

## **SCOPE OF WORK**

### **E1. INTENT**

The intent of these specifications is to describe the minimum requirements to establish an annual contract to purchase breakaway sign posts for the Public Works and Transportation Department on an as needed basis.

### **E2. MATERIALS**

All posts and anchors shall conform to the Standard Specifications for Hot Rolled Carbon Steel Structural Quality ASTM designation A570-79.

### **E3. YIELD STRENGTH**

All posts and anchors shall carry minimum yield strength of 60,000 PSI.

### **E4. FINISH**

All post and anchors shall be manufactured from raw steel, formed and welded on the corner prior to receiving a triple coat protection of inline hot dipped galvanized zinc per AASHTO M-120 (.8 oz. per sq. ft.) followed by a chromate conversion coating and a cross-linked polyurethane acrylic exterior coating. The interior shall receive a double coat of zinc base organic coating, tested in accordance with ASTM B-117.

### **E5. BREAK-AWAY FUNCTION**

All top post must be capable of fracturing at the point of connection with a single anchor, when impacted, in such a manner that the piece inside of the anchor can be removed so as to allow the anchor to receive a new top post.

### **E6. SHAPE**

The shape of all posts and anchors shall be square, straight, and smooth tubing welded in one corner, with a tolerance that permits telescoping of the next larger or smaller size, in 0.25" increments.

### **E7. SECTION PROPERTIES**

#### **1. Anchors-12 gauge**

Holes are to be perforated 7/16" diameter on 1" centers for only the top 4" of the anchor while being truly aligned in the center of the section.

#### **2. Top post-14 gauge**

Holes are to be perforated 7/16" diameter on 1" centers for the entire length of the post, and truly aligned in the center of the section.

**E8. TOLERANCES**

Outside size tolerances

<b>Nominal outside dimensions</b>	<b>Outside tolerance at all side corners</b>
2"X 2"	plus or minus .008"
2.25"X 2.25"	plus or minus .010"
2.5"X 2.5"	plus or minus .010"

Note: Measurements for the outside dimensions shall be made at least 2" from the end of the tube.

**E9. Wall thickness**

Permissible variation in the wall thickness is plus .011", minus .008".

**E10. Convexity and concavity**

Measured in the center of the flat side, tolerance is plus or minus 0.01" applied to the specific size determined at the corner.

**Squareness of sides and twist**

<b>Nominal Outside Dimensions</b>	<b>Squareness Tolerance</b>	<b>Twist Permissible in 3" lengths</b>
1.50"X 1.50"	plus or minus .009"	.050"
1.75"X 1.75"	plus or minus .010"	.062"
2"X2"	plus or minus .012"	.062"
2.25"X 2.25"	plus or minus .014"	.062"
2.50"X 2.50"	plus or minus .015"	.075"

Note: A sample shall be considered to fail if its sides are not 90 degrees to each other by the tolerances listed above.

**E11. Straightness**

The permissible variation in straightness is 1/16" in three feet.

**Corner radii**

The standard outside corner radius shall be 5/32", plus or minus 1/32 of an inch.