

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

| | | | | |
|-----------------|----------|---------|--------------|-----------|
| ROUTE No. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| FAI 74 | * | PEORIA | 1360 | 1297 |
| STA. | TO STA. | | | |
| F.H.W.A. REGION | ILLINOIS | PROJECT | | |

GENERAL NOTES

SPECIFICATIONS: * (72-7)R-3 CONTRACT NO. 68200

DESIGN: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. ("AASHTO Specifications")

MEASUREMENTS: All dimensions are in millimeters (mm) except as noted.

CONSTRUCTION: Current (at time of letting) Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, Supplemental Specifications and Special Provisions. ("Standard Specifications")

LOADING: 145 km/h WIND VELOCITY

WIND LOADING: 1.44 kPa normal to Sign Panel Area and truss elements not behind sign Loading Diagram.

WALKWAY LOADING: Dead load plus 2.2 kN concentrated live load.

ALLOWABLE UNIT STRESSES:

Structural Steel - 138 MPa
Reinforcing Steel - 138 MPa
Class SI Concrete - 10 MPa
Allowable unit stresses due to wind load in combination with other forces, are increased 1.33.

MINIMUM CLEARANCE: Vertical Roadway Clearance = 5.3 m (All Obstructions)

WELDING: All welds to be continuous unless otherwise shown. All welding to be done in accordance with current AWS D1.1 Structural Welding Code (Steel) and the Standard Specifications.

MATERIALS: All Structural Steel Pipe shall be ASTM A53 Grade B with a minimum yield of 241 MPa, or A500 Grade B or C with a minimum yield of 319 MPa. If A500 pipe is substituted for A53, then the outside diameter shall be as detailed and wall thickness greater than or equal to A53.

All Structural Steel Plates and Shapes shall conform to AASHTO M270M Gr. 250, Gr. 345 or Gr. 345W**. Stainless steel for handhole covers shall be ASTM A240, Type 302 or 304, or another alloy suitable for exterior exposure and acceptable to the Engineer.

The steel pipe and stiffening ribs at the base plate for the column shall have a minimum longitudinal Charpy V-Notch (CVN) energy of 20 J at 4° C. (Zone 2) before galvanizing.

FASTENERS FOR STEEL TRUSSES: All bolts noted as "high strength" (HS) must satisfy the requirements of AASHTO M164 (ASTM A325M), ASTM A449, or approved alternate, and must have matching lock nuts and washers. All bolts, u-bolts, eye bolts, lock nuts and washers not required to be high strength must satisfy the requirements of ASTM A307. All bolts, u-bolts, eye bolts, lock nuts and washers must be hot dip galvanized per AASHTO M232. All lock nuts must have nylon or steel inserts. High strength bolt and stud installation shall conform to Article 505.04(F)(2)d of the IDOT Standard Specifications for Road and Bridge Construction. Rotational Capacity ("ROCAP") testing of bolts will not be required.

STEEL PIPE: DN indicates nominal diameter.

GALVANIZING: All Steel Grating, Plates, Shapes and Pipe shall be Hot Dip Galvanized after fabrication in accordance with AASHTO M111.

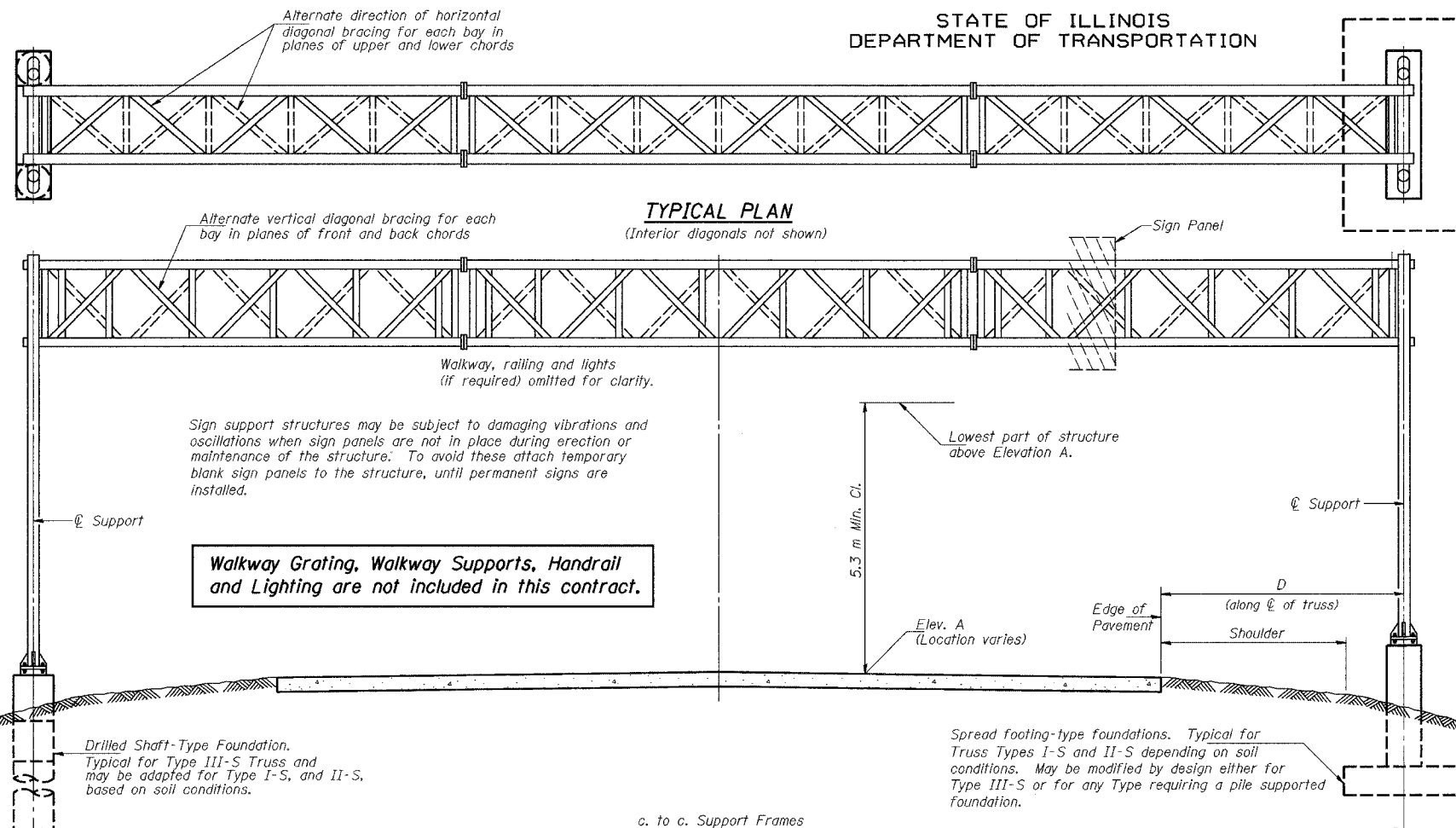
PAINTING: All steel members shall be painted according to the Special Provision "Surface Preparation and Painting of Galvanized Steel Traffic Structures". Cost included in "Overhead Sign Structure...".

ANCHOR RODS: Shall conform to AASHTO M314 Gr. 250 or 380 (36 or 55) with a minimum Charpy V-Notch (CVN) energy of 20 J at 5° C.

CONCRETE SURFACES: All concrete surfaces above an elevation 150 mm below the lowest final ground line at each foundation shall be cleaned and coated with Bridge Seat Sealer in accordance with the Standard Specifications.

REINFORCEMENT BARS: Reinforcement Bars designated (E) shall be epoxy coated in accordance with the Standard Specifications.

**If M270M Gr. 345W steel is proposed, chemistry for plate to be used shall first be approved by the Engineer as suitable for galvanizing and welding.



TYPICAL ELEVATION

(Looking at Face of Signs***)

Elev. A = Elevation at point of minimum clearance to sign, walkway support or truss.

***Looking upstation for structures with signs both sides.

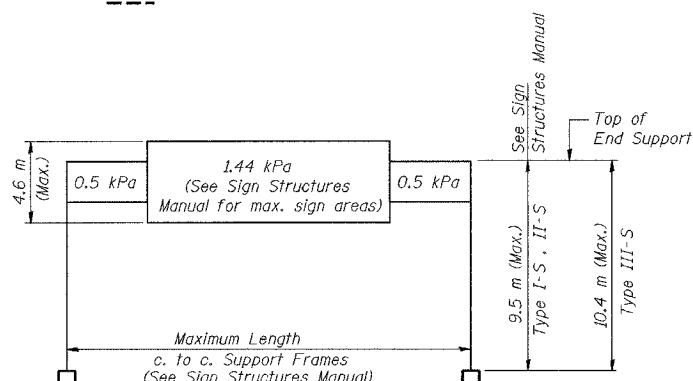
| Structure Number | Station | Design Truss Type | c. to c. Supports (m) | Elev. A | Dim. D (m) | Height of Tallest Sign (m) | Total Sign Area (sq. m) |
|-------------------|-------------|-------------------|-----------------------|---------|------------|----------------------------|-------------------------|
| ① 4S0721074L089.3 | 143+798.000 | I-S | 21.5 | 189.914 | 8.323 | 3.200 | 39.36 |
| ② 4S0721074L089.4 | 144+154.000 | I-S | 22.0 | 185.298 | 4.199 | 3.810 | 41.37 |
| ② 4S0721074L089.7 | 144+540.000 | I-S | 20.0 | 181.130 | 5.700 | 3.962 | 38.45 |

- This Sign Structure spans Ramp B-2 and Ramp B-3.
- The outside foundation, end supports, truss and signing are included in this contract. The median foundation was provided in a previous contract.

**TOTAL BILL OF MATERIAL
OVERHEAD STEEL TRUSS**

| ITEM | UNIT | TOTAL |
|--|----------------|-------|
| ③ OVERHEAD SIGN STRUCTURE-SPAN, TYPE I-S (1.22M x 1.37M) | m | 63.50 |
| OVERHEAD SIGN STRUCTURE-SPAN, TYPE II-S (1.37M x 1.60M) | m | |
| OVERHEAD SIGN STRUCTURE-SPAN, TYPE III-S (1.53M x 2.14M) | m | |
| OVERHEAD SIGN WALKWAY TYPE S | m | |
| CONCRETE FOUNDATIONS | m | |
| ④ DRILLED SHAFT CONCRETE FOUNDATIONS | m ³ | 35.57 |

- See Special Provision "Overhead Sign Structures-Special".
- Quantity includes median foundation for S.N. 4S0721074L089.3. See Signing Sheet 59 of 83.



DESIGN WIND LOADING DIAGRAM

Parameters shown are basis for I.D.O.T. Standards and Sign Manual Tables. Installations not within dimensional limits shown require special analysis for all components.

| | | |
|----------|-----|------------------------------------|
| DESIGNED | RJW | 2004 |
| CHECKED | KJN | EXAMINED |
| DRAWN | RJW | PASSED |
| CHECKED | KJN | ENGINEER OF BRIDGES AND STRUCTURES |

OS-S-1(M) 10/1/2001

| NUMBER | REVISION | DATE |
|--------|----------|------|
| | | |
| | | |
| | | |

SIGNING SHEET 49 OF 83

**OVERHEAD SIGN STRUCTURES
GENERAL PLAN & ELEVATION
STEEL TRUSS & STEEL SUPPORTS**

ILLINOIS DEPARTMENT OF TRANSPORTATION

SIGNING PLAN

W.B. I-74 STA. 143+798, S.N. 4S0721074L089.3

W.B. I-74 STA. 144+154, S.N. 4S0721074L089.4

W.B. I-74 STA. 144+540, S.N. 4S0721074L089.7

PEORIA CO., IL.

DATE: II-II-04

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