

## TERRA LUNAR BRIDGE BOLLARD 30mph

NEW FOR 2020

**IWA-14 STATIC TERRA LUNAR BRIDGE BOLLARD 30mph****V/7200[N2A]/48/30:0.2**

Frontier Pitts is excited to introduce our shallowest bollard yet requiring foundations of just 75mm which resulted in zero penetration when tested to IWA 14 stopping 7.2t at 30mph.

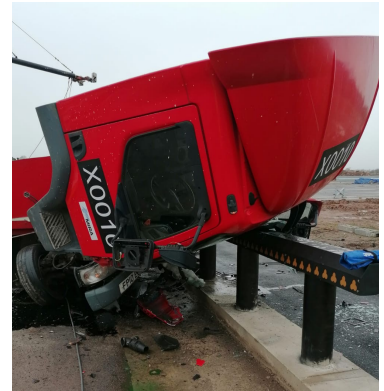
Bridges around the World are vital to our transportation network but have already been subjected to vehicle attacks by terrorists, users have become extremely vulnerable. Frontier Pitts have created a bollard bridge system that is able to sit within the bridge kerb structure utilising an ultra-shallow foundation of less than three inches.

The Terra Lunar Bridge Bollard system was impact tested to IWA 14 at Horiba MIRA. The system successfully stopped a 7.2t vehicle traveling at 30mph at a shallow attack angle of 30-degrees, resulting in the vehicle being stopped within the bollard profile. At time of print, this is the best result in the world from a bridge protection bollard system. This means the bollard system successfully protected the pathway and cycleway as there was no encroachment by the vehicle. The Terra Lunar Bollard system was not damaged after the impact test and remained fully upright.

The challenge of designing and installing a bollard system to protect a bridge has its own set of unique problems as the not only are the foundations extremely limiting, but the structural integrity of the bridge deck cannot be compromised. A unique articulated connection between the bollards using flexible linkages allows for bridge movement and expansion.

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Another part of the challenge is the appearance and look of the protective systems. Temporary solutions that have been installed on bridges have been unpopular in London as they have been described as bulky and not in keeping with the decorative look and feel of London's ornate architecture and heritage. Frontier Pitts Terra Bridge Bollards system includes a unique decorative top sleeve which sits on top of the bollards linking the system together. For an ornate design, the decorative beam can incorporate a trefoil design or indeed any logo specific to the client or site. Other options include LED lighting and reflective banding.



The Terra Lunar Bridge Bollard system is designed to fit lengths of pathways and pavements. Although designed to protect bridges, this ultra-shallow bollard solution can also be used for other inner-city areas, pathways, linear walkways and cycle lanes where there is limited foundation depth.

Height above Ground	<b>960mm</b>
Diameter Typical	<b>219Ø</b>
Foundation	<b>D75mm</b>
<b>for an array of 8 bollard</b>	
Finish:	<b>Painted as standard, Stainless Steel sleeves available</b>
	<b>Decorative Top Sleeve</b>
Security Rating:	<b>IWA 14-1 7.2t @ 48kph</b>
<b>IWA14 CLASSIFICATION CODE</b>	<b>IWA14V/7200/48/30:0.2</b> *Best in the World

*at time of print*

### BENEFITS & FEATURES

- Impact test resulted in vehicle stopped within the bollard profile
- Only 75mm depth foundation required, with 30mm topping
- Anti-Terrorist protection for Bridges or other Ultra Shallow installations.
- Bollards remained upright and intact after impact test. The top sleeve is easily replaced within ten minutes.
- Decorative Beam with option of engraving a special design or corporate logo
- Modular design for quick & easy installation
- Designed for ease of maintenance
- Crash tested with Decorative Top Sleeve
- A unique articulated connection between the bollards using flexible linkages allows for bridge movement and expansion.

### OPTIONS

- LED lights