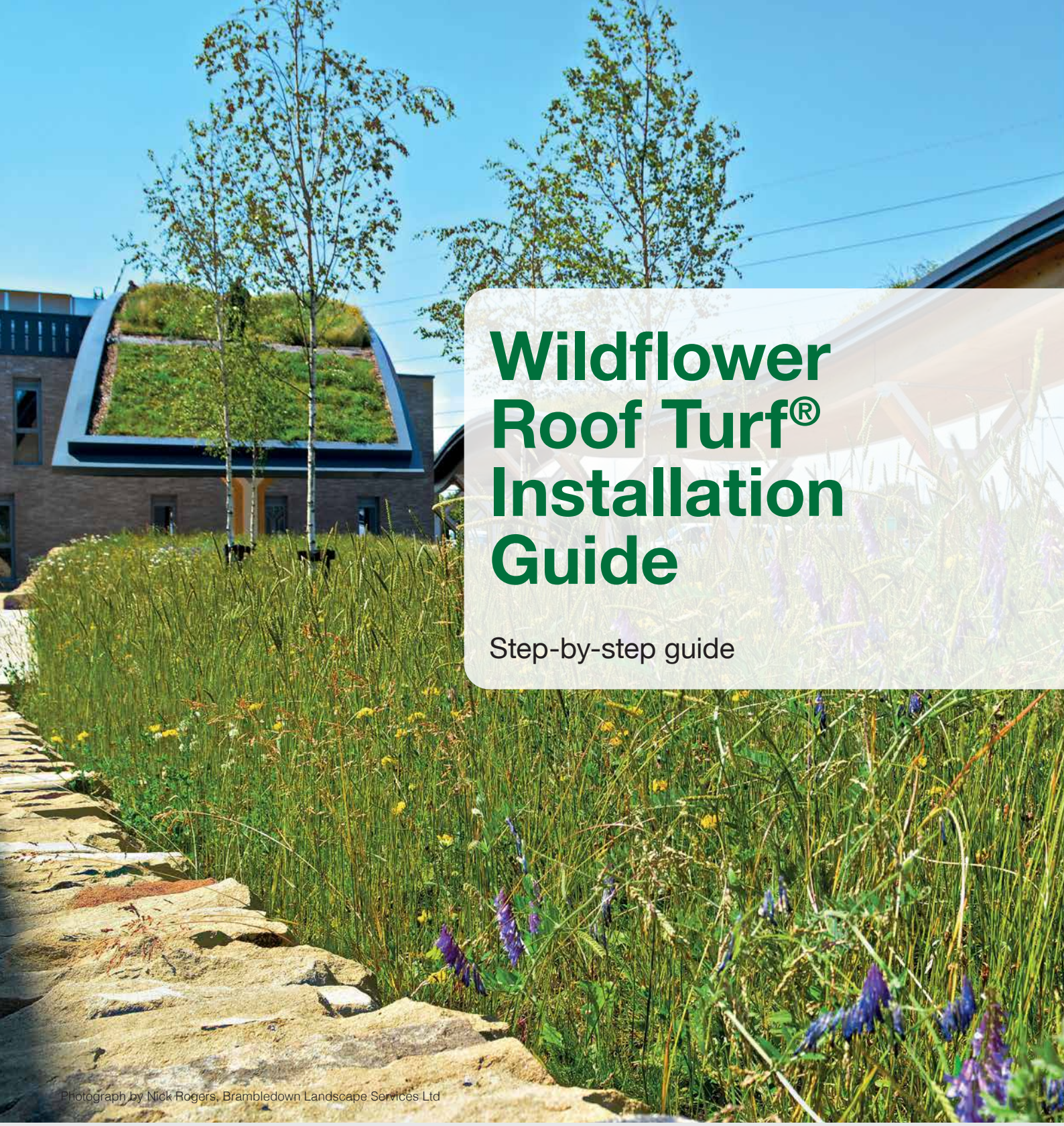

Wildflower Roof Turf® Installation Guide

Step-by-step guide

Photograph by Nick Rogers, Brambledown Landscape Services Ltd

Bumblebee Conservation Trust

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Butterfly Conservation
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Introduction

Here is our pictorial guide for the establishment of our simple green roof system.

The intention is to give a step-by-step account of how to install the wildflower turf roof system.

Our turf is suitable for any green roof project using any manufacturers product.

Completed Wildflower roof projects

Residential Garage

Hobbit House

Skelton Lake Services – Photograph by Nick Rogers, Brambledown Landscape Services Ltd

Peppa Pig World

Green Roof Considerations

Strength & Design of the structure

- Ensure that the roof structure is of sufficient strength and suitably designed to support the combined saturated weight of the turf, substrate & irrigation system.
- Approximate weight: 130 kg per m^2 when fully saturated (wet)

Roof Accessibility

- Ensure that it is safe to work on the roof, not only for install, but also for ongoing maintenance.
- Consider how machinery / equipment will access the roof
- If in doubt please refer to the Health & Safety Executive web site for further guidance.

Roof depth for substrate

- A minimum of 100mm depth is required for settled substrate

Plant height e.g. obstructing windows

- Plant heights can get up to 1m tall during peak growing conditions – be aware of line of sight

Installation Guide

1 Waterproof Membrane

- Lay a waterproof membrane over the entire roof area. Consult a roofing contractor for an appropriate system.
- Pay attention to sealing around roof lights, vent stacks and other similar features where there is a higher risk of water ingress.
- The whole roof must be watertight. Take care not to puncture the membrane.

One manufacturers product using a single ply membrane

2 Substrate Retention

When using loose substrate, and in particular on steeply pitched roofs, provision must be made for a retaining system at the eaves and sides of the roof. This can be in the form of a wooden batten/barge board with accompanying fixing brackets or an engineered metal L shaped strip attached to the roof structure.

Engineered metal L shaped retaining profile

Your architect or roofing contractor should advise you on the design and construction of this feature. Attention should be made to the water-tightness of fixing points.

Eaves and ridge substrate sacks

In addition to eaves retention it is advisable to install a line of our woven substrate sacks around the perimeter of the roof which provides the initial containment of the loose substrate whilst the turf establishes a root system.

3 Drainage

- Adequate provision must be made for drainage at the bottom of the roof slopes.
- This can be achieved by leaving a small gap in the retention feature, or a strip back-filled with gravel or similar material.

Barge board and gutter system

Gravel and open gutter system

4 Substrate Layer Options

Option a - Loose substrate

- Lay a strip of geo-textile permeable membrane along the inside of the barge board to allow water to drain without washing out any substrate/soil in the process.

Permeable retaining material

- Fill area with substrate laid evenly at 100 mm depth.
- Remember to allow **10%extra for settlement**.

Spreading loose substrate

Option b - Loose substrate and Substrate sacks

- Using our 600x460x100 mm woven substrate sacks, allow 3.8 sacks per m^2.
- Lay two lines of sacks around the perimeter of the roof and along the ridge.

Mixed substrate - bagged and loose substrate combination

- Backfill the remainder of the area with loose substrate to the same level as the sacks allowing 10% extra for settlement.
- Use some of the loose substrate to fill in the small spaces between the substrate sacks.

Fully screeded

Option c - Substrate layer using sacks only

- Using our 600x460x100 mm woven substrate sacks (allowing 3.8 sacks per m^2) cover the whole roof area. Using sacks helps to give permanent structural strength.

Sacks and Screed

- Using loose substrate, apply a screed layer of substrate over the substrate sacks and brush in to ensure any gaps are properly filled.

Substrate sacks

5 Irrigation (optional, but recommended)

- Lay drip irrigation system, if required (recommended). Pipes should be laid across the gradient of the roof slope with T joints to a vertical supply/ feeder pipe.

Drip irrigation kit installed

6 Laying Turf

- Lay the turf paying attention to abutting turf joints and ensuring turf roots are in contact with the substrate. Any gaps should be filled with loose substrate.

Turf laying in progress

7 Watering

- Water turf daily (if it does not rain) until the roots have established (allow two weeks minimum).
- Do not flood the turf when watering but ensure the substrate is damp.
- Once established revert to occasional watering as per the maintenance sheet.

8 After Care

- For aftercare after the green roof is established please refer to the maintenance guide.

Maintenance guide

There is **minimal** maintenance required for the Wildflower Turf.

1 Watering

- Once laid water the turf thoroughly, for the first week, depending on the weather. If the soil is not soaked before laying it is important to check that this initial watering soaks through to the soil beneath the turf. During this watering check by lifting a corner of the turf to ensure that the soil is damp.

Watering the turf - this was on a roof so the harness is part of the safety procedure

Do not allow the turf to dry out during the time it establishes, which is roughly 2-3 weeks.

For the first growing season it is important to water the turf occasionally, during extended dry spells. Once well established the Wildflower Turf will tend to cope with most circumstances but the flowers will benefit from water during very dry periods.

2 Fertiliser

- No fertiliser is needed, although in some circumstances, for example on a green roof or where the turf is on very low fertility soil such as sand or gravel, the addition of a light dose of fertiliser at certain times of the year may improve plant development.

3 Mowing

- Once established the Wildflower Turf requires very little maintenance, **however**, there is one important task to carry out each autumn; to cut the plants and **remove** these cuttings.
- This can be done by strimming and raking or using a mower and collecting the cuttings. Make sure these tools are sharp and try to minimise trafficking.

Strimming the turf back to 1-2 inches

Raking the cuttings into mounds ready to be removed a day later. This allows time for the seeds to drop back into the turf

Cutting the plants back to 1 to 2 inches (25 mm to 50 mm) in length is a vital part of their life-cycle and ensures that re-growth will continue year on year.

- This should be carried out in the autumn, ideally after the plants have set and shed their seed. Not only does this tidy up the area for the winter but it stops the senesced summer growth from covering the growing plant in a layer of rotting plant material.
- An open sward over the winter ensures healthy, disease free plants which can benefit from what light is available to them during these months. As the spring approaches the wildflowers and grasses are in the perfect position to develop flowers and seed heads quickly to repeat their perennial cycle thus guaranteeing a wildflower meadow year after year.

University of Nottingham Campus

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