SP- 231055
(New)

SPECIAL PROVISIONS
FOR
TRAFFIC SIGNS

Polk County
HDP-1945(411)--71-77

Effective Date
January 22, 2025

THE STANDARD SPECIFICATIONS, SERIES 2023, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

This project will be constructed in accordance with Sections 2524 and 4186 of the Standard Specifications as further revised by this Special Provision.

PART 1 – GENERAL

1.01 Description Of Work.

Includes the requirements for the removal and installation of traffic control signs and sign posts.

1.02 Submittals.

A. Submit a list of sign sheeting materials, post materials, and associated hardware proposed for use on the project.

B. Submit all proposed sign layouts prior to manufacturing.

PART 2 – PRODUCTS

2.01 Sign Materials.

A. General.
1. All sign blanks shall be aluminum alloy 6061-T6 conversion coated with Alodine 1200. 5052-H38 alloy is an acceptable alternative.
   a. All blanks shall be 0.080 inches thick will the following exceptions:
      1) If either the length or width dimension of a sign is 36 inches or greater, the blank shall be 0.125 inches thick.
      2) Eighteen inch street name signs shall be 0.125 inches thick.

b. Blanks shall be finished free of any surface or edge burrs, cut marks, or other irregularities.
c. Standard signs shall be pre-drilled with standard hardware holes (0.375 inch diameter) and have no burrs or excess material retained in or around the hole. Holes placement and radii shall conform to the Standard Highway Signs Manual, current edition.
d. A diagram showing the location of holes for specialty signs will be provided prior to catalog cut submittal.
e. 18 inch and 24 inch street name signs shall not be pre-drilled. 8 inch and 12 inch signs shall be drilled as shown below in the Street Name Sign Hole Punch Detail.

2. Sign faces shall be firmly attached to the aluminum sign blanks, with no air bubbles, wrinkles, creases, tears or other surface blemishes. The faces shall be neatly trimmed to match the edge of the sign blank.

B. Sheeting Requirements.
1. All traffic control signs shall be made of ASTM D4956 Type XI (3M Diamond Grade DG3 or equal) reflective sheeting with a 10 year performance warranty with the following exceptions:
a. Pedestrian pushbutton and parking prohibition signs (including no parking, loading zone, handicap, etc.) shall be made of ASTM D4956 Type I (3M Engineer Grade Prismatic or equal) reflective sheeting with a seven year performance warranty.
b. Construction signs shall be made of ASTM D4956 Type IV (3M High Intensity Prismatic or equal) reflective sheeting with a ten year performance warranty.
c. Material for specialty signs will be specified at the time of order.
2. All warning signs shall be made with fluorescent yellow sheeting unless otherwise specified. All pedestrian, bicycle and school crossing signs shall be fluorescent yellow-green sheeting unless otherwise specified.

C. Street Name Signs.
1. All street name signs shall be single-sided.
2. The length of the street name sign shall be in 6 inch increments and will vary based on the legend.
3. Lettering shall be white and the background shall be blue or green transparent, acrylic film with pressure sensitive adhesive for application over reflective sheeting (“EC” film). The background color will be specified at the time of order.
4. Lettering shall be Series B as outlined in the Standard Highway Signs Manual.
5. All 18 inch and 12 inch signs shall have a white border as shown in the attached detail.
6. Letter size and spacing shall conform to the MUTCD and the attached details. In cases where descending lower-case letters (g, j, p, q, and y) cannot be accommodated on the specified blank, the City will work with the manufacturer to modify the letter size or blank size.
7. A shop drawing showing the sign legend, sign length, letter heights and spacing shall be submitted for one 18 inch, 12 inch and 8 inch street name sign prior to making the sign.
8. 18 inch and 12 inch street name signs shall be made of ASTM D4956 Type XI (3M Diamond Grade or equal) reflective sheeting with a 10 year performance warranty. Eight (8) inch street name signs shall be made of ASTM D4956 Type IV (3M High Intensity Prismatic or equal) reflective sheeting with a 10 year performance warranty.

2.02 Post Materials.

A. **Round, Steel Post:** Steel posts shall be 2 inch round galvanized post, Schedule 40.

B. **Perforated Square Tube Post:** Posts shall be 1 3/4 inch square, 14 gauge galvanized steel, perforated post.

PART 3 – EXECUTION

3.01 Sign Installation.

A. **Mounting Height:** The mounting height of the sign shall be 7 feet to bottom of sign measured from top of grade. When multiple signs are located on one pole/post, the height to the bottom of the lowest sign must be 7 feet. Gap between signs must be 1 inch.

B. **Lateral Offset:** Signs posts shall be located so the minimum distance from the face of curb to the near edge of the sign is 2 feet. Lateral distance may be adjusted for utility conflicts. Sign shall not overhang the curb.

3.02 Sign Mounting Hardware.

A. **Sign Installed on Square Posts:** When signs are installed on square perforated posts, the following hardware shall be used as shown in the installation detail:
1. 5/16 inch zinc-plated, Grade A bolt, 2 1/2 inches long.
2. 5/16 inch stainless steel flat washer, 0.75 inch outside diameter (OD).
3. 5/16 inch nylon washer with one inch outside diameter.
4. 5/16 inch zinc-plated nut.

B. **Sign Installed on Round Posts:** When signs are installed on round posts, the following hardware shall be used as shown in the installation detail:
1. 5/16 inch stainless steel flat washer, 0.75 inch outside diameter (OD).
2. 5/16 inch nylon washer with one inch outside diameter.
3. 5/16 inch zinc-plated nut.
4. Aluminum interlocking brackets for 2 3/8 inch OD posts with 1 1/2 inch long zinc-plated, Grade A bolts, 5/16 inch diameter.

C. **Sign Installed on Wood Utility Pole:** When signs are installed on wood utility poles the following hardware shall be used as shown in the installation detail:
1. 5/16 inch zinc-plated, Grade A lag bolt, 2 1/2 inches long.
2. 5/16 inch stainless steel flat washer, 0.75 inch outside diameter (OD).
3. 5/16 inch nylon washer with one inch outside diameter.
4. The use of banding on wood poles is not allowed.

D. **Sign Installed on Steel Streetlight Poles – Side of Pole Mounted:** When signs are side-of-pole mounted on steel streetlight poles the following hardware shall be used as shown in the installation detail:
1. Type 201 stainless banding, 5/8 inch wide and 0.030 inches thick.
2. Type 201 stainless steel buckles, 5/8 inch wide.
3. 5/16 inch stainless steel flat washer, 0.75 inch outside diameter (OD).
4. 5/16 inch nylon washer with one inch outside diameter.
5. Single bolt flared leg stainless steel bracket.
6. 5/16 inch hex head 18-8 stainless steel bolt, 5/8 inch long, fully threaded.

E. **Sign Installed on Traffic Signal/Sign Mast Arm:** When signs are installed on traffic signal or sign mast arm poles, the following hardware shall be used:

1. An articulated serrated bracket assembly that includes top, middle, and bottom sign mounting brackets and provides a rigid-mount for the traffic sign.
2. All necessary hardware for a complete installation on a mast arm shall be included.
3. The mounting assembly shall be of a cable type.
4. Approval of other bracket supports shall be based on specifications and/or test data about their physical properties and performance properties.

All pedestrian pushbutton signs shall be mounted to the signal pole using stainless steel bolts. Bolts shall be 5/16 inch flanged with plastic washer. Holes shall be drilled and tapped.

F. **Street Name Sign Installation on Posts:** When signs are post mounted signs should be mounted back-to-back as appropriate. The following hardware shall be used as shown in the installation detail:

1. 5/16 inch zinc-plated, Grade A bolt, 2 1/2 inches long
2. 5/16 inch stainless steel flat washer, 0.75 inch outside diameter (OD)
3. 5/16 inch nylon washer with one inch outside diameter
4. 5/16 inch zinc-plated nut
5. 1/2 inch I.D. by 1 9/16 inch long CPVC Plastic Spacer

3.03 Post Assemblies and Installation.

A. **General:** Posts shall be of a length to meet the bury requirements identified in the plan details and to extend to the top of the highest mounted sign.

B. **Median Installation:** When sign posts are installed within concrete medians the following post and anchors shall be used and installed per the detail shown in the construction plans:

1. 1 3/4 inch square, 14 gauge galvanized steel, perforated post.
2. 2 inch square, 12 gauge galvanized steel, perforated breakaway anchor – depth of median.
3. 2 1/4 inch square, 12 gauge galvanized steel, perforated breakaway anchor – depth of median.

C. **Concrete Installation – Embedded:** When round posts are embedded in concrete the following post and Speed-E-Roc grout shall be used per the detail shown in the construction plans:

1. 2 inch round galvanized post, Schedule 40.
2. Grout.

D. **Concrete Installation – Plate-mounted:** Where posts are installed on bridge decks or in concrete areas where embedment is not possible, a 6 inch square, 3/8 inch thick steel plate shall be continuously welded to the bottom of the pole.

E. **Grass Installation:** When sign posts are installed within grass the following post and anchors shall be used and installed per the detail shown in the construction plans:

1. 1 3/4 inch square, 14 gauge galvanized steel, perforated post.
2. 2 inch square, 12 gauge galvanized steel, perforated breakaway anchor – 36 inch long.

Where round posts are specified for grass installation, a 2 inch round galvanized, schedule 40 post shall be used. An 8 inch triangular gusset made of 14 gauge carbon steel shall be welded to the bottom of the pole per the detail shown in the construction plans.