EVERYTHING YOU NEED TO CREATE A SAFER OUTDOORS

LANDSCAPE PROTECTION

Creating Better Spaces
Protective Street Furniture is not traditionally viewed as products that enhance landscapes, more as a necessary evil to ensure our people, places and infrastructure are kept safe from threat.

In most cases, protective products are developed with minimal consideration given to their design.

Marshalls Landscape Protection has flipped this on its head. A design, engineering and specification philosophy enables highly effective protection to blend seamlessly into urban landscape design. Allowing architects, planners and designers to install the levels of security required without instilling fear.

The Marshalls Landscape Protection product portfolio includes a wide range of products that defend, deter or deflect. Whether an area needs to be protected with crash rated furniture that can withstand a 7.5 tonne truck travelling at 50mph, or if a busy high street needs protecting from slower moving errant vehicles or whether a visual deterrent is required to keep an area secure there is a product type to suit all requirements.

Our specialist design and engineering teams are experienced in a range of materials from natural stone and concrete to aluminium, stainless steel and timber. So if you don’t find what you need within the Marshalls Landscape Furniture range, your options don’t end there. Our exceptional bespoke products often start with a flash of inspiration that is then fully explored and carefully nurtured throughout your project.

Speak to our team on 0370 600 2425 about how we can help create your project vision.
Legislations Explained

Performance and Application
At the heart of Hostile Vehicle Mitigation is the BSI Publicly Available Standards (PAS) such as PAS 68 and IWA. 14.1. Each standard enables the specification of assured protection against hostile vehicles.

PAS 68
The Publicly Available Specification, PAS 68, specifies a performance classification for vehicle security barriers and their foundations when subjected to a horizontal impact. The standard was devised and administered by the Centre for the Protection of National Infrastructure (CPNI), and tests security barriers at varying speeds, using different size vehicles. Whilst it is only through specifying products successfully tested in accordance with PAS 68 that protective security can truly be assured, this does not necessarily mean that the highest specifications of PAS 68 protection are always required.

PAS 69
BSI PAS 68 is complemented by the PAS 69 document, which provides guidance on the selection, installation, foundations and use of PAS 68 tested security products, taking into account site specific conditions, to ensure they are placed as effectively as possible.

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IWA 14.1
IWA 14.1 is an international standard for counter terrorism impact testing agreements which incorporates PAS 68, ASTM 2656, and the CEN Workshop Agreement. Hence, no matter where you are based or where you want to create a safe and beautiful space, the IWA workshop agreement standardises all counter terrorism impact testing agreements and models and combines them into one, making the testing and specification of products easier and clearer for all specifiers.

IWA 14.2
IWA 14.2 provides guidance for the selection, installation and use of vehicle security barriers (VSBs) and describes the process of producing operational requirements (ORs). IWA 14.2 also gives guidance on a design method for assessing the performance of VSBs.

PAS 170
PAS170 delivers a testing standard for vehicles of up to 2.5 tonnes travelling at 10 or 20mph. Lower than the regulations developed to mitigate against vehicle born terror attacks.

Unlike previous antiterror solutions, new products tested and certified by PAS 170 provides businesses and local authorities with assurance and proof of performance for the first time.

<table>
<thead>
<tr>
<th>Vehicle Type</th>
<th>Vehicle Mass (kg)</th>
<th>Vehicle Speed (km/h)</th>
<th>Kinetic Energy (kJ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5 tonne Saloon Car (M1)</td>
<td>16 (10)</td>
<td>59kJ</td>
<td>256kJ</td>
</tr>
<tr>
<td>2.5 tonne 4x4 Pickup (N1G)</td>
<td>32 (20)</td>
<td>138kJ</td>
<td>2667kJ</td>
</tr>
<tr>
<td>3.5 tonne Flatbed Van (N1)</td>
<td>64 (40)</td>
<td>355kJ</td>
<td>1185kJ</td>
</tr>
<tr>
<td>Empty 18 tonne 2 Axle Lorry (Weighs 7.5 tonnes - N3)</td>
<td>80 (50)</td>
<td>667kJ</td>
<td>7412kJ</td>
</tr>
<tr>
<td>30 tonne 4 Axle Lorry (N3)</td>
<td>96 (60)</td>
<td>1244kJ</td>
<td></td>
</tr>
<tr>
<td>112 (70)</td>
<td>12012kJ</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table above provides the kinetic energy values (in kj) created on impact, for each of the vehicle types and speeds used in PAS 68 CWA 16221 impact testing.

Performance and Application
At the heart of Hostile Vehicle Mitigation is the BSI Publicly Available Standards (PAS) such as PAS 68 and IWA. 14.1. Each standard enables the specification of assured protection against hostile vehicles.
Protective Bollards

RhinoGuard™ Product Options

Our RhinoGuard™ range of bollards have a wide range of sleeve options, various fixing types and foundation depths available to suit your scheme. All our cores have been tested from 1.5tonne to 7.5tonne at various speeds up to 50mph.

Sleeve Options Available:

- **STEEL**
  - Galvanised & Powder Coated
- **STAINLESS STEEL**
  - Brushed
- **GEO STAINLESS STEEL**
  - Bead Blasted with Polished Top Cap
- **LED MARKER**
  - Stainless Steel - Brushed
- **DECORATIVE SLEEVES**
  - Dubai 254
  - FINISHES:
    - Grey Aluminium
    - RAL 9007
    - Bronze (RT-8102-1)
    - Anthracite Grey (RAL 7016)
    - Pebble Shore (RT-1702-1)
    - Corten (RT-8286-I)
    - Flower Burst 254
    - Diamond Fade 204

Complementary Products

If you require a protective solution in the form of Landscape Furniture, our RhinoGuard™ core can also be fitted with an attractive shroud in the form of a litter bin or cycle stand from our popular Geo Collection.

- **GEO LITTER BIN**
  - Stainless Steel / Brushed Satin
- **GEO CYCLE STAND**
  - Stainless Steel / Brushed Satin
Marshalls Landscape Protection products are available in a wide range of materials, styles, price points and finishes. Ensuring suitability for a variety of applications.

<table>
<thead>
<tr>
<th>Surface Mount</th>
<th>Automated Bollard</th>
<th>Post &amp; Rail</th>
<th>Automated Gates</th>
<th>Automated Blockers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redi-rock</td>
<td>LED</td>
<td>Waterside</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Crash Tested to PAS68 STANDARD**

**Protective Measures**

Redi-Rock hostile vehicle mitigation walling is proven to stop a 7.5 tonne truck at 30mph. No ground anchors required, fast to install and free standing.

Marshalls Landscape Protection automated bollards provide an aesthetically pleasing access control point. Automated bollards offer a wide range of flexibility to suit a multitude of site access needs and requirements.

We have a wealth of experience in specialist post & rail systems. Available in a wide range of materials and styles, our specialists can work with you to create the perfect configuration for your scheme.

Automatic gates are an essential component of a security and access control system where vehicular and pedestrian access needs to be controlled. Automated gates offer security, all-weather operation and are widely recognised as a deterrent product for residential and commercial use.

Automatic Blockers act as a great deterrent due to their size and visibility. They are very effective at closing down lanes and limiting pedestrian access. Blockers can easily incorporate light and signs on the front helping inform and deter unwanted vehicles.
Protective Street Furniture

We believe that keeping people safe does not have to compromise the aesthetics of surrounding areas. Marshalls Landscape Protection offers a number of aesthetically pleasing, crash tested furniture solutions that can blend seamlessly into all environments. Ensuring people feel safe not scared.

Igneo 75/40 Seat

**MATERIALS/COLOURS**
- Precast Concrete
- Armchair Powder Coat Colours
- RAL 1033
- RAL 1037
- RAL 1035
- RAL 1023
- RAL 8017
- RAL 9005
- RAL 9007
- RAL 5010
- RAL 8014
- RAL 1023
- RAL 6005
- RAL 9010
- RAL 7045
- RAL 9006

**Conservation**
- Dark Grey
- Silver Grey

**Boulevard**
- Black
- Cream

**Defend**
- White

EOS 75/30 Protective Seat

**MATERIALS/COLOURS**
- Ferrocast
- RAL 1033
- RAL 1037
- RAL 1035
- RAL 1023
- RAL 8017
- RAL 9005
- RAL 9007
- RAL 5010
- RAL 8014
- RAL 1023
- RAL 6005

**RhinoGuard™ Blok**

**RhinoGuard Blok Silver Grey**

**RhinoGuard Blok Mid Grey**

**RhinoGuard Blok Mid Grey With timber cladding**

**Giove Protective Planter**

Our 75/50 rated RhinoGuard™ Giove Planter has a range of Stone options available depending on your design requirements.

**MATERIALS/COLOURS**
- Concrete
- Precious Stone

**Rosso Blanco Giallo Veneziano Porfido Verde Nero**

Crash Tested to PAS68 STANDARD

We believe that keeping people safe does not have to compromise the aesthetics of surrounding areas. Marshalls Landscape Protection offers a number of aesthetically pleasing, crash tested furniture solutions that can blend seamlessly into all environments. Ensuring people feel safe not scared.
### Protective Bollards

**Perimeter Protection**

Marshalls Landscape Protection bollards are available in a wide range of materials, styles, price points and finishes. Ensuring suitability for a variety of applications.

**Material Types Available:**

<table>
<thead>
<tr>
<th>Material Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAINLESS STEEL</td>
<td>Stainless steel bollards provide a classic yet contemporary solution to perimeter protection. Our bollards are manufactured using the highest grade stainless steel which increases resistance to corrosion and makes it less susceptible to surface pitting.</td>
</tr>
<tr>
<td>STEEL</td>
<td>Steel bollards provide strong, simple and cost effective security measures ideal for access control, terracing, deterrence and mediation of pedestrian walkways. Each steel bollard has a number of options to enable you to customise products to suit your scheme.</td>
</tr>
<tr>
<td>FERROCAST</td>
<td>Ferrocast bollards are an ideal way to increase security around your perimeter. Suitable for use in almost any situation and available in a number of styles to coordinate with most landscapes, whether traditional or contemporary.</td>
</tr>
<tr>
<td>CONCRETE</td>
<td>Our comprehensive range of concrete bollards contain numerous designs and finishes, encompassing the purely utilitarian and those with contemporary styling, providing choice for a range of different environments.</td>
</tr>
<tr>
<td>CAST IRON</td>
<td>Marshalls cast iron bollards are manufactured from ductile iron, this material is ideal for bollard use as it retains its maintainability and corrosion resistance but has additional strength and toughness. Some of our cast iron bollards can be personalised with crests, logos and coats of arms on request.</td>
</tr>
</tbody>
</table>

Other material and style options available. Please visit Marshalls.co.uk or call 0370 600 2425

*Images for reference only. Some styles are not available in PAS rated.*
Protective Bollards

**Perimeter Protection**
Marshalls Landscape Protection bollards are available in a wide range of materials, styles, price points and finishes. Ensuring suitability for a variety of applications.

**Material Types Available:**

- **TIMBER**
  - Ollerton
  - Marshalls Landscape Protection range of timber bollards are manufactured from Opepe timber, a hardwood that is often used for heavy structural work. These bollards will allow you to bring natural materials into an urban environment.

- **POWDER COATED CORTEN STEEL**
  - Marshalls Landscape Protection powder coated steel bollards are extremely durable due to their galvanised and powder coated finish making them ideal for use in street furniture applications.

- **PLASTIC**
  - Marshalls Landscape Protection plastic bollards are low maintenance, durable and long lasting.

- **NATURAL STONE**
  - Marshalls Landscape Protection range of natural stone bollards are strong, durable and enduring.

- **FERROCAST**
  - Marshalls Landscape Protection range of ferrocast bollards are functional and flexible pieces which all create clean and simple solutions for any urban space. The range uses highest quality granite, which is strong, durable and enduring.

*Images for reference only. Some styles are not available as PAS rated.*

Other material and style options available. Please visit Marshalls.co.uk or call 0370 600 2425
Visual Deterrent Measures

The Rhino Telescopic bollards provide a secure, simple and cost-effective method of protective premises and vehicles for domestic and commercial application.

Automatic gates are an essential component of a security and access control system where vehicular and pedestrian access need to be controlled. Automated gates offer security, all-weather operation and are widely recognised as a deterrent product for residential and commercial use.

Marshalls Landscape Protection automated bollards provide an aesthetically pleasing access control point. Automated bollards offer a wide range of flexibility to suit a multitude of access needs and requirements.

We have a wealth of experience in specialist post & rail systems. Available in a wide range of materials and styles, our specialists can work with you to create the perfect configuration for your scheme.

Marshalls Landscape Protection products offer the perfect solution for a large range of environments where a deterrent solution is required. The product range offers a number of flexible solutions that are suitable for a wide range of applications.
The Demetra planter is available in concrete or precious stone. Due to its self-leveling system, the Demetra products are perfectly level on slopes with up to a 6% incline.

The Bellitalia Acquario Precious Stone Planter is rectangular in shape and features gently rounded corners. Manufactured from reinforced precious stone concrete, the walls of the planter are at least 70mm thick with a base of 500mm.

The Bellitalia Classica Circular Planter is a self-leveling planter available in two sizes—the 300-litre Classica 1220 and the 600-litre Classica 1620. Classica planters are manufactured from precious stone concrete, sandblasted and finished with a transparent anti-decay coating.

The Boulevard Circular Concrete Planter is designed to offer a robust and practical planting solution for your landscape project. Manufactured in concrete for ultimate durability, the Boulevard Circular Concrete Planter is available in a range of standard colours.

Offering clean lines and simplicity, the Strada Circular Concrete Planter will enhance any urban landscape. Made from precast concrete, the planter’s durability allows it to be strategically placed to restrict vehicular access and guide pedestrian flow, offering an important functional addition to a scheme.

Marshalls Landscape Protection products offer the perfect solution for a large range of environments where a deterrent solution is required. The product range offers a number of flexible solutions that are suitable for a wide range of applications.
Lets create greater outdoors

Our integrated street furniture ranges have everything you need to create spaces that people flock to. Places they can meet up, unwind and relax.

Whilst our main objective is to ensure our products provide the required levels of security to sites at potential risk, we believe that it is also vital that landscapes remain functional, attractive and appreciated by the community that use them.

Whatever you’re looking for, whether it’s a specific product or a certain theme, you’ll find everything you need to create greater outdoors.