

1. Objective and Scope

To describe how to correctly install Saferoads OMNI-STOP Super Duty Security Bollard.

2. Important Note:

Saferoads OMNI-STOP Super Duty Security Bollard has been crash tested and can stop a 5000lbs / 2270kg vehicle travelling at 30mph/50kph when surrounded by 250mm thick concrete.

Saferoads OMNI-STOP Super Duty Security Bollard has also been crash tested and can stop a 5000lbs / 2270kg vehicle travelling at 30mph/50kph when surrounded by SP – poorly graded sand.

However effective safe zone must be increased by a factor of 2.5.

Installation outside of these conditions may be possible, but a geotechnical engineer should be engaged to recommend appropriate design.

3. Personal protective equipment (PPE)

The following is mandatory PPE.



Safety Boots (steel capped) with rubber soles.



Eye protection is compulsory



Hearing protection is compulsory



Hi-Viz must be worn when installing product



Gloves must be worn when installing product



Hi-Viz Protective Clothing is to be worn

4. Equipment Required

- Auger & or digging tools
- String line
- Spirit level
- Reo spacers
- 5000 PSI/32MPa concrete
- Pencil vibrator
- 6in / 150mm x 57in / 1450mm light galvanised pipe

5. Qualifications and Competencies

- a) Safe use of hand tools;
- b) Manual handling; and
- c) Road traffic management.

6. Overview







- Item 1 Reinforcement cage assembly including Bollard Tube receiver
- Item 2 5000PSI / 32MPa concrete footing, 24in / 600mm dia. X 71in / 1800mm deep
- Item 3 55in / 1400mm long “Omni” pipe plus domed cap, 6in / 150mm nominal O.D.





7. Documentation and Setup

- a) Ensure that the selected installer provides a copy of Public Liability Insurance, WorkCover, SWMS and plant service records. (No documentation - no job).
- b) Before commencing ensure that you have had all services located and clearly identified using “Dial Before You Dig” or “Before You Dig Call 811”. Ensure you complete the Inspection and Test Plan (ITP).
- c) Ensure you are at the correct location and set up traffic control to Australian Standards, or as advised and required by the client.



8. Installation

Step 1 – Identify right location	Step 2 – Marking	Step 3 – Dig
		
<p>Ensure that you are in the right location for the installation.</p>	<p>Mark out hole centres as per site design. If installing multiple bollards use a string-line to check they are in a straight line.</p>	<p>After removing concrete, auger or manually dig a minimum 24in / 600mm diameter x 71in / 1800mm deep hole.</p> <p>If using machinery refer to Equipment SOP for safe operating procedures.</p>
Step 4 – Reinforcement spacers	Step 5 – Positioning reo cage	Step 6 – Positioning reo cage
		
<p>Place 4 reinforcement spacers under the cage to allow the reinforcement cage to sit clear of the sub-soil.</p>	<p>Insert the Omni-Stop Super Duty Security Bollard reinforcement cage, ensuring that the cage is at equal distance from the edges of the hole.</p> <p>Also ensure the top of the sleeve is level with the finished concrete surface.</p> <p>Use a spirit level to ensure that the reinforcement cage assembly is correctly positioned.</p>	<p>Use a spirit level to ensure that the reinforcement cage assembly is correctly positioned</p> <p>Note: using a 6in / 150mm x 57in / 1450mm lightweight galvanised pipe placed into the cage to check that the bollards will be vertical may assist.</p>

<b>Step 7 – Pouring concrete</b>	<b>Step 8 – Pouring concrete</b>	<b>Step 9 – Screeding</b>
		
<p>Pour concrete into the space surrounding the reo cage to approx. 12in / 300mm and then re-check levels. (Concrete must be 5000PSI / 32MPa).</p>	<p>Fill the remainder of the hole with concrete. Ensuring that the application of concrete does not move the reo cage out of position.</p> <p>The concrete should be vibrated with a pencil vibrator to settle the concrete and remove air pockets.</p> <p>Be careful when pouring concrete that the Omni-Stop Super Duty Security Bollard cage is not moved from its intended location, or level.</p> <p>The performance of the Omni-Stop Super Duty Security Bollard may be affected by incorrect installation.</p>	<p>Finish off by screeding the concrete surface and if applicable replace pavers around installed bollard.</p> <p>Note: If paving is to be placed over the top of the footing, the excavation must be deep enough to ensure that the concrete footing is minimum 71in / 1800mm deep and 24in / 600mm diameter.</p>
<b>Step 10 – Finish</b>	<b>Step 11 – Final checks and housekeeping</b>	
	<p>Clean Worksite</p> <ul style="list-style-type: none"> <li>• Sweep any excess dirt or debris from the site and collect any left-over parts</li> <li>• Housekeeping practices adhered to and worksite is left clean and safe; and</li> <li>• Items have been fitted correctly and safely.</li> <li>• Workmanship is to specification;</li> <li>• Materials quality is acceptable;</li> <li>• Unused materials are removed; and</li> <li>• Quality checks performed.</li> <li>• Surrounds are restored to prior condition; and</li> <li>• No spillage and/or damage to any soil, habitat, atmosphere or drainage.</li> </ul>	
<p>Sweep up any excess dirt or debris from the site.</p> <p>Ensure you have completed the Inspection and Test Plan (ITP) for the Omni-Stop Super Duty Security Bollard for each installation you have completed.</p> <p>Installation complete.</p>		



SOP REVISION UPDATES

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SOP Amendment Level

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Rev #	Date	Comment
2	20/11/2023	a. PPE icons updated b. SOP Ownership update: COO to Engineering & Production Manager
2	10/05/2022	c. Review by Manager – Supply, Safety and Systems – No Revision change (format only)
2	26/10/2020	a. New Format

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