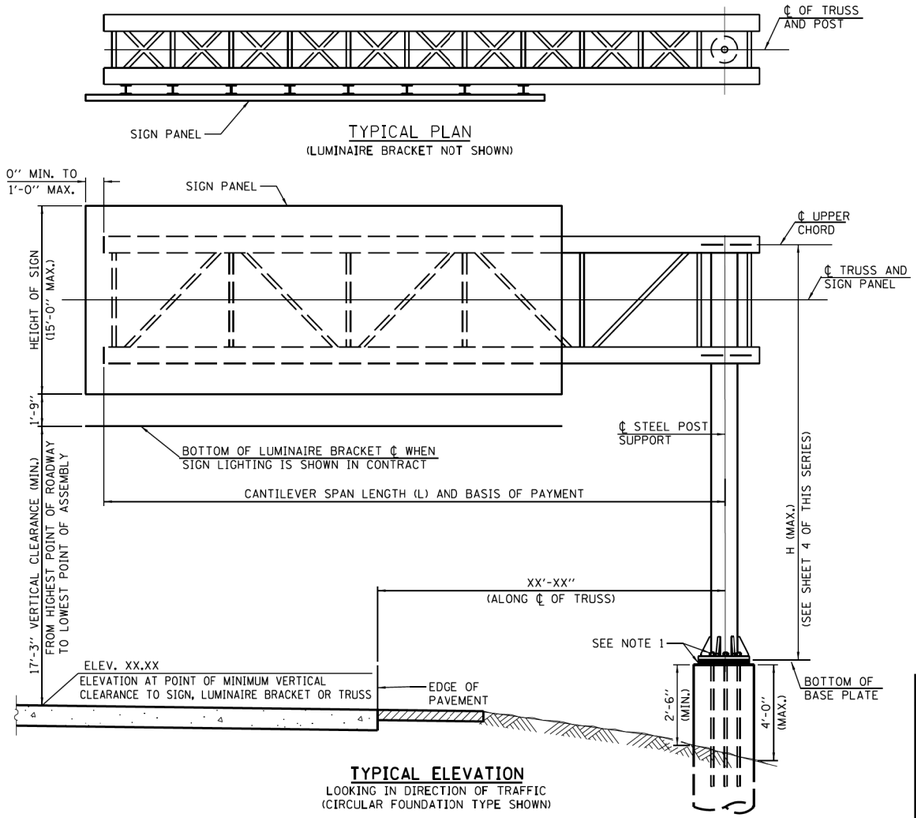
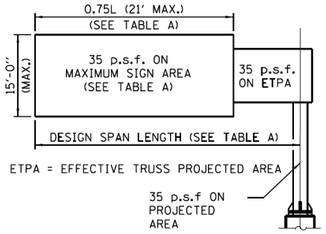


TYPICAL ELEVATION
LOOKING IN DIRECTION OF TRAFFIC
(CIRCULAR FOUNDATION TYPE SHOWN)

TABLE A: MAXIMUM LIMITS FOR SIGNS

TRUSS TYPE	DESIGN SPAN LENGTH (FT.)	MAXIMUM SIGN AREA (SQ. FT.)	MAXIMUM SIGN LENGTH (FT.)
15-D	15	170	11.25
20-D	20	225	15
25-D	25	282	18.75
30-D	30	315	21
35-D	35	315	21
40-D	40	315	21
45-D	45	315	21
50-D	50	315	21



DESIGN WIND LOADING DIAGRAM

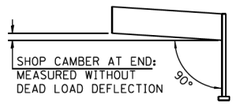
INSTALLATIONS NOT WITHIN DIMENSIONAL LIMITS SHOWN REQUIRE SPECIAL ANALYSIS FOR ALL COMPONENTS.

TABLE B: MATERIAL SPECIFICATIONS

ELEMENT OF STRUCTURE	SPECIFICATION	MINIMUM YIELD STRENGTH (k.s.i.)	MINIMUM ULTIMATE STRENGTH (k.s.i.)
STRUCTURAL STEEL PIPE	ASTM A53, TYPE E OR S, GRADE B	35	60
STRUCTURAL STEEL TUBE	ASTM A500 GRADE B	46	58
STEEL BAR AND STEEL PLATES	ASTM A36	36	58
STAINLESS STEEL BOLTS	ASTM A193, CLASS 1, GRADE B8	30	75
STAINLESS STEEL LOCKNUTS	ASTM A194, GRADE 8F	60	100
STAINLESS STEEL WASHERS	ASTM A240, TYPE 302	60	100
STEEL ANCHOR BOLTS	AASHTO M314 OR ASTM F 1554	55	75

SHOP CAMBER TABLE

CANTILEVER LENGTH (L)	SHOP CAMBER AT END
15'	1''
20'	1½''
25'	1½''
30'	2''
35'	2½''
40'	2½''
45'	3''
50'	3½''



CAMBER DIAGRAM
(FOR FABRICATION ONLY)

GENERAL NOTES:

1. AFTER ADJUSTMENTS TO LEVEL TRUSS AND ENSURE ADEQUATE VERTICAL CLEARANCE, ALL TOP AND LEVELING NUTS SHALL BE TIGHTENED AGAINST THE BASE PLATE WITH A MINIMUM TORQUE OF 200 LB.-FT. STAINLESS STEEL MESH SHALL THEN BE PLACED AROUND THE PERIMETER OF THE BASE PLATE. SECURE TO BASE PLATE WITH STAINLESS STEEL BANDING.
2. 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, ATTACH TEMPORARY BLANK SIGN PANELS OR OTHER BRACING TO THE STRUCTURE UNTIL PERMANENT SIGNS ARE INSTALLED.
3. TRUSSES SHALL BE SHIPPED INDIVIDUALLY WITH ADEQUATE PROVISON TO PREVENT DETRIMENTAL MOTION DURING TRANSPORT. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE CONFIGURATION AND PROTECTION OF THE TRUSSES.
4. ALL CANTILEVER TRUSSES ARE DESIGNED FOR 35 PSF WIND PRESURE ON TRUSS MEMBERS AND SIGN PANEL.
5. FOR MATERIAL SPECIFICATIONS FOR CANTILEVER SIGN STRUCTURES, SEE TABLE B.
6. ALL WELDS SHALL BE CONTINUOUS UNLESS OTHERWISE SHOWN. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH CURRENT AWS D1.1 STRUCTURE WELDING CODE AND THE STANDARD SPECIFICATIONS.
7. ALL STEEL PLATES, SHAPES AND PIPE SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111.
8. ALL CONCRETE SURFACES ABOVE AN ELEVATION 6'' BELOW THE LOWEST FINAL GROUND LINE AT EACH FOUNDATION SHALL BE CLEANED AND COATED BRIDGE SEAT SEALER IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
9. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

DESIGN SPECIFICATIONS:

THESE STRUCTURES ARE DESIGNED TO SATISFY THE 2009 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 5th EDITION. TRUSSES ARE DESIGNED FOR A SIGN PANEL HEIGHT OF 15'-0'' OVER A LENGTH OF 75% OF THE DESIGN SPAN LENGTH NOT TO EXCEED 21''-0''.

ALLOWABLE UNIT STRESSES:

STRUCTURAL STEEL - 20,000 p.s.i. (SEE TABLE B)
REINFORCING STEEL - 20,000 p.s.i. (fy = 60,000 p.s.i)
CLASS DS CONCRETE - 1,600 p.s.i. (f'c = 4,000 p.s.i)

ALLOWABLE UNIT STRESSES DUE TO WIND LOAD IN COMBINATION WITH OTHER FORCES, ARE INCREASED 33%.

APPROVED Paul Kovacs CHIEF ENGINEER DATE 2-7-2012

SHEET 1 OF 4

Illinois Tollway
Open Roads for a Faster Future

DATE	REVISIONS
2-7-2012	REDESIGNED TO 2009 AASHTO

OVERHEAD SIGN STRUCTURE
CANTILEVER TYPE, STEEL

STANDARD F4-01

BOWMAN, BARRETT & ASSOCIATES INC.
CONSULTING ENGINEERS
Chicago, Illinois
312.228.0100
www.bbandainc.com

FILE NAME = $FILES$	USER NAME = default	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = H:1'=10' V:1'=5'	CHECKED - RGR	REVISED -
	PLOT DATE = 6/18/2012	DATE - 6/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOLLWAY STANDARD DRAWING

SCALE: | SHEET NO. N/A OF N/A SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94	49-1-R-1	LAKE	677	662A
		CONTRACT NO. 60L77		
	ILLINOIS FED. AID PROJECT			

S:\1101\05_CADD\60L77 IL 173\60L77 Sheets\D160L77-sht-15THA details.dgn