SOP – INSSOP028 - Installation OMNI-STOP Ultra Security Bollard

Rev 2 (22/11/2023) - Owner: Engineering & Production Manager



ROAD SAFETY RENTAL

1. Objective and Scope

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

2. <u>Important Note:</u>

Saferoads OMNI-STOP Ultra Security Bollard has been crash tested and can stop a 3500lbs/1600kg vehicle travelling at 30mph/50kph. It is important that the surrounding soil has sufficient strength to support the footing during a design impact.

The minimum specification for the surrounding soil is that it should be a cohesive soil with a minimum Undrained Shear strength of 100kPa. A simple Dynamic Cone Penetrometer (DCP) test can be conducted, a minimum average of 2 blows per 2in/50mm is required.

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

Pencil vibrator

- 5000 PSI/32MPa concrete
- ng line •
- Spirit level
- Reo spacers
- 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. 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".
- c) Ensure you complete the Inspection and Test Plan (ITP) / SWMS and that these documents are signed onto by all operators..
- d) Ensure you are at the correct location and set up traffic control to Australian Standards, or as advised and required by the client.
- e) Conduct a site meeting and ensure that all aspects of the works are outlined and fully understood by all parties.





SOP – INSSOP028 - Installation OMNI-STOP Ultra Security Bollard

Rev 2 (22/11/2023) - Owner: Engineering & Production Manager



ROAD SAFETY RENTAL

7. <u>Installation</u>

Step 1 – Identify right location



Step 2 - Marking



Step 3 - Dig



Ensure that you are in the right location for the installation.

Mark out hole centres as per site design.

If installing multiple bollards use a stringline to check they are in a straight line.

Auger or manually dig a minimum 28in / 700mm diameter x 40in / 1000mm deep hole.

Step 4 - Reinforcement spacers



Step 5 - Positioning reo cage



Step 6 - Positioning reo cage



Place 4 reinforcement spacers under the cage to allow the reinforcement cage to sit clear of the sub-soil. Insert the Omni-Stop Ultra Security Bollard reinforcement cage, ensuring that the cage is at equal distance from the edges of the hole.

Also ensure the top of the sleeve is level with the finished concrete surface.

Use a spirit level to ensure that the reinforcement cage assembly is correctly positioned

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.



SOP - INSSOP028 - Installation OMNI-STOP Ultra Security Bollard

Rev 2 (22/11/2023) - Owner: Engineering & Production Manager



ROAD SAFETY RENTAL

Step 7 – Pouring concrete



Pour concrete into the space surrounding the reo cage to approx. 12in / 300mm and then re-check levels.

(Concrete must be 5000PSI / 32MPa).

Step 8 – Pouring concrete



Fill the remainder of the hole with concrete. Ensuring that the application of concrete does not move the reo cage out of position.

The concrete should be vibrated with a pencil vibrator to settle the concrete and remove air pockets.

Be careful when pouring concrete that the Omni-Stop Ultra Security Bollard cage is not moved from its intended location, or level.

The performance of the Omni-Stop Ultra Security Bollard may be affected by incorrect installation.

Step 9 - Screeding



Finish off by screeding the concrete surface and if applicable replace pavers around installed bollard.

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 40in/1000mm deep and 28in/700mm diameter.

Step 10 - Finish



Sweep up any excess dirt or debris from the site.

Ensure you have completed the Inspection and Test Plan (ITP) for the Omni-Stop Ultra Security Bollard for each installation you have completed.

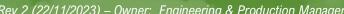
Installation complete.

Step 11 - Final checks and housekeeping

Clean Worksite

- Sweep any excess dirt or debris from the site and collect any left-over parts
- Housekeeping practices adhered to and worksite is left clean and safe; and
- Items have been fitted correctly and safely.
- · Workmanship is to specification;
- Materials quality is acceptable;
- · Unused materials are removed; and
- Quality checks performed.
- Surrounds are restored to prior condition; and
- No spillage and/or damage to any soil, habitat, atmosphere or drainage.

SOP – INSSOP028 - Installation OMNI-STOP Ultra Security Bollard Rev 2 (22/11/2023) – Owner: Engineering & Production Manager





ROAD SAFETY RENTAL

SOP REVISION UPDATES

SOP Amendment Level		
Rev #	Date	Comment
2	20/11/2023	a. PPE icons updatedb. 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