**SPECIFICATION FOR MODEL B-30 SEMI-AUTOMATIC BOLLARDS**

## PART I - GENERAL

**1.1 WORK INCLUDED IN THIS SECTION**

1. Furnish labor, materials, inspections, supervision, etc., necessary for the complete installation and operation of hydraulic bollard system(s) as shown on the plans and specified herein. Work includes furnishing all items and accessories required or necessary for the correct operation of the bollard system (s) as shown on plans and/or specified herein.

**1.2** **QUALITY ASSURANCE**

1. The Company shall specialize in manufacturing of the type bollards specified, with a minimum five (5) years experience.
2. The installer shall have a minimum three (3) years installation experience of similar equipment.

**1.3** **SUBMITTALS**

1. Submittals shall contain sufficient plans, elevations, sections, and schematics to clearly describe the apparatus. All conduit runs and similar drawings shall be included.
2. Installer shall provide two (2) copies of submittal packages.

**1.4** **INSPECTIONS**

1. Procure all the necessary and usual inspections and certificates for all work to be installed. Deliver same to the Owner/Owners representative before final acceptance.

**PART II - PRODUCTS**

**2.1 SEMI-AUTOMATIC BOLLARD**

* 1. **Application**
		1. The bollard shall be a below grade assembly containing a heavy steel cylindrical weldment capable of being raised above grade. The raised position shall block approaching vehicles from both the public and non-public side of the facility. Upon impact, forces shall be first absorbed by the weldment and then transferred to the foundation of the unit.
	2. **Features**
		1. Height of the bollard shall be no less than 30” inches (762 mm) as measured from the top of the foundation to the top of the bollard.
		2. Bollard shall be 10.75 inches (273 mm) in diameter.
		3. The roadway plates shall have a non skid surface. The above grade portion of the bollard shall be painted yellow.
		4. A manufacturer supplied casing shall be cast in place prior to the bollard cylinder installation for ease of installation, maintenance, or replacement. Bollards which require structural components cast in concrete shall not be acceptable.
		5. Bollard shall be manually operable and supplied with a key that will lock the bollard in the down (stowed) or up (active) postions.

**2.2 PERFORMANCE**

* 1. **Testing**
1. Bollard design shall have successfully passed actual full scale crash tests conducted by a qualified independent agency.
	1. **Evaluation**
2. The Bollard shall have been certified by the United States Department of State to have a performance evaluation per D.O.S. Specification SD-SDT-0201 (Dated April 1985) of K8.
	1. **Stopping Capacity**
3. The bollard system shall be designed to impede a vehicle approaching from one direction.
4. The bollard system shall be designed to destroy the front and rear suspension systems, steering linkage, engine crank case and drive train.
	1. The Bollard shall be capable of stopping and destroying a vehicle weighing 15,000 pounds traveling at 40 mph.

**2.3 QUALITY ASSURANCE**

* 1. **Factory Testing**
1. Upon completion, the bollard system will be fully tested for proper operation by manufacturer prior to shipment. A nameplate with manufacturer's name, model number, and serial number shall be located within the hydraulic pumping unit.
2. All critical dimensions shall be checked for accuracy against customer approved shop drawings.

**2.4 PROCUREMENT SOURCE**

The hydraulic bollard system shall be model B30 Semi Automatic Bollard as manufactured by **B&B ARMR (800-367-0387), 5900 South Lake Forest Drive, Suite 230, McKinney, Texas, 75070.**

**PART III - EXECUTION**

**3.1 INSTALLATION**

1. Installation shall be performed according to the manufacturer’s instructions. Verify all component locations with contract drawings and shop drawings.
2. Any disagreement between the Plans, Specifications, and Ordinances, must be called to same before signing of the shop drawings. After the shop drawings have been signed, the Contractor is responsible for having all work meet requirements of the governing ordinances.