

TECHNICAL SPECIFICATIONS for Model: TB-2040 & TB-2040-R
SECTION 34 71 13
PASSIVE VEHICLE BARRIERS

PART 1 – GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Crash Rated Fixed Bollard
 2. [_____]

1.2 RELATED SECTIONS

- A. Section 03 30 00 – Cast-in-Place Concrete
- B. Section 05 50 00 – Metal Fabrications
- C. [_____]

1.3 REFERENCES

- A. ASTM International (ASTM):
1. ASTM A36 - Standard Specification for Carbon Structural Steel
 2. ASTM A123 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
 3. ASTM A500 Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
 4. ASTM A572 Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel
 5. ASTM D7803- Standard Practice for Preparation of Zinc (Hot-Dip Galvanized) Coated Iron and Steel Product and Hardware Surfaces for Powder Coating
 6. ASTM F2656 - Standard Test Method for Vehicle Crash Testing of Perimeter Barriers

1.4 SUBMITTALS

- A. Product Data:
1. Comply with Section [01 33 00 – Submittal Procedures.] [_____].
 2. Product Data: Provide for each type of bollard, component, finish, and accessory specified.
 3. Maintenance Data: Submit manufacturer's field touch-up, cleaning, and maintenance instructions.
 4. Warranty Documentation: Submit sample of manufacturer's warranty.

1.5 QUALITY ASSURANCE

- A. COMPLY WITH SECTION [01 43 00 – QUALITY ASSURANCE.] [_____].
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.

C. Installer Qualifications:

1. Engage an experienced installer who has minimum five years documented experience with projects of similar scope and complexity.
2. Installer is an authorized representative of the vehicle barrier manufacturer for both installation and maintenance of the type of units required for this Project.

D. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Comply with Section [01 66 00 – Product Storage and Handling Requirements.] [_____].
- B. Upon receipt at the job site, all materials shall be checked to ensure that no damage occurred during shipping or handling. Materials shall be stored in such a manner to ensure proper ventilation and drainage, and to protect against damage, weather, vandalism, and theft.

1.7 WARRANTY

- A. Sloan's passive vehicle barrier products carry a standard warranty against defects in material and workmanship on fabricated components for one year when installed by a Sloan authorized installer. Warranty begins at the ship date of bollard product.

PART 2 – PRODUCTS**2.1 MANUFACTURERS**

- A. Acceptable Manufacturer: Sloan Security Group, Phone: (888) 382-8370, Website: www.sloansg.com, Email: info@sloansg.com
- B. Substitutions: Not Permitted.

2.2 CRASH RATED FIXED BOLLARD

- A. Basis of Design: Sloan Fixed Bollard, C40/P1 Model: TB-2040, as manufactured by Sloan Security Group
 1. Size: Bollard shall consist of an 6-5/8" outside diameter pipe
 2. Bollard Height: 36 inches (914.4mm) above finished grade
 3. Bollard Spacing: Recommended 60 inches (1524 mm) maximum on-center (o/c) spacing.
 4. Foundation Requirements: 30" Concrete Depth
 5. Design Criteria: Unofficially crash tested and met ASTM F2656-07, Impact Condition Designation C40, Penetration Rating P1, with the capability of stopping a 2,430 lb vehicle traveling at speeds up to 40mph and less than 1 meter of dynamic penetration.
 6. Bi-directional stopping capability
 7. Finish: [HOT-DIP GALVANIZED] or [POWDER-COATED] or [SHOP COATED].
 8. Bollard Cap: Stainless steel cap used when bollard is removed.
 9. The crash rated bollard system, and all associated accessories and fittings shall be obtained from a single source.
- B. Basis of Design: Sloan Fixed Bollard, C40/P1 Model: TB-2040-R, as manufactured by Sloan Security Group
 1. Size: Bollard shall consist of an 6-5/8" outside diameter pipe
 2. Bollard Height: 36 inches (914.4mm) above finished grade
 3. Bollard Spacing: Recommended 60 inches (1524 mm) maximum on-center (o/c) spacing.

4. Foundation Requirements: As indicated on drawings.
5. Design Criteria: This system shall be tested and certified to meet ASTM F2656-07, Impact Condition Designation C40, Penetration Rating P1, with the capability of stopping a 2,430 lb vehicle traveling at speeds up to 40mph and less than 1 meter of dynamic penetration.
6. Bi-directional stopping capability
7. Finish: [HOT-DIP GALVANIZED] or [POWDER-COATED] or [SHOP COATED].
8. The crash rated bollard system, and all associated accessories and fittings shall be obtained from a single source.

2.3 MATERIAL

- A. Sloan will provide material certifications with each order upon request.

2.4 FABRICATION

- A. Fabrication of the members shall be in accordance with manufacturer's instructions, the plan details, and this specification.
- B. Shop drawings can be provided for site specific locations of each barrier upon request.
- C. All Sloan products are coated to the customer specification.

PART 3 – EXECUTION

3.1 SITE EXAMINATION

- A. The purchaser shall indicate the location of all bollards with suitable means.
- B. The purchaser shall indicate all underground utility locations, USC&G benchmarks, property monuments, and other underground structures that interfere with installation.
- C. Before installing the TB-2040 C40-P1 Standard Foundation Bollards, all necessary site clearing and grading shall be performed by the purchaser. An adequate clearance on both sides of the anti-ram vehicle barrier line is required.
- D. The TB-2040 C40-P1 Standard Foundation Bollard was designed for installation in standard compacted soil.

3.2 PREPARATION

- A. Examine and verify foundation suitability for product installation.
- B. Clean surfaces thoroughly prior to installation
- C. Prepare surfaces using the methods recommended by the manufacturer for achieving the best results for substrate under the project conditions.

3.3 INSTALLATION

- A. The barrier shall be installed per Sloan's System Drawing (supplied upon request). Construct concrete foundations to the dimensions specified by the plans. Excavate a properly sized area for bollard foundations and install reinforcing steel in accordance with the plans. Place the concrete, install the bollards, and plumb. Refer to contract or submittal plans for more installation details.
- B. Sloan's crash rated bollards are warranted against defects in material and workmanship on structural components for one year from ship date, when installed by a Sloan authorized installer.

- C. Engage an experienced installer who has minimum five years documented experience with projects of similar scope and complexity.
- D. Suggested Installer: Sloan Security Group Phone: (888) 382-8370, Website: www.sloansg.com, Email: info@sloansg.com

3.4 CLEANING

- A. Clean bollards in accordance with the manufacture's recommendations to remove dust, dirt, adhesives, and other foreign materials.
- B. Touch-up, repair or replace damaged products before Substantial Completion.
- C. The contractor shall clean the jobsite thoroughly to ensure it is left neat and free of any debris caused by the installation of the bollard system.

NOTE: Sloan Security Group reserves the right to change these specifications at any time. Call (888) 382-8370 to ensure that you have the latest edition.

CAUTION: Barriers manufactured by Sloan Security Group are intended for use in controlling vehicular traffic and are not intended to be used by pedestrians or to control pedestrian traffic. **Always install a separate pedestrian entry.**