





Installation of Omni-Stop Bollard






Safety	Quality	Environment	Training Note
			









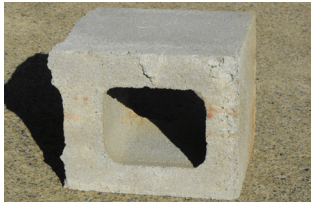







Scope: To describe the process of installing Omni-Stop energy absorbing bollards within specification as per customers request.









Safety Note:

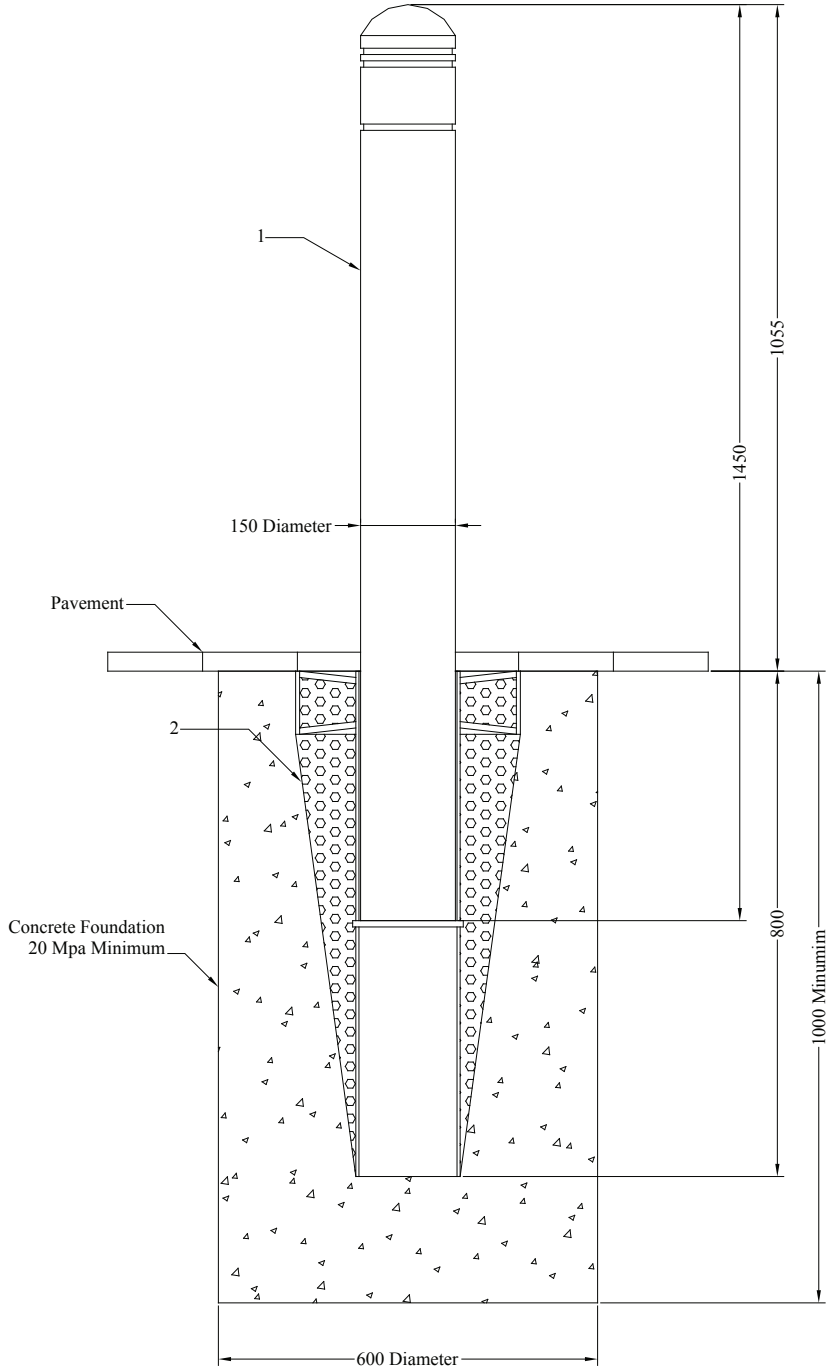
- Sun screen is to be worn in late Spring, Summer and early Autumn when working outdoors
- Heavy lifting – bend knees to lift heavy weight – if the object is too heavy to be reasonably lifted by one person call for assistance. Use gloves to avoid rough or hot objects.
- Be aware at all times during the installation of the dangers inherent in the job – safety and environment hazards.
- High visibility clothing (or vest) must be worn during construction work
- The following symbol/s in the shaded area is/are a mandatory **PPE** requirement for entire task.
- Traffic Management should be used where required.

					
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No.	STEP	PPE	KEY POINTS	PICTURES
1. Administration/Preparation				
1.1	Ensuring job site readiness		<ul style="list-style-type: none"> • Before starting, ensure that you have called 'Dial Before You Dig' or have had the services located. 	
2. Site Preparation - Tape Marking				
2.1	 		<ul style="list-style-type: none"> • Mark out where hole centres are to be dug or augured, as per site design. <p style="color: blue;">Note: It is recommended that the spacing be 600mm from the curbing, but may vary slightly depending on job requirements.</p> <p style="color: red;">Safety: A distance of 600mm is maintained to ensure cyclist safety from crashing into.</p>	
2.2			<p style="color: blue;">Note: Saferoads recommends a bollard spacing of 1400mm between bollard post centres. This may vary depending on job specific requirements.</p>	

			<p>Using a string-line to check the bollards are in a straight line is always good practice.</p> <p>Safety: Ensure ITP has been checked for correct locator. This is to avoid hitting any services.</p>	
2.3		 	<ul style="list-style-type: none"> Augeur or manually dig a 1000mm deep x 600mm diameter hole. <p>Safety: If using machinery refer to Operation of Equipment Manual for safe operating procedures.</p> <p>When manually performing task be mindful to rotate jobs to prevent injuries.</p>	
3. Installation of Omni-Stop Bollards				
3.1			<ul style="list-style-type: none"> When holes have been prepared, pour approximately 300mm of concrete into the base of the hole to support the Omni-Stop Bollard. <p>Note: This should allow the cartridge to be positioned to ensure that it is flush with pavement level.</p> <p>Tip: Place 1/2 a besser block with the hole in a horizontal position to give you a base of 190mm of the 200mm support required at the base of the cartridge. It will fill with cement when the concrete is poured.</p>	 
3.2			<ul style="list-style-type: none"> Place the Omni-Stop Cartridge into the centre of the hole and ensure 150mm clearance around cartridge for concrete. Adjust so that it is vertical and spaced laterally to other adjacent Omni-Stop Bollard <p>Note: The smaller end of the cartridge must be at the bottom to ensure correct bollard performance.</p>	
3.3			<ul style="list-style-type: none"> Use a spirit level to ensure that the cartridge is correctly positioned. <p>Note: Using a 150mm x 1450mm galvanized pipe is placed into the cartridge will make leveling easier.</p> <p>Note: For ease of installation, Saferoads recommends using 25MPa strength concrete at a 70mm slump mix.</p>	
3.4			<ul style="list-style-type: none"> Fill the remainder of the hole with <u>minimum</u> 20MPa strength concrete. 	

3.5			<ul style="list-style-type: none"> Install the bollard once concrete is firm, by placing bollard in the centre of the cartridge. 	
3.6			<ul style="list-style-type: none"> Replace pavement if applicable. 	
3.7			<ul style="list-style-type: none"> See example of completed job <p>Note: Refer to: Drawing No: SR 02 06 0001 Omni Stop Bollard Installed.</p>	
3.8			<p>OMNI-STOP BOLLARD RETROFIT</p> <ul style="list-style-type: none"> Remove pavement(if applicable) Remove Bollard and Cartridge from foundation Clean out any debris from void in foundation Place NEW Omni-Stop Cartridge into foundation Replace original bollard into new cartridge Reinstate the pavement (if applicable) 	
4. Housekeeping and Final Checks				
4.1	<p>Safety Checks</p> 		<ul style="list-style-type: none"> Housekeeping practices are adhered to and worksite left clean and safe. Item has been fitted correctly and safely. 	
4.2	<p>Quality Checks</p> 		<ul style="list-style-type: none"> Workman ship is to Specifications Material quality is acceptable Posts are correctly positioned and aligned Unused materials are removed ITP is completed and signed off. 	
4.3	<p>Environment Checks</p> 		<ul style="list-style-type: none"> Surrounds are restored to prior condition No spillages and/or damage to any soil, habitat or atmosphere. 	



Drawn by John Mudie	Checked by	Approved - Date	Scale N/A	Date 25/06/02	4		
					3		
Title - Omni Stop Bollard Installed					2	1	Cartridge
Dwg. No. - SR 02 06 0001					1	1	Bollard
Rev. No. 1.0					Item	Qty	Material/Description
							Code/Drawing No.

Approved by: National Manager Civil Services
 Revision No: 1 Date: 10th December 2009
 State Compliant: All

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