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## **TRAFFIC SIGNS AND DEVICES (OAKDALE 2564)**

### **PART 1 GENERAL**

#### **1.01 SUMMARY**

- A. Section Includes:
  - 1. Providing sign panels, posts and other devices for traffic control and street identification.
  - 2. Relocating in-place sign panels and posts.
  - 3. Removing and salvaging in-place sign panels, posts and mounting hardware.
- B. Products Installed But Not Furnished Under This Section:
  - 1. Owner will furnish street name sign panels for installation by Contractor. (Contractor will provide posts, and mounting hardware, Owner will provide brackets.)
- C. Method of Measurement:
  - 1. Measure Type C Sign Panels by area in square feet based on the nominal panel dimensions.
  - 2. Consider posts, brackets and hardware required to mount each sign panel, and providing fabrication stickers, as incidental to Sign Panels – Type C.
  - 3. Measure installation of street name signs (Install Sign – Type Special) as a unit at each installation, including furnishing and installing of post, bracket, and mounting hardware, and installation of salvaged or Owner furnished sign panels.
  - 4. Measure Install Sign Type C as a unit at each installation, including reinstalling of in-place sign panels, and furnishing and installing new sign posts, brackets and mounting hardware.
  - 5. Measure Salvage Sign Type C as a unit at each installation, including salvaging sign panels, and removing and disposing of posts and mounting hardware. Removal and disposal of signs not reused or delivered to the City of Oakdale shall be considered incidental to Salvage Sign Type C.
- D. Basis of Payment:
  - 1. Payments for acceptable quantities of traffic signs and devices shall be at the Contract Unit Price as listed on the Bid Form. All associated Work items shall be considered incidental.

#### **1.02 REFERENCES**

- A. MnDOT:
  - 1. 2564 – Traffic Signs and Devices
  - 2. 3352 – Signs and Markers
  - 3. 3401 – Flanged Channel Sign Posts
- B. MnDOT Standard Signs Manual

- C. Minnesota Manual on Uniform Traffic Control Devices (MMUTCD)
- D. Minnesota Traffic Engineering Manual

## PART 2 PRODUCTS

### 2.01 MATERIALS

- A. Sign Panels:
  - 1. Provide in accordance with the latest MnDOT Standard Signs Manual, the Minnesota Traffic Engineering Manual, the MMUTCD, the Plans, MnDOT 2564, and as follows.
  - 2. Fabricate in accordance with the following:
    - a. Sign base material: Sheet aluminum conforming to material requirements of MnDOT 3352.2A1a.
    - b. Sign face and legend material: Reflective sheeting Type Diamond Grade DG<sup>3</sup> series 4000 as manufactured by 3M Corporation.
  - 3. W11-1, W11-2, S1-1, S4-3, and S5-1 sign panels shall be fluorescent yellow green in color. W16-7p, W16-9p and W13-1, when used with the aforementioned signs, shall be fluorescent yellow green.
- B. Traffic Sign Posts:
  - 1. Provide 3.0 pounds per foot galvanized flanged channel sign posts conforming to MnDOT 3401.
  - 2. Provide quantity of sign posts at each installation in accordance with the Drawings.
  - 3. Provide sign structural components for mounting sign panels (including posts, knee braces, etc.) in accordance with the applicable provisions of the Plans, the Minnesota Traffic Engineering Manual and with the details shown on the Drawings.
  - 4. Determine length of sign posts in accordance with the following sign panel mounting height guidelines provided in these Special Provisions.
  - 5. Where Type C Signs are to be installed on street name sign posts, permanent barricades, Street light poles or on traffic signal poles, mounting hardware required to mount sign panels shall be approved by Engineer prior to installation.
- C. Fabrication Stickers:
  - 1. Screen a fabrication sticker and affix to backside of each new sign panel in lower right-hand corner (when facing the back of the sign).
  - 2. Provide full size mock-up (minimum 1-1/2 inch by 3 inches) of sticker to Engineer for written approval prior to producing any stickers for the Project.
  - 3. Produce fabrication sticker in accordance with the following:
    - a. Colors shall be black legend on white reflectorized background.
    - b. Month and year of fabrication of the sign panel shall be punched out prior to installation of sticker on sign panel.
    - c. Fabrication sticker shall be similar to example shown below, unless otherwise approved by Engineer.

Sign Company Name  
and Address Here

Month	1	2	3	4	5	6	7	8	9	10	11	12	
Year	19	20	21	22	23								

D. Street Name Signs:

1. Post:
  - a. Provide 3 pounds per foot galvanized flanged channel sign posts conforming to MnDOT 3401.
2. Mounting Hardware;
  - a. Provide aluminum assembly units as follows:
    - 1) Post cap bracket assembly
    - 2) Center cross piece (separator).
    - 3) Minimum 5-1/4-inch grips.

## **PART 3 EXECUTION**

### **3.01 INSTALLATION**

A. Traffic Signs:

1. Mount all sign panels on street light poles on flanged channel sign posts, or as otherwise shown in the Plans.
2. Install posts vertically and plumb.
3. Install signs in the locations shown approximately on the Plans.
4. Exact locations will be determined in the field by Engineer.
5. Install each Type C sign panel to meet the following mounting height requirements:
  - a. The minimum mounting height specified in the MMUTCD.
  - b. Mounted at least 7 feet above the adjacent sidewalk or ground line.
6. The edge of the sign panel shall be mounted a minimum of 2 feet from the curb face for urban roadways, 6 feet from shoulder break on rural highways, and 12 feet from shoulder break on rural freeways and expressways.
7. Sign faces shall be vertical.
8. To avoid specular glare, sign faces shall be mounted at approximately 93 degrees from the traveled roadway.
9. Mounting holes in sign panels shall be punched in accordance with the details on Page Numbers 106-109 of the MnDOT Standard Signs Manual, and in accordance with the Plans. However, the number of posts shown on the signing charts in the Plans shall govern the punch code used for each sign panel.
10. If difficulty is encountered in driving a stub post to the embedment depth required, the post shall be removed and a hole drilled to the required embedment depth. Any post bent or damaged during such post driving operations shall be removed from the site and replace at no expense to the Owner.
11. After installation of the sign post in the drilled hole, void areas shall be filled with backfill material which shall be selected earth or sand and free from rocks and excessive organic material. Upon placement, backfill material shall be moistened and thoroughly compacted.

B. Street Name Signs:

1. Top mount sign with post cap bracket assembly and grip. Mount additional sign(s) with separator and grips as required.
2. Provide 8-foot clearance between ground level and lowest sign panel.
3. Install posts vertically and plumb in the locations shown approximately in the Drawings, or at locations as directed by Engineer.
4. Exact locations will be determined in the field by Engineer.

5. Where Type C Sign panels are to be installed on street name sign posts, provide minimum 12-inch clearance between top of Type C Sign panel and bottom of street name sign panel.

### **3.02 SALVAGE AND INSTALL SIGN PANELS**

- A. Salvage in-place sign panels, and remove and dispose of posts and mounting hardware as directed by Engineer.
- B. Provide new sign posts and mounting hardware for each relocated sign panel in accordance with Section 2.01B of these Special Provisions.
- C. Install salvaged sign panels with new posts and mounting hardware at the locations shown in the Plans.
- D. Do not remove any in-place signs unless either construction deems it necessary or as approved or directed by Engineer.
- E. Should signs need to be removed prior to them being ready to be installed at their new locations, relocate and mount signs temporarily to the satisfaction of the Engineer.
- F. If a sign panel or post is lost or damaged during salvaging and reinstallation, replace the lost or damaged sign panel and/or post with a new sign panel and/or post (which shall be in accordance with the MnDOT Standard Signs Manual for that particular sign, or as directed by the Engineer), at no expense to Owner.
- G. Any damaged in-place sign panel and/or post shall be brought to the attention of the Engineer prior to removal so the replacement by Contractor will not have to be made.
- H. Installation of salvaged sign panels and posts shall be in accordance with Section 3.01A of these Special Provisions.

### **3.03 SALVAGE SIGN PANELS**

- A. Salvage in-place sign panels, posts and mounting hardware as directed by Engineer.
- B. In-place nuts, bolts and washer shall be removed in such a manner so as not to damage sign panels. If Contractor damages a sign panel, a deduction of the salvage value of the sign panel will be made.
- C. Any damaged in-place sign panel shall be brought to the attention of the Engineer prior to removal so that a deduction is not made.
- D. Deliver salvaged items to the City of Oakdale as directed by Engineer (note – notify agency at least 3 working days prior to delivering materials).
- E. Do not remove in-place sign panels or materials unless either construction deems it necessary, or as approved or directed by Engineer.
- F. Should signs and posts need to be removed prior to their final removal from the site, relocate (as directed by Engineer) and mount the necessary signs temporarily.

- G. Where it is necessary to remove “Stop” or prohibition signs on roads open to traffic prior to installation of new signs, provide either qualified flagpersons or relocate or remount temporary signs as necessary, prior to leaving the area.
- H. Materials deemed non-salvageable by the Engineer shall be removed completely and disposed of outside right-of-way in any manner that the Contractor may elect subject to the provision of MnDOT 2104.3C3.
- I. A visual inspection shall be made at the job site prior to salvage and again at the storage site by Engineer or Engineer’s representative and any damage to the salvaged materials during the salvage and hauling operations shall be repaired or replaced at no expense to Owner.

**END OF SECTION**