

GENERAL WARNINGS AND CAUTIONARY STATEMENTS FOR REMOVABLE BOLLARDS

Bollard Warehouse, Inc. is the licensed Manufacturer of the TrafficGuard®, Inc. ASTM F3016 crash tested bollard line. In order to safely and effectively use any Bollard Warehouse, Inc. product, please read and understand the General Warnings and Cautionary Statements contained below. If you have any questions about any of these General Warnings and Cautionary Statements, or about any aspect of Bollard Warehouse, Inc.'s products or literature, please contact Bollard Warehouse, Inc. at 877-727-7347, or email sales@bollardwarehouse.com.



BOLLARD SELECTION AND PLACEMENT

based on vehicle weight, speed and other site specific factors to be determined by owner.



FAILURE TO UTILIZE BOLLARD WAREHOUSE, INC. AUTHORIZED PARTS, OR MODIFICATIONS

to the Bollard Warehouse, Inc. products, or failure to follow the recommended installation procedures, will result in your warranty being null and void.



READ AND FULLY UNDERSTAND THE INSTALLATION INSTRUCTIONS

before attempting to install any Bollard Warehouse, Inc. bollard product.



SUBSTITUTION OF COMPONENTS MAY IMPAIR THE PROPER FUNCTION

of Bollard Warehouse, Inc. bollards products. If you need replacement parts, please contact Bollard Warehouse, Inc. at the number and email above.



WARNING: FAILURE TO FILL/COVER AN OPEN GROUND SLEEVE ON ALL REMOVABLE BOLLARDS MAY RESULT IS DAMAGE TO VEHICLES OR INJURY TO PEDESTRIANS. ALWAYS FILL/COVER THE GROUND SLEEVE PER BOLLARD WAREHOUSE, INC. INSTRUCTIONS.



REPLACEMENT GROUND SLEEVE FILLER PIECES ARE AVAILABLE

for purchase at Bollard Warehouse, Inc.. For purchase of replacement ground sleeve filler pieces or other components, please contact Bollard Warehouse, Inc. at the number or email above.



CAUTION: BOLLARD MUST ALWAYS BE SECURED WITH LOCK MECHANISM WHEN BOLLARD IS IN THE GROUND SLEEVE TO AVOID MISUSE.



FOR MAXIMUM EFFECTIVENESS

of Bollard Warehouse, Inc. bollard products, be sure to properly maintain bollards by replacing any damaged, corroded or missing components, and reapply paint as required to maximize visibility. Failure to properly maintain product can negatively impact the bollards performance over time.



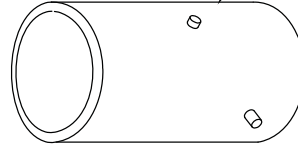
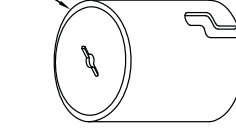
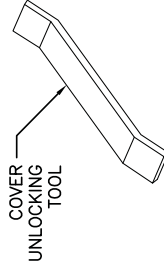
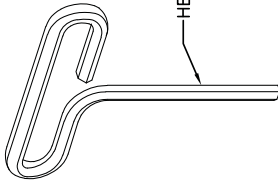
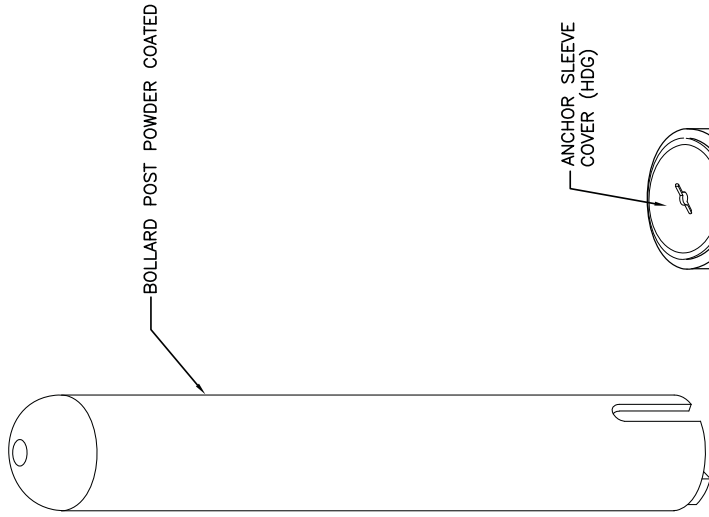
TO ENSURE VISIBILITY

of bollards, be sure to apply all decals that are provided with the product, and in the manner recommended by Bollard Warehouse, Inc..

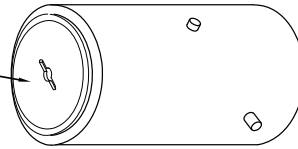
IF IN DOUBT CALL BOLLARD WAREHOUSE, INC. 877-727-7347

ROUND POST HELIX LOCK BOLLARD SERIES

REV	BY	DATE	DESCRIPTION



BOLLARD REMOVED POSITION



ITEM PART NUMBER	QTY.	DESCRIPTION	USED ON	ACTION BY	DRAWING NUMBER
7					
6					
5					
4					
3					
2					
1					

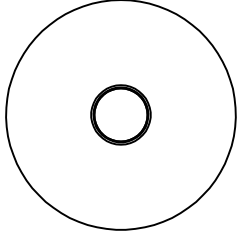
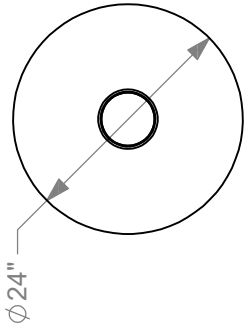


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 www.bollardwarehouse.com
 sales@bollardwarehouse.com
 877-727-7347 FAX: 800-814-7194

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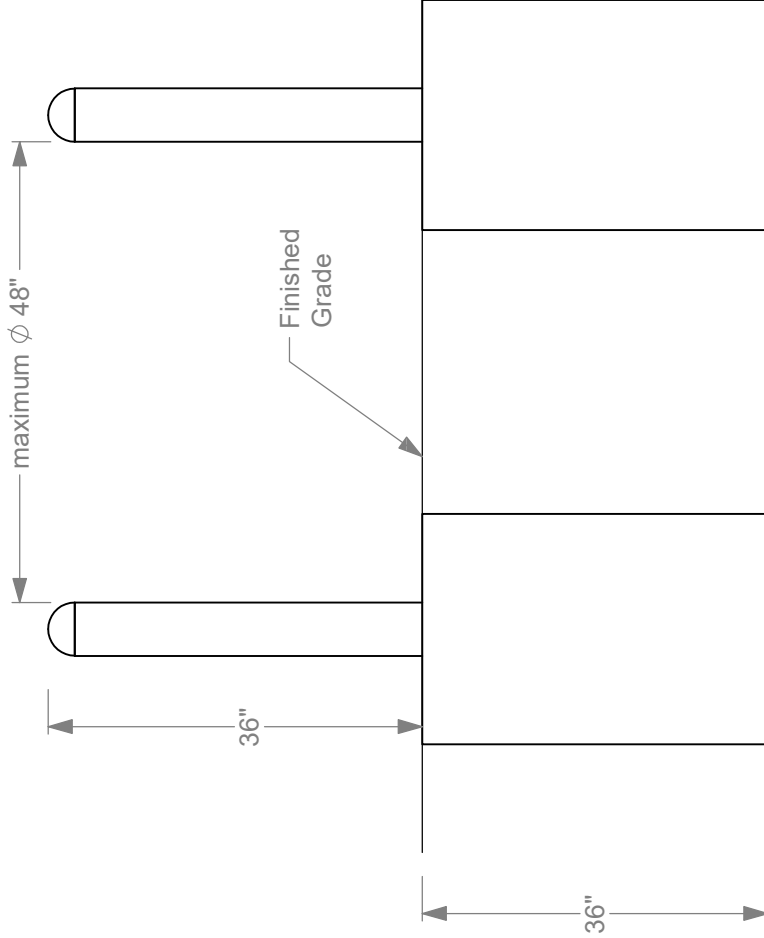
NAME	HELYLOCK	DESIGN	SCALE	DATE	DATE	DATE	DATE	DATE
BOLLARD	INSTALL							
1.								
2.								
3.								

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**S-10 Bollards
in Shaft Foundation**

Plan View



Elevation View

Surround
See note 2

Existing Soil

3" minimum thick rock

French drain footing base

2018.4.16

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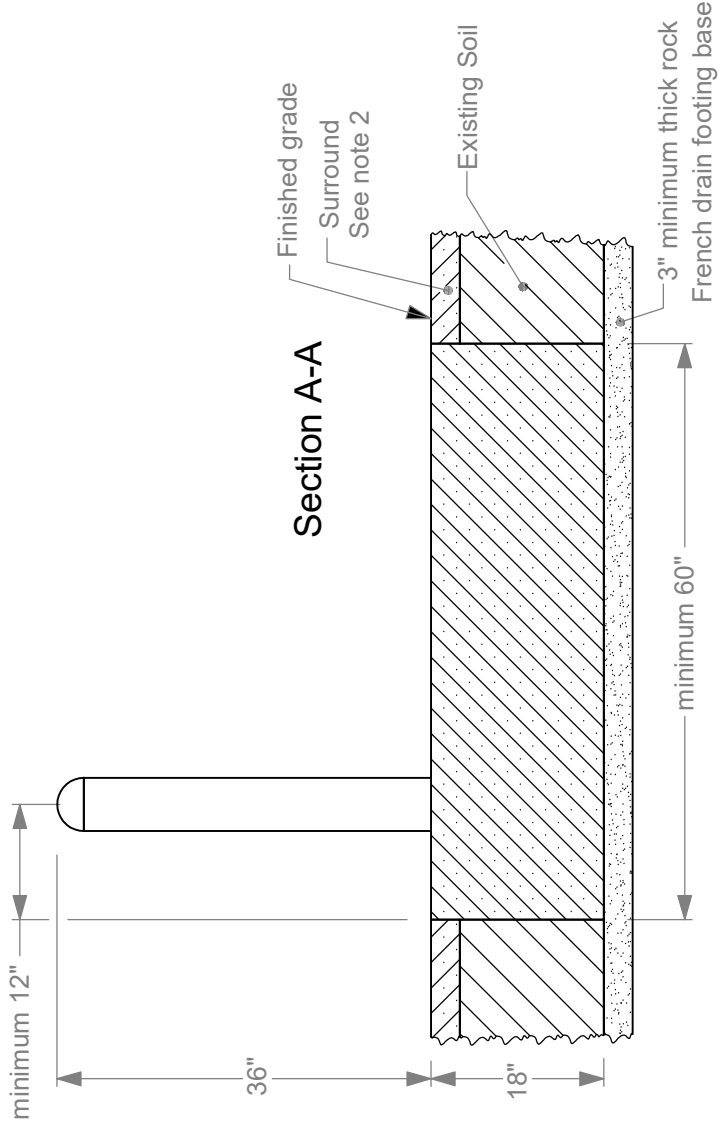
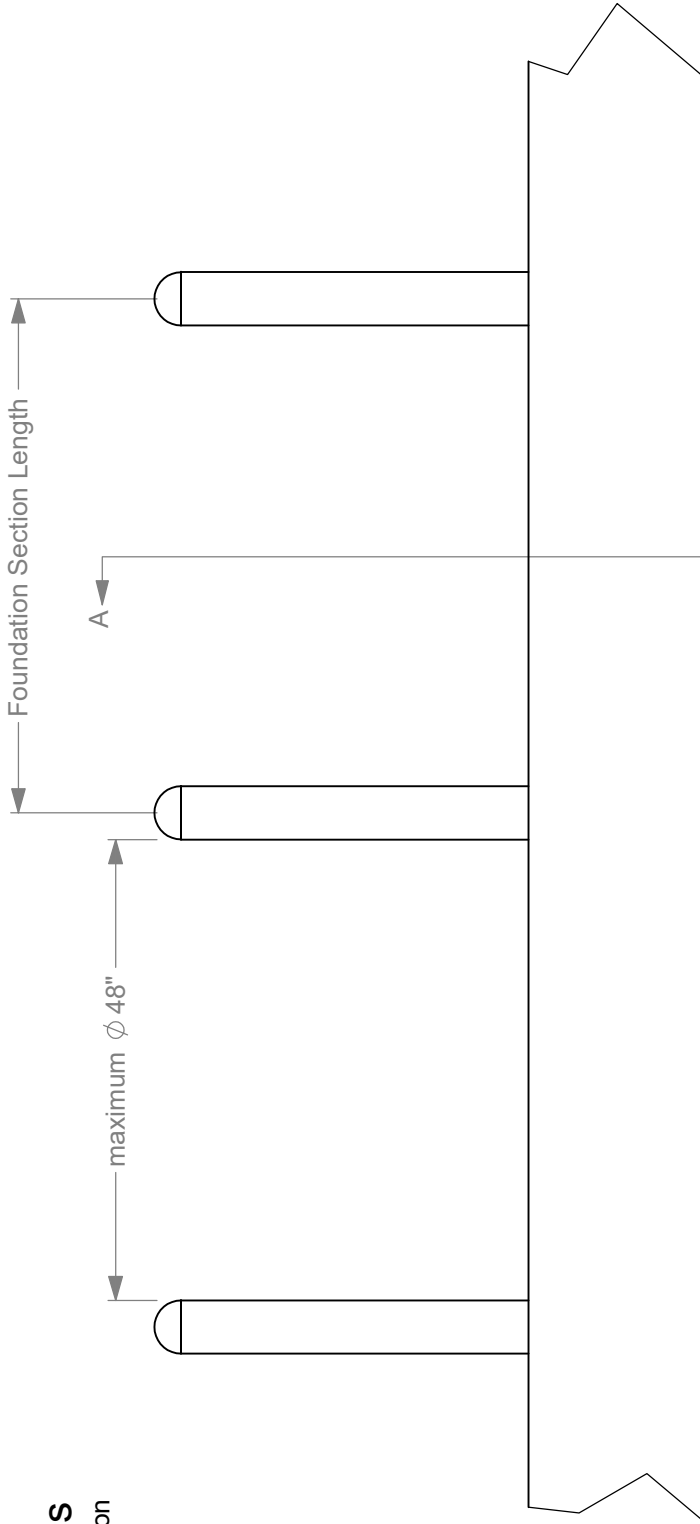
**BOLLARD
WAREHOUSE**

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1. The concrete must be minimum 3000 psi compressive strength, with grade 60 rebar per construction foundation details provided once materials have been ordered. Total weight of rebar is approximately 26 lbs. per Bollard.

2. The foundation details provided have been full-scale crash tested and qualified as a rigid foundation as defined by ASTM F3016-14 when installed in continuous paving with a minimum thickness of 3 inches. When installed in any other configuration, it is the responsibility of the purchaser to verify that the supporting pavement or adjoining structure is capable of providing adequate strength to limit the horizontal deformation of the foundation at grade to one inch or less for the performance Condition Designation specified.

S-10 Bollards in Shallow Foundation



1. The concrete must be minimum 3000 psi compressive strength, with layers of #5 (Ø5/8") grade 60 rebar combined with strategically located V Bars and U Bars per construction foundation details provided once materials have been ordered. Total weight of rebar is approximately 100 lbs. per Bollard. (This is assuming the Bollards are at maximum allowable spacing. Closer spacing will require less rebar per bollard.)

2. The foundation details provided have been full-scale crash tested and qualified as a rigid foundation as defined by ASTM F3016-14 when installed in continuous paving with a minimum thickness of 3 inches. When installed in any other configuration, it is the responsibility of the purchaser to verify that the supporting pavement or adjoining structure is capable of providing adequate strength to limit the horizontal deformation of the foundation at grade to one inch or less for the performance Condition Designation specified.

2018.4.16

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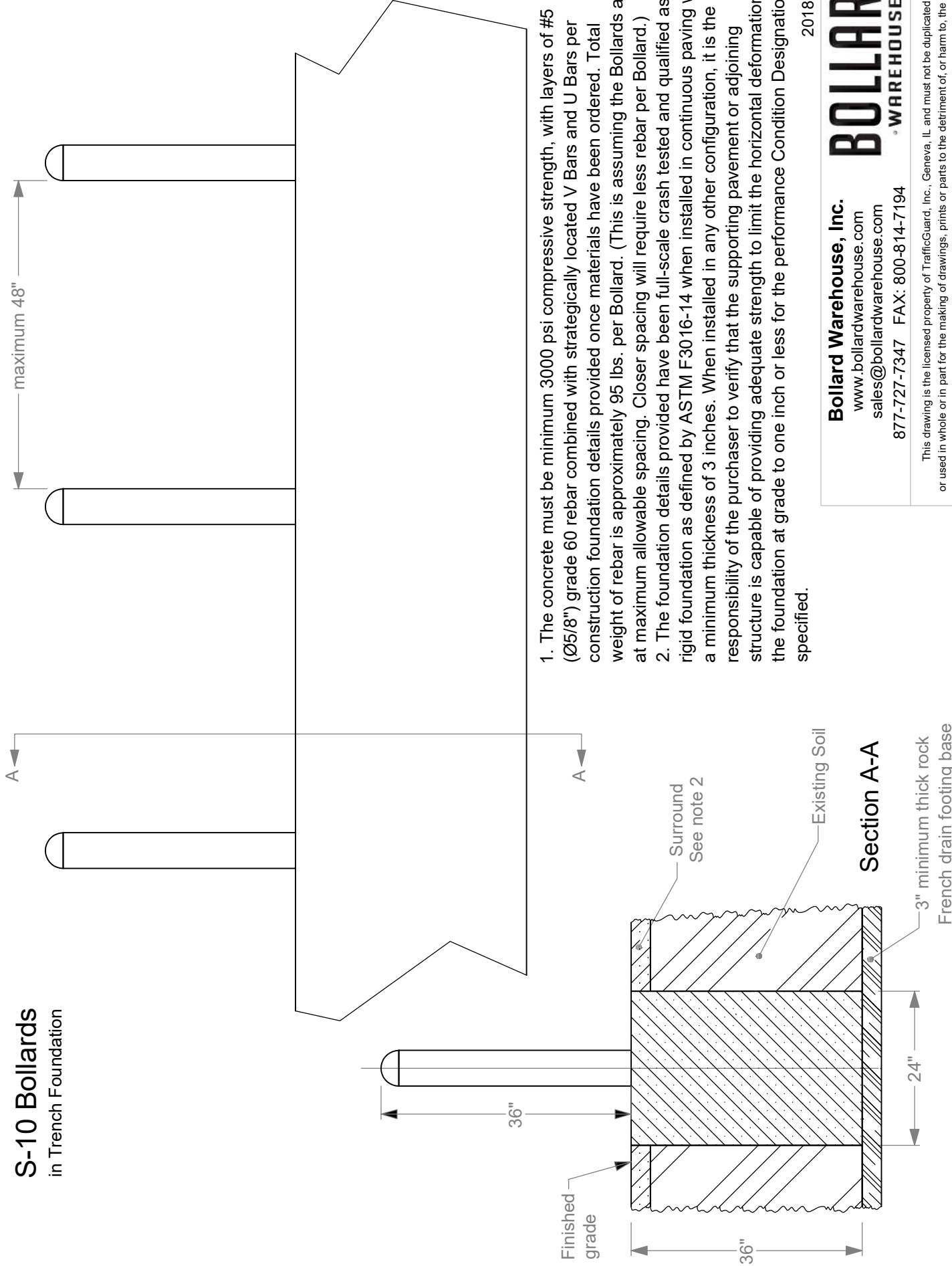
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S-10 Bollards in Trench Foundation



1. The concrete must be minimum 3000 psi compressive strength, with layers of #5 (Ø5/8") grade 60 rebar combined with strategically located V Bars and U Bars per construction foundation details provided once materials have been ordered. Total weight of rebar is approximately 95 lbs. per Bollard. (This is assuming the Bollards are at maximum allowable spacing. Closer spacing will require less rebar per Bollard.)
2. The foundation details provided have been full-scale crash tested and qualified as a rigid foundation as defined by ASTM F3016-14 when installed in continuous paving with a minimum thickness of 3 inches. When installed in any other configuration, it is the responsibility of the purchaser to verify that the supporting pavement or adjoining structure is capable of providing adequate strength to limit the horizontal deformation of the foundation at grade to one inch or less for the performance Condition Designation specified.

2018.4.16

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Section A-A

3" minimum thick rock
French drain footing base

Surround
See note 2

Existing Soil

Finished grade

36"

36"

24"



Bollard Warehouse, Inc. Care & Maintenance

Ensure optimal appearance and long term performance

All Bollard Warehouse products are manufactured with high quality materials for premium aesthetics and long term durability. With proper care and maintenance, our products will withstand years of service with minimal wear and corrosion in most North American environments.

General Care & Maintenance

Inspection: All Bollard Warehouse products should receive routine inspection and cleaning every 6 months. To avoid progression of damage, identify and address problems as early as possible. Loose or missing parts should be tightened or replaced immediately. Some environments, including high-saline locations subject to saltwater spray or de-icing salts, or high-traffic areas with abundant particulates or other pollutants, will require more frequent attention. Pay close attention to the powder coated finish. Any signs of deterioration of the finish or rusting of the steel should be addressed immediately. **Never allow leaves, mulch or other moisture holding materials to be placed around the area where the pipe meets the foundation.**

Cleaning: Routine (at least every 6 months) cleaning with soap and water is usually sufficient to maintain Bollard Warehouse products. Use a soft nylon brush to remove any accumulated dirt. Wash with mild soap or detergent, then rinse in clean water and wipe dry with a soft cloth. Neglected or damaged products may require additional care. Refer to Stainless Steel Care and Maintenance and Powder Coating Care and Maintenance.

Removable Bollards: Bollard posts, ground sleeve lids or filler pieces should be used periodically – six times per year at a minimum to insure functionality and to check all parts for damage or deterioration that may be hidden from observation.

Heavily damaged products: Heavy damage includes structural compromises such as visible dents, cracks, breaks and rust that can undermine the integrity of a product. Heavily damaged products should be removed from service until a repair or replacement can be made. To prevent worsening of damage, any significant rust should be removed as soon as possible. If any parts are broken or missing, contact Bollard Warehouse's Sales Department to determine the availability of replacements.