



Reducing Pavement & Permeable Paving Options

Seattle
Public
Utilities

Note: These factsheets are for voluntary improvements by homeowners that are unlikely to need a city permit. You can check permit requirements at DPD Applicant Services: 684-5362, email SideSewerInfo@Seattle.gov

Why reduce the paved area around your home?

Conventional pavement and roofs are called “impervious surfaces” because they don’t let the rain soak into the soil. Instead they collect rainfall, and funnel it to storm drains or combined storm/sanitary sewers (depending where you live). In big storms, excessive runoff can contribute to sewer overflows, local flooding, or stream erosion. You can help reduce these impacts by reducing the amount of paved area around your home, and by choosing permeable paving options (also called porous or pervious paving) that let the rain soak through into the soil for driveways, walks, and patios.

Removing unnecessary pavement

Many of our homes have more pavement than we need, or want to maintain. Here are some ideas to turn paved area back into permeable soil with lawn or landscape beds, or permeable paving where needed:

Pave less driveway

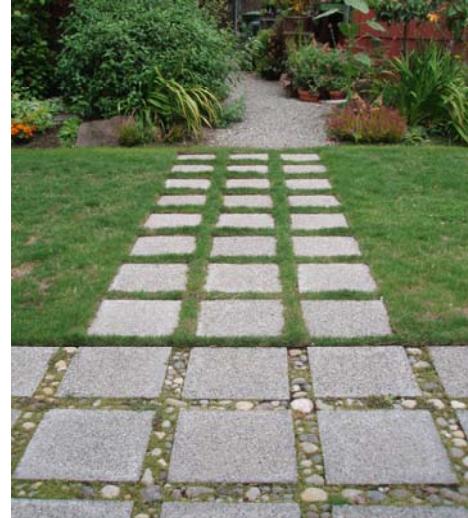


“Hollywood driveways” have two paved wheel tracks, with grass or permeable pavers in the middle (or parking areas) that let the rain soak in.

Make walks or patios smaller, and permeable

Remove unwanted pavement

Perhaps a previous owner paved extra parking or yard areas. You can turn pavement back into beautiful lawn or landscape beds – see *Improving Soil* on the RainWise website.



Using permeable surfaces for driveways, walks, and patios

Many permeable options that let rain soak through are available – see next page. Here are some general guidelines:

- **Permeable paving is for gentle slopes.** Don’t use it above 5% slope (1 ft. drop in 20 feet).
- **Driveways and parking areas need careful design and installation** to support the weight of a car. Follow the manufacturer’s directions exactly. Consider hiring a qualified professional for these big jobs. More than 2,000 square feet of new or replaced paving requires a permit and additional design – call the DPD phone number at top of this page.
- **Patios and walkways are better tasks for do-it-yourself installation**, but you still need to follow the manufacturer’s instructions or get expert advice. Designs and paving materials are limited only by your creativity.
- **Permeable paving options all require a base** of rock or gravel, to hold rainwater until it infiltrates into the soil. So you’ll need to excavate at least 3 inches below the paving, and fill in with tamped rock or gravel (see next page). Don’t dig through major tree roots or utilities! Contact 1-800-424-5555 or www.callbeforeyoudig.com to locate utilities.
- **Provide an overflow route** for runoff from big storms to flow to street drains, landscape, or a rain garden.
- **Hire professional assistance** if needed to advise you, design, or do the work.

***Disclaimer:** This sheet contains general principles only, which may not be appropriate or safe for every property or project. Use good common sense. You assume the risk and are responsible for all consequences of your modifications to drainage flow or your property, for legal compliance, and for necessary permits and authorizations. The City of Seattle is not responsible for your modifications and disclaims liability for your actions.*

Permeable Paving Options

Talk to your supplier – Follow manufacturer's instructions – Seek expert help for installation or design questions

Porous Asphalt or Porous Cement Concrete

Both porous cement concrete and asphalt paving can now be mixed, with less sand in the rock mix, leaving pores so that water can infiltrate. But you have to buy a whole truck load, and suppliers are just learning how to blend them. So they're not practical for most home applications (unless you share a driveway replacement project with several neighbors). If you're considering permeable pavement, ask your contractor for references on permeable paving jobs they have done, and ask if they have received training and accreditation in permeable pavement installation from a professional association. Also verify that the material provider will warranty their material in your installation.

Permeable Pavers

These are the most practical porous surface for home installation. A wide variety of paver blocks, bricks, and flagstones are available. When set over tamped sand and clean crushed rock they all allow rain water to flow into the rock base spaces, and then slowly filter into the soil.

- **Interlocking permeable pavers**

have tabs that space them $\frac{1}{4}$ to $\frac{1}{2}$ inch apart (to allow water through the joints), and shapes that interlock to provide stability – **essential for driveways or high-use patios and walks.**

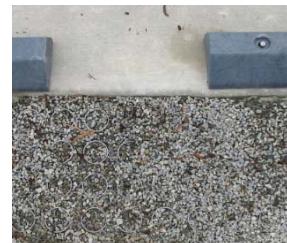


- **Any stone or paver style** can be laid with $\frac{1}{4}$ to 1 inch joint spaces filled with clean crushed rock, or filled with sand/compost mix to grow grass or durable plants like thyme. Water can infiltrate through these joints into the rock base layer and slowly into the soil. These designs, where the pavers don't touch each other, are less stable. So they're fine for casual use walkways and patios, but not for driveways.



Open-celled grids with vegetation or gravel fill

A variety of products are available now that create a stable grid structure you can fill with a 80% sand / 20% compost mix to grow grass or other wear-tolerant ground covers. Or fill with clean crushed rock. Properly installed (always follow the manufacturer's instructions) these systems work well on level sites for driveways, parking areas, or walkways.



Shop Around!

See *Materials and Suppliers* on the RainWise website below to learn about Seattle-area sources for pavers, stone, etc. The best way to decide what you want is to see the various products, and talk to suppliers and installers.

Learn more: Also see fact sheets on Downspout Disconnection, Rain Gardens, Cisterns, Rock-filled Infiltration Trenches, Compost-Amended Soil, Tree Planting, and other RainWise ideas on the website www.seattle.gov/util/rainwise

For printed copies contact the **Garden Hotline at (206) 633-0224**, or email help@gardenhotline.org

Learn more at www.seattle.gov/util/rainwise



Brought
to you by



See links on the RainWise website if designing with intent to apply for a Stormwater Facility Credit, or for code requirements and additional design guidance in the Stormwater Flow Control Manual.