

# **CITY OF HUNTSVILLE, ALABAMA**

## **SPECIFICATIONS FOR TRAFFIC CONTROL SIGNS SIGN POSTS MOUNTING BRACKETS AND INSTALLATION REVISED January 1, 2020**

### **I. GENERAL**

- A. The following specifications shall be used for all traffic control signage, posts and mounting brackets in the City Limits of Huntsville, Alabama.
- B. All Traffic Control Signage shall conform to the latest edition adopted by the State of Alabama of the Manual on Uniform Traffic Control Devices. (MUTCD)
- C. The following color and materials shall be consistently used with exceptions only allowed with written consent of the City of Huntsville, Alabama.
1. All reflective sheeting shall be made of High Intensity Prismatic (HIP) Sheeting for TYPE IV, VII and VIII. Any "Or Equal" vendor materials must be approved by the City of Huntsville, Alabama, prior to any manufacturing or installations. Currently approved materials are:
    - 3M #3930, HIP Silver/White
    - 3M #3931, HIP Yellow
    - 3M #3932 HIP Red
    - 3M #4083 HIP Fluorescent Yellow Green
    - 3M #3924 HIP Orange
    - 3M #3955 HIP Blue
  2. All Electronic Cut Acrylic Film for Type IV, VII and VIII shall use the following approved materials. Any "Or Equal" vendor materials must be approved by the City of Huntsville, Alabama, prior to use.
    - 3M #1177C Acrylic Film Green
    - 3M #1179C Acrylic Film Brown
    - 3M #1172C Acrylic Film Red
    - 3M #1178C Acrylic Film Black
    - 3M #1175C Acrylic Film Blue
    - 3M #1174C Acrylic Film Orange
    - 3M #1171C Acrylic Film Yellow

## II. SIGN POSTS AND MOUNTING HARDWARE

### A. U-Channel Post

The following are considered minimum specifications for U- Channel posts utilized in sign installation.

#### 1. General

All U-Channel posts shall have standard:

- a. Full length punching.
- b. 3/8" diameter holes
- c. 1" on center starting 1" from top of post
- d. Three (3) pounds per foot weight.
- e. Minimum twelve (12) feet in length.

#### 2. Material Specifications - U-Channel Posts:

Posts shall consist of re-rolled rail steel or equivalent steel. They shall conform to the mechanical requirements of ASTM Specification A-499-81, Grade 60 (Hot-Rolled Carbon Steel Bars and Shapes Re-Rolled from Rail Steel), and to the chemical requirements of ASTM Specification A-1-76 (Carbon Steel Tee Rails) for rails having nominal weights of 91 pounds or heavier per yard. These chemical requirements include the following limitations:

- a. Carbon 0.67 – 0.89 percent
- b. Manganese 0.70 – 1.00 percent
- c. Silicon 0.10 -0.25 percent

#### 3. Finish:

- a. All posts are to be hot dipped zinc galvanized.
- b. No painted u-channel posts shall be allowed.

### B. Square Tube Posts

Only 2" x 2" square tube posts shall be used for Cummings Research Park. See separate specification for CRP. Additionally, 2" x 2" square tube posts are approved for use at Ditto Landing, along Eastern Bypass and Providence Subdivision. Use of posts at any location other than a U-Channel posts must be approved by the City of Huntsville, Alabama. Where square tube posts are permitted, the following are minimum standards that tube posts must meet. Current approved vendor is Allied Tubing. All requests for use of another vendor must be submitted for approval.

1. Material
  - a. Steel posts shall conform to the standard specifications for Hot-Rolled Carbon Sheet Steel, structural quality ASTM designation A570, Grade 50.
  - b. The cross section of the post shall be a square tube formed of 14 or 12-gauge steel, carefully rolled to size and welded in the corner.
  - c. The length of the post shall be available in both 12 or 14 feet lengths, with an allowable tolerance of  $\pm 1/4$ ".
  - d. The furnished members shall be straight and shall have a smooth uniform finish. It shall be possible to telescope consecutive sizes of tubes freely with a minimum amount of play.
  - e. Signposts and associated hardware are to either be galvanized or powder coated with a dark bronze (Sherwin Williams BRZ4 color or Equal), Lead and Cadmium Free F-Nr. 57680.
  - f. Powdercoated signposts shall have die-cut knockouts for mounting of signs. (Qwik Punch)
  - g. Galvanized signposts shall be pre-punched.
  
2. Approved standard materials to be used are the Allied Tube products listed below or Equal.
  - a. Powder Coated; Qwik Punch; Tubular Post 2"x2"; 14 gauge; 12' long
  - b. Powder Coated; Qwik Punch; Tubular Post 2"x2"; 14 gauge; 14' long
  - c. Powder Coated Pedestal Base
  - d. Powder Coated; Extruded Street Name Bracket; Cap
  - e. Powder Coated; Extruded Street Name Bracket; Tee
  - f. Powder Coated; Post Cap
  - g. Slip Base Assembly for 2" post
  - h. Galvanized Tubular Post; 2" x 2"; 14 gauge; 12' long
  - i. Galvanized Tubular Post; 2" x 2"; 14 gauge, 14' long
  - j. Galvanized Tubular Post 2-1/2" x 2-1/2"; 12 gauge; 14' long
  - k. Pedestal Base
  - l. Concrete Barrier Mount
  - m. Guardrail Clip
  - n. T-Fitting
  - o. L-Fitting
  - p. Straight Fitting
  - q. 90 Degree Fitting
  - r. 45 Degree Fitting
  - s. Extruded Street Name Bracket; Cap
  - t. Extruded Street Name Bracket; Tee
  - u. Omni-Direct Anchor 2-1/4"x2-1/4"x3' w/welded soil stabilizer vanes
  - v. Slip Base Assembly for 2-1/2" post
  - w. Slip Base Assembly for 2" post
  - x. Universal Post Clamps for 2-1/2" posts
  - y. Drive Rivets

- z. Corner Bolts with jam nuts
- 3. Approved standard hardware materials to be used to mount the traffic signs to the posts are:
  - a. 5/16" x 2-1/2" Stainless steel hex bolt
  - b. 5/16" Stainless steel washer
  - c. 5/16" Nylon washer
  - d. 5/16" Brass locking nut with nylon insert

### **III. INSTALLATION OF U-CHANNEL POSTS AND BRACKETS, TUBE POSTS AND BRACKETS FOR STREET MARKERS/BLADES AND TRAFFIC CONTROL SIGNS**

#### **A. U-Channel Post Installation**

- 1. Signs shall be installed on 12' U-Channel post. The U-Channel post shall be installed 30" in the ground with the U-Channel facing traffic.
- 2. For over-sized signs 36" and up, signs shall be installed on a 14' U-Channel post. The U-Channel post shall be installed 36" in the ground with the U-Channel facing traffic.

#### **B. Tube Posts and Mounting Brackets**

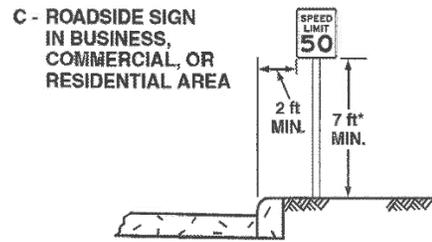
- 1. Each 2" x 2" square tube post shall be installed using an Omni Directional Anchor Base.
- 2. All bases shall be installed so that only 3" of the base are above ground level.
- 3. Each tube post shall be topped with either a powder coated post cap or extruded street name bracket (tee) on each post.
- 4. Each extruded street name tee cap shall be drilled through the post and through the tee cap using a 3/8" drill bit.
- 5. Each extruded street name tee cap shall be bolted on using a 5/16" x 3-1/4" stainless steel hex bolt, 5/16" stainless steel flat washer and 5/16" brass nut with nylon insert.
- 6. Signs W1-6 and W1-7 will require two 12' posts.

#### **C. Traffic Control Signs Installation**

All traffic control signs shall be installed at a minimum height of seven feet to the bottom of the sign from ground level with exception to END OF ROAD TREATMENT. (See Section IV.G. below) Supplemental signs may be mounted one foot below minimum (six feet) with bottom of the sign from ground level.

D. Road Side Lateral and Vertical Clearance

See drawing below for requirements for Lateral and Vertical Clearance

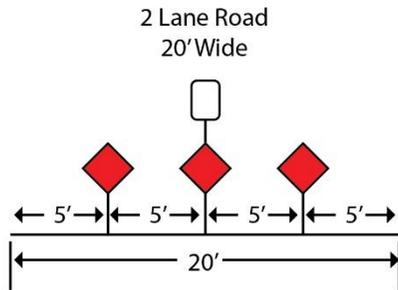


\*Where parking or pedestrian movements are likely to occur

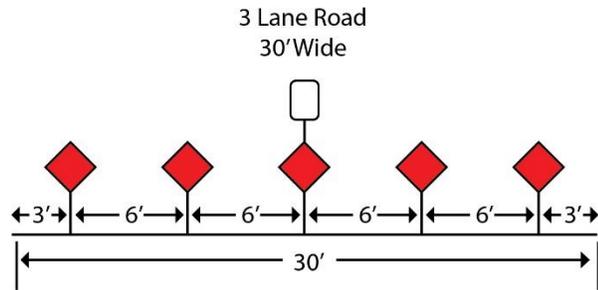
E. End of Road Treatment

See drawing below for requirements for End of Road Treatment

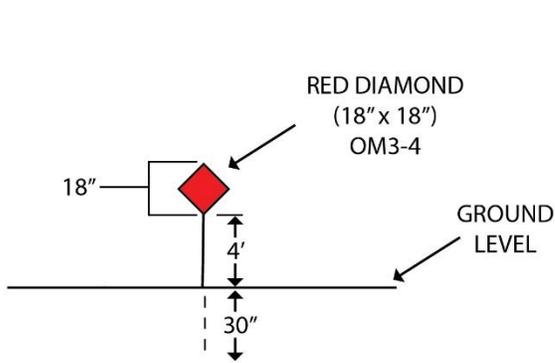
END OF ROAD TREATMENTS  
EXAMPLES OF SPACING



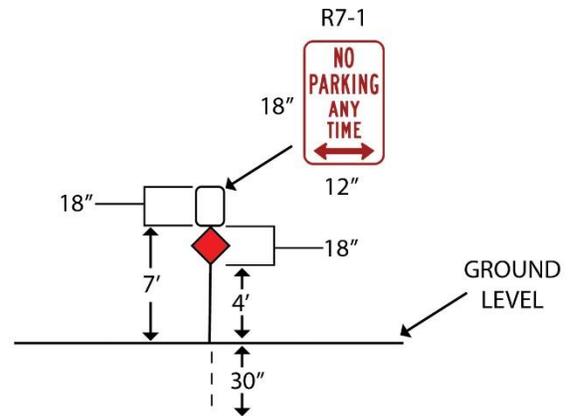
OUTER DIAMOND  
SIGN INSTALLATION



CENTER DIAMOND  
SIGN INSTALLATION



1. USE 8' Galvanized U-Channel Post.
2. Install U-Channel Post 30" in ground.
3. Sign should be 4' from ground to bottom of sign.



1. Use 10' Galvanized U-Channel Post.
2. Install U-Channel Post 30" in ground.
3. No gap between signs.