

Unpave the Way Garden



SuDS used

- Downspout SuDS Planter
- Rain Garden
- Rill
- Swale
- Green Roof
- Slow-Release Water Butt
- Permeable Paving

Benefits

- Water Butts provide opportunities for rainwater harvesting and reuse
- Climate resilient planting boosts biodiversity for pollinators and provides wildlife habitats
- SuDS downspout planters, rain gardens, swales and permeable paving reduce surface water runoff. This in turn reduces sewer overwhelm during heavy rainfall events and the associated activation of combined sewer overflows
- Planting provides surface water treatment by trapping and filtering pollutants
- Plants and trees provide a cooling mechanism for the front garden and improve air quality

1. Location

Whitaker Park, Haslingden Road, Rawtenstall, Lancashire, BB4 6RE

2. Description

The Unpave the Way Garden was showcased at the [RHS Tatton Flower Show](#) in July 2024 and gained a feature on BBC Gardeners World TV and BBC Northwest Tonight where it was reported that the buzz word of this year's show was 'SuDS' (Sustainable Drainage Systems). Components of the garden were first displayed at the RHS Urban Show in April 2024 as part of a ['Rainwater Capture' Content Cube](#). The Garden is part of a wider project named ['Unpave the Way'](#) which is sponsored by the [North West Regional Flood and Coastal Committee](#).

Unpave the Way seeks to address a growing national trend of impermeably paved front gardens/driveways. The surface water run off generated contributes to flooding and the activation of combined sewer overflows, which in turn reduces water quality in rivers.

The Unpave the Way Garden was created to encourage householders to rethink the amount of paving they require for accommodating parked vehicles and to choose permeable paving as a sustainable alternative. The garden aimed to inspire and influence householders to regreen their front gardens and use rainwater harvesting and SuDS.

Gold Medal Award Winning Garden Designer Leon Davis designed the garden with input from the Unpave the Way Project Team. The design criteria were:

- Low maintenance SuDS features for small domestic spaces
- Naturalistic climate resilient planting
- Both DIY SuDS components and ready-made SuDS products
- Functional driveway space
- Variety of permeable surfaces

The garden featured two differing [front garden designs](#) which both incorporated driveway space. Garden A was a SuDS retrofit DIY low-budget garden design which focused on using reclaimed paving materials and homemade SuDS features. Garden B was a new higher budget front garden design which utilised specialist ready-made SuDS products.



Figure 1: Unpave the Way Garden Visualisation- Leon Davis Design

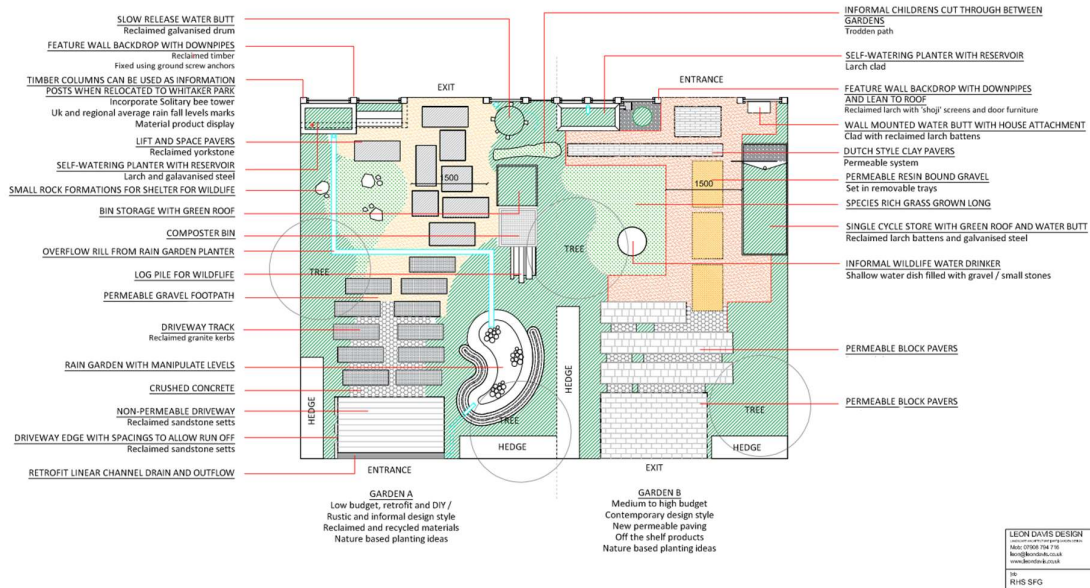


Figure 2: Unpave the Way Garden Design Layout

In September 2024 the Unpave the Way Garden was reconstructed at [Whitaker Park](#), Rossendale, Lancashire, so that the garden could serve as a long-term learning resource for the local community and visitors further afield.

The Garden was redesigned to fit seamlessly into the park’s environment. Due to the park’s sloping landscape, Garden A and Garden B were switched around to better suit the sites topography.

The components featured in the previous garden were reused, excluding the green roof cycle store and slimline water butt, which are used by community gardening groups within the wider park.

A community [opening ceremony](#) was held for the Garden in October 2024 where the garden was formally opened by the Mayor of Rossendale.

The Garden has been gifted to Rossendale Council who are committed to maintaining the garden in collaboration with the park’s community gardening groups.



Figure 3: Unpave the Way Garden at Whitaker Park, Rossendale

3. Main SuDS components used

Downspout SuDS Planter; Rain Garden; Rill; Swale; Green Roof; Slow-Release Water Butt; Permeable Paving.

4. How it works

Garden A: SuDS Retrofit DIY Front Garden Design

Rainwater flows down the downpipe and into the SuDS Downspout Planter (stores 335 litres of rainwater or 67 watering cans) where rainwater is attenuated within the soil and a layer of clean stone until it is slowly released into the Rill.



Figure 4: SuDS Downspout Planter

The Rill outfalls into the rain garden where surface water can be attenuated and drain via infiltration into the ground.



Figure 5: Rain Garden

Rainwater is harvested for reuse via the Slow-Release Water Butt which stores 210 litres or 42 watering cans of rainwater. It has two different tap heights so that half of the water butt can be drained in preparation for heavy rainfall.



Figure 6: Slow-Release Water Butt

Rainwater is attenuated by the green roof bin store helping to slow the flow.



Figure 7: Green Roof Bin Store

Surface water from the wheel tracks drains into the permeable gravel gaps.

Any surface water runoff from the reclaimed brick pavers is captured by the swale on the garden boundary or by the cut off drain.



Figure 8: Garden A: SuDS Retrofit Design

Garden B: New Front Garden Design

Rainwater flows down the downpipe and into the SuDS Pod where rainwater is attenuated in an in-built tank until it is slowly released into the Rill.

The Self-Watering Hanging Basket reduces the need for manual watering as rainwater is fed to the plants from the water reservoir via the wicking system.



Figure 9: SuDS Pod (GreenBlue Urban)

The Rill outfalls into the Rain Garden where surface water can drain via infiltration into the ground.



Figure 10: Rain Garden

Rainwater is harvested for reuse in the Slimline Water Butt.



Figure 11: Slimline Wall Mounted Water Butt

Rainwater is attenuated by the Green Roof Cycle Store (stores 109 litres of rainwater or 22 watering cans) and any excess filters into the in- built water butt for reuse.



Figure 12: Green Roof Cycle Store with in-built Water Butt

Surface water drains through the permeable paving and infiltrates into the ground. Multiple permeable paving products are included to showcase the variety available to householders. These include:

- Permeable Resin Block Paving
- Permeable Block Paving
- Gravel Grids
- Permeable Resin Bound Paving
- Self-Binding Path Gravel

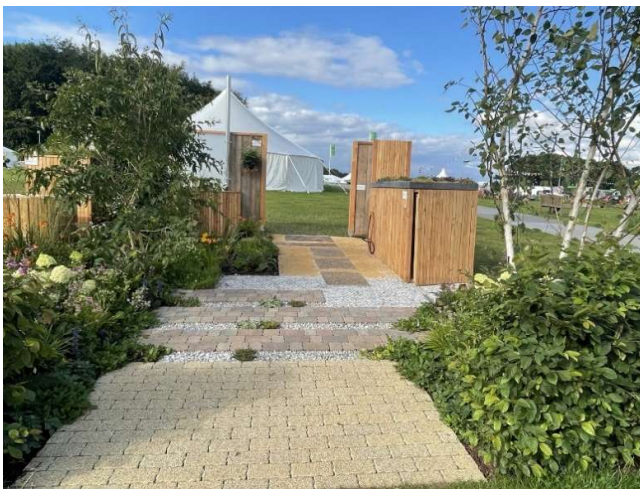


Figure 13: Garden B: New Front Garden Design

Surface Water Runoff Calculations

These calculations highlight the difference between surface water runoff from a fully impermeable front garden and the Unpave the Way Garden which is 92% permeable. The SuDS features in the Unpave the Way Garden also provide 3.2m³ of attenuation. Both gardens are sized at 65m².

Rainfall Events	18mm	50mm	80mm
Impermeable Front Garden	1170 litres	3250 litres	5200 litres
Unpave the Way Garden	0 litres	0 litres	0 litres

Upscaling this to a small community, if 100 properties had impermeably paved front gardens with no SuDS or rainwater harvesting features and 50mm of rain fell on that community, the rainwater falling on those 100 properties could generate 325,000 litres of surface water runoff draining to the sewer network.

5. Lessons learnt

Having in-person conversations with the public at the RHS Shows and Whitaker Park, to supplement the social media communications, was invaluable in identifying householders' barriers to using SuDS, inspiring them with new design ideas and increasing their awareness of the impacts of paving over front gardens.

Feedback from these conversations has been used to inform Unpave the Way's project deliverables to help make SuDS as accessible as possible to householders.

6. Project details

Construction completed:

September 2024

Cost:

Overall Project Cost 55k

This included:

Design and Construction Cost for Rainwater Capture Cube (RHS Urban Show)

Design and Construction Cost Unpave the Way Garden (RHS Tatton Flower Show)

Redesign and Reconstruction Cost Unpave the Way Garden (Whitaker Park)

Extent:

Total site area 65m²

Built twice- Tatton Flower Show and Whitaker Park

Photo credit:

Design Drawings – Leon Davis Design

Photo Images – Environment Agency

7. Project team

Client: Environment Agency acting on behalf of the North West Regional Flood and Coastal Committee

Designer: Leon Davis Design

Contractors: Leon Davis Design and Feathers Creative Company

Funders: North West Regional Flood and Coastal Committee and United Utilities

In-kind Contributions: GreenBlue Urban, Brett Landscaping and Sapphire Utility Solutions

Disclaimer: we acknowledge private company in-kind contributions but do not endorse any private companies and/or their products.

You can keep up to date with the project by following Unpave the Way on social media including, LinkedIn, X, Instagram and Facebook

For more info visit: [Unpave the Way | The Flood Hub](#)

