SECTION 635 STRUCTURAL STEEL SIGN SUPPORTS

635.1 Description

(1) This section describes furnishing and erecting steel sign supports.

635.2 Materials

(1) Furnish materials conforming to the following:

High-strength structural steel 506.2.2.3
Charpy V-notch requirements 506.2.2.1

(2) Conform to ASTM A709, grade 50 for all steel sign supports.

(3) Furnish ASTM A325 type 1 steel bolts. Furnish nuts conforming to ASTM A563 and washers conforming to ASTM F436. Mechanically zinc coat type bolts, and their nuts and washers, according to ASTM B695, class 65. Furnish fasteners of the dimensions the plans show.

(4) Furnish structural steel sign supports intended to support ground mount signs made of steel supports fabricated and erected according to the plans and specifications.

635.3 Construction

635.3.1 General

(1) Use construction methods including fabrication, inspection, erection, mill test reports, and shop drawings, conforming to those specified in 506.3 for steel bridges and the following:

Shop drawings 506.3.2
Bolt holes 506.3.5
Bolts and bolted connections 506.3.12
Mill inspection and tests 506.3.21
Field inspection 506.3.25

(2) Stake or mark the sign location and erect the supports as specified for placement and orientation in 637.3.3.2.

635.3.2 Welding

(1) Perform all shop welding for structural steel sign supports as the plans show and conforming to AWS D 1.1, Structural Welding Code - Steel.

(2) Do not weld in the field without the engineer's written approval. The engineer will only allow field welding for repairs in noncritical locations and when a department-approved individual competent to perform inspections is present during the welding. Perform all field welding using personnel qualified under AWS D 1.5, Bridge Welding Code.

635.3.3 Fabrication

(1) Fabricate structural steel sign supports according to plan details.

(2) Zinc coat sign supports fabricated from ASTM A709 grade 50 steel, except hot-dip zinc coat the encased stub lengths the plans describe, according to ASTM A123 after completing all cutting, drilling, punching, and welding. Ensure that the zinc coating withstands 8, one-minute dips in the Preece test solution, ASTM A239.

635.3.4 Erection

(1) Cure exposed portions of concrete footings as specified in 415.3.12 except the contractor may use curing compound conforming to 501.2.9. Wait at least 7 days before erecting the sign support.

(2) Erect sign supports according to details the plans show.

635.3.5 Repairing Damaged Zinc Coating

(1) Repair all zinc coating chipped or damaged during handling or transporting by metallizing according to AASHTO M36 for repairing damaged coating; or repair by field coating, apply a paste consisting of department-approved zinc powder and flux with a minimum amount of water; or use an engineer-approved stick or bar containing zinc powder and flux. Thoroughly clean the places receiving coating before applying the zinc compound. Heat the surface receiving coating to a temperature, about 600 F that melts all metallics in the paste when applied to the heated surface. Take extreme care to cause no damage to the zinc coating surfaces during heating.

(2) The contractor may apply an acceptable zinc-rich paint to a minimum dry-film thickness of 0.005 inches, instead of the above methods, with the engineer's specific approval. Thoroughly clean the damaged and adjacent areas before applying.

635.3.6 Replacing Base Connection Bolts

(1) Under the Sign Supports Replacing Base Connection Bolts bid item, install new connection bolts as specified in the plan details at the locations the contract specifies. Repair or replace existing posts, base plates, or stiffener plates damaged during bolt replacement.

635.4 Measurement

(1) The department will measure Sign Supports Structural Steel HS by the pound acceptably completed. The measured quantity equals the total weight before applying any zinc coating, including the weight of plates, bolts, nuts, and washers, included in the work. Required brass shims are incidental to the cost of the work.

(2) The department will measure structural steel as specified for steel bridges in 506.4.

(3) The department will measure Sign Supports Replacing Base Connection Bolts as each individual sign support acceptably completed.

635.5 Payment

(1) The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
635.0200	Sign Supports Structural Steel HS	LB
635.0300	Sign Supports Replacing Base Connection Bolts	EACH

(2) Payment for Sign Supports Structural Steel HS is full compensation for providing sign supports, including encased stub lengths and base connection bolts; for fabricating; for field preparation and coating repair; and for transporting and erecting. Payment does not include constructing concrete footings, or furnishing, or placing signs, or sign lighting fixtures.

(3) Payment for Sign Supports Replacing Base Connection Bolts is full compensation for providing new bolts for each contract designated sign; and for repairing damage done during bolt replacement.