

1 **903-4 MEASUREMENT AND PAYMENT**

2 The supports, specified in these *Standard Specifications*, installed and accepted, will be
3 measured for payment as follows:

4 *Supports, Breakaway Steel Beam* and *Supports, Simple Steel Beam* will be measured and paid
5 as the actual number of pounds of structural steel installed and accepted. The computed
6 nominal weights shown in the final revised plans will be used in determining this quantity.
7 Measurement will not be made of the weight of nuts, bolts and washers that are part of the
8 sign support, as they will be incidental to the work.

9 *Supports, 3-lb Steel U-Channel* will be measured and paid as the actual number of linear feet
10 of 3-lb steel U-channel supports incorporated into the completed and accepted supports and
11 assemblies. Measurements of length will be made to the nearest 1/10 of a foot.

12 *Supports, 2-lb Steel U-Channel* will be measured and paid as the actual number of
13 2-lb steel U-channel support installed and accepted.

14 *Supports, Barrier (Small)* will be measured and paid as the actual number of small barrier
15 supports installed and accepted.

16 *Supports, Barrier (Large)* will be measured and paid as the actual number of large barrier
17 supports installed and accepted.

18 *Supports, Wood* will be measured and paid as the actual number of linear feet of wood support
19 incorporated into the completed and accepted supports. Measurements of length will be made
20 to the nearest 1/10 of a linear foot. The computed linear feet of sign supports, as indicated in
21 the final revised plans will be used in determining this quantity.

22 *Supports, Steel Square Tube* will be measured and paid as the actual number of linear feet of
23 steel square tube supports incorporated into the completed and accepted supports and
24 assemblies. Measurements of length will be made to the nearest 1/10 of a foot.

25 Payment will be made under:

Pay Item	Pay Unit
Supports, Breakaway Steel Beam	Pound
Supports, Simple Steel Beam	Pound
Supports, 3-lb Steel U-Channel	Linear Foot
Supports, 2-lb Steel U-Channel	Each
Supports, Barrier (Small)	Each
Supports, Barrier (Large)	Each
Supports, Wood	Linear Foot
Supports, Steel Square Tube	Linear Foot

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**SECTION 904
SIGN ERECTION**

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28 **904-1 DESCRIPTION**

29 Erect existing and proposed ground mounted and overhead signs to existing and proposed
30 supports and furnish mounting hardware. Relocate existing signs in accordance with the
31 contract and Specifications.

Section 904

1 The types of signs covered by this section are as follows:

2 (A) Type A signs

3 (B) Type B signs

4 (C) Type C signs

5 (D) Type D signs

6 (E) Type E signs

7 (F) Type F signs

8 (G) Milemarkers

9 (H) Overlay signs

10 (I) Reposition signs

11 (J) Logo Trailblazer

12 (K) Logo to panel

13 (L) Relocation signs

14 904-2 MATERIALS

15 Refer to Division 10.

Item	Section
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Signing Materials	1092
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Organic Non-Aerosol Zinc Repair Paint	1080-9
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16 904-3 CONSTRUCTION METHODS

17 (A) General

18 Provide new mounting bolts, washers, hex nuts, backing plates and all hardware for signs
19 to be mounted on existing or proposed supports. Do not weld, cut or fabricate in any
20 manner in the field, except for as allowed under Section 903 and for the drilling of holes
21 for attaching demountable legends and borders that cannot be attached in the shop. Field
22 drill Z-bars for attaching signs to supports as required.

23 Use 2 coats of an organic non-aerosol zinc repair paint in touching up field-drilled holes
24 and damaged areas on all galvanized materials as covered under Section 903.

25 Make sure that the horizontal edges of signs are level and that the faces of signs are
26 vertical.

27 Refer to Sections 900 and 901 for requirements of care and handling of signs, final clean
28 up and covering of signs.

29 (B) Type A , B and C

30 (1) General

31 Attach the signs to supports in accordance with the contract or the approved shop
32 drawings. Make sure that the face of the sign is flat. Any appreciable buckling or
33 warping of the sign face will be cause for rejection of the entire sign.

34 (2) Ground Mounted

35 Erect ground mounted Type A, B and C secondary signs by the required method of
36 attachment shown in the contract. Affix these signs by bolting the horizontal
37 Z-stringers directly to the supports or by bolting vertical Z-bars to the horizontal
38 Z-stringers of the primary sign.

39 (3) Overheads

40 For new overhead supports, erect overhead secondary signs in accordance with the
41 approved shop drawings.

1 For existing overhead supports, design and furnish all new structural members and
2 mounting hardware necessary to erect the new signs. Prepare and submit to the
3 Engineer for approval complete shop drawings and design computations for the
4 bracing and accessory hardware required to attach the sign to the existing overhead
5 sign support. Prepare the design in accordance with *AASHTO Structural Supports for*
6 *Highway Signs, Luminaires and Traffic Signals*. Upon request, the Engineer will
7 provide the Contractor with copies of the shop drawings for existing overhead sign
8 supports.

9 Attach a new sign above a designated existing overhead sign in accordance with the
10 contract. Furnish all new structural members and mounting hardware necessary to
11 erect the new sign.

12 (C) Type D, E, F and Milemarkers

13 Attach the signs to U-channel or perforated square tube supports

14 (D) Overlay (Ground Mounted and Overhead)

15 Attach overlays to designated existing ground mounted or overhead signs as required by
16 the contract.

17 Remove and dispose of all conflicting demountable legends, borders and overlays before
18 attaching new overlays. Employ any method of removal necessary, provided it does not
19 damage the existing sign or the attached overlay. Perform such minor repairs to existing
20 signs as necessary before the attachment of overlays to ensure a finished sign face that is
21 completely flat.

22 Field-drill 5/32" holes in both the overlay and the existing sign simultaneously, according
23 to the rivet spacing requirements shown in the contract. Attach the proposed overlays
24 with 1/8" diameter aluminum rivets of the "pull-through" type. Exercise sufficient care
25 in attaching the overlays to ensure that the finished sign face is completely flat and
26 without any ripples and/or buckles.

27 (E) Reposition Overhead Signs

28 Reposition existing signs on existing overhead sign supports as required by the contract.
29 Reposition associated lighting systems and secondary signs along with the signs.

30 When required, drill new holes in the existing vertical attachment members, in order to
31 maintain a minimum clearance of 17 ft to the roadway surface at the new location on the
32 structure. No other field drilling will be allowed.

33 Adjust and relocate conduit and junction boxes as required.

34 (F) Logo Trailblazer

35 All logos will be made available for pick up at the Division Traffic Services' sign shop.
36 Erect logos on U-channel or perforated square tube supports in accordance with
37 Type F sign details shown in the contract.

38 (G) Logo to Panel

39 All logos will be made available for pick up at the Division Traffic Services' sign shop.
40 Attach logos to the mainline signs with ten 1/8" diameter rivets of the pull through type.
41 Attach logos to the ramp signs with four 1/8" diameter rivets of the pull through type.
42 Drill 5/32" holes in the background signs to match those in the logos for attaching the
43 logos to the background signs. Place logos as shown on the contract.

Section 907

(H) Relocation (Ground Mounted) Signs

Maintain signs in good serviceable condition throughout the duration of the project. Repair any areas or materials within the project limits disturbed or damaged in performance of the work required under this section as directed by the Engineer at no cost to the Department.

Remove existing signs from their existing locations and relocate to their new location in accordance with the contract. Repair or replace signs damaged in relocating at no cost to the Department. Refer to Section 907 for disposal of sign components.

Erect signs and supports according to requirements of Sections 903 and 904. Immediately relocate all warning and regulatory signs to new locations. Relocate all other signs to new locations in no more than 12 hours.

904-4 MEASUREMENT AND PAYMENT

Sign Erections (Ground Mounted and Overhead) will be measured and paid as the actual number of ground mounted and overhead signs erected and accepted. Each type F sign assembly will be measured as one sign.

Sign Erection, Relocate Type ____ (Ground Mounted) will be measured and paid as the actual number of signs acceptably relocated. Secondary signs will be incidental work in conjunction with the primary sign. Sign assemblies consisting of more than one sign panel will be considered one sign.

Payment will be made under:

Pay Item	Pay Unit
Sign Erection, Type ____ (Overhead)	Each
Sign Erection, Type ____ (Ground Mounted)	Each
Sign Erection, Type ____	Each
Sign Erection, Milemarkers	Each
Sign Erection, Overlay (Overhead)	Each
Sign Erection, Overlay (Ground Mounted)	Each
Sign Erection, Reposition Overhead	Each
Sign Erection, Logo to Panel	Each
Sign Erection, Logo Trailblazer	Each
Sign Erection, Relocate Type ____ (Ground Mounted)	Each

SECTION 907

DISPOSAL AND STOCKPILING OF SIGNING COMPONENTS

907-1 DESCRIPTION

Properly dispose of or stockpile signing components.

907-2 CONSTRUCTION METHODS

(A) General

Repair any areas or materials within the project limits disturbed or damaged in performance of the work required under this section as directed by the Engineer.

(B) Removal

Do not remove existing signing components until required replacements have been erected and are available for use by traffic or are available for immediate replacement.

Remove signing components by methods that will not damage other portions of the project or facility. Repair any damage by methods satisfactory to the Engineer.