



# Infrastructure Product Guide

# Why choose Marshalls Civils & Drainage?

Made primarily in the UK and built on a solid reputation, Marshalls Civils & Drainage design, manufacture and deliver sustainable infrastructure, water management and retaining wall solutions for a safer and better environment.

Delivered to every sector of the construction industry, using modern methods of construction and with long-term, established, partnerships with clients, customers and suppliers, including National Highways, Network Rail, and Environment Agency, as well as local, regional and national architects, consultants, contractors, water companies, installers and merchant distributors. We provide solutions based on valued added design and engineering knowledge that offer security and peace of mind.



## Our solutions include:

- Combined kerb & drainage systems
- Below ground water management and SuDS solutions
- Linear drainage and surface water channel systems
- Offsite solutions and structural precast products
- Redi-Rock™ retaining walls





## Contents

|               |    |                              |    |                               |    |
|---------------|----|------------------------------|----|-------------------------------|----|
| Beany® Block  | 8  | Sealed Manholes              | 24 | Flatpack Systems              | 40 |
| Mini Beany®   | 10 | Flow Control Chambers        | 26 | Special Cover Slabs           | 42 |
| Mono Beany®   | 12 | Hydro-Brake Optimum® Chamber | 28 | ESS Bases                     | 44 |
| Bridge Beany® | 14 | Downstream Defenders®        | 30 | Redi-Rock™ Walling Solution   | 46 |
| Traffic Drain | 16 | First Defence®               | 32 | Redi-Rock™ Flood Protection   | 48 |
| Max-E Channel | 18 | Weir Wall Chambers           | 34 | Redi-Rock™ Reinforced Walling | 50 |
| Box Culverts  | 20 | Direct Access Pipe Systems   | 36 | Redi-Rock™ Retaining Walls    | 52 |
| Catchpits     | 22 | Headwalls                    | 38 |                               |    |

# Sustainable solutions

At Marshalls, our approach to sustainability is based on strong foundations, our Code of Conduct and The Marshalls Way of doing the right things, for the right reasons, in the right way.

Our sustainability strategy is to Create Better Futures for Everyone: Socially, Environmentally and Economically. Within Civils & Drainage, we look to offer water management and retaining wall products that offer safe and secure solutions for all.

Climate change is undoubtedly one of the biggest challenges facing us all today and as a business, we know that we have a role to play in reducing carbon emissions. Day to day, our approach includes reducing environmental impacts and taking responsibility within our operations.

This includes sourcing our raw materials close to our three UK sites, Halifax, Pollington and Mells, to lessen supply routes, reducing traffic movements and carbon emissions.

We use crushed and recycled materials in our manufacturing processing and replace cement content in our products, reducing the need for virgin material and the associated impact on carbon emissions, environment exploitation/material extraction and the carbon generated by additional processes and transportation.

We manage our waste, with most, recycled. All timber is reused where possible and 100% of our electricity is from renewable sources and we recycle water, by capturing and reusing the rainwater from on production roofs. The rainwater is then used in our production processes and around our works, decreasing our need on precious water supplies.

This is all certified to BS EN ISO 14001 Environmental Management Certificate.

We look to impact both customers and end users positively, in terms of sustainability, construction programmes and costs. Whether that be a sealed manhole installed within an hour, which requires no benching or confined space working, or an easy to install retaining wall solution, that can be picked up and moved, should your plans alter, or our Design team giving the best Beany CKD product, with the best loading classification to suit your project needs for both today and in the future.

With a certified long design life, our products are fit for purpose, having been certified to British Kitemark standards and regularly tested in our three laboratories.

As full members of MPA (Mineral Products Association) Precast we have signed up to their Sustainability Charter. Launched in 2007, the charter, goes beyond legislation in leading the construction industry in sustainability, while reducing carbon footprinting and adopting responsible sourcing systems.

We are gold members of both the Sustainability Supply School and Constructionlines.



OHS 665889



OHS 69609



EMS 56194



FM 00004



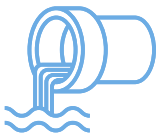
IMR 72571





## Water management security

Marshalls Civils & Drainage has developed a range of solutions for water management to attenuate, collect, control, convey, flow, protect, store, treat and release water. Our commitment to sustainable solutions also extends to products for surface water, stormwater, flood protection, wastewater management and flood prevention, as the working life of many precast concrete solutions exceeds that of other materials.



## Stormwater management

We can help you on a large range of precast concrete stormwater management systems - whether they be attenuation systems, stormwater control or stormwater treatment, we have the answer, with precast solutions that suit a wide range of construction projects and drainage schemes that reduce flooding and secure both domestic and commercial properties.



## Flood protection & prevention

With the effects of environmental concerns being felt on a daily basis, Marshalls Civils & Drainage continues to be at the forefront of product development and sustainability and has in turn developed a range of flood protection products that offer a long service life with the security of being a proven solution.



## Surface water

The growing demand for a more cost-effective and less complicated surface water drainage system has led us to combine the clear advantages of linear drainage with the benefits of high-quality concrete. This, enables us to combine the ease of design, with the ease of installation and the need for reduced maintenance, eliminating the risk of surface water flooding and making your scheme safer.



## Wastewater management

Marshalls Civils & Drainage can supply precast concrete modular tanks, wall panels, flat pack chambers, circular chamber systems, surge flushing manholes, valve chambers or wet well chambers which will save you on both installation costs and time spent on site with modern methods of construction (MMC).









# The range

Discover our precast concrete water management, linear drainage and retaining wall solutions, all manufactured in the UK.

Together with Marshalls' solid reputation for providing high quality, sustainable precast water management products, delivered to every sector of the construction industry, the range itself is fully supported by the expertise of our experienced technical and engineering teams.

# Beany<sup>®</sup> Block

Marshalls Civils & Drainage Beany<sup>®</sup> Block is a reliable and effective medium to high capacity drainage solution that's been used by professionals since the 1980s





**Key features:**

- Available in standard or textured finishes
- Loading capacity of E600
- Medium to high capacity road and kerb drainage solution

Beany® Block has an established reputation for solving drainage problems where other systems may fail, or project restrictions make other solutions impractical.

With over 2 million linear metres installed, the Beany® Block has a proven pedigree across a range of applications. Its durability and lack of remedial work offer peace of mind and lower ongoing costs.

Manufactured as a two-piece concrete system and available in either standard or textured finishes, the Beany® Block has excellent slip skid properties that can be used alongside a range of accessories to provide a solution that's both flexible and aesthetically pleasing.

Marshalls Civils & Drainage Beany® Block combines the largest hydraulic capacity with a loading classification up to E600. Robust concrete construction enables it to withstand installation damage and its simplicity makes it a highly cost-effective and versatile road drainage solution.



---

**For further information**

Call **0345 302 0400** | Email [wmsales@marshalls.co.uk](mailto:wmsales@marshalls.co.uk)

Visit [www.marshalls.co.uk/commercial/product/beany-block](http://www.marshalls.co.uk/commercial/product/beany-block) to find our data sheets, design, installation and maintenance guides



# Mini Beany®

Evolved from the successful Beany® range, the Marshalls Civils & Drainage Mini Beany® combined kerb and drainage system is a medium capacity water management solution





**Key features:**

- Innovative two-piece design
- Available in two colour options to suit your requirements
- Available in Granite
- Low to medium capacity road drainage and kerb drainage solution
- Loading capacity of E600

Excellent flow rates alongside a robust concrete construction make the Mini Beany® the ideal choice for low to medium capacity road drainage requirements and areas with heavy or abnormally heavy wheel loads.

The two-piece design of the Mini Beany® - made up of the Mini Beany® top unit and a base channel, reduces the risk of damage during the installation process. It also allows for a choice of top finishes to complement a wide range of aesthetics, from urban to rural. Choose from two colour options - Standard Grey and Conservation Silver Grey.



---

**For further information**

Call **0345 302 0400** | Email [wmsales@marshalls.co.uk](mailto:wmsales@marshalls.co.uk)

Visit [www.marshalls.co.uk/commercial/product/mini-beany](http://www.marshalls.co.uk/commercial/product/mini-beany) to find our data sheets, design, installation and maintenance guides



# Mono Beany<sup>®</sup>

Manufactured as a single piece and with a loading classification of D400, it is a solution for use for all road-going vehicles across a variety of applications





**Key features:**

- Available in two depths in both half battered and 45° splayed profiles
- D400 loading classification
- Available with a range of accessories for ease of use
- Manufactured from high-strength M-Tech concrete with a recycled PE core

Suitable for use with a range of accessories, Mono Beany® provides a comprehensive and highly effective drainage system which carries the BSI Kitemark.

With an innovative design that combines strength and durability with aesthetics, Mono Beany® provides a practical and long-lasting solution to kerb drainage that's known throughout the industry.

Its construction combines high-strength M-Tech concrete, cast around a 100% recycled polyethylene core, which provides superior hydraulic flow rates.

The Marshalls Mono Beany® is available in two depths and in both Half Battered and 45° Splayed profiles.



---

**For further information**

Call **0345 302 0400** | Email [wmsales@marshalls.co.uk](mailto:wmsales@marshalls.co.uk)

Visit [www.marshalls.co.uk/commercial/product/mono-beany](http://www.marshalls.co.uk/commercial/product/mono-beany) to find our data sheets, design, installation and maintenance guides

# Bridge Beany<sup>®</sup>

If you want to ensure that you are installing a surface water solution that has the lowest cost over its lifetime, is environmentally sustainable, meets your loading requirements and provides a trouble-free drainage solution, make sure it's a Type I system – our Bridge Beany is.





**Key features:**

- Type I system (no haunching)
- Fully compatible with other CKD solutions
- One-piece Cast Iron unit
- Manufactured made using 80% recycled materials
- D400 and E600 loading classification available

With proven durability, strength and impact resistance, our ductile iron Bridge Beany® is a proud member of the award-winning Marshalls Beany® range.

Offering a tailored, value-engineered combined kerb and drainage solution that can be used as a standalone product or in conjunction with other products in our Beany® range, the Bridge Beany® is a great surface water management solution, that helps keep our roads and highways safe from surface water flooding.

Made in the UK, allowing for shorter supply and delivery routes, the Bridge Beany® is a real sustainability winner, when compared to other products, as its produced using 80% of recycled materials and can be repeatedly cleaned and re-laid. 100% reclaimable, time and time again, the Bridge Beany® is a real winner in terms of sustainability.



---

**For further information**

Call **0345 302 0400** | Email [wmsales@marshalls.co.uk](mailto:wmsales@marshalls.co.uk)

Visit [www.marshalls.co.uk/commercial/product/bridge-beany](http://www.marshalls.co.uk/commercial/product/bridge-beany) to find our data sheets, design, installation and maintenance guides

# Traffic Drain

Traffic Drain provides a comprehensive solution to your project's drainage needs, offering unique design elements, ease of installation and low maintenance costs





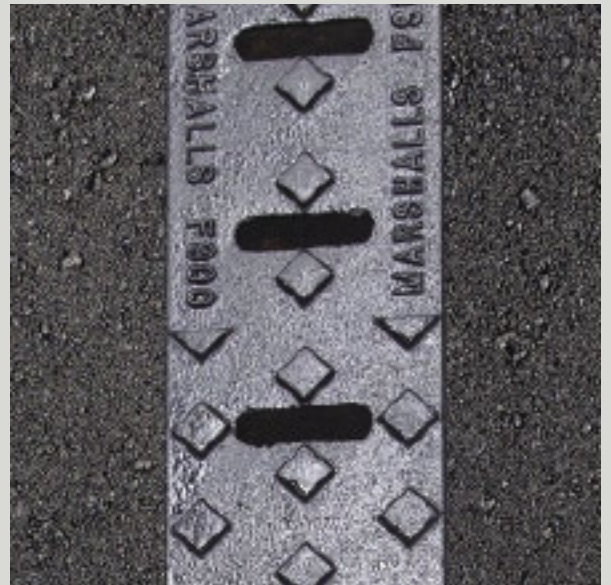
**Key features:**

- Robust precast concrete
- Requires little maintenance
- Suitable for loadings up to F900
- Compatible with the Mini Beany® range

Designed to complement the Mini Beany® range, the Traffic Drain connects the flow between kerb and slot units and is fully compatible with Mini Beany junctions, outfalls and other ancillary units.

Providing medium-capacity drainage, Traffic Drain combines a robust concrete channel with high-strength cast iron grates, which allow it to take loadings up to F900. Its ability to withstand fast-moving vehicles and bear heavy loads makes it ideal for high volume highway applications.

Manufactured as a simple two-piece design, Traffic Drain is strong enough to withstand any damage during transit and installation.



**For further information**

Call **0345 302 0400** | Email [wmsales@marshalls.co.uk](mailto:wmsales@marshalls.co.uk)

Visit [www.marshalls.co.uk/commercial/product/traffic-drain](http://www.marshalls.co.uk/commercial/product/traffic-drain) to find our data sheets, design, installation and maintenance guides

# Max-E Channel

Marshalls Max-E Channel range is a high capacity linear drainage system that complements the Beany range to ensure continuity between kerb and top units





**Key features:**

- Compatible with all Beany products
- Can withstand loads up to the highest loading classification - F900
- Suitable for commercial, industrial or rail applications
- Available in concrete slotted top and cast-iron top finishes



Max-E integrates with the Beany® Block top units creating a unique system capable of providing continuous drainage of the carriageway at road and vehicular crossings.

With the appropriate top options, Max-E Channel can achieve a load bearing classification of F900, the highest possible rating, making it a perfect option for rail, commercial and industrial deployment.

Max-E Channel is available in a range of top units that will complement any aesthetic, regardless of the project. Concrete slotted top units are offered in Conservation Silver Grey, Standard Grey and Reinforced Standard Grey. The blocks can be textured to provide an appealing finish. Alternatively, cast-iron options can be deployed.



---

**For further information**

Call **0345 302 0400** | Email [wmsales@marshalls.co.uk](mailto:wmsales@marshalls.co.uk)

Visit [www.marshalls.co.uk/commercial/product/max-e-channel](http://www.marshalls.co.uk/commercial/product/max-e-channel) to find our data sheets, design, installation and maintenance guides

# Box Culverts

Box culverts are available in square or rectangular units and can be used as single or multi-unit runs, giving excellent mechanical and hydraulic performance and are suitable for a variety of applications such as highways, storm and foul sewers, tunnels and subways, underpasses, stream crossings, attenuation and storage tanks





**Key features:**

- Minimum maintenance - box culverts do not need any additional treatment to prolong life and do not rust
- 120-year design life
- Quick and easy installation as delivered to site ready to install
- Get optimum flow rates with the culverts' smooth finish, allowing water to flow through seamlessly

Made in the UK, the precast concrete box culverts are designed and manufactured in accordance with EN 14844.

The culvert is available with end walls, access points, inlets, outlets, splayed ends, starter bars can be added to facilitate any additional casting on site which may be required as part of the finished work.

Find out how our box culverts were successfully installed in Saltburn by visiting [www.marshalls.co.uk/commercial/case-studies/pheasant-field-lane](http://www.marshalls.co.uk/commercial/case-studies/pheasant-field-lane)



**For further information**

Call **01179 814 500** | Email [offsite@marshalls.co.uk](mailto:offsite@marshalls.co.uk)

Visit [www.marshalls.co.uk/commercial/product/box-culverts](http://www.marshalls.co.uk/commercial/product/box-culverts) to find our data sheets, design, installation and maintenance guides

# Catchpits

Using modern methods of construction Marshalls precast catchpits and silt trap manholes are available as a one-piece chamber unit, saving on site installation time and giving more health and safety benefits to those on site





**Key features:**

- Reduced costs in construction time and on-site personnel
- Sump depths to suit design requirements
- Increased Health and Safety benefits as it reduces on-site construction
- Eliminates extra transport and material wastage used with on-site construction methods
- 1050mm unit weighs less than one tonne
- Bespoke design to suit customer requirements, with reduced installation times



Why spend days constructing an in-situ catchpit or silt trap when our offsite chamber is available?

The reinforced watertight one-piece chamber structures offer greater design flexibility with a range of cored or pre-formed holes/cut-outs for inlet/outlet holes which come complete with seals. The units can also accommodate uPVC, twinwall, clay, ductile iron and concrete pipe connections.

Design options include:

- 1050mm to 1800mm standard tongue and groove complete with a cast-in base
- 1200mm, 1500mm and 1800mm sealed manhole joint complete with cast-in base
- Pipe inlet/outlet diameters covered by system 100mm to 900mm

---

**For further information**

Call **01179 814 500** | Email **offsite@marshalls.co.uk**

Visit **[www.marshalls.co.uk/commercial/products/catch-pits](http://www.marshalls.co.uk/commercial/products/catch-pits)**

# Sealed Manholes

After an extensive research programme, Marshalls were the first to introduce the 1200mm Sealed Manhole system to the UK in 2009, to meet the challenges of modern-day construction. Since then, the sealed manhole system has gone from strength to strength and is the manhole of choice for installers, groundworkers, contractors and designers





Available in 1200mm, 1500mm and 1800mm, the Sealed Manhole comprises of a monolithic precast concrete base (available pre-benched in any configuration, a sealed chamber ring (with a thicker wall than a standard ring), a rubber joint (so no tokstrip of similar product is required) and a sealed cover slab which is supplied with your required access.

The Sealed Manhole complies with BSEN 1917:2002 and BS5911-3 and has been accepted for use by all major UK companies.

### **Safer construction**

Less requirement to work in confined spaces, no requirement to form a concrete surround and reduced time of open excavation

### **GHG Savings**

Up to 40% savings on GHG emissions compared with traditional build

### **Fast installation**

The modular solution eliminates the need for wet trades resulting in rapid construction compared to conventional methods. No need to surround in concrete unless specifically required - 130mm wall thickness.

### **Design freedom**

All designed monolithic perfect base characteristics such as location of the inlets and outlets and invert configuration can be manufactured individually and in accordance to the wishes of the specifier and client where possible.

### **Perfect Hydraulics**

Everything flows. Optimised flow characteristics by customised base configuration of all inlets and precise drop in channels and pipe connections

### **Concrete for life**

Built to last - high quality durable concrete with a minimum 120-year design life in normal groundwater conditions. Full take-off service available.

### **Watertight**

The combination of a thicker wall and rubber joints ensures a watertight structure. No water ingress into sewerage network reduces treatment costs – the combination of a 130mm wall and sealed rubber joint to withstand a minimum pressure of 5m head of water.

### **Combined seal includes load distributor**

Ensures even distribution of vertical loads

### **Allows joint inspection**

Correct installation can be visually confirmed

### **Efficient construction**

Available in varying depths for efficient construction

### **Base options**

Available pre-benched or plain bottom with or without inlet/outlets

### **Pre-fit options**

Hydro-brakes, penstocks, non-return valves and filters can be pre-fitted at the factory

### **Flexible connections**

The perfect manhole can connect to plastic, clay or concrete giving you a larger choice of options

### **Help with lifting**

Lifting apparatus available for fast, effective and safe handling

---

## **For further information**

Call **01530 380500** | Email [sealed\\_manhole@marshalls.co.uk](mailto:sealed_manhole@marshalls.co.uk)

Visit [www.marshalls.co.uk/commercial/product/sealed-manholes](http://www.marshalls.co.uk/commercial/product/sealed-manholes)

# Flow control chambers

With UK flooding events on the increase, Marshalls offer a storm attenuation management flow control precast concrete manholes, for stormwater events at different peak levels, such as 1 in 20, 1 in 30 and 1 in 50-year storm events.





**Key features:**

- Catered to individual and applicational requirements through bespoke chamber options with various flow control components available
- Take control of discharge flow rate with this offsite solution that accommodates different peak levels
- No need for on-site fabrication this solution is developed offsite and supplied ready to install
- Remove risk associated with construction skills shortage, these flow control chambers have a reduced need for skilled labour
- Feel reassured with this long-term, sustainable solution



In an innovative joint venture with Hydro International, this bespoke range of Hydro-Brake Chambers with long-term flow control solutions are both quick and easy to install and are offered with a range of pre-fitted flow control components from 1200mm up to 3000mm chamber sections.

They are suitable for most infrastructure, residential and commercial applications.



---

**For further information**

Call **01179 814 500** | Email [offsite@marshalls.co.uk](mailto:offsite@marshalls.co.uk)

Visit [www.marshalls.co.uk/commercial/products/flow-control-chambers](http://www.marshalls.co.uk/commercial/products/flow-control-chambers)

# Hydro-Brake Optimum<sup>®</sup> Chamber

The Hydro-Brake Optimum<sup>®</sup> chamber comprises of a precast concrete chamber base containing a bespoke Hydro-Brake Optimum<sup>®</sup> Flow Control, which is delivered to site ready for immediate installation, saving on on-site installation time and cost.





**Key features:**

- Unique tailoring of the full response characteristics of the devices to give the very best vortex-based solution to anyflow control requirement
- Outperforms other vortex flow controls by offering up to 15% reduction in upstream storage, significantly reducing capital expense
- Outlets (clearances) up to 20% larger, minimising the risk of blockage and future maintenance costs
- Design and performance independently accredited by both BBA and WRc, giving total confidence in product reliability and operation
- Option to include adjustable intake to allow for up to 20% adjustment of the flow, future proofing in case of site modification or climate changes
- A range of time saving installation options to simplify construction



As the Hydro-Brake Optimum® Flow Control is already installed in the chamber complete with preformed benching (preformed benching with standard units only), installation is cut to a fraction of the time compared to conventional methods. Inlet hole(s) are cored or formed prior to delivery and are made to suit exact site requirements and a range of outlet pipe sizes are also available to suit site requirements.

The Hydro-Brake Optimum® has been independently certified by with the BBA and WRc giving engineers and adopting bodies' confidence in both the performance and characteristics of the device along with the durability/longevity of the product itself.

---

**For further information**

Call **01179 814 500** | Email [offsite@marshalls.co.uk](mailto:offsite@marshalls.co.uk)

Visit [www.marshalls.co.uk/commercial/product/hydro-brake-chambers](http://www.marshalls.co.uk/commercial/product/hydro-brake-chambers)

# Downstream Defender<sup>®</sup> Select

Customise the capture and retention of sediment, oils and floatables from stormwater runoff over a wide range of flows in a small footprint





Targeted pollutants::

- Fine particles
- Gross pollutants
- Liquid and sediment bound hydrocarbons
- Sediment bound heavy metals
- Sediment bound nutrients

The Downstream Defender® Select is the new generation of hydrodynamic vortex separator for treatment of stormwater runoff to protect the environment and meet water quality requirements. Engineers can customise the performance of the unit to meet specific stormwater quality objectives through model selection and other additional options. An extended range of chamber sizes allows engineers to tailor their drainage designs to meet specific pollutant removal standards.

The Downstream Defender® Select also offers easier installation with much more flexibility of pipe sizes and connections and can accept up to three inlets.



**For further information**

Call **01179 814 500** | Email [offsite@marshalls.co.uk](mailto:offsite@marshalls.co.uk)

Visit [www.marshalls.co.uk/commercial/product/downstream-defenders](http://www.marshalls.co.uk/commercial/product/downstream-defenders)

# First Defense®

An economical hydrodynamic vortex separator for effective removal of sediment, litter and oil from surface water runoff





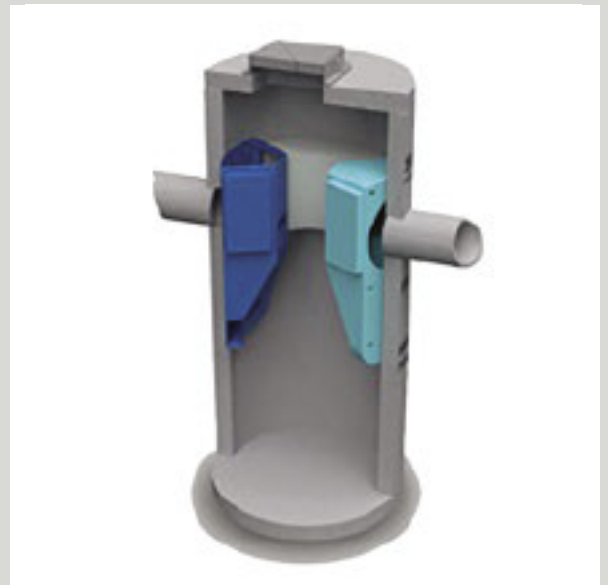
Targeted pollutants:

- Coarse particles
- Liquid and sediment bound hydrocarbons
- Gross pollutants

Captured pollutants are kept safely within the the First Defense® device keeping public areas free from harmful pollutants

Suitable for at-source pollution control in small to medium size catchments, the First Defense® provides space-saving, easy-to-install surface water treatment in a standard size precast concrete manhole.

The complex flow control chambers can be supplied in any of our chamber systems. The term complex flow is used when different storm events need an individual control, i.e. 1 in 20, 1 in 50 etc, requiring the installation of two or more flow control devices.



**For further information**

Call **01179 814 500** | Email **offsite@marshalls.co.uk**

Visit **[www.marshalls.co.uk/commercial/product/first-defense](http://www.marshalls.co.uk/commercial/product/first-defense)**

# Weir wall chambers

In most cases, a weir wall chamber separates silt and oil and prevents it from continuing into the drainage system, improving the quality of the water before progressing into the water management system





**Key features:**

- Weir wall chambers require little space making them excellent for space saving n Lower construction costs as they are built off-site
- Quick and easy to install using regular chamber joint
- Bespoke option, designed individual site requirements
- Offsite solution so no need for on-site fabrication
- Made offsite using modern methods of construction within a Marshalls factory resulting in a high-quality finish

The chamber is designed to accommodate a weir wall that can be pre-fitted with a Hydro-Brake Optimum™, Hydro-Brake®, Penstock, Non-Return Flap Valve, Orifice plate, or a combination. The precast concrete chamber can be designed to suit most connecting pipe sizes and at the optimum chamber depth to create maximum benefit to the stormwater system.

The design usually includes a twin access heavy duty precast concrete cover slab and an additional hole can also be provided for the penstock spindle should it be required. Sectional weir wall chamber systems are available in 2100mm, 2400mm, 2700mm, or 3000mm lengths.



**For further information**

Call **01179 814 500** | Email [offsite@marshalls.co.uk](mailto:offsite@marshalls.co.uk)

Visit [www.marshalls.co.uk/commercial/product/weir-wall-chambers](http://www.marshalls.co.uk/commercial/product/weir-wall-chambers)



# Direct Pipe Access System

The Marshalls Direct Access Pipe System (DAPS) is the use of our sealed pipe system connected together to create a secure solution for the attenuation of water system. The bespoke offsite solution allows for the layout of the system to be adjusted to suit the volume of water that needs to be stored by adding additional pipework or by using a larger diameter of pipe.





#### Key features:

- Modern method of manufacture, giving a quality, dimensional accurate product n Greatly reduced Health and Safety risks on site
- Removes the need for any benching on site or concrete back-fill
- Long-term easy access into the system for maintenance
- Watertight joints to both pipes and manholes, including load bearing seals
- Established and proven product range that is a quality assured and kitemarked
- Inherent structural strength of concrete with an 120 year design life.
- Systems can be designed to suit most structural and hydraulic specification including installation under roads
- Flow control devices can be incorporated into the system, such as Hydro-Brakes®, Orifice Plates, Penstocks or a combination of all of them



To make the installers life easier, we have designed end entry options for ease of access and maintenance, with the DAP system allowing for any variance in surface levels and the height of the access manhole easily adjusted with standard chamber rings and cover slabs. Offering material choice and availability for designers, contractors and installers, our precast DAP system can be used to replace plastic attenuation crates, plastic twin wall pipe and galvanised steel corrugated pipe and requires no special aggregates to be shipped into site to facilitate installation and can be backfilled with the excavated earth at site.

The layout of DAPS can also be adjusted to suit the available space on site by interconnecting the pipe runs, which also allows for the flooding of the tank to be simultaneous through all pipe runs as the water enters. The bespoke DAPS pipe entries can be pre-cored or pre-sealed for push-fit connection and end entry units have saddles precast, so chamber rings can be used to meet the required surface levels, with unit having the option to have ladders pre-fitted.

The DAP system does not require membrane wrapping as required on attenuation crate installation and the connection to the DAP system is simple with either new or existing pipework via the pre-cored entry points and can be viewed as an extension to the drainage system. A minimum cover level of 600mm at the pipe collar is all that is required for D400 loading which can reduce costs on excavation at site and save on installation times.

---

#### For further information

Call **01179 814 500** | Email [offsite@marshalls.co.uk](mailto:offsite@marshalls.co.uk)

Visit [www.marshalls.co.uk/commercial/product/direct-pipe-access-system](http://www.marshalls.co.uk/commercial/product/direct-pipe-access-system)

# Headwalls

Marshalls precast concrete solution headwall system is designed to connect pipe work discharging into open water courses, that offers a cost-effective alternative to in-situ structures, as well as outlet points from ponds and swales.





**Key features:**

- Erosion control options suited to your requirements
- Greatly reduced installation time, these headwalls can be installed at a fraction of the cost of an in-situ unit with no on-site shuttering or formwork required as the headwall solution is prefabricated off-site under factory conditions
- Low maintenance secure solution

Precast headwalls drainage controls erosion and scour resulting from excessive velocities and turbulence and help prevent adjacent soil from sloughing into the watercourse.

Concrete headwalls can be pre-fitted with Hydro-Brakes®, Penstocks and Non-return Flap Valves depending upon application, please ask us about our time saving solutions for your headwall requirements.

As with all concrete products, the headwalls will weather and natural coverage helps them blend into their environment.



---

**For further information**

Call **01179 814 500** | Email [offsite@marshalls.co.uk](mailto:offsite@marshalls.co.uk)

Visit [www.marshalls.co.uk/commercial/product/headwalls](http://www.marshalls.co.uk/commercial/product/headwalls)

# Flatpack systems

Marshalls Civils & Drainage produce a bespoke range of flat pack systems that can be used in situations where conventional circular chambers are not appropriate and can be supplied with pre-installed holes or be pre-fitted with pipe equipment to suit





**Key features:**

- Flexible solution with health and safety benefits to those on-site, including the lower need for confined space working n  
Reduced long-term maintenance costs
- No concrete surround needed, saving on both times and installation costs
- Reduction in waste disposal costs and traffic movements
- The concrete chambers can be manufactured to suit most dimensional requirements and the system comes with pre-fitted watertight wall seals for jointing
- Manufactured offsite under factory conditions, using modern methods of construction
- Made to site requirements

Offering lower construction costs, faster installation and a design life of 100 years, bespoke flat pack chambers are suitable for attenuation tanks, large CSOs, pumping stations and water storage tanks.



**For further information**

Call **01179 814 500** | Email [offsite@marshalls.co.uk](mailto:offsite@marshalls.co.uk)

Visit [www.marshalls.co.uk/commercial/product/flat-pack-chambers](http://www.marshalls.co.uk/commercial/product/flat-pack-chambers)

# Special Cover Slabs

As the demand for high loading and multi-access precast concrete cover slabs has risen, Marshalls Civils & Drainage have become experts at both design and manufacture, bringing together the expertise of both the Technical and Design teams and those in production.





**Key features:**

- Manufactured offsite using modern methods of construction so they are delivered to site ready to install
- Ease of installation with full construction details available



Extra-large heavy duty concrete slabs have been manufactured for airports and seaports as well as those designed to comply with the National Highways Specifications and special cover slabs to customers' own reinforcement design.

Cover slabs can either be a one-piece heavy-duty cover slab or a segmental unit depending on the diameter. Our qualified engineers are on hand to give advice with design and installation.

Typical examples of special cover slabs supplied include cover slabs for pumping stations which incorporate davits, rebates and surface boxes, extra heavy-duty slabs for airports and ports, cover slabs with multiple or extra-large accesses or slabs designed to comply with National Highways Specifications or customer's own reinforcement design.



**For further information**

Call **01179 814 500** | Email [offsite@marshalls.co.uk](mailto:offsite@marshalls.co.uk)

Visit [www.marshalls.co.uk/commercial/product/special-cover-slabs](http://www.marshalls.co.uk/commercial/product/special-cover-slabs)

# Electronic Signalling System Bases

Offering a safe and secure base for Electronic Signalling Systems (ESS), Marshalls heavy-duty ESS bases are fast to install, helping to speed the conversion of highways into smart motorways





**Key features:**

- Available to customer requirements
- Compliance with HA and standard industry foundation requirements
- Can be delivered throughout the UK mainland
- Full design service offered
- Aftersales and onsite service available

Made to order to suit your specification and available with or without a bitumen coating, these bases make the most of modern methods of construction as they are delivered ready to install on site (with pre-fitted base plates)

With proven high installation rates, the ESS bases save time and money and offer more convenient way of installation as well as complying with both HA and industry standards.

The Marshalls reinforced one-piece base offers great design flexibility.



---

**For further information**

Call **01179 814 500** | Email [offsite@marshalls.co.uk](mailto:offsite@marshalls.co.uk)

Visit [www.marshalls.co.uk/commercial/product/ess-base](http://www.marshalls.co.uk/commercial/product/ess-base)

# Redi-Rock™ Walling Solution

Often referred to as one-tonne Lego®, Redi-Rock™ blocks are big enough that they can be simply stacked on top of each other to construct a gravity wall. Redi-Rock™ is British Kitemarked by PAS 68 certification, UKCA marked, and BBA approved under the Highway Authorities Product Approval Scheme (HAPAS), with National Highways approval for “Areas of Relative Safety” (ERAs).



Marshalls is the only manufacturer of Redi-Rock™ modular walling in the United Kingdom mainland as licensed by Redi-Rock™ International.



**Key features:**

- Redi-Rock™, offers you freedom of choice, available in three different finishes (Cobblestone, Ledgestone and Limestone) that can be coloured to suit your surroundings
- All product is supplied without colour unless specifically ordered. Colours may vary and exact colour match cannot be guaranteed and shading may vary
- Redi-Rock™ is a complete retaining wall solution that looks great. Engineers love it because it combines solid engineering and aesthetics, which can be a hard combination to find

Redi-Rock™ modular walling precast products are made from durable, wet-cast concrete.

For even taller and/or more heavily loaded retaining walls, the Redi-Rock™ Positive Connection (PC) system can be used to construct a mechanically stabilised earth (MSE) wall. However, Redi-Rock™ is much more than simply large retaining wall blocks. Redi-Rock™ freestanding blocks have the same great look as the retaining blocks, with texture on two or more sides.

These freestanding blocks are perfect for perimeter walls, entrance monuments, or parapet walls. Redi-Rock™ accessory products include column blocks, steps, benches and capping blocks/coping stones, and are perfect for completing your project.

**Cobblestone**

A chiselled Cobblestone texture mimicks the appearance of six small blocks, giving the wall a more uniformed look

**Limestone**

With a quarried face looking great on large scale projects, the textured blocks offer walls an impressive finished appearance

**Ledgestone**

Offering deep, random textured walls, which blend in beautifully with natural stone, giving the impression of a random stone wall

**Top block:** Grooved underside, dished top to accept surfacing



**Middle block:** Grooved underside, domed top to accept next course



**Bottom block:** Flat underside, domed top to accept next course



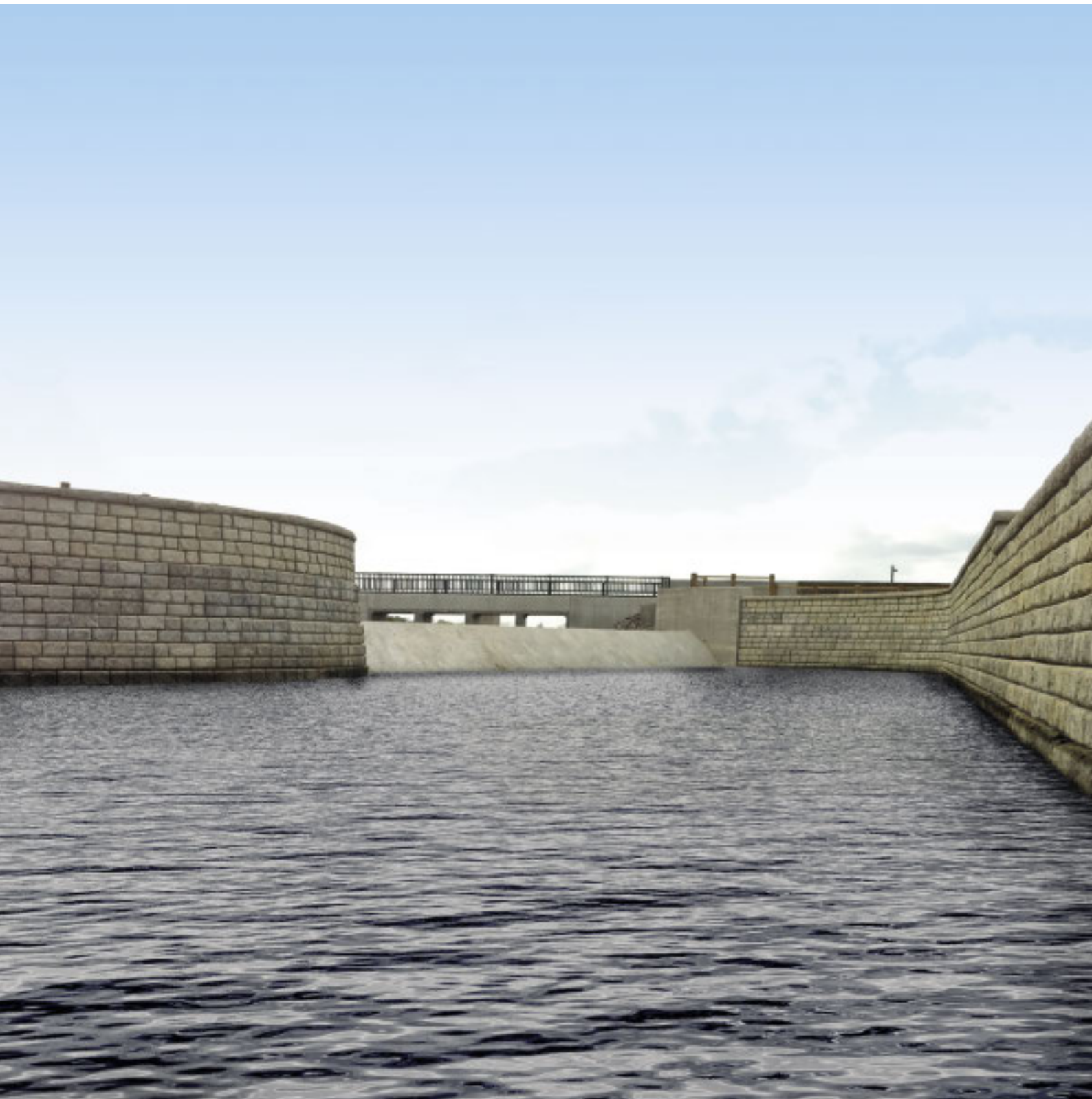
**For further information**

Call **01179 814 500** | Email [redi-rockenquiries@marshalls.co.uk](mailto:redi-rockenquiries@marshalls.co.uk)

Visit [www.marshalls.co.uk/commercial/civils-and-drainage/redi-range](http://www.marshalls.co.uk/commercial/civils-and-drainage/redi-range)

# Redi-Rock™ Flood Protection

With an increase in storms and flood damage Marshalls Civils & Drainage offers a range of flexible low cost, high quality flood protection solutions based on their innovative Redi-Rock™ interlocking modular wall system





Whether looking to heighten river banks, build new sea walls or construct flood plain defences, Redi-Rock™ offers considerable benefits over alternative solutions, not least the aesthetically pleasing finish that Redi-Rock™ offers enabling it to blend perfectly into the local environment.

### **Redi-Rock™ Waterways, Shoreline Defence & Erosion Control**

As past summers have shown, at least ten per cent of all land in England lies within areas at risk of flooding. There are tens of thousands of buildings at risk including the Houses of Parliament. Predictions for the next 50 years estimate that water levels in England will rise by around 0.3 meters.

To help answer this national challenge, Redi-Rock™ provides flexible solutions that offer savings in economy and time-scale when compared to traditional methods.

#### **Waterways**

Canals and rivers can utilise Redi-Rock™ blocks. Tow paths and river banks can be reinforced with a Redi-Rock™ walling solution that aesthetically compliments the environment. Redi-Rock™ is a quick to install and economically attractive solution that has the added advantage of being very aesthetically pleasing in the country environment.

#### **Flood Plain Defences**

Redi-Rock™ is ideal for flood plain defences since as the seas rise so will the rivers and low-lying land will flood unless protected. Redi-Rock™ concrete blocks are ideal for this type of flood defence. In the UK, the Environment Agency has specified Redi-Rock™ for many schemes used to protect both commercial and private properties.



---

### **For further information**

Call **01179 814 500** | Email [redi-rockenquiries@marshalls.co.uk](mailto:redi-rockenquiries@marshalls.co.uk)

Visit [www.marshalls.co.uk/commercial/product/flood-protection](http://www.marshalls.co.uk/commercial/product/flood-protection)

# Redi-Rock™ Reinforced Walling

Redi-Rock™ reinforced walling or positive connection system (PC) is used in conjunction with a geogrid and has been rigorous tested to be used when either an increased load or height is required





**Key features:**

- Enables simplified wall construction
- Increased wall height achieved with reduced geosynthetic reinforcement requirements
- Can use in conjunction with freestanding walls to create



Due to the massive size of each block, using the system can reduce time and money spent on installation.

The Redi-Rock™ modular reinforced walling can improve the overall aesthetic look of a project with a variety of standard face textures and colour options, and delivers an attractive, cost effective, high performance retaining wall structure.

This Redi-Rock™ system combines the massive stability with the natural appearance of stone with the established performance of geogrid reinforcement through a simple and highly efficient positive connection with the Redi-Rock™ reinforced block.

This result is a superior retaining wall system developed to meet the most demanding structural needs of highways, harbours, flood defence, bridge abutments, rail projects, embankments, airports and as well as industrial and commercial projects.



---

**For further information**

Call **01179 814 500** | Email [redi-rockenquiries@marshalls.co.uk](mailto:redi-rockenquiries@marshalls.co.uk)

Visit [www.marshalls.co.uk/commercial/product/reinforced-walls](http://www.marshalls.co.uk/commercial/product/reinforced-walls)



# Redi-Rock™ Retaining Walls

Our natural stone looking retaining wall blocks are versatile enough to achieve height without compromising on strength, Marshalls' can work with you in assisting with an engineered solution to meet your project requirements, from planning to installation.

National Highways approved for "Areas of Relative Safety" (ERAs).





**Key features:**

- Fast and easy to install
- Space saving designs with geogrid rarely needed meaning walls take up less space
- Aesthetically pleasing, with the look of natural stone
- Minimal maintenance required
- Engineered strength, achieving height without geogrid
- Risk reduced as number of people and time on site is reduced

Redi-Rock™ concrete retaining wall series offers low project costs and a high-quality solution. The one tonne interlocking concrete blocks are moulded from solid concrete and delivered ready to build and as they are dry laid, they are fast to install and offer cost savings. Marshalls can offer extensive engineering, design and installation support.

Gravity retaining walling can improve the overall aesthetic look of your project and delivers an attractive, cost effective, high performance gravity wall structure.



---

**For further information**

Call **01179 814 500** | Email [redi-rockenquiries@marshalls.co.uk](mailto:redi-rockenquiries@marshalls.co.uk)

Visit [www.marshalls.co.uk/commercial/product/retaining-wall-series](http://www.marshalls.co.uk/commercial/product/retaining-wall-series)







# More with Marshalls

Marshalls is the UK's leading hard landscaping, building and roofing products supplier; we're proud to have supplied some of the most prestigious landmarks in the UK since the 1890s.

Our divisions represent years of technical expertise and market-leading innovation, focusing on creating better spaces.

From paving to drainage, bollards to roof tiles, we offer a wide range of products to help our customers create and improve our living environment.

## Landscape Protection

Marshalls Landscape Protection offers both protective and non-protective street furniture solutions which blend seamlessly into urban landscape design



Our solutions include:

- Bollards
- Street furniture (seating, cycle stands and litter bins)
- Post and rail
- Active travel solutions
- Hostile Vehicle Mitigation (permanent, temporary, static and automatic)

**For further information**

Visit [www.marshalls.co.uk/commercial/landscape-protection](http://www.marshalls.co.uk/commercial/landscape-protection)





## Bricks & Masonry

Marshalls Bricks & Masonry offer a variety of manufactured concrete products for the construction industry that come in multiple finishes and colours to suit all building and aesthetic requirements

Our solutions include:

- Bricks (utility, facing and engineering)
- Blocks
- Retaining walls
- Walling

### For further information

Visit [www.marshalls.co.uk/commercial/bricks-walling](http://www.marshalls.co.uk/commercial/bricks-walling)





## Aggregates

From a network of wholly owned and trusted British quarries, we offer a choice of products from general purpose building sand to aggregates for groundworks.

We offer ranges that are all certified to British Standard requirements or higher.



Our solutions include:

- Block stone
- Building sand
- Aggregates

### For further information

Visit [www.marshalls.co.uk/commercial/aggregates-sand-block-stone](http://www.marshalls.co.uk/commercial/aggregates-sand-block-stone)





## Mortars & Screeds

We offer ready-to-use mortar, screed and flow screed delivered from a network of wholly owned manufacturing locations located across the UK

Our solutions include:

- Ready to use mortar
- Screed

### **For further information**

Visit [www.marshalls.co.uk/commercial/mortars-and-screeds](http://www.marshalls.co.uk/commercial/mortars-and-screeds)



**More with Marshalls**

## Natural Stone

Marshalls' extensive commercial natural stone collection includes an array of choice to ensure designers have the flexibility they need to achieve their vision



Well known for their strength and durability, each natural stone in the range offers both significant functional benefits as well as true natural beauty that is unique to every single scheme.

Landscapes with uniform blends or a contrasting mix of multiple stones can be achieved due to the versatility of the stones, while also having capabilities for a host of applications. We offer:

- Paving - standard & tactile
- Kerbs
- Setts
- Furniture
- Bespoke
- Masonry & artwork

### **For further information**

Visit [www.marshalls.co.uk/commercial/about-marshalls/natural-stone](http://www.marshalls.co.uk/commercial/about-marshalls/natural-stone)





## Concrete Paving

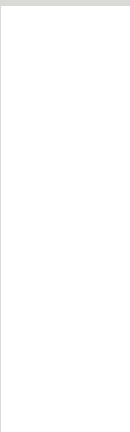
Concrete paving technology has come a long way from standard sizes and colours, and Marshalls has decades of experience producing a wide range of styles and finishes that are not only robust and durable, but vary in styles and designs that deliver long-lasting quality

### For further information

Visit [www.marshalls.co.uk/commercial/paving](http://www.marshalls.co.uk/commercial/paving)

Over 99% of Marshalls manufactured products are made in Britain, giving us the ability to travel short distances to deliver to our customers. We offer:

- Flag paving
- Block paving
- Tactile paving
- Steps
- Permeable paving
- Setts and cobbles



# Marshalls Civils & Drainage

## A name you can trust



### Proven strength

Many concrete solutions manufactured by Marshalls Civils & Drainage have a proven service life of 120 years, they are not weakened by fire or moisture and do not lose their shape.



### Reduced maintenance

We offer solutions that are easier and less costly to maintain than other forms of surface water drainage systems, with ease of access.



### Durability

Integral durability of Marshalls Civils & Drainage precast concrete products mean they are highly abrasive and don't lose strength over time. Inherently robust, our solutions are resistant to the effects of freeze thaw and de-icing salts.



### Fire resistant

Concrete is naturally fire resistant and is an effective barrier to the spread of fire. It does not produce smoke or emit any toxic fumes under fire conditions.



### CDM

Marshalls Civils & Drainage is committed to the design and manufacture of products to ensure the user safety. Installation involves breaking ground and is thus considered as construction work under the Construction (Design and Management) Regulations 2015. We put a great deal of effort into ensuring that our designs are safe and will provide structural details to the principal designer nominated by the construction site client (please contact Marshalls Civils & Drainage Technical Office).



### Ease & flexibility of design

Systems perform more efficiently with just the use of concrete channels, grates, outfalls giving improved end user performance and greater comfort to pedestrians and road users. The Marshalls Civils & Drainage precast concrete products can be used for a number of purposes, including sewerage, infrastructure, civils and sustainable drainage systems (SuDS) applications such as stormwater attenuation and storage.









Landscape House, Premier Way  
Lowfields Business Park, Elland HX5 9HT

[www.marshalls.co.uk](http://www.marshalls.co.uk)