

# The Green Guide



## Use your stormwater – Create a rain-garden

There are a number of ways you can reduce runoff and make use of the stormwater on your property. One simple idea that provides a great looking space and requires very little ongoing maintenance is a rain-garden.

### Designing a Rain-garden

A rain-garden is a planted bed specifically designed to capture stormwater and allow it to be slowly absorbed into the soil (this is infiltration).

Rain-gardens are relatively easy and inexpensive to create, but there are some considerations to ensure they are effective. Key considerations are:

1. Soil and plant type: Water needs to infiltrate the soil and not stand for more than two days.
2. Location: Water must not create drainage problems on your property, or for neighbouring ones.

Native plants and grasses are ideal for rain-gardens; see the KCDC guide *Growing Native Plants in Kapiti* for what to plant. If you'd like to add exotics, check out their resilience to water. Perennials are a good addition for their year round foliage. Rain-garden plants should love moisture, but not become stressed when moisture is absent for up to a week. You can keep to simple, natural designs, or go for a cultivated

look. You might try planting a variety of shapes, sizes and/or textures to get the look you like.

### Location, location, location!

Look for the drainage area and paths along which stormwater naturally runs. The rain-garden should be at a low point somewhere along the natural flow path. If your land is level and evenly drained, create a shallow depression anywhere, according to the guidelines below.

Ensure water will not simply run over the low edge by levelling the rain-garden as much as possible (a spirit level taped to a long stick is useful). Avoid slopes greater than 12 per cent, as they make it difficult to create a level garden. If you have no other option, cut and fill the steeper area, ensuring the sides are stabilised.

To avoid pooling of water, direct stormwater away from vulnerable areas including:

- building foundations
- soakage treatment areas for onsite sewerage systems
- neighbouring properties



Place your rain-garden at least 4 m away from these areas. And avoid making a rain-garden over underground utility pipes or wires. You can check with the utility provider.

### Measuring the slope

Slope is the ratio of the length of the vertical rise to the length of the horizontal run. The easiest way to measure slope is to use a spirit level taped to a piece of framing timber.

1. Place the timber length on the ground along the slope you want to measure and lift the lower end until level.

2. To determine the rise: Measure the distance from the ground to the bottom edge of the timber at the end of the slope.

3. The horizontal run is the length of the board from the end to where you measured the rise.

4. Divide the rise by the run. This gives the per cent of the slope. For example, if the rise is 5 cm and the run is 2.5 m, the slope is  $0.05 \div 2.5 = 2\%$ . Less than 12 per cent means you don't have to build up the sides for an effective rain-garden.

### Direct water away from buildings

Ensure that stormwater is directed away from your house foundations.

Rain-gardens do not work well on clay soil unless lots of organic matter is worked in, because drainage in clay is slow. Sandy soil can drain too quickly, so add lots of organic matter and some stones and pumice.

Compacted soils are slow to drain, so work blood and bone and compost in before creating the rain-garden. Ensure that the soil is permeable to a depth of between 0.6 – 1.2 m below the rain-garden.

The surface of the depression should be at least a metre above the seasonally high water table.



*Use grasses to stabilise your rain-garden.*