the horizon to straighten your photo. If you can't see it, find a horizontal or vertical landmark (side of a building, door, fence line, window) to use as a guide
- Shoot with the sun behind you and shining on the project, when possible

KNOW YOUR OPTIONS

Helpful web resources are listed below. For additional assistance with your rebate project, please contact the Alliance for the Chesapeake Bay.

NATIVE PLANTS

- **Native Plant Center:** www.nativeplantcenter.net
- **Chesapeake Native Plant Guide:** www.fws.gov/chesapeakebay/resources/native-plants.html

PERMEABLE PAVERS

Local manufacturers and suppliers include, but are not limited to:

- **Eagle Bay:** www.eaglebaypavers.com
- **Ernest Maier:** www.emcoblock.com

- **EP Henry:** www.ephenry.com

General information about permeable pavers and photo gallery:

- **Interlocking Concrete Pavement Institute:** www.icpi.org/permeable

DOWNSPOUT & DRAIN FILTERS

Make sure the filter you use can accommodate the amount of water moving through it. Filter options include but are not limited to:

- **Downspout filter for 400 sf or less from roof:** www.aquabarrel.com/downspout-filter-slimline-c-32_301/
- **Downspout filter for more than 400 sf from roof:** www.https://www.rainharvest.com/rain-harvesting-pty-leaf-eater-ultra-downspout-filter.asp?bc=no

"MY WIFE AND I ARE ABSOLUTELY DELIGHTED WITH OUR PERMEABLE PAVER PATIO. WE USED TO HAVE AN UGLY CONCRETE SLAB BACKYARD. WE NOW HAVE A BEAUTIFUL AND ENVIRONMENTALLY FRIENDLY PATIO, THANKS TO THE RIVERSMART HOMES PROGRAM!"

- CLAUDIO & NICOLE, RIVERSMART PARTICIPANTS

COST

Project costs will vary depending on a number of factors like property conditions, materials chosen, access to project area, permits needed, etc. This chart can help you evaluate where your project may fall cost-wise.

	COST	ACCESS	SITE CONDITIONS	DESIGN PREFERENCES
TIER 1	$	Front and backyard / open alley access for constructon vehicles	Level, good drainage, minimal site prep needed	Standard layout, readily available materials
TIER 2	$$	Private or gated access, limited construction vehicle access	Slight slope, some regrading needed, additional drainage solution needed	More intricate layout, additional materials / equipment needed
TIER 3	$$$	Very little / no alley access, stairs required, tight space	Steep slope, additional erosion control required, extensive site prep needed, tree located nearby	Unique layout, complex design / engineering required

GET IN TOUCH!

THE RIVERSMART PERMEABLE SURFACE REBATE PROGRAM IS BEING IMPLEMENTED BY DOEE GRANTEE, ALLIANCE FOR THE CHESAPEAKE BAY. PLEASE SEE BELOW FOR CONTACT INFORMATION.

PROGRAM CONTACT

Nancy Reyes
ALLIANCE FOR THE CHESAPEAKE BAY
202-394-3732
nreyes@ALLIANCEFORTHEBAY.ORG
WWW.ALLIANCEFORTHEBAY.ORG

FREQUENTLY ASKED QUESTIONS

Q: ARE WALKWAYS ELIGIBLE?
A: No. Walkways are not funded by the rebate program because they do not capture a significant amount of stormwater. The square footage of any impervious walkway removed counts towards square footage eligible for rebate, so long as it is not replaced with a permeable paver walkway.

Q: CAN I INSTALL PERMEABLE PAVERS WHERE I CURRENTLY HAVE VEGETATION?
A: Yes, however rebate funds are only available for areas that are currently impermeable.

Q: CAN I USE MY OWN CONTRACTOR?
A: You may use your own contractor, but permeable paver project contractors must provide a copy of the PICP Record of Completion, a valid DC business license, and a Certificate of Insurance (with $1million min. liability coverage, worker's comp, and the Alliance and DOEE as "certificate holder") prior to construction approval.

Q: I ALREADY INSTALLED A PROJECT. CAN I GET REBATE FUNDING RETROACTIVELY?A: Yes, provided that you have proof your project was installed within the past year and your project meets all program requirements. Given available funding.

Q: IF I LIVE IN HOMEOWNER'S ASSOCIATION (HOA), CAN I STILL GET REBATE FUNDING FOR MY PROJECT?
A: If you own one unit of a larger parcel, such as a single parking pad that's part of an HOA or co-op, you may still receive funding. In addition to the standard application, a letter of support for the installation and maintenance of the project is required from leader, manager, or owner of property if multiple, agency, or association.

Q: DO I NEED ANY PERMITS FOR MY RIVERSMART PROJECT?
A: Property owners are ultimately responsible for getting any permits that are required. Visit the District Department of Consumer and Regulatory Affairs' Homeowner's Center to determine the permits required for your project. Common permits required for permeable surface rebate projects include: *Erosion and Sediment Control, Historic Preservation, and Public Space.*

Q: HOW LONG ARE APPLICATION VALID FOR?
A: All applications have a 6-month expiration period. Any project exceeding this timeline may be subject to reapplication, pending funding availability. Rebates are awarded on a first-come, first-served basis.