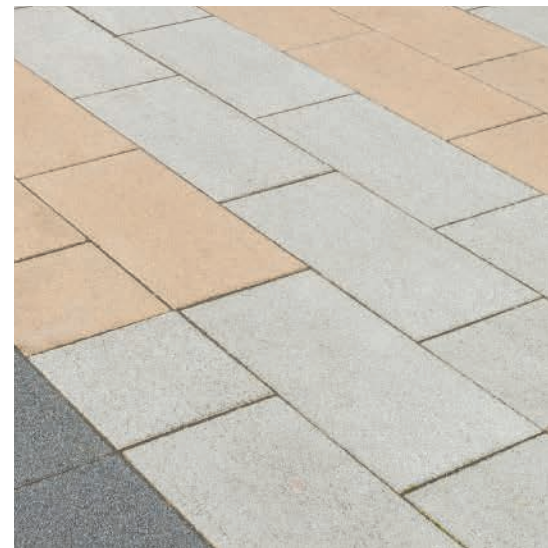




Design support
for your project

designteam
 Marshalls



Unlock the potential
of your design.

Creating Better Spaces



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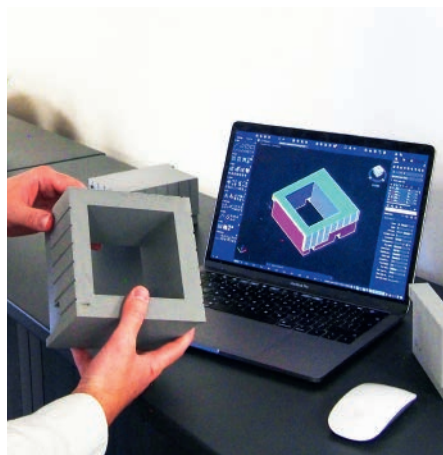
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Images clockwise from left
Heartlands Cornwall;
Church Street,
Huddersfield; 3D printing
at our design studio.

Marshall's Design Team

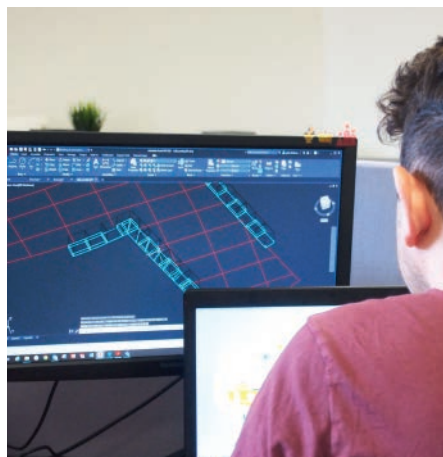
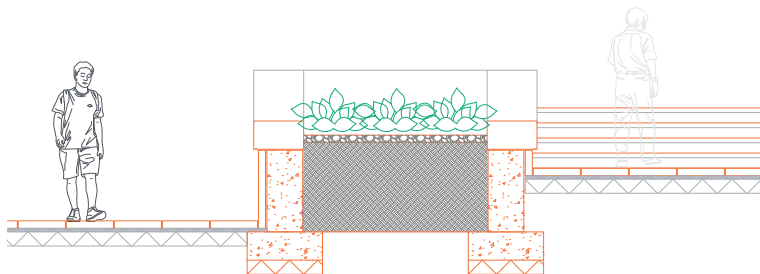
We are design and engineering experts. We work with landscape architects and engineers, offering specialist support to help bring your landscape designs to life.

About us

Combining more than 100 years of industry experience coupled with the latest technology, our team offers unrivalled product, design and construction knowledge.

We can support every stage of your construction project; creating inspirational 3D designs, initial concept CAD models and providing warranted pavement engineering solutions. We aim to save you time, money and carbon.





Images clockwise from left

Aldgate Square, London; CAD drawing of Bridge Street, Warrington; 3D visualisation of Warrington Place, Warrington; Inside our design studio.

We identify cost, time
and carbon savings
for our customers.

Right
International Quarter,
London

Don't compromise your design

In the Marshalls Design Team we like to be challenged.

We understand the real world demands of modern pavements and provide in-depth designs that work without breaking the bank. Our proposals are value engineered to reduce unnecessary material costs in the build-up and cut out the additional man hours associated with removing and disposing of ground material.

Our team understands the axle load tolerance requirements and practical layout patterns you need to reduce future maintenance costs. We can even provide guidance on real life scenarios that you won't find in the standards, such as the inevitable delivery van mounting the kerb.

Complex designs are handled by our experts who bring an unrivalled knowledge of working with hard landscaping, sustainable drainage and providing bespoke technical support.

We will work closely with your team from project inception to:

- Understand your project goals and provide appropriate design support
- Give guidance on best practice and relevant case studies
- Advise on the latest relevant regulatory and legislative impacts
- Identify cost, time and carbon saving opportunities
- Use the latest technology to provide 3D visualisations of your project





50%

That's how much we've
reduced our carbon
footprint by since 2008.

CO₂ ↓

We're committed to helping customers reduce their carbon impact.

Science Based Targets

We're working hard to reduce our emissions. Our carbon reduction targets have been approved by the Science Based Targets initiative and also verified by the Carbon Trust.

Sustainable by design

We know how important it is to look after our natural environment. That's why we've signed up to science-based targets and reduced our carbon footprint by 50% since 2008.

To help our customers reduce their own emissions, our Design Team works to create sustainable solutions for customers at every stage of a project.

We'll focus on minimising the quantity of building materials used in a scheme's hard landscaping construction and reducing unnecessary or over engineered sub-base build ups. Then, to make it easier for our clients to demonstrate their commitment to sustainability, we'll identify and measure any associated carbon reductions.



We create pavements that work in the real world.

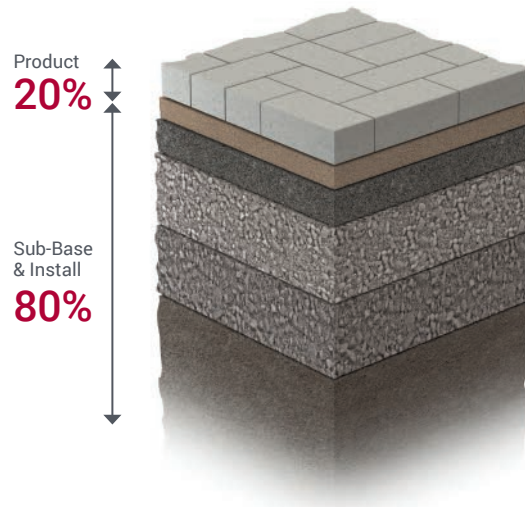
Pavement design

Only 20% of the pavement cost is actually the paving, the other 80% is the sub-base and the install process; it's crucial that this is built correctly.

Our pavement engineers understand how pavements work on and below the surface. They can recommend potential savings in the build-up and install that saves unnecessary material and labour costs.

We will always:

- Deliver pavement designs that work in the real world
- Design in line with load tolerances, and use practical layout patterns that reduce future maintenance costs
- Reduce unnecessary or over-engineered pavement designs
- Provide best practice detailing that achieves robust and affordable solutions





Clockwise from left

Southbank, London;
Aldgate Square,
London; Retail park,
Cambridgeshire.



We're passionate about using good design to play its part in flood mitigation, protection and resilience.

Left Priora permeable paving on a housing development.

Below Example of a permeable paving sub-base.

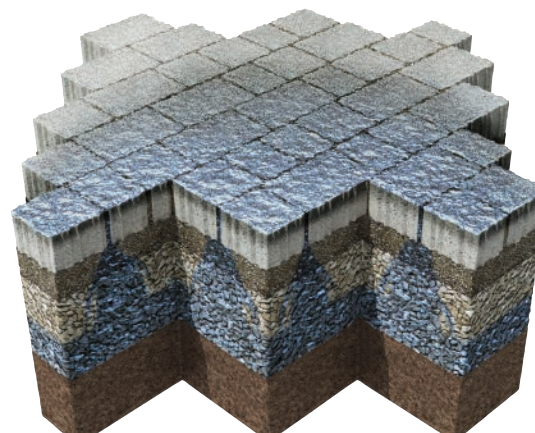
Permeable paving solutions

A successful Priora permeable paving design matches the environmental benefits of a sustainable drainage system with structural, hydraulic and cost performance. Mimicking natural processes, permeable paving deals with excess water by providing storage for even the most intense storm events, filtering and then releasing water at a controlled rate into the ground.

Reducing standing water and water run-off, permeable paving provides control at the source and avoids potential issues downstream while maintaining the local water table and helping to improve biodiversity.

Our services include:

- Structural and hydraulic modelling
- Design reviews and project assessments
- Highlighting time, cost and carbon savings
- Providing low land take SuDS solutions
- Fully indemnified and warranted SuDS design



We provide buildable 2D and 3D CAD models for characterful spaces.

Natural stone design services

Explore the versatility of natural stone with support from our designers.

With over 100 years' combined experience we understand how natural stone can help create tailored spaces full of character. From artistic stone sculpture and etched stone plinths through to custom paving elements and sweeping kerbs, our team are here to help you shape your next natural stone project.

We help you realise the potential of your design through both 2D and 3D CAD modelling; ensuring any complex, challenging or creative structure can be built to time and budget.

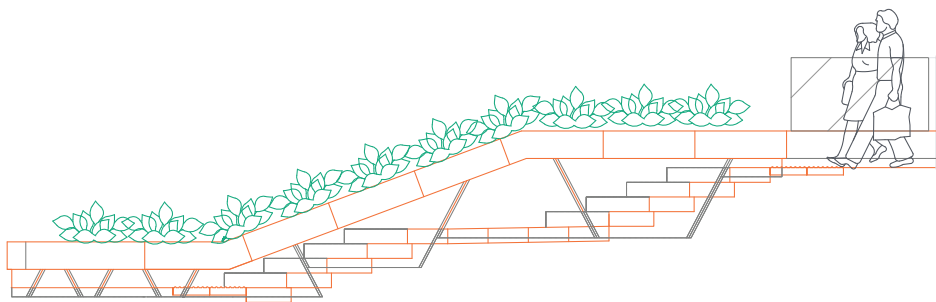
Our services include:

- CAD design and CAD modelling of bespoke natural stone features
- Analysis of fit, finish and construction sequence
- Individual detailing and scheduling of components



Images clockwise from left

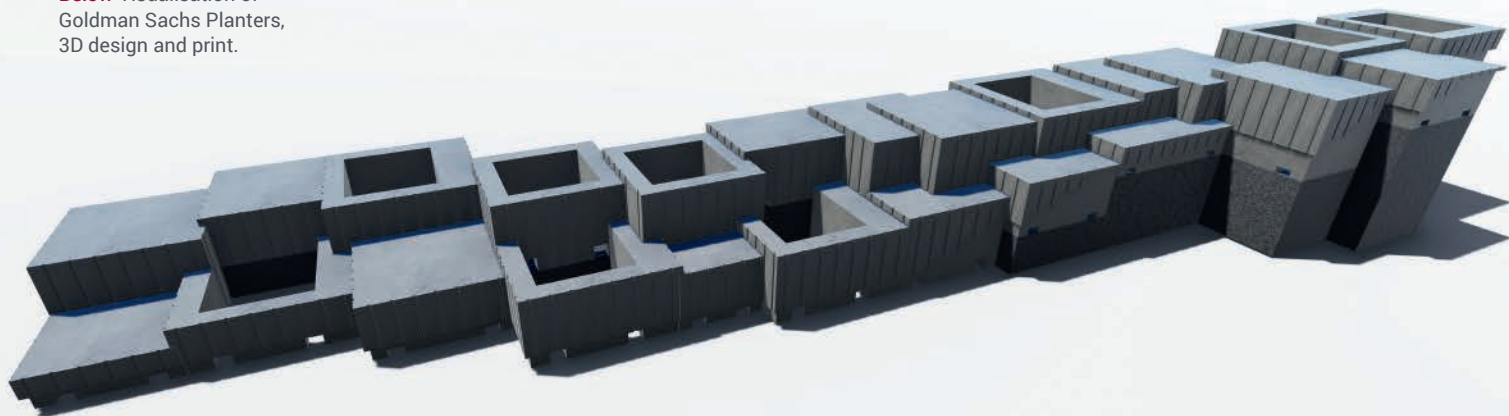
Visualisation of Liverpool Pier Head; CAD drawing of main steps at Bridge Street, Warrington; The completed landscaping scheme around the main steps.





Above Visualisation of Bridge Street, Warrington.

Below Visualisation of Goldman Sachs Planters, 3D design and print.



We use the latest software to create photo-real images, walkthroughs and flythroughs of your project.

Below Visualisations of Union Street, Halifax and Cross Church Street, Huddersfield.

Digital product rendering

Through a combination of CAD, DWG & BIM modelling, coupled with 3D visualisation and animation, we can help bring your project to life. Whether you need digital images for project team briefings, stakeholder engagement or public relations purposes, we have a mix of tools available to help visualise the end result.

We use the latest software to create photo-real images, walkthroughs and flythroughs of our customers' projects, simply and immediately illustrating how their project will look.

Our extensive range of BIM Objects are available through BIMstore, enabling you to quickly and easily bring Marshalls' products into your designs and collaborate with project partners.

We can provide:

- Digitally modelled representations of the landscape
- High resolution product rendering
- Fully animated digital fly-throughs
- Virtual reality 'in project' experience



Inspired by the fluid geometry of flowing water, frozen in place, as if time has stood still.

CASE STUDY

Sousse and Bardo Memorial, Birmingham

Architect George King Architects and Fira

Client Foreign and Commonwealth Office

200 unique granite blocks, 70 different paving sizes and one vision. The Sousse and Bardo Memorial, designed by George King Architects, is dedicated to the 31 British nationals who lost their lives in two terrorist attacks in Tunisia in 2015.

Described as 'un-buildable' by the contractor, the landscaping surrounding the main sculpture continues a theme of flowing water created by a series of granite blocks which form concentric circles that flow from the centre of the sculpture, graduating into and up the sloping surround.

The understated elegance of the paving relied on the skill and experience of the Marshalls Design Team who re-modelled the initial concept a number of times to overcome the challenge of aligning each individual piece within concentric circles on a sloping site rise.



© George King Architects | NAARO



Emulating flowing water

Concentric circles flow from the centre of the sculpture, graduating into and up the sloping surround.



Each unique granite block was designed to fall at differing rates but still give a flat base for ease of installation.

Although each individual piece plays its part in the slowly sweeping top line curve that is ultimately judged visually by visitors, it is the complex foundation levels that make it possible.

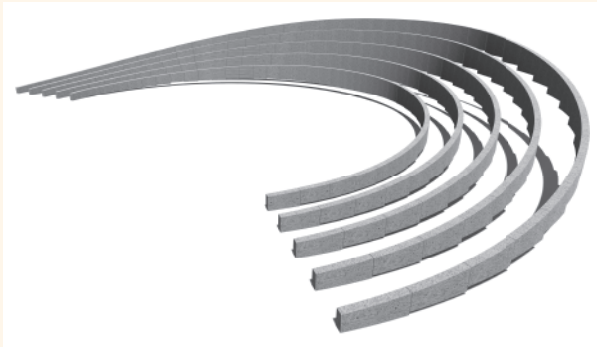
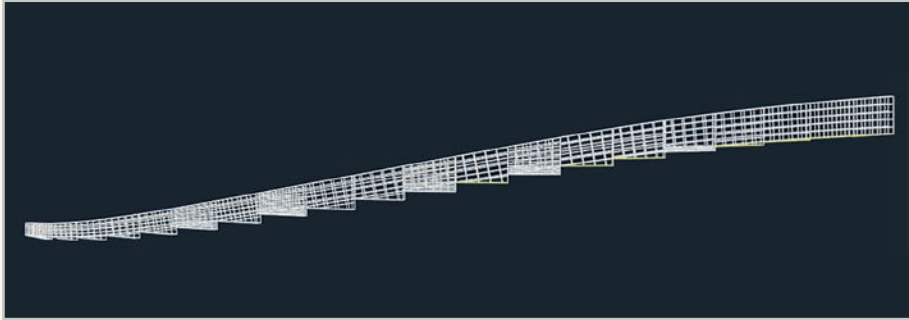
Each unique granite block had to be designed to fall at differing rates but still give a flat base for ease of installation at foundation level. The positioning of the base of each stone had to be just as precise as the visible surface to form the clean sweeping curves of the arrangement. By producing an easily understood foundation design and individually dimensioning each unit for manufacture, the finished result is both complex yet simple to appreciate.

The success of this impressive project relied upon the specifier and contractor involving the Marshalls Design Team at an early stage in the project and, using the full extent of their capabilities, the client's vision of a moving tribute could be realised.

Opened by His Royal Highness The Duke of Sussex on 4 March 2019. The Lord Mayor of Birmingham described it as "a beautiful memorial that will provide a peaceful place for friends and family."

Creating the curves

Using complex equations the team were able to reduce a sharp peak and smooth the curve.



Visualisations

2D and 3D drawing and installation patterns were produced to simplify the install.



© George King Architects | NAARO

A classic example of reducing cost whilst maintaining performance.

Right

The completed Northern Highway Depot Car Park in Bedfordshire.

CASE STUDY

Northern Highway Depot, Bedfordshire

Architect Morgan Sindall

Client Central Bedfordshire Council

Bedfordshire County Council and Morgan Sindall used Marshalls Design Team in a classic example of cost saving. The Council's Northern Highway Depot needed to reduce costs in order to meet the project budget but without any reduction in structural performance or build quality.

Using a bespoke structural design that went beyond the British Standards, the Marshalls Design Team was able to remove 125mm of DBM from the construction, resulting in a reduction in build-up, programme length and construction traffic. This also contributed to a reduced health and safety risk and carbon footprint, but importantly it highlighted £150,000 of potential savings.

“Working with Marshalls gave us more than just a massive cost saving - collaborating with their team ensured that we got the best solution delivered in the shortest time frame. Without their input we probably wouldn't have won the job. We'll definitely be following the same process for future projects.”

Morgan Sindall Project Manager

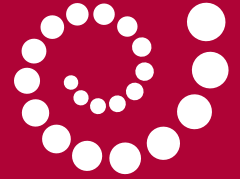
Savings of
£150,000

Removing 125mm of DBM
resulted in £150,000 in
cost savings.





Christchurch Gardens, London



For more information about
the Design Team service
or to see our latest case
studies, visit our website at:

www.marshalls.co.uk/designteam

Get in touch

To get us involved in your next project, contact your local Marshalls sales representative or call us on **0333 331 4799**.

www.marshalls.co.uk/designteam