

SECTION 32 39 13

**Manufactured Metal Bollards**

**Lighted Bollards**

SPECIFIER NOTE: THESE SPECIFICATIONS WERE CURRENT AT THE TIME OF PUBLICATION BUT ARE SUBJECT TO CHANGE AT ANY TIME WITHOUT NOTICE. PLEASE CONFIRM THE ACCURACY OF THESE SPECIFICATIONS WITH THE MANUFACTURER AND / OR DISTRIBUTOR PRIOR TO CONSTRUCTION OR INSTALLATION.

GUIDE SPECIFICATIONS

THIS GUIDE SPECIFICATION IS WRITTEN ACCORDING TO THE CONSTRUCTION SPECIFICATIONS INSTITUTE (CSI) FORMATS, INCLUDING MASTERFORMAT, SECTIONFORMAT, AND PAGEFORMAT.

CAREFULLY REVIEW AND EDIT THIS SECTION TO MEET THE REQUIREMENTS OF THE PROJECT AND LOCAL BUILDING CODE. COORDINATE THIS SECTION WITH OTHER SPECIFICATION SECTIONS AND DRAWINGS.

DELETE ALL "SPECIFIER NOTES" WHEN EDITING THIS SECTION.

# GENERAL

## CONDITIONS AND REQUIREMENTS

### The General Conditions, Supplementary Conditions, and Division 01 – General Requirements apply.

## SECTION INCLUDES

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
SPECIFIER NOTES: DELETE ALL OPTIONS THAT ARE NOT REQUIRED.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### Section 32 39 13 - Manufactured Metal Lighted Bollards of the following types:

#### Low Speed Crash Tested Lighted Bollards.

## RELATED SECTIONS

### Section 05 50 00 – Metal Fabrications.

### Section 34 71 13 – Vehicle Barriers.

### Section 32 39 13.11 – Manufactured Metal Security Bollards.

## REFERENCES

### ASTM International (ASTM):

#### ASTM F3016: Standard Test Method for Surrogate Testing of Vehicle Impact Protective Devices at Low Speeds.

#### ASTM F2656: Standard Test Method for Crash Testing of Vehicle Security Barriers.

#### ASTM A53: Standard Specification for Pipe, Steel, Black and Hot-Dipped Zinc-Coated, Welded and Seamless.

## SUBMITTALS

* + 1. Submit under provisions of Section 01 30 00 - Administrative Requirements.

### Product Data:

#### Manufacturer's printed product literature, specifications, and data sheet.

#### Storage and handling requirements and recommendations.

#### Installation methods.

#### Maintenance and service instructions.

### Shop Drawings: Submit installation drawings indicating bollard locations, materials, dimensions, weights, sizes, and finishes. Include plans, elevations, sections, foundation drawings, and details of anchorage.

## QUALITY ASSURANCE

### Certifications: Crash test certificates conforming with ASTM F3016 must be presented for crash tested bollards.

## DELIVERY, STORAGE AND HANDLING

### Storage and Protection: Store bollards indoors until installation to protect from weather.

## SEQUENCING AND SCHEDULING

### Sequencing and Scheduling, General: Refer to sequence requirements specified in Section 01 11 00 - Summary of Work and Section 01 32 16 - Construction Progress Schedule requirements specified in Section 01 33 00 - Submittals Procedures.

# PRODUCTS

## MANUFACTURERS

### Specified Manufacturer: 1-800-Bollards, 23392 Madero Road, Suite L, Mission Viejo, CA, 92691-2737, 1-866-748-4676. Email: [info@1800bollards.com](mailto:info@1800bollards.com); Web: [www.1800bollards.com](http://www.1800bollards.com).

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
SPECIFIER NOTES:

DELETE ONE OF THE TWO FOLLOWING PARAGRAPHS: COORDINATE WITH REQUIREMENTS OF DIVISION 01 SECTION ON PRODUCT OPTIONS AND SUBSTITUIONS

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### 

### Substitutions: Not Permitted.

### Requests for substitutions will be considered in accordance with provisions specified in Section 01 62 00 – Product Options.

## MATERIALS

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
SPECIFIER NOTES:

THE FOLLOWING PARAGRAPHS INCLUDE BOLLARD OPTIONS. DELETE ALL PARAGRAPHS THAT ARE NOT REQUIRED.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### Low Speed Crash Tested Lighted Bollards.

#### Pipe schedule: 40: 20 miles per hour bollards

#### Height: 42.5 inches includes lighting assembly (available in custom lengths).

#### Pipe diameter: 6 inches ASTM F3016 20 miles per hour.

#### Outside diameter: 6.62 inches

#### Material: [Carbon steel], [Stainless steel type 304], or [Stainless steel type 316].

#### LED light source: [5 watt], [8 watt], or [12 watt] with a Correlated Color Temperature of [3000 Kelvin], [4000 Kelvin], or [5000 Kelvin] respectively.

#### LED life hours: 50,000 hours.

#### Color Rendering Index: 70.

#### Voltage: 120 Volts to 277 Volts.

#### Lens style: [Opal], [Clear], [Paracline], or [Stacked Louvre].

#### Bollards shall conform to the following properties:

#### Crash tested with a 5000 pound vehicle travelling at 20 miles per hour in accordance with ASTM F3016 standard for testing of vehicle impact protective devices at low speed.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
SPECIFIER NOTES:

THE FOLLOWING PARAGRAPHS INCLUDE FINISH OPTIONS. DELETE ALL PARAGRAPHS THAT ARE NOT REQUIRED.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

## FINISH

### Powder coated carbon steel. RAL#\_\_\_\_\_\_

### Stainless steel type 304, polished to a #4 satin finish.

### Stainless steel type 316, polished to a #4 satin finish.

# EXECUTION

## EXAMINATION

### Examine Project conditions and completed Work with Installer present and verify compliance for level finished grade, mounting surfaces, installation tolerances, and other conditions impacting performance of the Work.

### Immediately correct all deficiencies and conditions which would cause improper execution of Work specified in this Section and subsequent Work.

### If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation.

### Proceeding with Work specified in this Section shall be interpreted to mean that all conditions were determined to be acceptable prior to start of Work.

## PREPARATION

### Clean surfaces thoroughly prior to installation. Ensure all surfaces are clear of dirt and debris.

### Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

### Store bollards indoors until installation to protect from weather.

## INSTALLATION

### Install 1-800-Bollards Lighted Bollards in accordance with manufacturers instructions and recommendations and the authorities having jurisdiction.

### Ensure all bollard equipment to be installed is located at the site.

### Install in accordance with approved submittals and in proper relationship with adjacent construction.

### Protect all surfaces from debris, dirt, and concrete pour during installation.

### Install 1-800-Bollards Lighted Bollards level and plumb.

### Anchor bollards securely.

## PROTECTION AND MAINTENANCE

### Protection, General: In addition to general requirements specified in Section [01 50 00 – Temporary Facilities and Controls,] [01 54 00 – Construction Aids,] [Section 01 56 00 – Temporary Barriers and Enclosures,] [Section 01 60 00 – Product Requirements,] and [Section 01 77 00 – Closeout Procedures,] comply also with the following requirements.

#### Protect installed products until completion of the project.

#### Protect adjacent work areas and finish surfaces from damage during product installation.

#### Clean products in accordance with the manufacturer’s recommendations.

#### Touch-up, repair, or replace damage products prior to Substantial Completion.

#### Maintenance: Wipe down stainless steel bollards at least once per month to remove oxidants.

END OF SECTION