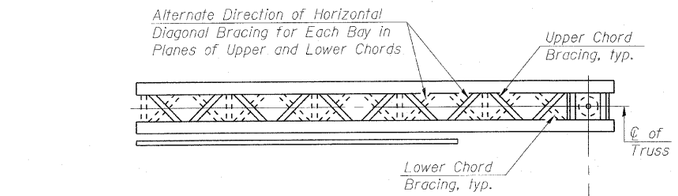
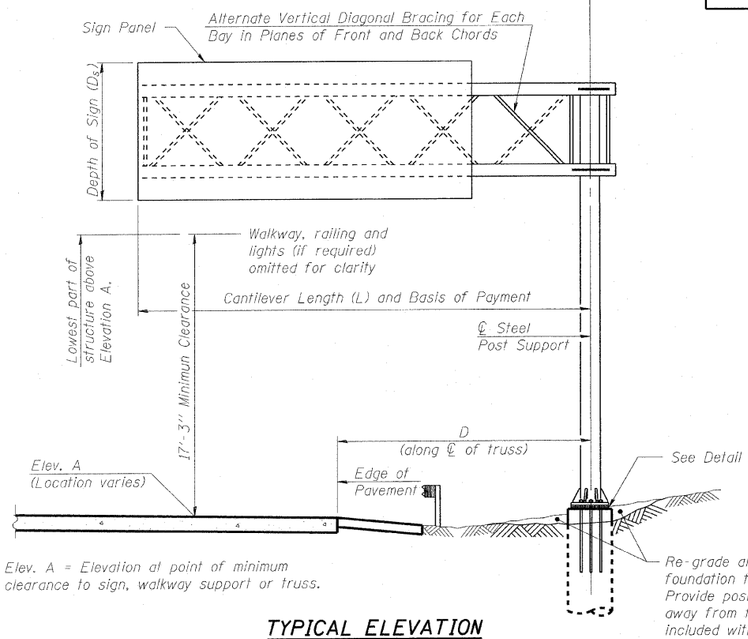



## TYPICAL PLAN
(Walkway not shown)




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

## TYPICAL ELEVATION
Looking in Direction of Traffic

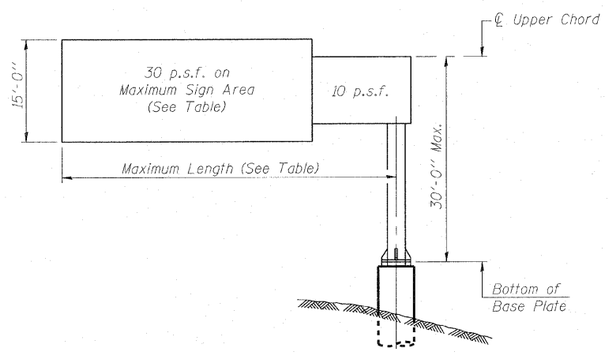
Sign support structures may be subject to damaging vibrations and oscillations when sign panels are not in place during erection or maintenance of the structure. To avoid these vibrations and oscillations, consideration should be given to attaching temporary blank sign panels to the structure.

NOTE:
Some of the details shown in these plans are for new sign structures only, and do not apply to the rehabilitation of this particular structure.

| Structure Number | Station | Design Truss Type | Cantilever Length (L) | Elev. A | Dim. D | $D_s$ | Total Sign Area |
|---|---|---|---|---|---|---|---|
| 1C099I055R241.0 | 601+52 | * | 35'-0" | * | 24'-10" | * | 119 Sq. Ft. |

* Refer to existing drawings

| Truss Type | Maximum Sign Area | Maximum Length |
|---|---|---|
| I-C-A | 170 Sq. Ft. | 25 Ft. |
| II-C-A | 340 Sq. Ft. | 30 Ft. |
| III-C-A | 400 Sq. Ft. | 40 Ft. |



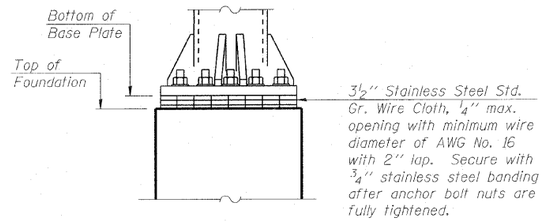

## DESIGN WIND LOADING DIAGRAM
Parameters shown are basis for I.D.O.T. Standards Installations not within dimensional limits shown require special analysis for all components.

## INDEX OF SHEETS


1. General Plan & Elevation
2. Damping Device
3-4. Aluminum Walkway Details
5-8. Existing Structure Plans


## SCOPE OF WORK

1. Remove Overhead Sign Structure.
2. Install Internal Truss Grating.
3. Install Internal Truss Damper.
4. Perform Sign Support Grout Repair.
5. Improve grading around existing foundation.
6. Re-install Overhead Sign Structure.




## DETAIL A
For Overhead Sign Support Grout Repair

## GENERAL NOTES

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

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: 90 M.P.H. WIND VELOCITY

WALKWAY LOADING: Dead load plus 500 lbs. concentrated live load.

DESIGN STRESSES:
Field Units
$f'_c$ = 3,500 p.s.i.
fy = 60,000 p.s.i. (reinforcement)

WELDING: All welds to be continuous unless otherwise shown. All welding to be done in accordance with current AWS D1.1 and D1.2 Structural Welding Codes (Steel and Aluminum) and the Standard Specifications.

MATERIALS: Aluminum Alloys as shown throughout plans. All Structural Steel Pipe shall be ASTM A53 Grade B or A500 Grade B or C. 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 M270 Gr. 36, Gr. 50 or Gr. 50W*. Stainless steel for shims, sleeves and 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 15 lb.-ft. at 40° F. (Zone 2) before galvanizing.

FASTENERS FOR ALUMINUM TRUSSES: All bolts noted as "high strength" must satisfy the requirements of AASHTO M164 (ASTM A325), or approved alternate, and must have matching lock nuts. Threaded studs for splices (if Members interfere) must satisfy the requirements of ASTM A449, ASTM A193, Grade B7, or approved alternate, and must have matching lock nuts. Bolts and lock nuts not required to be high strength must satisfy the requirements of ASTM A307. All bolts and lock nuts must be hot dip galvanized per AASHTO M232. The lock nuts must have nylon or steel inserts. A stainless steel flat washer conforming to ASTM A240 Type 302 or 304, is required under both head and nut or under both nuts where threaded studs are used. High strength bolt 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.

U-BOLTS AND EYEBOLTS: U-Bolts and Eyebolts must be produced from ASTM A276 Type 304, 304L, 316 or 316L, Condition A, cold finished stainless steel, or an equivalent material acceptable to the Engineer. All nuts for U-Bolts and Eyebolts must be lock nuts equivalent to ASTM A307 with nylon or steel inserts and hot dip galvanized per AASHTO M232. A stainless steel flat washer conforming to ASTM A240, Type 302 or 304, is required under each U-Bolt and Eyebolt lock nut.

GALVANIZING: All Steel Grating, Plates, Shapes and Pipe shall be Hot Dip Galvanized after fabrication in accordance with AASHTO M111. Painting is not permitted.

ANCHOR RODS: Shall conform to ASTM F1554 Gr. 105.

CONCRETE SURFACES: All concrete surfaces above an elevation 6" 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.

FOUNDATIONS: The contract unit price for Drilled Shaft Concrete Foundations shall include reinforcement bars complete in place.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

## TOTAL BILL OF MATERIAL - NB-CL-203

| ITEM | UNIT | TOTAL |
|---|---|---|
| OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A | Foot | 33.5 |
| REMOVE AND REERECT OVERHEAD SIGN STRUCTURE - CANTILEVER | Each | 1 |
| FURNISH AND INSTALL TRUSS DAMPER | Each | 1 |
| OVERHEAD SIGN SUPPORT GROUT REPAIR | Each | 1 |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LICENSE NO. - 184.001292 EXPIRES 4/30/2012


OSC-A-1 1-20-11

| | | | |
|---|---|---|---|
| FILE NAME = | USER NAME = | DESIGNED - BLB | REVISED - |
| | | CHECKED - BAB | REVISED - |
| | PLOT SCALE = | DRAWN - BCD | REVISED - |
| | PLOT DATE = | CHECKED BLB | REVISED - |

**STATE OF ILLINOIS**
**OVERHEAD SIGN REHABILITATION**

**CANTILEVER SIGN STRUCTURES – GENERAL PLAN & ELEVATION**
**ALUMINUM TRUSS & STEEL POST**
SHEET NO. 1 OF 8 SHEETS

| FAI RTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---|---|---|---|
| 55 | 2010-114-SG | WILL | 115 | 91 |
| | | CONTRACT NO. 60M48 | | |
| FED. ROAD DIST. NO. 1 | ILLINOIS | FED. AID PROJECT | | |