SECTION 34 00 00

PASSIVE VEHICLE BARRIERS
**03/2014**

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN WELDING SOCIETY (AWS)

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| AWS D1.1/D1.1M | (2010; Errata 2011) Structural Welding Code - Steel |

ASTM INTERNATIONAL (ASTM)

| | |
|---|---|
| ASTM F2656 | (2007) Standard Test Method for Vehicle Crash Testing of Perimeter Barriers |
| ASTM A123A / A123M | HOT DIP GALVANIZE AFTER FABRICATION |

U.S. DEPARTMENT OF STATE (SD)

| | |
|---|---|
| SD-STD-02.01 | (2003; Rev A) Specification For Vehicle Crash Test of Perimeter Barriers and Gates |

1.2 SYSTEM DESCRIPTION

Barrier systems used shall be listed in either the Department of State (DoS) certified or Department of Defense (DoD) approved anti-ram vehicle barrier lists. Barrier spans shall be 'as certified/approved' on these lists. Alternatively, if a barrier system's span is between the widths of two listed barrier systems that are identical except for their widths, then that barrier system is also acceptable. Exceptions and acceptable spans will only be taken from the DoD anti-ram vehicle barrier list. The design and structural materials of the vehicle barrier furnished shall be the same as those used in the crash tested barrier. Crash test must have be performed and data compiled by an approved independent testing agency in accordance with either ASTM F2656 or SD-STD-02.01. Barriers tested and certified on the previous Department of State standard, SD-STD-02.01 and listed on the DoD approved anti-ram vehicle barrier list are also acceptable.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. The following shall be submitted in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Installation[; G][; G, [_____]]
Equipment[; G][; G, [_____]]

Detail drawings containing proposed layout and anchorage of equipment and appurtenances, and equipment relationship to other parts of the work including foundation and clearances for maintenance and operation. Include with the Detail drawings a copy of the Department of State certificate of barrier performance.

SD-03 Product Data

Barrier Systems

A complete list of equipment, materials, including industrial standards used and how they apply to the applicable component and manufacturer's descriptive data and technical literature, catalog cuts, and installation instructions. Information necessary to document a minimum 1-year successful field operation performance history for each type of vehicle barrier installed.

## 1.4 DELIVERY, STORAGE, AND HANDLING

Protect components placed in storage from the weather, humidity, and temperature variation, dirt and dust, or other contaminants. Store structural materials on sleepers or pallets and protect them from rust and objectionable materials such as dirt, grease, or oil.

# PART 2 PRODUCTS

## 2.1 PASSIVE BARRIERS

### 2.1.1 SW1200 POST & CABLE BARRIER SYSTEM

When installed, the height of the lowest cable of the barrier shall be no less than 30 inches, and the height of the highest cable of the barrier shall be no more than 47 inches. The cables shall be IWRC galvanized steel, and shall be no less than 1-1/4 inch in diameter. The cables shall be attached to the termination post with cable end sockets and a socket pin of no more than 1-3/4 inches in diameter. The termination post shall be galvanized steel, and shall have reinforcing knee braces mounted in separate foundations. The barrier shall have a nominal spacing of 10 feet between termination posts and intermediate posts, with a minimum span width between termination posts of no less than 50 feet and a maximum span width between termination posts of no more than 200 feet as established by separate ASTM F2656 certification tests for the two widths. Passive barrier system shall withstand a 15,000 pound vehicle at impact speed of 50 mph with maximum barrier deflection or vehicle penetration of 21 feet

#### 2.1.1.1 FINISH

Surfaces of the termination posts shall be hot-dip galvanized in accordance with ASTM A123A / A123M, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

#### 2.1.1.2 CONSTRUCTION

The system shall require an excavation depth as noted on the drawings. The foundation shall utilize a rebar reinforced concrete slab to properly anchor the termination post.

## 2.2 CONCRETE

The concrete shall conform to Section 03 30 00 CAST-IN-PLACE CONCRETE.

## 2.3 WEDLING

Welding shall be in accordance with AWS D1.1/D1.1M.

# PART 3 EXECUTION

## 3.1 INSTALLATION

Perform installation in accordance with manufacturers instructions and in the presence of a representative of the manufacturer. Manufacturer's representative shall be experienced in the installation, adjustment, and operation of the equipment provided. The representative shall also be present during adjustment and testing of the equipment.

-- End of Section --