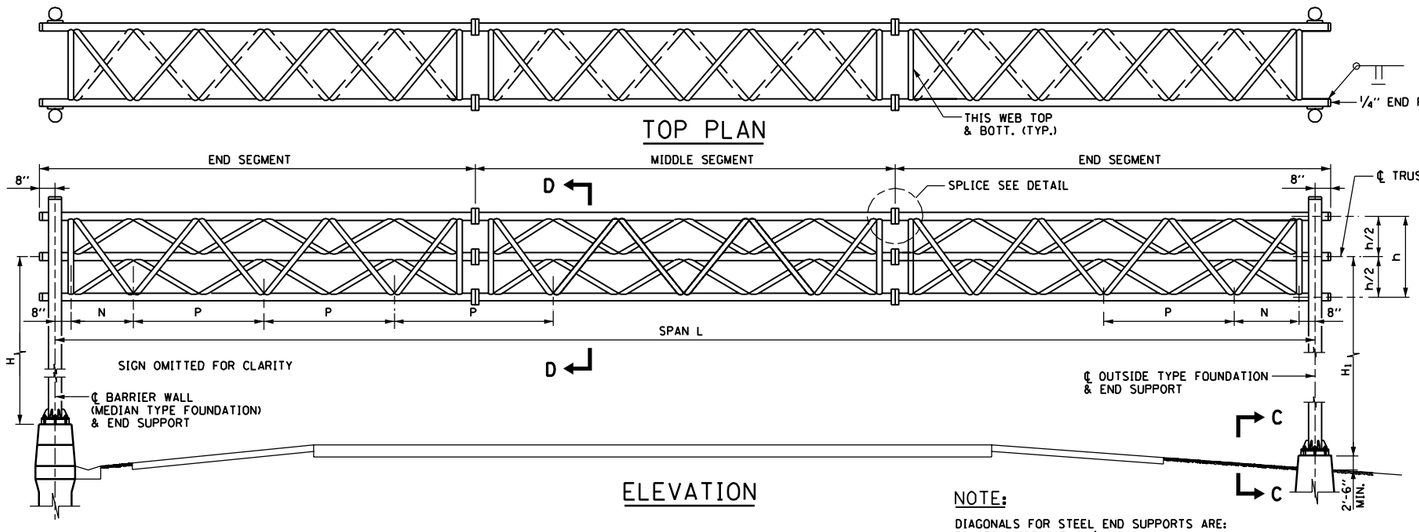
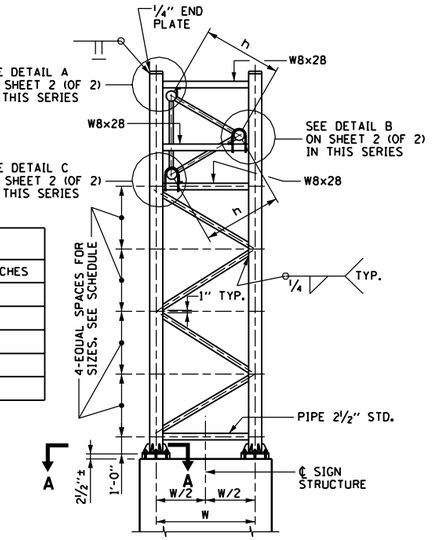
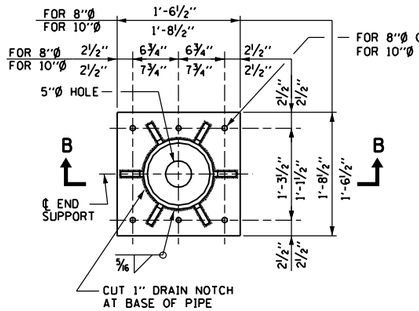


CAMBER	
SPAN IN FEET	CAMBER IN INCHES
60 THRU 70	1¾"
71 THRU 80	2"
81 THRU 100	2¼"
101 THRU 110	2½"
111 THRU 120	2½"

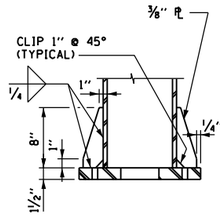
PROVIDE THE ABOVE CAMBER AT MIDDLE OF SPAN OF STRUCTURES



TYPICAL END SUPPORT ELEVATION



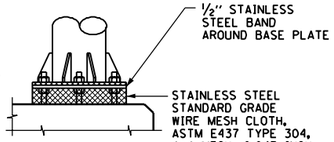
SECTION A-A



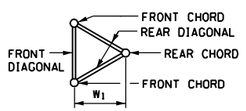
SECTION B-B

NOTE:

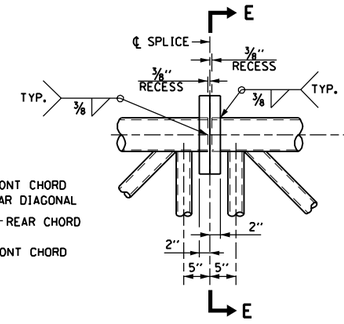
DIAGONALS FOR STEEL END SUPPORTS ARE:
2" STD. PIPE FOR 8"Ø COLUMNS
2½" STD. PIPE FOR 10"Ø COLUMNS



VIEW C-C



SECTION D-D



SPLICE DETAIL

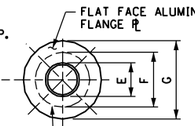


TABLE A			
CHORD SIZE E	F	G	N
3½"Ø & 3¾"Ø	8½"	11½"	6
4¼"Ø, 4¾"Ø, 5"Ø	9¼"	12¼"	8
6"Ø & 6½"Ø	11"	14"	10

BOLT CIRCLE FOR 15/16 "Ø HOLES AND 7/8"Ø STAINLESS STEEL (S.S.) BOLTS WITH HEX LOCKNUTS & S.S WASHERS UNDER HEAD & NUT. FOR E, F, G & N, SEE TABLE A. REQUIRED MIN. BOLT TENSION IS 12,500#. 7/8"Ø STUDS SHALL BE SUBSTITUTED WHEN DIAGONALS INTERFERE WITH BOLT LOCATION.

SECTION E-E

SIGN STRUCTURE SCHEDULE

TRUSS NO.	DIMENSIONS						ALUMINUM TRUSS					STEEL END SUPPORT			FOUNDATION TYPE
	TRUSS SPAN L	P	N	h	W_1	W	DL (TRUSS) DEFLECTION	MIDDLE SEGMENT OR END SEGMENT				PIPE COLUMN (NOMINAL DIAMETER)			
								CHORD (O.D.)		DIAGONAL (O.D.)		H OR H_1 22'-0" TO 24'-0" (MAX.)	H OR H_1 25'-0" TO 27'-0" (MAX.)	H OR H_1 28'-0" TO 29'-0" (MAX.)	
								FRONT	REAR	FRONT	REAR				
T-60	60'-0"	6'-8"	2'-8"	3'-4"	2'-10⅝"	4'-4½"	1 1/16"	3½"Ø x¼"	3¾"Ø x¼"	2"Ø x 3/16"	2"Ø x 3/16"	8" STD. (28.55#/FT.)	10" STD. (40.48#/FT.)	10" STD. (40.48#/FT.)	80
T-65	65'-0"	7'-4"	2'-6"	3'-8"	3'-2⅛"	4'-8"	1⅛"	3½"Ø x¼"	3¾"Ø x¼"	2"Ø x 3/16"	2"Ø x 3/16"	10" STD. (40.48#/FT.)	10" STD. (40.48#/FT.)	10" STD. (40.48#/FT.)	80
T-70	70'-0"	8'-0"	2'-4"	4'-0"	3'-5⅝"	5'-0"	1 11/16"	3¾"Ø x¼"	3¾"Ø x¼"	2"Ø x 3/16"	2"Ø x 3/16"	10" STD. (40.48#/FT.)	10" STD. (40.48#/FT.)	10" STD. (40.48#/FT.)	80
T-75	75'-0"	8'-6"	2'-10"	4'-3"	3'-8¼"	5'-3"	1⅞"	4¼"Ø x¼"	4¾"Ø x⅜"	2"Ø x 3/16"	2"Ø x 3/16"	10" STD. (40.48#/FT.)	10" STD. (40.48#/FT.)	10" STD. (40.48#/FT.)	80
T-80	80'-0"	9'-0"	3'-4"	4'-6"	3'-10¾"	5'-6"	2"	4¾"Ø x⅜"	5"Ø x¼"	2¼"Ø x 3/16"	2"Ø x 3/16"	10" STD. (40.48#/FT.)	10" STD. (40.48#/FT.)	10" X.S. (54.74#/FT.)	80
T-85	85'-0"	9'-6"	3'-10"	4'-9"	4'-1⅜"	5'-9"	2 1/16"	5"Ø x¼"	5"Ø x 5/16"	2¼"Ø x 3/16"	2¼"Ø x 3/16"	10" STD. (40.48#/FT.)	10" STD. (40.48#/FT.)	10" X.S. (54.74#/FT.)	100
T-90	90'-0"	10'-0"	4'-4"	5'-0"	4'-4"	5'-11½"	2⅛"	5"Ø x 5/16"	5"Ø x 5/16"	2½"Ø x 3/16"	2¼"Ø x 3/16"	10" STD. (40.48#/FT.)	10" STD. (40.48#/FT.)	10" X.S. (54.74#/FT.)	100
T-95	95'-0"	10'-6"	4'-10"	5'-3"	4'-6⅝"	6'-2"	2 3/16"	5"Ø x 5/16"	5"Ø x 5/16"	2½"Ø x 3/16"	2½"Ø x 3/16"	10" STD. (40.48#/FT.)	10" X.S. (54.74#/FT.)	10" X.S. (54.74#/FT.)	100
T-100	100'-0"	11'-4"	4'-0"	5'-8"	4'-10⅞"	6'-7½"	2¼"	6"Ø x¼"	6"Ø x¼"	2¾"Ø x 3/16"	2½"Ø x 3/16"	10" STD. (40.48#/FT.)	10" X.S. (54.74#/FT.)	10" X.S. (54.74#/FT.)	100
T-105	105'-0"	12'-0"	3'-10"	6'-0"	5'-2⅜"	6'-11"	2 5/16"	6"Ø x 5/16"	6"Ø x 5/16"	3"Ø x 3/16"	2¾"Ø x 3/16"	10" X.S. (54.74#/FT.)	10" X.S. (54.74#/FT.)	10" X.S. (54.74#/FT.)	120
T-110	110'-0"	12'-6"	4'-4"	6'-3"	5'-5"	7'-1½"	2 3/16"	6"Ø x 5/16"	6"Ø x 5/16"	3"Ø x 3/16"	2¾"Ø x 3/16"	10" X.S. (54.74#/FT.)	10" X.S. (54.74#/FT.)	10" X.S. (54.74#/FT.)	120
T-115	115'-0"	13'-0"	4'-10"	6'-6"	5'-7⅝"	7'-4½"	2⅛"	6½"Ø x 3/8"	6"Ø x 5/16"	3¼"Ø x¼"	3'Ø x 3/16"	10" X.S. (54.74#/FT.)	10" X.S. (54.74#/FT.)	10" X.X.S. (104.13#/FT.)	120
T-120	120'-0"	13'-8"	4'-8"	6'-10"	5'-11"	7'-8"	2 5/16"	6½"Ø x 3/8"	6½"Ø x 3/8"	3½"Ø x 3/16"	3'Ø x 3/16"	10" X.S. (54.74#/FT.)	10" X.X.S. (104.13#/FT.)	10" X.X.S. (104.13#/FT.)	120

NOTES:

DESIGN SPECIFICATIONS:

THESE STRUCTURES ARE DESIGNED TO SATISFY THE 2001 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION WITH 2002 AND 2003 INTERIMS. TRUSSES ARE DESIGNED FOR A NINE FOOT DEEP SIGN PANEL OVER 75% OF SPAN LENGTH, BOTH END SUPPORTS ARE DESIGNED FOR 60% OF THE TOTAL LOAD.

LOADING:

ORIGINAL DESIGN LOADING WAS 35 PSF ON SIGN PANELS AND 10 PSF ON GROSS AREAS DEFINED BY THE PERIMETER OF TRUSS MEMBERS NOT COVERED BY SIGN PANEL AREAS. THE AASHTO GROUP II ALLOWABLE OVERSTRESS WAS 140% (ALLOWABLE STRESS DESIGN).

CONSTRUCTION SPECIFICATIONS:

ALL MATERIALS, EXCEPT AS SHOWN, FABRICATION, ERECTION AND CONSTRUCTION REQUIREMENTS SHALL BE IN ACCORDANCE WITH SECTION 733 OF THE IDOT STANDARD SPECIFICATIONS.

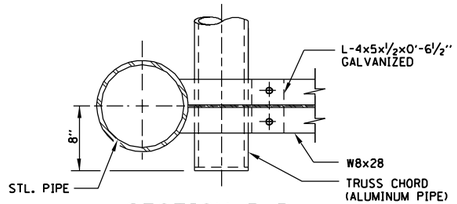
APPROVED Jeff Daley CHIEF ENGINEER DATE 1-1-2007

Illinois Tollway
Open Roads for a Faster Future

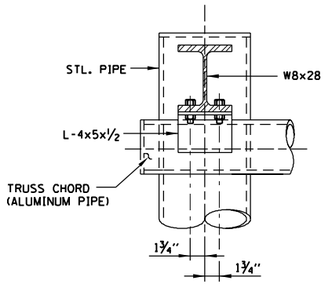
DATE	REVISIONS

OVERHEAD SIGN STRUCTURE
SPAN TYPE, ALUMINUM

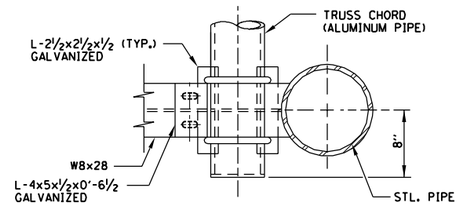
STANDARD F1-00



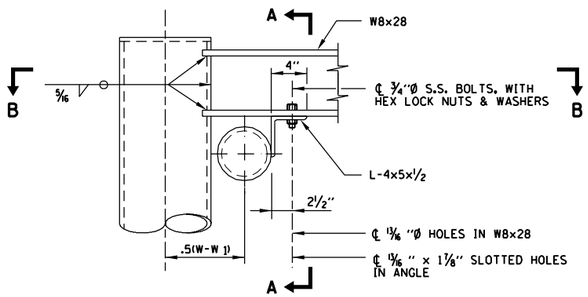
SECTION B-B



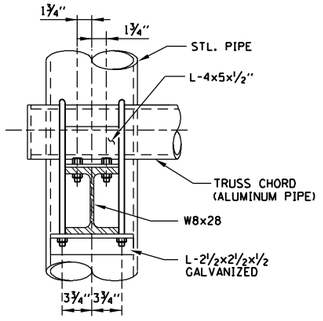
SECTION A-A



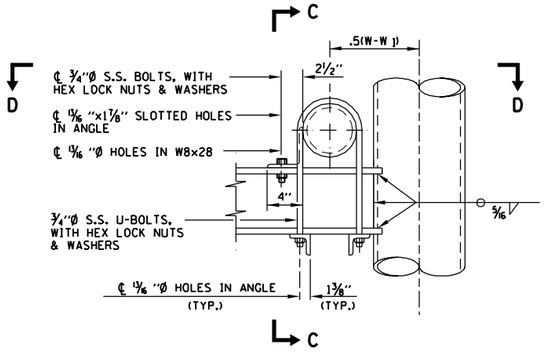
SECTION D-D



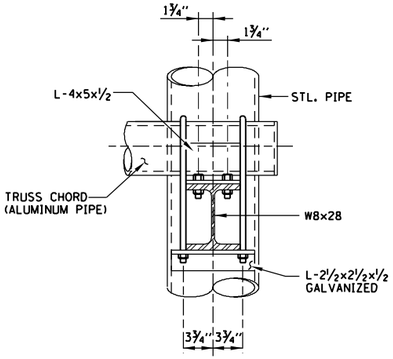
DETAIL A



SECTION F-F

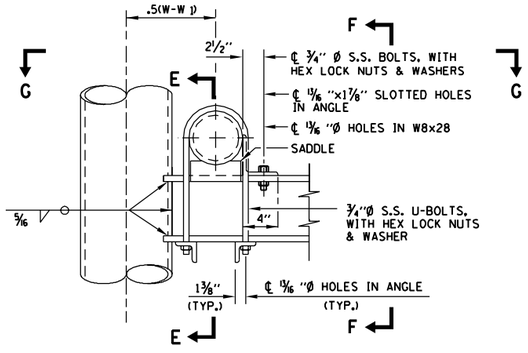


DETAIL B

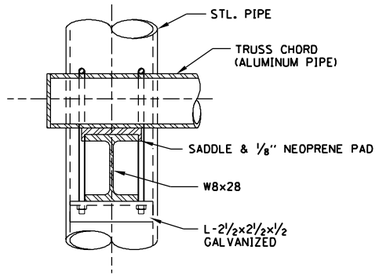


SECTION C-C

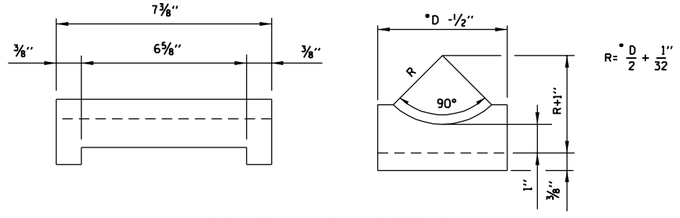
SECTION G-G



DETAIL C



SECTION E-E



SADDLE (SHIM) DETAIL (ALUMINUM)

NOTES:

1. FOR LOCATION OF DETAILS A, B, & C, SEE SHEET 1 (OF 2) IN THIS SERIES.
2. *D=OUTSIDE DIAMETER OF CHORD

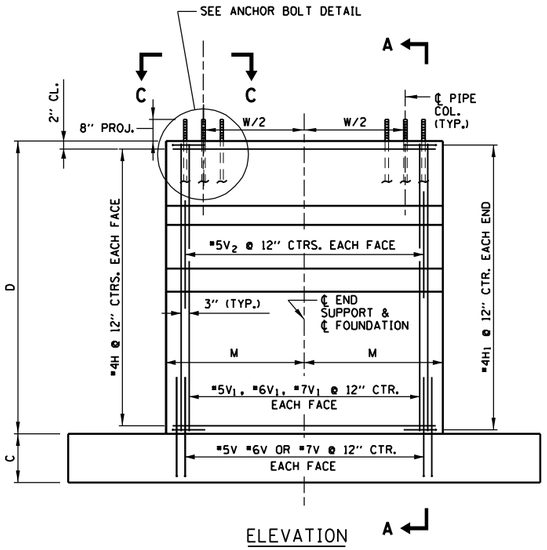
SHEET 2 OF 2

APPROVED Jeff Daley CHIEF ENGINEER DATE 1-1-2007

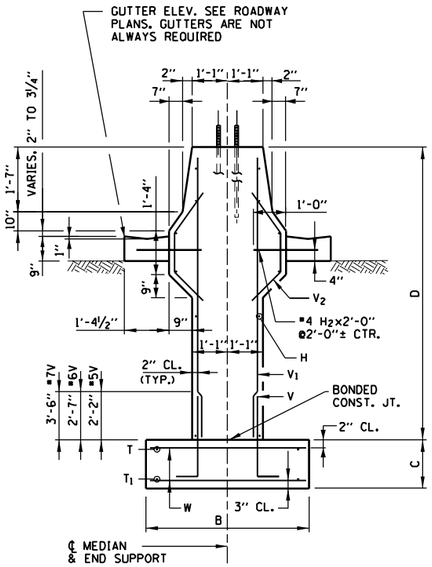
Illinois Tollway
Open Roads for a Faster Future

OVERHEAD SIGN STRUCTURE
SPAN TYPE, ALUMINUM, DETAILS

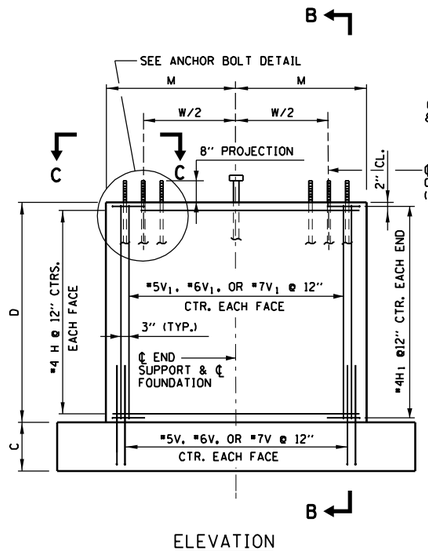
STANDARD F1-00



ELEVATION



SECTION A-A



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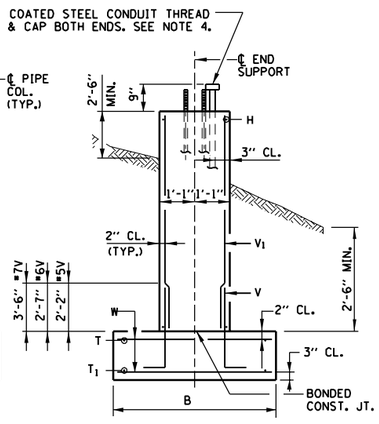
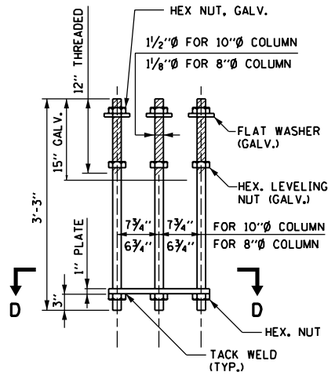
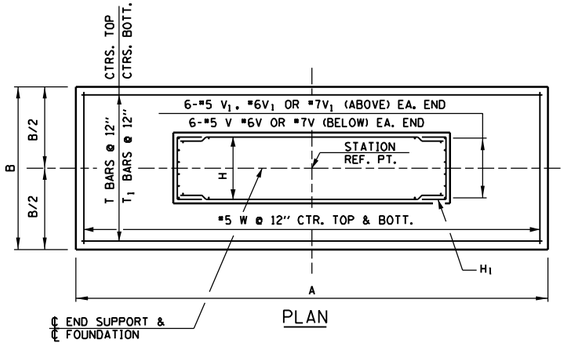


SECTION B-B

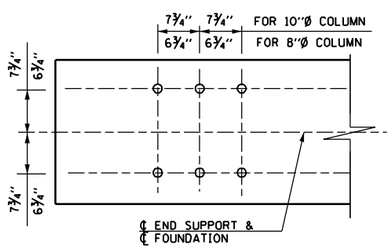


ANCHOR BOLT DETAIL

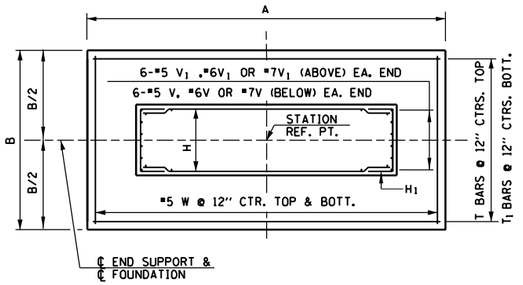


PLAN

MEDIAN FOUNDATION

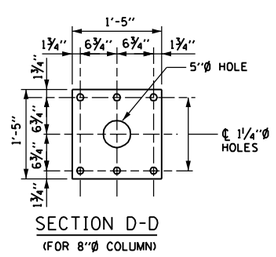


VIEW C-C

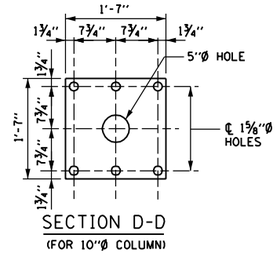


PLAN

OUTSIDE FOUNDATION



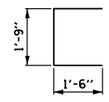
SECTION D-D
(FOR 8"Ø COLUMN)



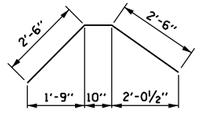
SECTION D-D
(FOR 10"Ø COLUMN)

FOUNDATION SCHEDULE

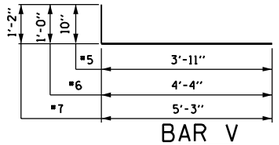
FOUNDATION TYPE	LOCATION	DIMENSIONS					REINFORCEMENT																												CONCRETE IN CU. YDS.	REINF. BARS IN LBS.
							BAR T OR T_1					BAR W				BAR V				BAR V_1				BAR V_2				BAR H				BAR H_1				BAR H_2		
		A	B	C	D	M	NO.	SIZE T	SIZE T_1	LENGTH	SHAPE	NO.	SIZE	LENGTH	SHAPE	NO.	SIZE	LENGTH	SHAPE	NO.	SIZE	LENGTH	SHAPE	NO.	SIZE	LENGTH	SHAPE	NO.	SIZE	LENGTH	SHAPE	NO.	SIZE	LENGTH	SHAPE	NO.		
80J	MEDIAN	20'-0"	8'-9"	2'-0"	6'-0"	4'-0"	9	#6	#7	19'-8"	——	40	#5	8'-5"	——	28	#5	4'-9"	⌊	28	#5	5'-10"	——	16	#5	5'-10"	⌒	12	#4	7'-8"	——	12	#4	4'-9"	▭	10	17.9	1500
80S	OUTSIDE	20'-0"	8'-9"	2'-0"	8'-0"	4'-0"	9	#6	#7	19'-8"	——	40	#5	8'-5"	——	28	#5	4'-9"	⌊	28	#5	7'-10"	——					16	#4	7'-8"	——	16	#4	4'-9"	▭		18.1	1480
100J	MEDIAN	22'-0"	10'-0"	2'-0"	6'-0"	5'-3"	10	#6	#7	21'-8"	——	44	#5	9'-8"	——	34	#6	5'-4"	⌊	34	#6	5'-10"	——	22	#5	5'-10"	⌒	12	#4	10'-2"	——	12	#4	4'-9"	▭	12	22.8	2060
100S	OUTSIDE	22'-0"	10'-0"	2'-0"	8'-0"	5'-3"	10	#6	#7	21'-8"	——	44	#5	9'-8"	——	34	#6	5'-4"	⌊	34	#6	7'-10"	——					16	#4	10'-2"	——	16	#4	4'-9"	▭		23.1	2050
120J	MEDIAN	24'-0"	10'-0"	2'-0"	6'-0"	6'-0"	10	#7	#8	23'-8"	——	48	#5	9'-8"	——	36	#7	6'-5"	⌊	36	#7	5'-10"	——	24	#5	5'-10"	⌒	12	#4	11'-8"	——	12	#4	4'-9"	▭	14	25.2	2800
120S	OUTSIDE	24'-0"	10'-0"	2'-0"	8'-0"	6'-0"	10	#7	#8	23'-8"	——	48	#5	9'-8"	——	36	#7	6'-5"	⌊	36	#7	7'-10"	——					16	#4	11'-8"	——	16	#4	4'-9"	▭		25.5	2830



BAR H_1



BAR V_2



BAR V

NOTES:

1. MINIMUM ALLOWABLE SOIL BEARING PRESSURE NOT TO BE LESS THAN 3000 P.S.F.
2. ALL MATERIAL, FABRICATION AND CONSTRUCTION REQUIREMENTS SHALL BE IN ACCORDANCE WITH SECTION 734 OF THE IDOT STANDARD SPECIFICATIONS.
3. ALL REBARS SHALL BE EPOXY COATED.
4. FOR SIZE AND NUMBER OF COATED STEEL CONDUITS, SEE CONSTRUCTION ELECTRICAL DRAWINGS.

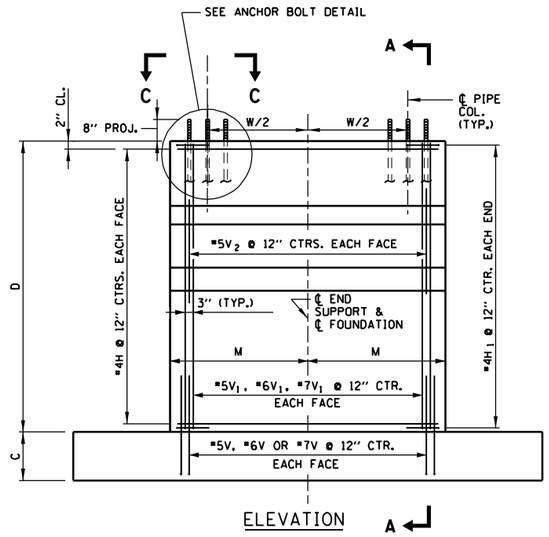
APPROVED Jeff Daley CHIEF ENGINEER DATE 1-1-2007

Illinois Tollway
Open Roads for a Faster Future

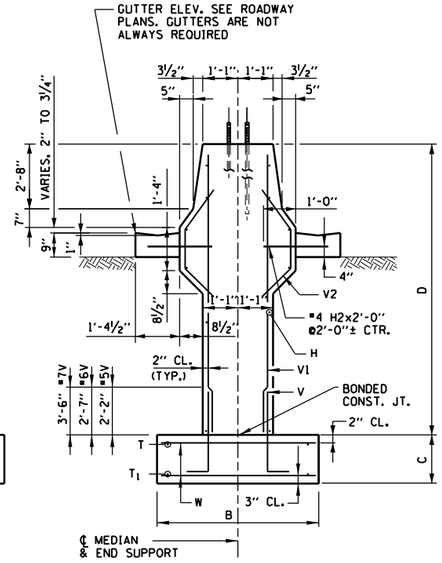
DATE	REVISIONS

OVERHEAD SIGN STRUCTURE SPAN TYPE, BARRIER FOUNDATION

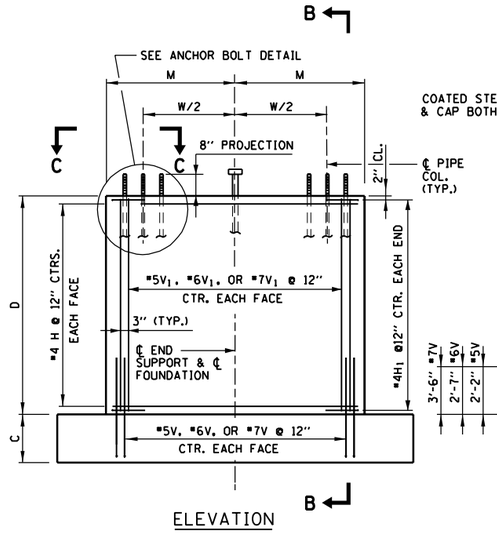
STANDARD F2-00



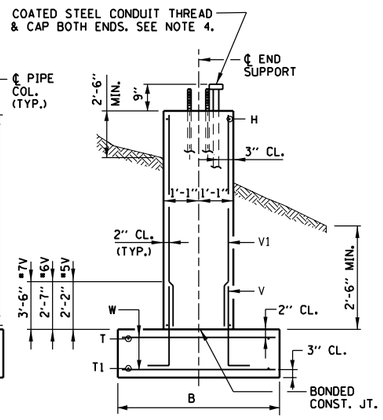
ELEVATION



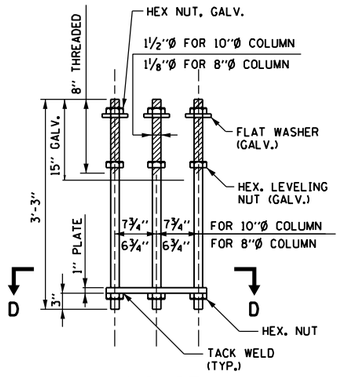
SECTION A-A



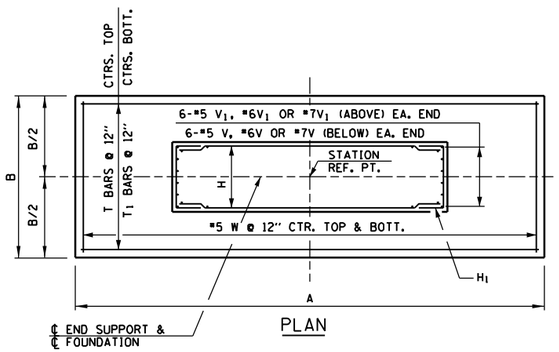
ELEVATION



SECTION B-B

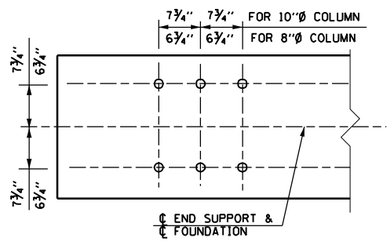


ANCHOR BOLT DETAIL

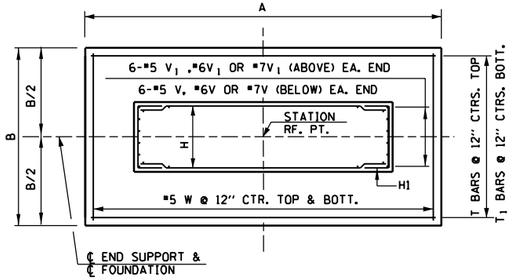


PLAN

MEDIAN FOUNDATION

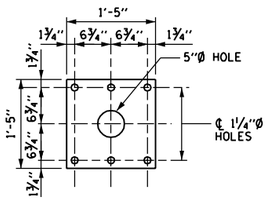


VIEW C-C

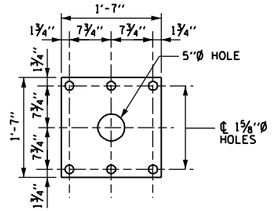


PLAN

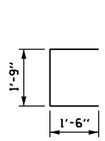
OUTSIDE FOUNDATION



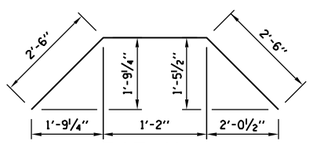
SECTION D-D
(FOR 8"Ø COLUMN)



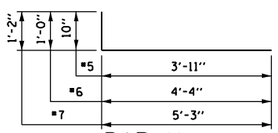
SECTION D-D
(FOR 10"Ø COLUMN)



BAR H_1



BAR V_2



BAR V

FOUNDATION SCHEDULE

FOUNDATION TYPE	LOCATION	DIMENSIONS					REINFORCEMENT																												CONCRETE IN CU. YDS.	REINF. BARS IN LBS.
							BAR T OR T_1					BAR W				BAR V				BAR V_1				BAR V_2				BAR H				BAR H_1				BAR H_2		
		A	B	C	D	M	NO.	SIZE T	SIZE T_1	LENGTH	SHAPE	NO.	SIZE	LENGTH	SHAPE	NO.	SIZE	LENGTH	SHAPE	NO.	SIZE	LENGTH	SHAPE	NO.	SIZE	LENGTH	SHAPE	NO.	SIZE	LENGTH	SHAPE	NO.	SIZE	LENGTH	SHAPE	NO.		
80F	MEDIAN	20'-0"	8'-9"	2'-0"	7'-0"	4'-0"	9	#6	#7	19'-8"	——	40	#5	8'-5"	——	28	#5	4'-9"	⌐	28	#5	6'-10"	——	16	#5	6'-2"	◡	14	#4	7'-8"	——	14	#4	4'-9"	⌐	10	18.6	1550
80S	OUTSIDE	20'-0"	8'-9"	2'-0"	8'-0"	4'-0"	9	#6	#7	19'-8"	——	40	#5	8'-5"	——	28	#5	4'-9"	⌐	28	#5	7'-10"	——					16	#4	7'-8"	——	16	#4	4'-9"	⌐		18.1	1480
100F	MEDIAN	22'-0"	10'-0"	2'-0"	7'-0"	5'-3"	10	#6	#7	21'-8"	——	44	#5	9'-8"	——	34	#6	5'-4"	⌐	34	#6	6'-10"	——	22	#5	6'-2"	◡	14	#4	10'-2"	——	14	#4	4'-9"	⌐	12	23.7	2130
100S	OUTSIDE	22'-0"	10'-0"	2'-0"	8'-0"	5'-3"	10	#6	#7	21'-8"	——	44	#5	9'-8"	——	34	#6	5'-4"	⌐	34	#6	7'-10"	——					16	#4	10'-2"	——	16	#4	4'-9"	⌐		23.1	2050
120F	MEDIAN	24'-0"	10'-0"	2'-0"	7'-0"	6'-0"	10	#7	#8	23'-8"	——	48	#5	9'-8"	——	36	#7	6'-5"	⌐	36	#7	6'-10"	——	24	#5	6'-2"	◡	14	#4	11'-8"	——	14	#4	4'-9"	⌐	14	26.2	2910
120S	OUTSIDE	24'-0"	10'-0"	2'-0"	8'-0"	6'-0"	10	#7	#8	23'-8"	——	48	#5	9'-8"	——	36	#7	6'-5"	⌐	36	#7	7'-10"	——					16	#4	11'-8"	——	16	#4	4'-9"	⌐		25.5	2830

NOTES:

1. MINIMUM ALLOWABLE SOIL BEARING PRESSURE NOT TO BE LESS THAN 3000 P.S.F.
2. ALL MATERIAL, FABRICATION AND CONSTRUCTION REQUIREMENTS SHALL BE IN ACCORDANCE WITH SECTION 734 OF THE IDOT STANDARD SPECIFICATIONS.
3. ALL REBARS SHALL BE EPOXY COATED.
4. FOR SIZE AND NUMBER OF COATED STEEL CONDUITS, SEE CONSTRUCTION ELECTRICAL DRAWINGS.

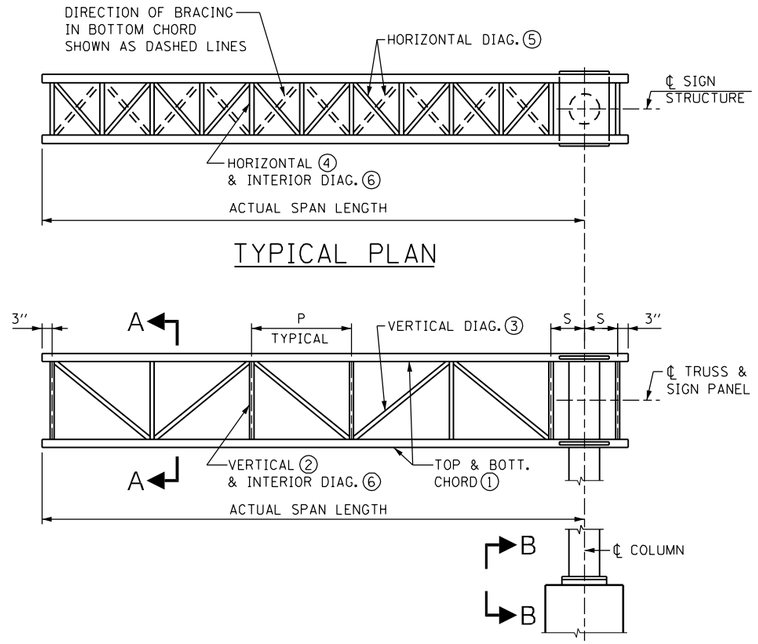
APPROVED Jeff Daley CHIEF ENGINEER DATE 1-1-2007

Illinois Tollway
Open Roads for a Faster Future

DATE	REVISIONS

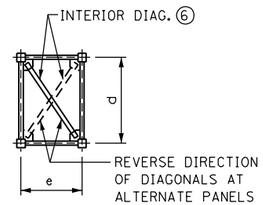
OVERHEAD SIGN STRUCTURE SPAN TYPE, "F" BARRIER FOUNDATION

STANDARD F3-00

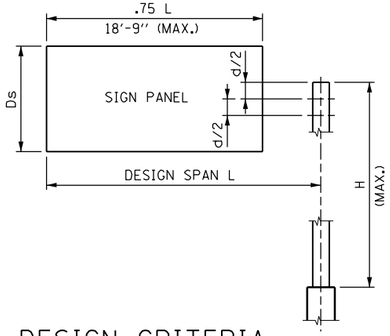


TYPICAL PLAN

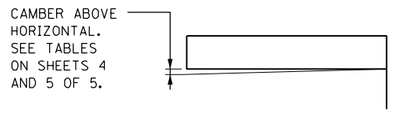
TYPICAL ELEVATION



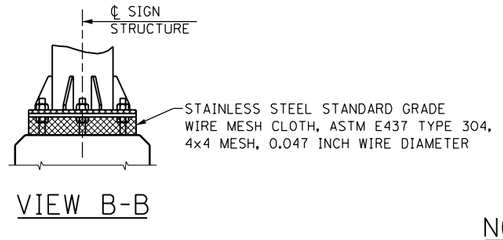
SECTION A-A



DESIGN CRITERIA



CAMBER DIAGRAM



VIEW B-B

NOTES

DESIGN SPECIFICATIONS:

THESE STRUCTURES ARE DESIGNED TO SATISFY THE 2001 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION WITH 2002 AND 2003 INTERIMS. TRUSSES ARE DESIGNED FOR A SIGN PANEL HEIGHT OVER A LENGTH OF 75% OF THE SPAN LENGTH NOT TO EXCEED 18'-9".

LOADING:

ORIGINAL DESIGN LOADING WAS 35 PSF ON SIGN PANELS AND 10 PSF ON GROSS AREAS DEFINED BY THE PERIMETER OF TRUSS MEMBERS NOT COVERED BY SIGN PANEL AREAS. THE AASHTO GROUP II ALLOWABLE OVERSTRESS WAS 140% (ALLOWABLE STRESS DESIGN).

CONSTRUCTION SPECIFICATIONS:

ALL MATERIALS, FABRICATION, ERECTION AND CONSTRUCTION REQUIREMENTS SHALL BE IN ACCORDANCE WITH SECTION 733 OF THE IDOT STANDARD SPECIFICATIONS.

TRUSS MEMBERS:

SEE SHEETS 4 AND 5 (OF 5) IN THIS SERIES FOR REFERENCE TO ①②③④⑤⑥, Ds, H, L, P, S, d & e.

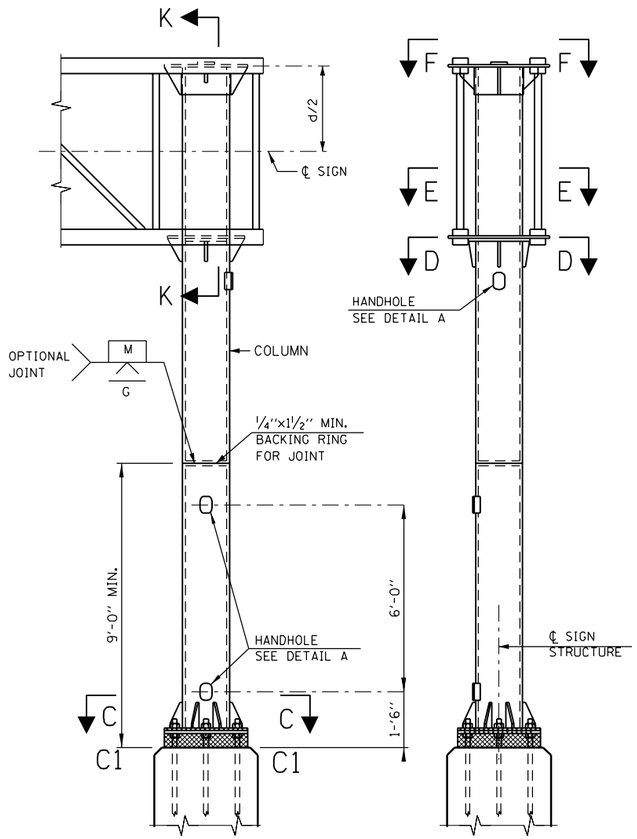
APPROVED Jeff Daley CHIEF ENGINEER DATE 1-1-2007

Illinois Tollway
Open Roads for a Faster Future

DATE	REVISIONS

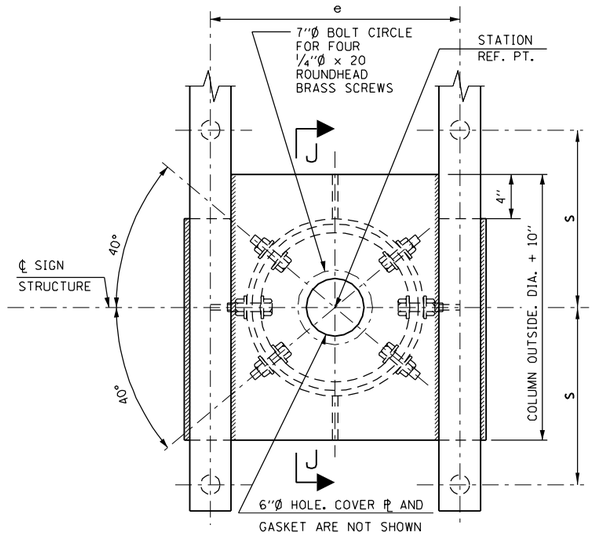
OVERHEAD SIGN STRUCTURE
CANTILEVER TYPE, STEEL

STANDARD F4-00

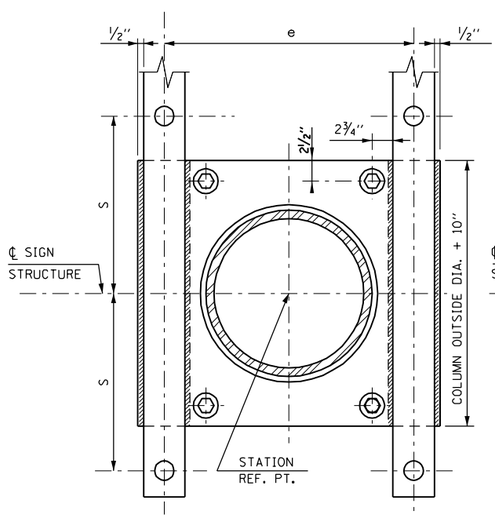


COLUMN ELEVATION

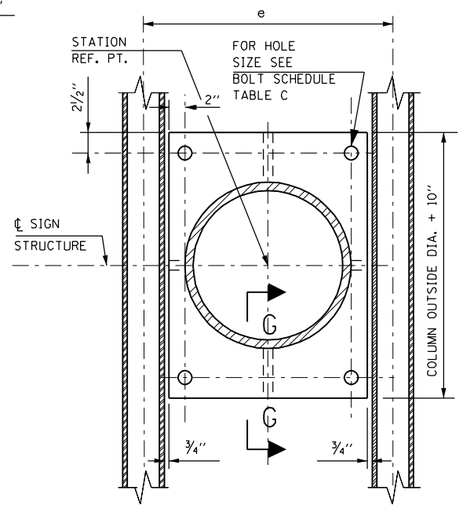
COLUMN END VIEW



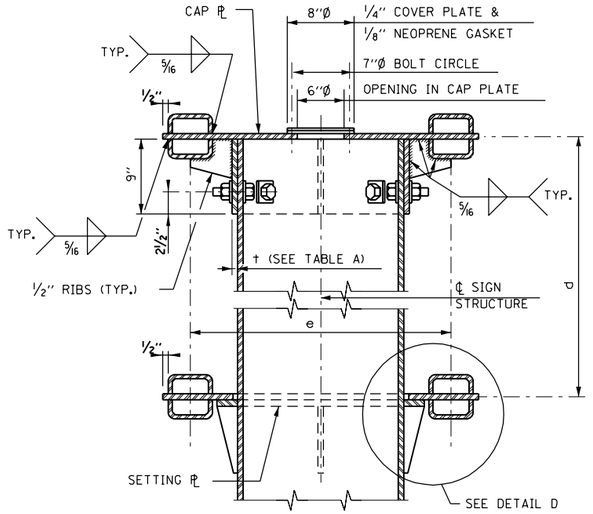
VIEW F-F
(CAP PLATE)



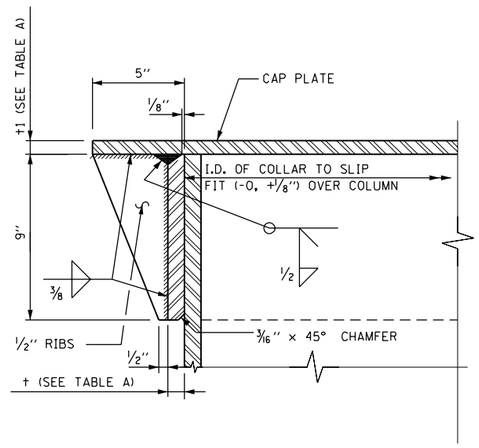
SECTION E-E
(JUNCTURE PLATE)



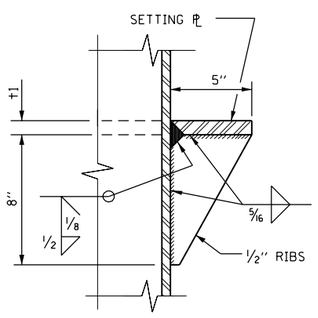
SECTION D-D
(SETTING PLATE)



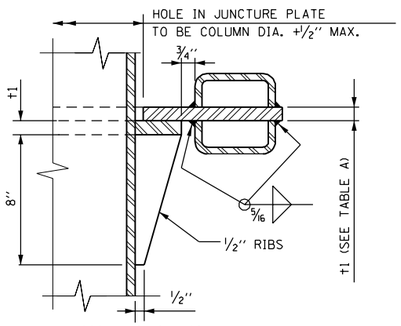
SECTION K-K



SECTION J-J



SECTION G-G



DETAIL D

TABLE A

COLUMN SIZE	†	†1
12 3/4"Ø X.S., 14"Ø X.S. & 16"Ø X.S.	1/2"	3/4"
18"Ø X.S. & 20"Ø X.S.	5/8"	7/8"
22"Ø X.S. & 24"Ø X.S.	3/4"	1"

TABLE C
BOLT SCHEDULE

COLUMN OUTSIDE DIAMETER	BOLT SIZE	REQUIRED BOLT TENSION	EQUIVALENT TORQUE	CONTOURED WASHERS		
				HOLE DIA.	B	T
12 3/4 & 14	1" Ø	42,500 LBS.	710 LB.-FT.	1 1/16"	2 1/2"	5/16"
16	1 1/8" Ø	50,800 LBS.	960 LB.-FT.	1 1/4"	2 3/4"	5/16"
18, 20, 22 & 24	1 1/4" Ø	64,500 LBS.	1,350 LB.-FT.	1 3/8"	3"	5/16"

NOTES:

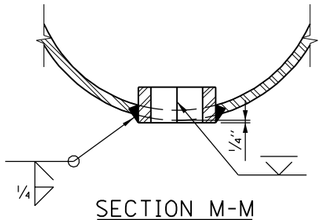
1. FOR SECTIONS C-C AND C1-C1 AND FOR DETAIL A, SEE SHEET 3 (OF 5) IN THIS SERIES.
2. X.S. DENOTES EXTRA STRONG.

APPROVED Jeff Daley CHIEF ENGINEER DATE 1-1-2007

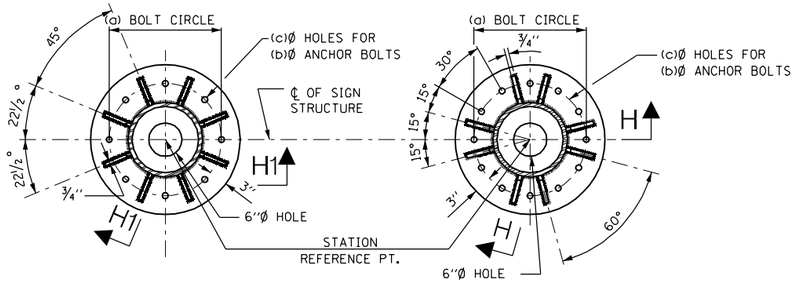
Illinois Tollway
Open Roads for a Faster Future

OVERHEAD SIGN STRUCTURE
CANTILEVER TYPE, STEEL,
DETAILS

STANDARD F4-00



SECTION M-M

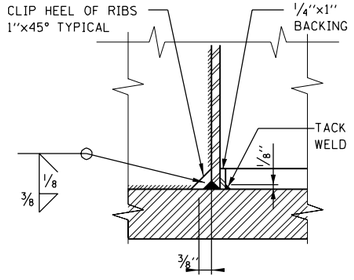


SECTION C1-C1

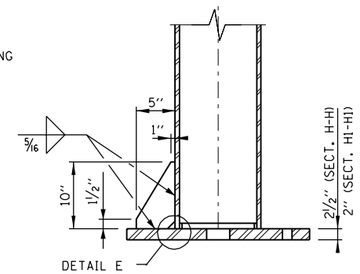
(SEE TABLE B)

SECTION C-C

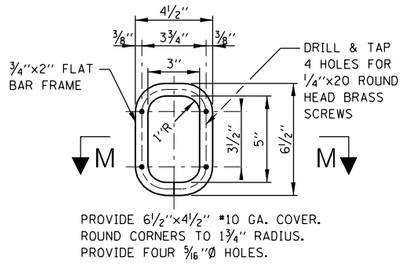
(SEE TABLE B)



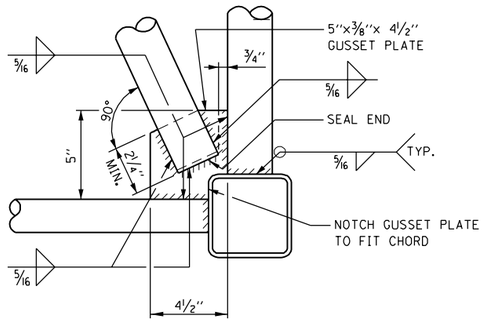
DETAIL E



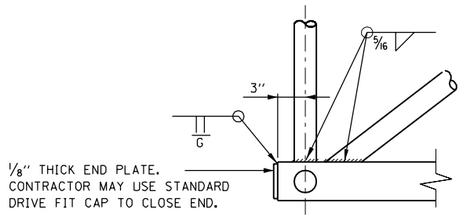
SECTION H-H
SECTION H1-H1



DETAIL A

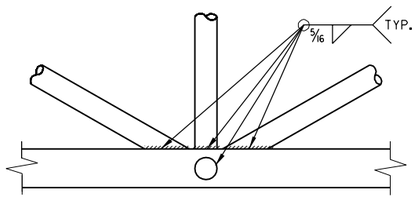


DETAIL OF GUSSET PLATE
FOR INTERIOR DIAGONAL



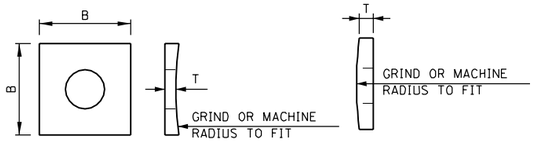
END DETAIL

ALL MEMBERS SHALL FIT
SNUGLY BEFORE WELDING



TYPICAL JOINT DETAIL

ALL MEMBERS SHALL FIT
SNUGLY BEFORE WELDING



CONTOURED WASHERS

TABLE B

SECTION	COLUMN	BOLT CIRCLE DIA. (a)	ANCHOR BOLT DIA. (b)	HOLE DIA. (c)
C1-C1	12¾" O.D. PIPE	1'-7"	1¾"	2"
	14" O.D. PIPE	1'-8"	1¾"	2"
	16" O.D. PIPE	1'-10"	2"	2¼"
C-C	18" O.D. PIPE	2'-0"	1¾"	2"
	20" O.D. PIPE	2'-3"	1¾"	2"
	22" O.D. PIPE	2'-5"	2"	2¼"
	24" O.D. PIPE	2'-6"	2"	2¼"

NOTES:

1. SEE TABLE C ON SHEET 2 (OF 5) IN THIS SERIES FOR CONTOURED WASHER DIMENSIONS.
2. BOLTS, WASHERS, INCLUDING CONTOURED WASHERS, AND LOCKNUTS SHALL BE STAINLESS STEEL.

APPROVED Jeff Daley CHIEF ENGINEER DATE 1-1-2007

Illinois Tollway
Open Roads for a Faster Future

OVERHEAD SIGN STRUCTURE
CANTILEVER TYPE, STEEL,
DETAILS

STANDARD F4-00

OVERHEAD SIGN STRUCTURES - CANTILEVER TYPE

SIGN DEPTH Ds = 5'-0" THROUGH 9'-0"

DESIGN SPAN L	CAMBER	TRUSS NUMBER	TRUSS SIZE e	TRUSS SIZE d	ACTUAL SPAN LENGTH	COLUMN SIZE	COLUMN H (MAX.)	TRUSS MEMBERS TOP & BOTTOM CHORD (1)	VERTICAL (2) PIPE	VERTICAL (2) WALL	VERTICAL DIAG. (3) PIPE	VERTICAL DIAG. (3) WALL	HORIZONTAL (4) PIPE	HORIZONTAL (4) WALL	HORIZONTAL DIAG. (5) PIPE	HORIZONTAL DIAG. (5) WALL	INTERIOR DIAG. (6) PIPE	INTERIOR DIAG. (6) WALL	PANELS NO.	PANELS P	PANELS S	FOUNDATION TYPE
15′	1/2″	15-A	2′-0″	4′-6″	15′-1″	12 3/4″Ø X.S. (65.42#/FT.)	25′-6″	TS 3x3x.1875	1 1/2″Ø STD.	.145″	2″Ø STD.	.154″	1″Ø STD.	.133″	1″Ø STD.	.133″	1 1/2″Ø STD.	.145″	3	4′-6″	1′-4″	1
16′	1/2″	16-A	2′-0″	4′-6″	16′-1″	12 3/4″Ø X.S. (65.42#/FT.)	25′-6″	TS 3x3x.1875	1 1/2″Ø STD.	.145″	2″Ø STD.	.154″	1″Ø STD.	.133″	1″Ø STD.	.133″	1 1/2″Ø STD.	.145″	4	3′-7 1/2″	1′-4″	1
17′	3/4″	17-A	2′-0″	4′-6″	17′-1″	12 3/4″Ø X.S. (65.42#/FT.)	25′-6″	TS 3x3x.1875	1 1/2″Ø STD.	.145″	2″Ø STD.	.154″	1″Ø STD.	.133″	1″Ø STD.	.133″	1 1/2″Ø STD.	.145″	4	3′-10 1/2″	1′-4″	1
18′	3/4″	18-A	2′-0″	4′-6″	18′-1″	12 3/4″Ø X.S. (65.42#/FT.)	25′-6″	TS 3x3x.1875	1 1/2″Ø STD.	.145″	2″Ø STD.	.154″	1″Ø STD.	.133″	1″Ø STD.	.133″	1 1/2″Ø STD.	.145″	4	4′-1 1/2″	1′-4″	1
19′	1″	19-A	2′-0″	4′-6″	19′-1″	12 3/4″Ø X.S. (65.42#/FT.)	25′-6″	TS 3x3x.1875	1 1/2″Ø STD.	.145″	2″Ø STD.	.154″	1″Ø STD.	.133″	1″Ø STD.	.133″	1 1/2″Ø STD.	.145″	4	4′-4 1/2″	1′-4″	1
20′	1″	20-A	2′-0″	4′-6″	19′-11″	12 3/4″Ø X.S. (65.42#/FT.)	25′-6″	TS 3x3x.1875	1 1/2″Ø STD.	.145″	2″Ø STD.	.154″	1″Ø STD.	.133″	1″Ø STD.	.133″	1 1/2″Ø STD.	.145″	5	3′-8″	1′-4″	1
21′	1″	21-A	2′-0″	4′-6″	21′-2″	14″Ø X.S. (72.09#/FT.)	25′-6″	TS 3x3x.1875	1 1/2″Ø STD.	.145″	2″Ø STD.	.154″	1″Ø STD.	.133″	1″Ø STD.	.133″	1 1/2″Ø STD.	.145″	5	3′-11″	1′-4″	2
22′	1 1/4″	22-A	2′-0″	4′-6″	22′-0″	14″Ø X.S. (72.09#/FT.)	25′-6″	TS 3x3x.1875	1 1/2″Ø STD.	.145″	2″Ø STD.	.154″	1″Ø STD.	.133″	1″Ø STD.	.133″	1 1/2″Ø STD.	.145″	5	4′-1″	1′-4″	2
23′	1 1/4″	23-A	2′-0″	4′-6″	23′-1″	14″Ø X.S. (72.09#/FT.)	25′-6″	TS 3x3x.1875	1 1/2″Ø STD.	.145″	2″Ø STD.	.154″	1″Ø STD.	.133″	1″Ø STD.	.133″	1 1/2″Ø STD.	.145″	6	3′-7″	1′-4″	2
24′	1 1/2″	24-A	2′-0″	4′-6″	24′-1″	16″Ø X.S. (82.77#/FT.)	25′-6″	TS 3x3x.1875	1 1/2″Ø STD.	.145″	2″Ø STD.	.154″	1″Ø STD.	.133″	1″Ø STD.	.133″	1 1/2″Ø STD.	.145″	6	3′-9″	1′-4″	3
25′	1 1/2″	25-A	2′-0″	4′-6″	24′-10″	16″Ø X.S. (82.77#/FT.)	25′-6″	TS 3x3x.1875	1 1/2″Ø STD.	.145″	2″Ø STD.	.154″	1″Ø STD.	.133″	1″Ø STD.	.133″	1 1/2″Ø STD.	.145″	6	3′-10 1/2″	1′-4″	3
26′	1 1/2″	26-A	2′-0″	5′-6″	26′-2″	16″Ø X.S. (82.77#/FT.)	28′-6″	TS 3x3x.1875	2″Ø STD.	.154″	2″Ø STD.	.154″	1″Ø STD.	.133″	1″Ø STD.	.133″	1 1/2″Ø STD.	.145″	5	4′-11″	1′-4″	3
27′	1 3/4″	27-A	2′-6″	5′-6″	27′-2″	18″Ø X.S. (93.45#/FT.)	28′-6″	TS 3x3x.1875	2″Ø STD.	.154″	2″Ø STD.	.154″	1″Ø STD.	.133″	1″Ø STD.	.133″	1 1/2″Ø STD.	.145″	5	5′-1″	1′-6″	4
28′	1 3/4″	28-A	2′-6″	5′-6″	28′-0″	18″Ø X.S. (93.45#/FT.)	28′-6″	TS 3x3x.1875	2″Ø STD.	.154″	2″Ø STD.	.154″	1″Ø STD.	.133″	1″Ø STD.	.133″	1 1/2″Ø STD.	.145″	5	5′-3″	1′-6″	4
29′	2″	29-A	2′-6″	5′-6″	29′-0″	18″Ø X.S. (93.45#/FT.)	28′-6″	TS 3 1/2x3 1/2x.1875	2″Ø STD.	.154″	2″Ø STD.	.154″	1″Ø STD.	.133″	1″Ø STD.	.133″	1 1/2″Ø STD.	.145″	6	4′-6 1/2″	1′-6″	4
30′	2″	30-A	2′-6″	5′-6″	30′-0″	18″Ø X.S. (93.45#/FT.)	28′-6″	TS 3 1/2x3 1/2x.1875	2″Ø STD.	.154″	2″Ø STD.	.154″	1″Ø STD.	.133″	1″Ø STD.	.133″	1 1/2″Ø STD.	.145″	6	4′-8 1/2″	1′-6″	4
31′	2″	31-A	2′-6″	7′-0″	30′-11″	18″Ø X.S. (93.45#/FT.)	30′-0″	TS 3 1/2x3 1/2x.1875	2″Ø STD.	.154″	2 1/2″Ø STD.	.203″	2″Ø STD.	.154″	2″Ø STD.	.154″	2″Ø STD.	.154″	5	5′-10″	1′-6″	4
32′	2 1/4″	32-A	2′-6″	7′-0″	32′-2″	20″Ø X.S. (104.13#/FT.)	30′-0″	TS 3 1/2x3 1/2x.1875	2″Ø STD.	.154″	2 1/2″Ø STD.	.203″	2″Ø STD.	.154″	2″Ø STD.	.154″	2″Ø STD.	.154″	5	6′-1″	1′-6″	5
33′	2 1/4″	33-A	2′-6″	7′-0″	33′-0″	20″Ø X.S. (104.13#/FT.)	30′-0″	TS 3 1/2x3 1/2x.1875	2″Ø STD.	.154″	2 1/2″Ø STD.	.203″	2″Ø STD.	.154″	2″Ø STD.	.154″	2″Ø STD.	.154″	5	6′-3″	1′-6″	5
34′	2 1/2″	34-A	2′-6″	7′-0″	34′-3″	20″Ø X.S. (104.13#/FT.)	30′-0″	TS 4x4x.1875	2″Ø STD.	.154″	2 1/2″Ø STD.	.203″	2″Ø STD.	.154″	2″Ø STD.	.154″	2″Ø STD.	.154″	5	6′-6″	1′-6″	5
35′	2 1/2″	35-A	2′-6″	7′-0″	34′-10 1/2″	20″Ø X.S. (104.13#/FT.)	30′-0″	TS 4x4x.1875	2″Ø STD.	.154″	2 1/2″Ø STD.	.203″	2″Ø STD.	.154″	2″Ø STD.	.154″	2″Ø STD.	.154″	5	6′-7 1/2″	1′-6″	5

SIGN DEPTH Ds = 10′-0" THROUGH 11′-0"

DESIGN SPAN L	CAMBER	TRUSS NUMBER	TRUSS SIZE e	TRUSS SIZE d	ACTUAL SPAN LENGTH	COLUMN SIZE	COLUMN H (MAX.)	TRUSS MEMBERS TOP & BOTTOM CHORD (1)	VERTICAL (2) PIPE	VERTICAL (2) WALL	VERTICAL DIAG. (3) PIPE	VERTICAL DIAG. (3) WALL	HORIZONTAL (4) PIPE	HORIZONTAL (4) WALL	HORIZONTAL DIAG. (5) PIPE	HORIZONTAL DIAG. (5) WALL	INTERIOR DIAG. (6) PIPE	INTERIOR DIAG. (6) WALL	PANELS NO.	PANELS P	PANELS S	FOUNDATION TYPE
15′	1/2″	15-B	2′-0″	5′-6″	15′-1″	12 3/4″Ø X.S. (65.42#/FT.)	28′-6″	TS 3x3x.1875	2″Ø STD.	.154″	2″Ø STD.	.154″	1 1/4″Ø STD.	.140″	1 1/4″Ø STD.	.140″	1 1/2″Ø STD.	.145″	3	4′-6″	1′-4″	1
16′	1/2″	16-B	2′-0″	5′-6″	16′-1″	14″Ø X.S. (72.09#/FT.)	28′-6″	TS 3x3x.1875	2″Ø STD.	.154″	2″Ø STD.	.154″	1 1/4″Ø STD.	.140″	1 1/4″Ø STD.	.140″	1 1/2″Ø STD.	.145″	3	4′-10″	1′-4″	2
17′	3/4″	17-B	2′-0″	5′-6″	17′-1″	14″Ø X.S. (72.09#/FT.)	28′-6″	TS 3x3x.1875	2″Ø STD.	.154″	2″Ø STD.	.154″	1 1/4″Ø STD.	.140″	1 1/4″Ø STD.	.140″	1 1/2″Ø STD.	.145″	3	5′-2″	1′-4″	2
18′	3/4″	18-B	2′-0″	5′-6″	18′-1″	14″Ø X.S. (72.09#/FT.)	28′-6″	TS 3x3x.1875	2″Ø STD.	.154″	2″Ø STD.	.154″	1 1/4″Ø STD.	.140″	1 1/4″Ø STD.	.140″	1 1/2″Ø STD.	.145″	4	4′-1 1/2″	1′-4″	2
19′	1″	19-B	2′-0″	5′-6″	19′-1″	16″Ø X.S. (82.77#/FT.)	28′-6″	TS 3x3x.1875	2″Ø STD.	.154″	2″Ø STD.	.154″	1 1/4″Ø STD.	.140″	1 1/4″Ø STD.	.140″	1 1/2″Ø STD.	.145″	4	4′-4 1/2″	1′-4″	3
20′	1″	20-B	2′-0″	5′-6″	20′-1″	16″Ø X.S. (82.77#/FT.)	28′-6″	TS 3x3x.1875	2″Ø STD.	.154″	2″Ø STD.	.154″	1 1/4″Ø STD.	.140″	1 1/4″Ø STD.	.140″	1 1/2″Ø STD.	.145″	4	4′-7 1/2″	1′-4″	3
21′	1″	21-B	2′-0″	5′-6″	21′-1″	16″Ø X.S. (82.77#/FT.)	28′-6″	TS 3x3x.1875	2″Ø STD.	.154″	2″Ø STD.	.154″	1 1/4″Ø STD.	.140″	1 1/4″Ø STD.	.140″	1 1/2″Ø STD.	.145″	4	4′-10 1/2″	1′-4″	3
22′	1 1/4″	22-B	2′-0″	5′-6″	22′-1″	16″Ø X.S. (82.77#/FT.)	28′-6″	TS 3x3x.1875	2″Ø STD.	.154″	2″Ø STD.	.154″	1 1/4″Ø STD.	.140″	1 1/4″Ø STD.	.140″	1 1/2″Ø STD.	.145″	4	5′-1 1/2″	1′-4″	3
23′	1 1/4″	23-B	2′-0″	5′-6″	23′-3″	16″Ø X.S. (82.77#/FT.)	28′-6″	TS 3x3x.1875	2″Ø STD.	.154″	2″Ø STD.	.154″	1 1/4″Ø STD.	.140″	1 1/4″Ø STD.	.140″	1 1/2″Ø STD.	.145″	5	4′-4″	1′-4″	3
24′	1 1/2″	24-B	2′-6″	5′-6″	24′-3″	18″Ø X.S. (93.45#/FT.)	28′-6″	TS 3x3x.1875	2″Ø STD.	.154″	2″Ø STD.	.154″	1 1/4″Ø STD.	.140″	1 1/4″Ø STD.	.140″	1 1/2″Ø STD.	.145″	5	4′-6″	1′-6″	4
25′	1 1/2″	25-B	2′-6″	5′-6″	25′-1″	18″Ø X.S. (93.45#/FT.)	28′-6″	TS 3x3x.1875	2″Ø STD.	.154″	2″Ø STD.	.154″	1 1/4″Ø STD.	.140″	1 1/4″Ø STD.	.140″	1 1/2″Ø STD.	.145″	5	4′-8″	1′-6″	4
26′	1 1/2″	26-B	2′-6″	5′-6″	26′-4″	18″Ø X.S. (93.45#/FT.)	28′-6″	TS 3x3x.1875	2″Ø STD.	.154″	2″Ø STD.	.154″	1 1/4″Ø STD.	.140″	1 1/4″Ø STD.	.140″	1 1/2″Ø STD.	.145″	5	4′-11″	1′-6″	4
27′	1 3/4″	27-B	2′-6″	5′-6″	27′-2″	18″Ø X.S. (93.45#/FT.)	28′-6″	TS 3 1/2x3 1/2x.1875	2″Ø STD.	.154″	2″Ø STD.	.154″	1 1/4″Ø STD.	.140″	1 1/4″Ø STD.	.140″	1 1/2″Ø STD.	.145″	5	5′-1″	1′-6″	4
28′	1 3/4″	28-B	2′-6″	5′-6″	28′-0″	18″Ø X.S. (93.45#/FT.)	28′-6″	TS 3 1/2x3 1/2x.1875	2″Ø STD.	.154″	2″Ø STD.	.154″	1 1/4″Ø STD.	.140″	1 1/4″Ø STD.	.140″	1 1/2″Ø STD.	.145″	5	5′-3″	1′-6″	4
29′	2″	29-B	2′-6″	5′-6″	29′-0″	20″Ø X.S. (104.13#/FT.)	28′-6″	TS 3 1/2x3 1/2x.1875	2″Ø STD.	.154″	2″Ø STD.	.154″	1 1/4″Ø STD.	.140″	1 1/4″Ø STD.	.140″	1 1/2″Ø STD.	.145″	6	4′-6 1/2″	1′-6″	5
30′	2″	30-B	2′-6″	5′-6″	30′-0″	20″Ø X.S. (104.13#/FT.)	28′-6″	TS 4x4x.1875	2″Ø STD.	.154″	2″Ø STD.	.154″	1 1/4″Ø STD.	.140″	1 1/4″Ø STD.	.140″	1 1/2″Ø STD.	.145″	6	4′-8 1/2″	1′-6″	5
31′	2″	31-B	2′-6″	7′-0″	30′-11″	20″Ø X.S. (104.13#/FT.)	30′-0″	TS 3 1/2x3 1/2x.1875	2″Ø STD.	.154″	2 1/2″Ø STD.	.203″	2″Ø STD.	.154″	2″Ø STD.	.154″	2″Ø STD.	.154″	5	5′-10″	1′-6″	5
32′	2 1/4″	32-B	2′-6″	7′-0″	32′-2″	20″Ø X.S. (104.13#/FT.)	30′-0″	TS 4x4x.1875	2″Ø STD.	.154″	2 1/2″Ø STD.	.203″	2″Ø STD.	.154″	2″Ø STD.	.154″	2″Ø STD.	.154″	5	6′-1″	1′-6″	5
33′	2 1/4″	33-B	3′-0″	7′-0″	33′-0 1/2″	22″Ø X.S. (114.81#/FT.)	30′-0″	TS 4x4x.1875	2″Ø STD.	.154″	2 1/2″Ø STD.	.203″	2″Ø STD.	.154″	2″Ø STD.	.154″	2″Ø STD.	.154″	5	6′-2 1/2″	1′-9″	6
34′	2 1/2″	34-B	3′-0″	7′-0″	34′-1″	22″Ø X.S. (114.81#/FT.)	30′-0″	TS 4x4x.1875	2″Ø STD.	.154″	2 1/2″Ø STD.	.203″	2″Ø STD.	.154″	2″Ø STD.	.154″	2″Ø STD.	.154″	5	6′-5″	1′-9″	6
35′	2 1/2″	35-B	3′-0″	7′-0″	34′-11″	22″Ø X.S. (114.81#/FT.)	30′-0″	TS 4x4x.25	2″Ø STD.	.154″	2 1/2″Ø STD.	.203″	2″Ø STD.	.154″	2″Ø STD.	.154″	2″Ø STD.	.154″	5	6′-7″	1′-9″	6

NOTE:

X.S. DENOTES EXTRA STRONG

APPROVED Jeff Daley CHIEF ENGINEER DATE 1-1-2007

Illinois Tollway
Open Roads for a Faster Future

OVERHEAD SIGN STRUCTURE
CANTILEVER TYPE, STEEL,
DEPTH 5′-0" TO 11′-0"

STANDARD F4-00

OVERHEAD SIGN STRUCTURES - CANTILEVER TYPE

SIGN DEPTH Ds = 12'–0" THROUGH 13'–0"

DESIGN SPAN L	CAMBER	TRUSS NUMBER	TRUSS SIZE e	TRUSS SIZE d	ACTUAL SPAN LENGTH	COLUMN SIZE	COLUMN H (MAX.)	TRUSS MEMBERS TOP & BOTTOM CHORD ①	VERTICAL ② PIPE	VERTICAL ② WALL	VERTICAL DIAG. ③ PIPE	VERTICAL DIAG. ③ WALL	HORIZONTAL ④ PIPE	HORIZONTAL ④ WALL	HORIZONTAL DIAG. ⑤ PIPE	HORIZONTAL DIAG. ⑤ WALL	INTERIOR DIAG. ⑥ PIPE	INTERIOR DIAG. ⑥ WALL	PANELS NO.	PANELS P	PANELS S	FOUNDATION TYPE
15'	1/2"	15-C	2'-0"	5'-6"	15'-1"	14"Ø X.S. (72.09#/FT.)	28'-6"	TS 3x3x.1875	2"Ø STD.	.154"	2"Ø STD.	.154"	1¼"Ø STD.	.140"	1¼"Ø STD.	.140"	1½"Ø STD.	.145"	3	4'-6"	1'-4"	2
16'	1/2"	16-C	2'-0"	5'-6"	16'-1"	14"Ø X.S. (72.09#/FT.)	28'-6"	TS 3x3x.1875	2"Ø STD.	.154"	2"Ø STD.	.154"	1¼"Ø STD.	.140"	1¼"Ø STD.	.140"	1½"Ø STD.	.145"	3	4'-10"	1'-4"	2
17'	3/4"	17-C	2'-0"	5'-6"	17'-1"	16"Ø X.S. (82.77#/FT.)	28'-6"	TS 3x3x.1875	2"Ø STD.	.154"	2"Ø STD.	.154"	1¼"Ø STD.	.140"	1¼"Ø STD.	.140"	1½"Ø STD.	.145"	3	5'-2"	1'-4"	3
18'	3/4"	18-C	2'-0"	5'-6"	18'-1"	16"Ø X.S. (82.77#/FT.)	28'-6"	TS 3x3x.1875	2"Ø STD.	.154"	2"Ø STD.	.154"	1¼"Ø STD.	.140"	1¼"Ø STD.	.140"	1½"Ø STD.	.145"	4	4'-1½"	1'-4"	3
19'	1"	19-C	2'-0"	5'-6"	19'-1"	16"Ø X.S. (82.77#/FT.)	28'-6"	TS 3x3x.1875	2"Ø STD.	.154"	2"Ø STD.	.154"	1¼"Ø STD.	.140"	1¼"Ø STD.	.140"	1½"Ø STD.	.145"	4	4'-4½"	1'-4"	3
20'	1"	20-C	2'-0"	5'-6"	20'-1"	16"Ø X.S. (82.77#/FT.)	28'-6"	TS 3x3x.1875	2"Ø STD.	.154"	2"Ø STD.	.154"	1¼"Ø STD.	.140"	1¼"Ø STD.	.140"	1½"Ø STD.	.145"	4	4'-7½"	1'-4"	3
21'	1"	21-C	2'-0"	5'-6"	21'-1"	16"Ø X.S. (82.77#/FT.)	28'-6"	TS 3x3x.1875	2"Ø STD.	.154"	2"Ø STD.	.154"	1¼"Ø STD.	.140"	1¼"Ø STD.	.140"	1½"Ø STD.	.145"	4	4'-10½"	1'-4"	3
22'	1¼"	22-C	2'-6"	5'-6"	22'-1"	18"Ø X.S. (93.45#/FT.)	28'-6"	TS 3x3x.1875	2"Ø STD.	.154"	2"Ø STD.	.154"	1¼"Ø STD.	.140"	1¼"Ø STD.	.140"	1½"Ø STD.	.145"	4	5'-1"	1'-6"	4
23'	1¼"	23-C	2'-6"	5'-6"	23'-0"	18"Ø X.S. (93.45#/FT.)	28'-6"	TS 3x3x.1875	2"Ø STD.	.154"	2"Ø STD.	.154"	1¼"Ø STD.	.140"	1¼"Ø STD.	.140"	1½"Ø STD.	.145"	5	4'-3"	1'-6"	4
24'	1½"	24-C	2'-6"	5'-6"	24'-3"	18"Ø X.S. (93.45#/FT.)	28'-6"	TS 3x3x.1875	2"Ø STD.	.154"	2"Ø STD.	.154"	1¼"Ø STD.	.140"	1¼"Ø STD.	.140"	1½"Ø STD.	.145"	5	4'-6"	1'-6"	4
25'	1½"	25-C	2'-6"	5'-6"	25'-1"	18"Ø X.S. (93.45#/FT.)	28'-6"	TS 3½x3½x.1875	2"Ø STD.	.154"	2"Ø STD.	.154"	1¼"Ø STD.	.140"	1¼"Ø STD.	.140"	1½"Ø STD.	.145"	5	4'-8"	1'-6"	4
26'	1½"	26-C	2'-6"	7'-0"	26'-1"	20"Ø X.S. (104.13#/FT.)	30'-0"	TS 3x3x.1875	2"Ø STD.	.154"	2½"Ø STD.	.203"	2"Ø STD.	.154"	2"Ø STD.	.154"	2"Ø STD.	.154"	4	6'-1"	1'-6"	5
27'	1¾"	27-C	2'-6"	7'-0"	27'-1"	20"Ø X.S. (104.13#/FT.)	30'-0"	TS 3½x3½x.1875	2"Ø STD.	.154"	2½"Ø STD.	.203"	2"Ø STD.	.154"	2"Ø STD.	.154"	2"Ø STD.	.154"	4	6'-4"	1'-6"	5
28'	1¾"	28-C	2'-6"	7'-0"	28'-0"	20"Ø X.S. (104.13#/FT.)	30'-0"	TS 3½x3½x.1875	2"Ø STD.	.154"	2½"Ø STD.	.203"	2"Ø STD.	.154"	2"Ø STD.	.154"	2"Ø STD.	.154"	5	5'-3"	1'-6"	5
29'	2"	29-C	2'-6"	7'-0"	29'-3"	20"Ø X.S. (104.13#/FT.)	30'-0"	TS 3½x3½x.1875	2"Ø STD.	.154"	2½"Ø STD.	.203"	2"Ø STD.	.154"	2"Ø STD.	.154"	2"Ø STD.	.154"	5	5'-6"	1'-6"	5
30'	2"	30-C	3'-0"	7'-0"	29'-11"	22"Ø X.S. (114.81#/FT.)	30'-0"	TS 4x4x.1875	2"Ø STD.	.154"	2½"Ø STD.	.203"	2"Ø STD.	.154"	2"Ø STD.	.154"	2"Ø STD.	.154"	5	5'-7"	1'-9"	6
31'	2"	31-C	3'-0"	7'-0"	30'-11½"	22"Ø X.S. (114.81#/FT.)	30'-0"	TS 4x4x.1875	2"Ø STD.	.154"	2½"Ø STD.	.203"	2"Ø STD.	.154"	2"Ø STD.	.154"	2"Ø STD.	.154"	5	5'-9½"	1'-9"	6
32'	2¼"	32-C	3'-0"	7'-0"	32'-0"	22"Ø X.S. (114.81#/FT.)	30'-0"	TS 4x4x.1875	2"Ø STD.	.154"	2½"Ø STD.	.203"	2"Ø STD.	.154"	2"Ø STD.	.154"	2"Ø STD.	.154"	5	6'-0"	1'-9"	6
33'	2¼"	33-C	3'-0"	7'-0"	33'-0½"	22"Ø X.S. (114.81#/FT.)	30'-0"	TS 4x4x.25	2"Ø STD.	.154"	2½"Ø STD.	.203"	2"Ø STD.	.154"	2"Ø STD.	.154"	2"Ø STD.	.154"	5	6'-2½"	1'-9"	6
34'	2½"	34-C	3'-0"	7'-0"	34'-1"	24"Ø X.S. (125.49#/FT.)	30'-0"	TS 4x4x.25	2"Ø STD.	.154"	2½"Ø STD.	.203"	2"Ø STD.	.154"	2"Ø STD.	.154"	2"Ø STD.	.154"	5	6'-5"	1'-9"	7
35'	2½"	35-C	3'-0"	7'-0"	34'-11"	24"Ø X.S. (125.49#/FT.)	30'-0"	TS 4x4x.25	2"Ø STD.	.154"	2½"Ø STD.	.203"	2"Ø STD.	.154"	2"Ø STD.	.154"	2"Ø STD.	.154"	5	6'-7"	1'-9"	7

SIGN DEPTH Ds = 14'–0" THROUGH 15'–0"

DESIGN SPAN L	CAMBER	TRUSS NUMBER	TRUSS SIZE e	TRUSS SIZE d	ACTUAL SPAN LENGTH	COLUMN SIZE	COLUMN H (MAX.)	TRUSS MEMBERS TOP & BOTTOM CHORD ①	VERTICAL ② PIPE	VERTICAL ② WALL	VERTICAL DIAG. ③ PIPE	VERTICAL DIAG. ③ WALL	HORIZONTAL ④ PIPE	HORIZONTAL ④ WALL	HORIZONTAL DIAG. ⑤ PIPE	HORIZONTAL DIAG. ⑤ WALL	INTERIOR DIAG. ⑥ PIPE	INTERIOR DIAG. ⑥ WALL	PANELS NO.	PANELS P	PANELS S	FOUNDATION TYPE
15'	1/2"	15-D	2'-0"	5'-6"	15'-1"	16"Ø X.S. (82.77#/FT.)	28'-6"	TS 3x3x.1875	2"Ø STD.	.154"	2"Ø STD.	.154"	1¼"Ø STD.	.140"	1¼"Ø STD.	.140"	1½"Ø STD.	.145"	3	4'-6"	1'-4"	3
16'	1/2"	16-D	2'-0"	5'-6"	16'-1"	16"Ø X.S. (82.77#/FT.)	28'-6"	TS 3x3x.1875	2"Ø STD.	.154"	2"Ø STD.	.154"	1¼"Ø STD.	.140"	1¼"Ø STD.	.140"	1½"Ø STD.	.145"	3	4'-10"	1'-4"	3
17'	3/4"	17-D	2'-0"	5'-6"	17'-1"	16"Ø X.S. (82.77#/FT.)	28'-6"	TS 3x3x.1875	2"Ø STD.	.154"	2"Ø STD.	.154"	1¼"Ø STD.	.140"	1¼"Ø STD.	.140"	1½"Ø STD.	.145"	3	5'-2"	1'-4"	3
18'	3/4"	18-D	2'-0"	5'-6"	18'-1"	16"Ø X.S. (82.77#/FT.)	28'-6"	TS 3x3x.1875	2"Ø STD.	.154"	2"Ø STD.	.154"	1¼"Ø STD.	.140"	1¼"Ø STD.	.140"	1½"Ø STD.	.145"	4	4'-1½"	1'-4"	3
19'	1"	19-D	2'-6"	5'-6"	19'-1"	18"Ø X.S. (93.45#/FT.)	28'-6"	TS 3x3x.1875	2"Ø STD.	.154"	2"Ø STD.	.154"	1¼"Ø STD.	.140"	1¼"Ø STD.	.140"	1½"Ø STD.	.145"	4	4'-4"	1'-6"	4
20'	1"	20-D	2'-6"	5'-6"	20'-1"	18"Ø X.S. (93.45#/FT.)	28'-6"	TS 3x3x.1875	2"Ø STD.	.154"	2"Ø STD.	.154"	1¼"Ø STD.	.140"	1¼"Ø STD.	.140"	1½"Ø STD.	.145"	4	4'-7"	1'-6"	4
21'	1"	21-D	2'-6"	5'-6"	21'-1"	18"Ø X.S. (93.45#/FT.)	28'-6"	TS 3x3x.1875	2"Ø STD.	.154"	2"Ø STD.	.154"	1¼"Ø STD.	.140"	1¼"Ø STD.	.140"	1½"Ø STD.	.145"	4	4'-10"	1'-6"	4
22'	1¼"	22-D	2'-6"	5'-6"	22'-1"	18"Ø X.S. (93.45#/FT.)	28'-6"	TS 3x3x.1875	2"Ø STD.	.154"	2"Ø STD.	.154"	1¼"Ø STD.	.140"	1¼"Ø STD.	.140"	1½"Ø STD.	.145"	4	5'-1"	1'-6"	4
23'	1¼"	23-D	2'-6"	5'-6"	23'-0"	18"Ø X.S. (93.45#/FT.)	28'-6"	TS 3x3x.1875	2"Ø STD.	.154"	2"Ø STD.	.154"	1¼"Ø STD.	.140"	1¼"Ø STD.	.140"	1½"Ø STD.	.145"	5	4'-3"	1'-6"	4
24'	1½"	24-D	2'-6"	5'-6"	24'-3"	20"Ø X.S. (104.13#/FT.)	28'-6"	TS 3½x3½x.1875	2"Ø STD.	.154"	2"Ø STD.	.154"	1¼"Ø STD.	.140"	1¼"Ø STD.	.140"	1½"Ø STD.	.145"	5	4'-6"	1'-6"	5
25'	1½"	25-D	2'-6"	5'-6"	25'-1"	20"Ø X.S. (104.13#/FT.)	28'-6"	TS 3½x3½x.1875	2"Ø STD.	.154"	2"Ø STD.	.154"	1¼"Ø STD.	.140"	1¼"Ø STD.	.140"	1½"Ø STD.	.145"	5	4'-8"	1'-6"	5
26'	1½"	26-D	2'-6"	7'-0"	26'-1"	20"Ø X.S. (104.13#/FT.)	30'-0"	TS 3½x3½x.1875	2"Ø STD.	.154"	2½"Ø STD.	.203"	2"Ø STD.	.154"	2"Ø STD.	.154"	2"Ø STD.	.154"	4	6'-1"	1'-6"	5
27'	1¾"	27-D	3'-0"	7'-0"	27'-1"	22"Ø X.S. (114.81#/FT.)	30'-0"	TS 3½x3½x.1875	2"Ø STD.	.154"	2½"Ø STD.	.203"	2"Ø STD.	.154"	2"Ø STD.	.154"	2"Ø STD.	.154"	4	6'-3¼"	1'-9"	6
28'	1¾"	28-D	3'-0"	7'-0"	28'-3"	22"Ø X.S. (114.81#/FT.)	30'-0"	TS 3½x3½x.1875	2"Ø STD.	.154"	2½"Ø STD.	.203"	2"Ø STD.	.154"	2"Ø STD.	.154"	2"Ø STD.	.154"	5	5'-3"	1'-9"	6
29'	2"	29-D	3'-0"	7'-0"	29'-1"	22"Ø X.S. (114.81#/FT.)	30'-0"	TS 4x4x.1875	2"Ø STD.	.154"	2½"Ø STD.	.203"	2"Ø STD.	.154"	2"Ø STD.	.154"	2"Ø STD.	.154"	5	5'-5"	1'-9"	6
30'	2"	30-D	3'-0"	7'-0"	29'-11"	22"Ø X.S. (114.81#/FT.)	30'-0"	TS 4x4x.1875	2"Ø STD.	.154"	2½"Ø STD.	.203"	2"Ø STD.	.154"	2"Ø STD.	.154"	2"Ø STD.	.154"	5	5'-7"	1'-9"	6
31'	2"	31-D	3'-0"	7'-0"	30'-11½"	24"Ø X.S. (125.49#/FT.)	30'-0"	TS 4x4x.25	2"Ø STD.	.154"	2½"Ø STD.	.203"	2"Ø STD.	.154"	2"Ø STD.	.154"	2"Ø STD.	.154"	5	5'-9½"	1'-9"	7
32'	2¼"	32-D	3'-0"	7'-0"	32'-0"	24"Ø X.S. (125.49#/FT.)	30'-0"	TS 4x4x.25	2"Ø STD.	.154"	2½"Ø STD.	.203"	2"Ø STD.	.154"	2"Ø STD.	.154"	2"Ø STD.	.154"	5	6'-0"	1'-9"	7
33'	2¼"	33-D	3'-0"	7'-0"	33'-0½"	24"Ø X.S. (125.49#/FT.)	30'-0"	TS 4x4x.25	2"Ø STD.	.154"	2½"Ø STD.	.203"	2"Ø STD.	.154"	2"Ø STD.	.154"	2"Ø STD.	.154"	5	6'-2½"	1'-9"	7
34'	2½"	34-D	3'-0"	7'-0"	34'-1"	24"Ø X.S. (125.49#/FT.)	30'-0"	TS 4x4x.25	2"Ø STD.	.154"	2½"Ø STD.	.203"	2"Ø STD.	.154"	2"Ø STD.	.154"	2"Ø STD.	.154"	5	6'-5"	1'-9"	7
35'	2½"	35-D	3'-0"	7'-0"	34'-11"	24"Ø X.S. (125.49#/FT.)	30'-0"	TS 4x4x.3125	2"Ø STD.	.154"	2½"Ø STD.	.203"	2"Ø STD.	.154"	2"Ø STD.	.154"	2"Ø STD.	.154"	5	6'-7"	1'-9"	7

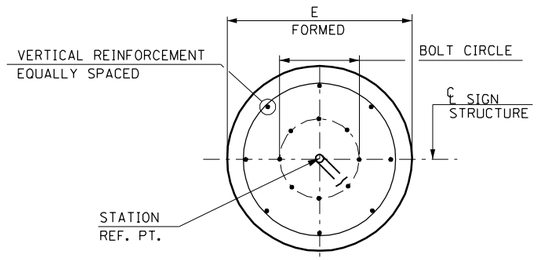
NOTE:
X.S. DENOTES EXTRA STRONG

APPROVED Jeff Daley CHIEF ENGINEER DATE 1-1-2007

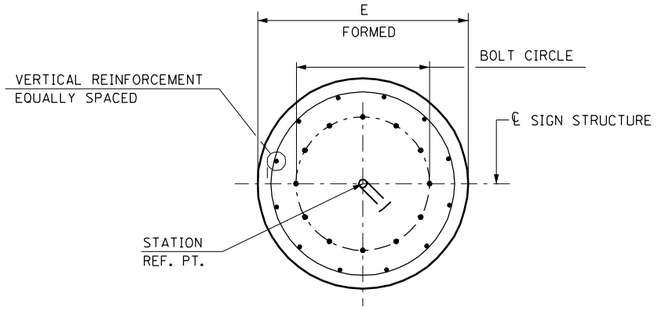
Illinois Tollway
Open Roads for a Faster Future

OVERHEAD SIGN STRUCTURE
CANTILEVER TYPE, STEEL,
DEPTH 12'-0" TO 15'-0"

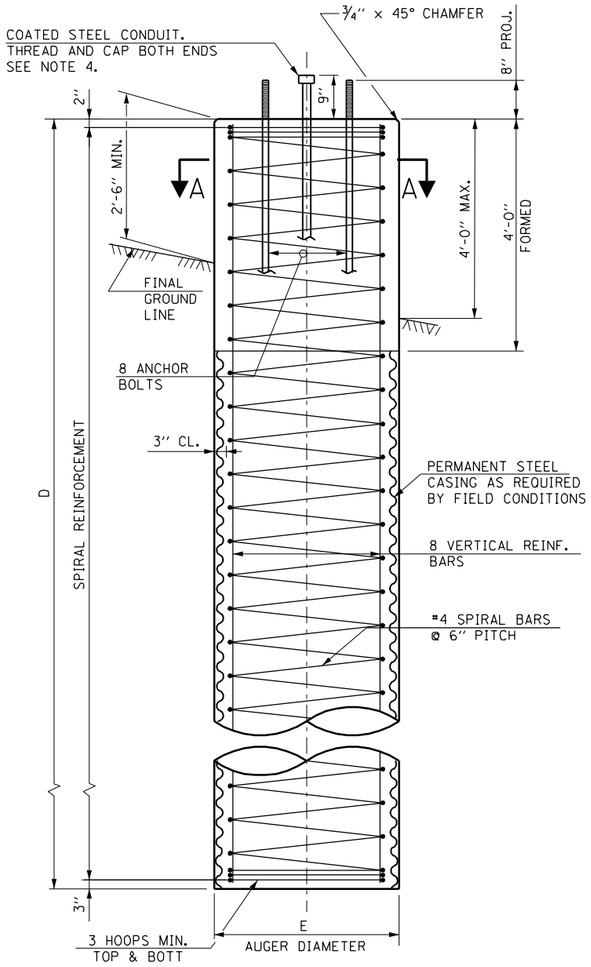
STANDARD F4-00



SECTION A-A

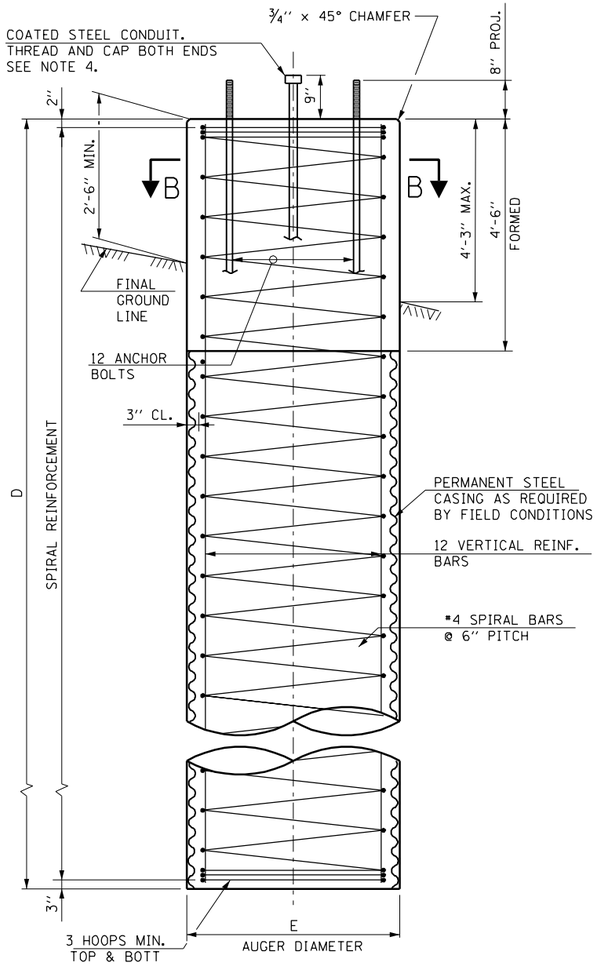


SECTION B-B



ELEVATION

FOUNDATION TYPES 1C, 2C & 3C

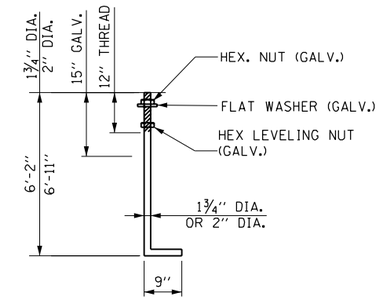


ELEVATION

FOUNDATION TYPES 4C, 5C, 6C & 7C

FOUNDATION SCHEDULE

FOUNDATION TYPE	COLUMN OUTSIDE DIAMETER	ANCHOR BOLTS			SHAFT			VERTICAL REINFORCEMENT				SPIRAL REINFORCEMENT	
		SIZE	NO.	BOLT CIRCLE	D	E	CONC. CY.	NO.	SIZE	LENGTH	WEIGHT POUNDS	LENGTH	WEIGHT POUNDS
1C	12¾"	1¾" Ø	8	19" Ø	18'-0"	30"	3.3	8	#10	17'-7"	606	273'-0"	183
2C	14"	1¾" Ø	8	20" Ø	19'-0"	30"	3.5	8	#10	18'-7"	641	286'-0"	191
3C	16"	2" Ø	8	22" Ø	19'-6"	36"	5.1	8	#11	19'-1"	811	352'-0"	235
4C	18"	1¾" Ø	12	24" Ø	21'-0"	36"	5.5	12	#10	20'-7"	1063	376'-0"	251
5C	20"	1¾" Ø	12	27" Ø	22'-6"	36"	5.9	12	#11	22'-1"	1408	400'-0"	267
6C	22"	2" Ø	12	29" Ø	22'-6"	42"	8.0	12	#11	22'-1"	1408	478'-0"	319
7C	24"	2" Ø	12	30" Ø	23'-6"	42"	8.4	12	#11	23'-1"	1472	498'-0"	333



ANCHOR BOLT DETAIL

NOTES:

1. MINIMUM UNCONFINED COMPRESSIVE STRENGTH, Qu FOR COHESIVE SOILS SHALL BE 1.25 TONS PER SQ. FT. & MINIMUM STANDARD PENETRATION TEST VALUE, N FOR GRANULAR SOILS SHALL BE 10 BLOWS PER FOOT.
2. ALL MATERIALS, FABRICATION AND CONSTRUCTION REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE SECTION 734 OF THE STANDARD SPECIFICATIONS
3. ALL REBARS SHALL BE EPOXY COATED.
4. FOR SIZE AND NUMBER OF COATED STEEL CONDUITS, SEE ELECTRICAL CONSTRUCTION DRAWINGS.
5. PERMANENT STEEL CASING SHALL BE CONSIDERED INCIDENTAL TO FOUNDATION INSTALLATION.

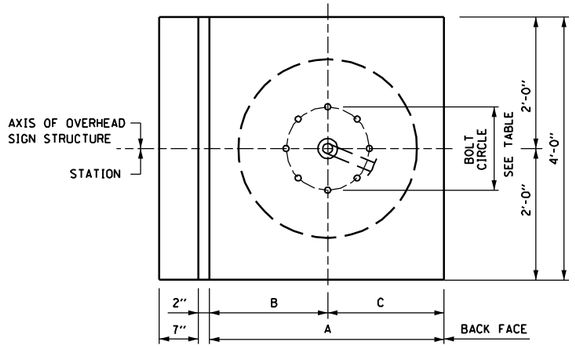
APPROVED Jeff Daley CHIEF ENGINEER DATE 1-1-2007

Illinois Tollway
Open Roads for a Faster Future

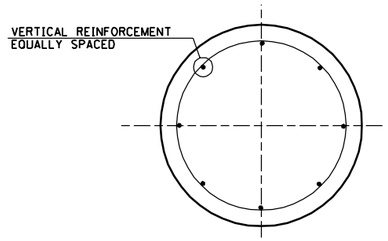
DATE	REVISIONS
4-25-07	DIMENSION CHANGE
1-01-09	DELETED BONDED CONST. JOINT
	REVISED NOTES

OVERHEAD SIGN STRUCTURE
CANTILEVER TYPE,
CIRCULAR FOUNDATION

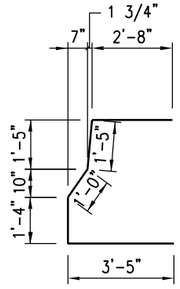
STANDARD F5-02



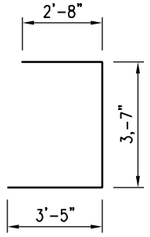
PLAN



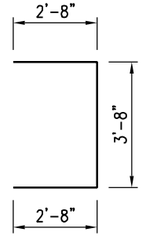
SECTION A-A
(TYPES 1J, 2J, & 3J)



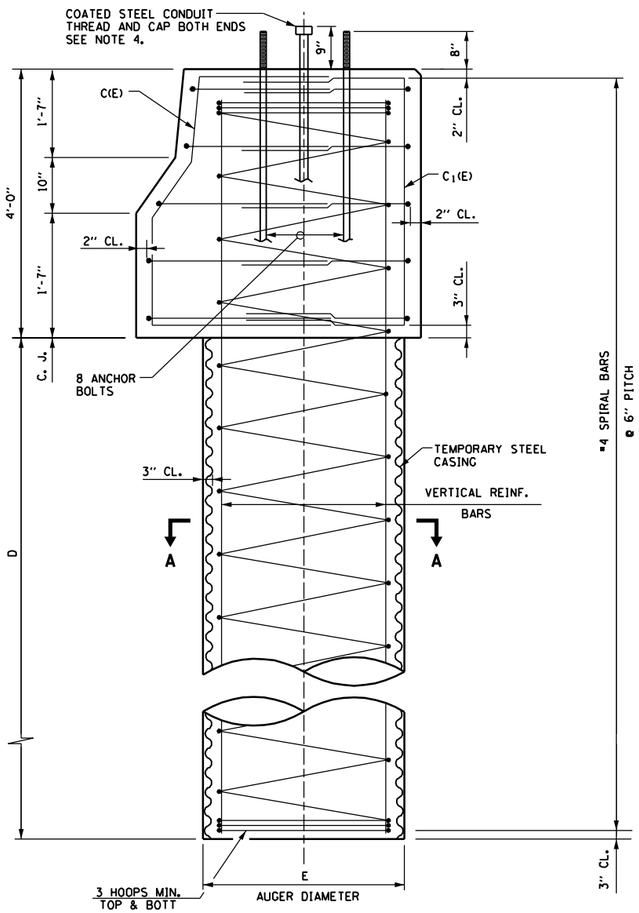
BAR C(E)



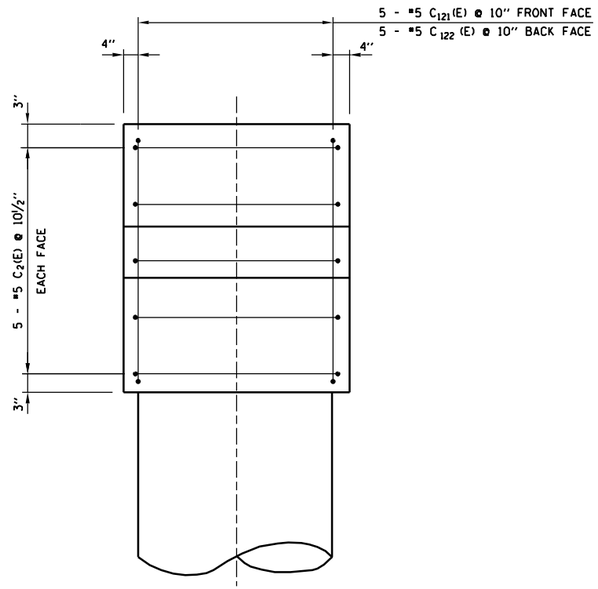
BAR C_1 (E)



BAR C_2 (E)



SIDE ELEVATION



FRONT ELEVATION

FOUNDATION SCHEDULE

FOUNDATION TYPE	COLUMN OUTSIDE DIAMETER	ANCHOR BOLTS			SHAFT			VERTICAL REINFORCEMENT				SPIRAL REINFORCEMENT		BARRIER DIMENSIONS				BARRIER REINF.	TOTAL	
		SIZE	NO.	BOLT CIRCLE	D	E	CONC. CY.	NO.	SIZE	LENGTH	POUNDS	LENGTH	POUNDS	A	B	C	CONC. CY.	POUNDS	CONC. CY.	POUNDS
1J	12¾"	1¾" Ø	8	19" Ø	14'-3"	30"	2.6	8	#10	17'-10"	614	273'-0"	183	3'-½"	1'-6½"	1'-6'	2.1	196	4.7	993
2J	14"	1¾" Ø	8	20" Ø	15'-3"	30"	2.8	8	#10	18'-10"	648	286'-0"	191	3'-1"	1'-7"	1'-6"	2.1	196	4.9	1035
3J	16"	2" Ø	8	22" Ø	15'-9"	36"	4.1	8	#11	19'-4"	822	352'-0"	235	3'-5"	1'-8"	1'-9"	2.3	196	6.4	1253
4J	18"	1¾" Ø	12	24" Ø	17'-3"	36"	4.5	12	#10	20'-10"	1076	376'-0"	251	3'-6"	1'-9"	1'-9"	2.3	196	6.8	1523
5J	20"	1¾" Ø	12	27" Ø	18'-9"	36"	4.9	12	#11	22'-4"	1424	400'-0"	267	3'-7½"	1'-10½"	1'-9"	2.4	196	7.3	1887
6J	22"	2" Ø	12	29" Ø	18'-9"	42"	6.7	12	#11	22'-4"	1424	478'-0"	319	3'-11½"	1'-11½"	2'-0"	2.5	196	9.2	1939
7J	24"	2" Ø	12	30" Ø	19'-9"	42"	7.0	12	#11	23'-4"	1488	498'-0"	333	4'-0"	2'-0"	2'-0"	2.6	196	9.6	2017

NOTES:

1. MINIMUM UNCONFINED COMPRESSIVE STRENGTH, Qu FOR COHESIVE SOILS SHALL BE 1.25 TONS PER SQ. FT. & MINIMUM STANDARD PENETRATION TEST VALUE, N FOR GRANULAR SOILS SHALL BE 10 BLOWS PER FOOT.
2. ALL MATERIALS, FABRICATION AND CONSTRUCTION REQUIREMENTS SHALL BE IN ACCORDANCE WITH SECTION 734 OF THE IDOT STANDARD SPECIFICATIONS.
3. ALL REBARS SHALL BE EPOXY COATED.
4. FOR SIZE AND NUMBER OF COATED STEEL CONDUITS, SEE ELECTRICAL CONSTRUCTION DRAWINGS.
5. FOR ANCHOR BOLT DETAILS SEE F5-XX

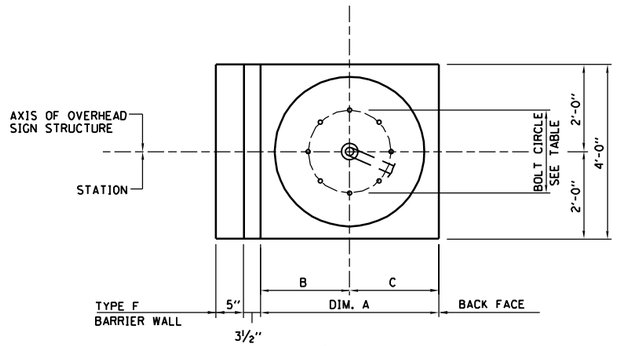
APPROVED Jeff Daley CHIEF ENGINEER DATE 1-1-2007

Illinois Tollway
Open Roads for a Faster Future

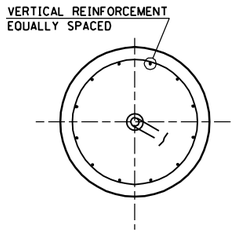
DATE	REVISIONS
1-1-2009	

OVERHEAD SIGN STRUCTURE
CANTILEVER TYPE
BARRIER WALL - FOUNDATION

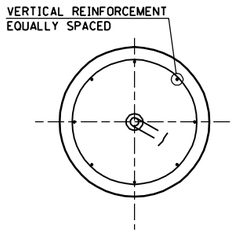
STANDARD F6-01



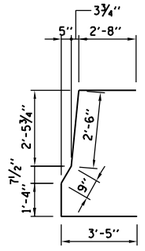
PLAN



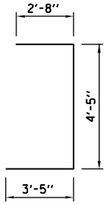
SECTION A-A
(TYPES IV, V, VI, AND VII)



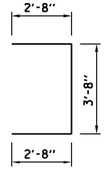
SECTION A-A
(TYPES I, II, III)



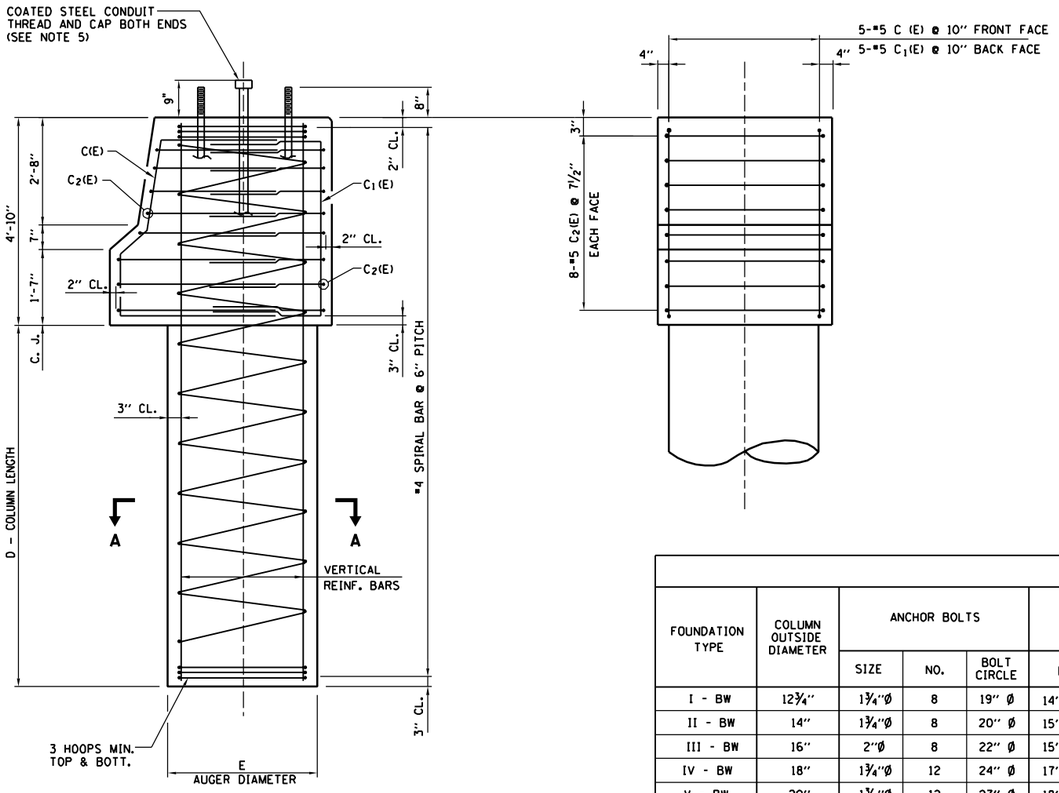
BAR C (E)



BAR C_1(E)



BAR C_2(E)



SIDE ELEVATION

NOTES:

1. MINIMUM UNCONFINED COMPRESSIVE STRENGTH, q_u FOR COHESIVE SOILS SHALL BE 1.25 TONS PER SQ. FT. & MINIMUM STANDARD PENETRATION TEST VALUE, N FOR GRANULAR SOILS SHALL BE 10 BLOWS PER FOOT.
2. ALL MATERIALS, FABRICATION AND CONSTRUCTION REQUIREMENTS SHALL BE IN ACCORDANCE WITH SECTION 734 OF THE IDOT STANDARD SPECIFICATIONS.
3. ALL REBARS SHALL BE EPOXY COATED.
4. FOR ANCHOR BOLT DETAIL SEE F5-XX
5. FOR SIZE AND NUMBER OF COATED STEEL CONDUIT SEE ELECTRICAL CONSTRUCTION DRAWINGS.

FOUNDATION SCHEDULE

FOUNDATION TYPE	COLUMN OUTSIDE DIAMETER	ANCHOR BOLTS			SHAFT			VERTICAL REINFORCEMENT				SPIRAL REINFORCEMENT		BARRIER DIMENSIONS			BARRIER		TOTAL	
		SIZE	NO.	BOLT CIRCLE	D	E	CONC. CY.	NO.	SIZE	LENGTH	WEIGHT POUNDS	LENGTH	WEIGHT POUNDS	A	B	C	CONC. CY.	REBAR POUNDS	CONC. CY.	REBAR POUNDS
I - BW	12¾"	1¾"Ø	8	19" Ø	14'-3"	30"	2.6	8	#10	18'-8"	643	279'-0"	186	36½"	18½"	18"	2.4	261	5.0	1090
II - BW	14"	1¾"Ø	8	20" Ø	15'-3"	30"	2.8	8	#10	19'-8"	677	292'-0"	195	37"	19"	18"	2.4	261	5.2	1133
III - BW	16"	2"Ø	8	22" Ø	15'-9"	36"	4.1	8	#11	20'-2"	857	372'-0"	248	41"	20"	21"	2.7	261	6.8	1366
IV - BW	18"	1¾"Ø	12	24" Ø	17'-3"	36"	4.5	12	#10	21'-8"	1119	396'-0"	265	42"	21"	21"	2.7	261	7.2	1645
V - BW	20"	1¾"Ø	12	27" Ø	18'-9"	36"	4.9	12	#11	23'-2"	1477	419'-0"	280	43½"	22½"	21"	2.8	261	7.7	2018
VI - BW	22"	2"Ø	12	29" Ø	18'-9"	42"	6.7	12	#11	23'-2"	1477	502'-0"	335	47½"	23½"	24"	3.1	261	9.8	2073
VII - BW	24"	2"Ø	12	30" Ø	19'-9"	42"	7.0	12	#11	24'-4"	1541	521'-0"	348	48"	24"	24"	3.1	261	10.1	2150

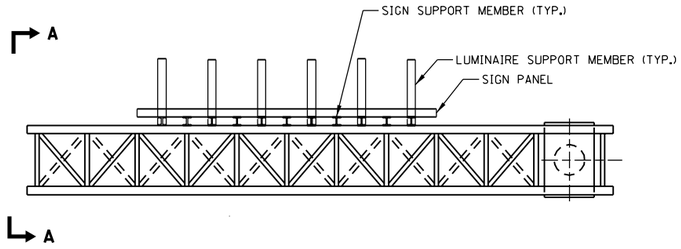
APPROVED Jeff Daly CHIEF ENGINEER DATE 1-1-2007

Illinois Tollway
Open Roads for a Faster Future

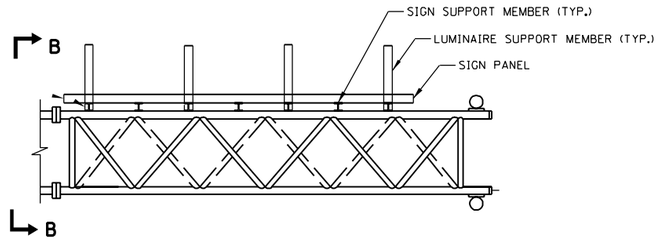
DATE	REVISIONS

OVERHEAD SIGN STRUCTURE
CANTILEVER TYPE "F"
BARRIER WALL-FOUNDATION

STANDARD F7-00



PLAN



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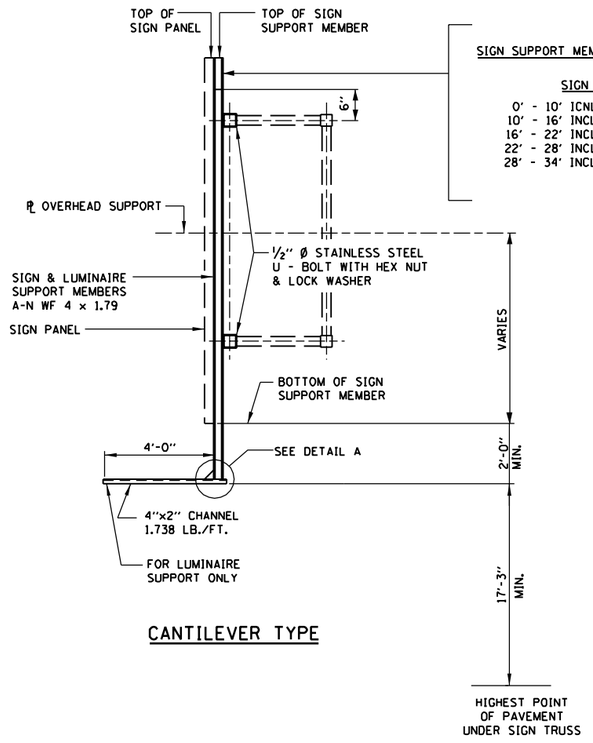
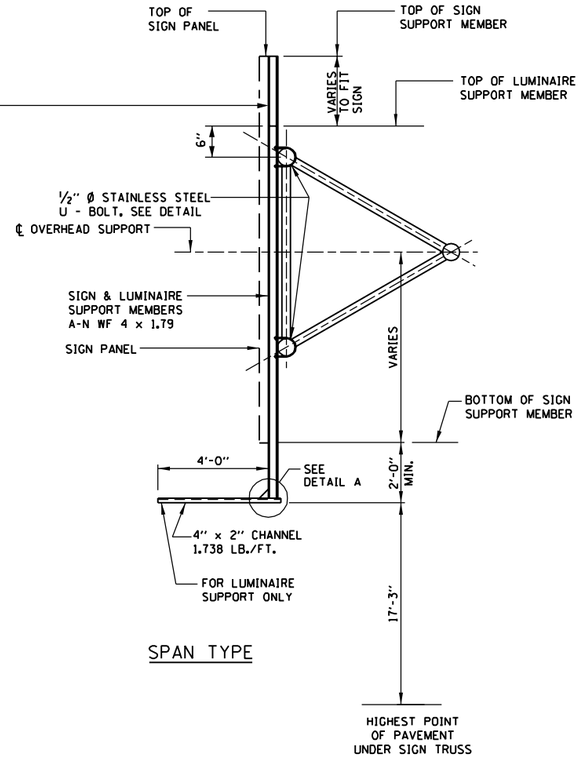


CANTILEVER TYPE



SPAN TYPE

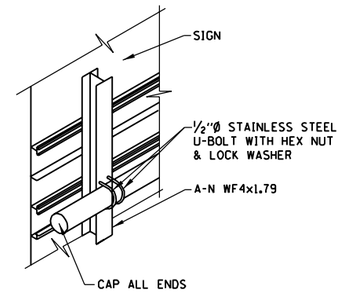
SECTION A-A

SECTION B-B

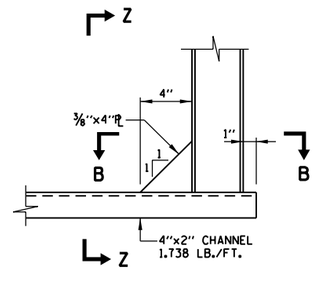
SIGN AND LUMINAIRE SUPPORT DETAIL

NOTE:

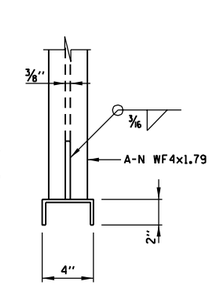
1. SIGN PANEL SHALL BE ATTACHED TO TRUSS AS CLOSE TO PANEL JOINTS AS POSSIBLE.
2. LUMINAIRE SUPPORT MEMBERS TO BE INSTALLED ONLY WHEN SIGN STRUCTURE IS TO BE ILLUMINATED. DESIGNER TO DETERMINE REQUIREMENTS BASED ON ROADWAY GEOMETRY.



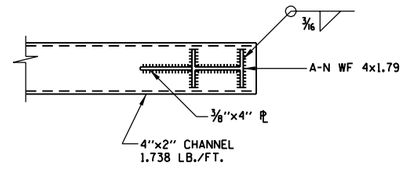
STAINLESS STEEL U-BOLT DETAIL



DETAIL A



SECTION Z-Z



SECTION B-B

NOTES:

ALL MATERIAL IS ALUMINUM (UNLESS OTHERWISE NOTED).

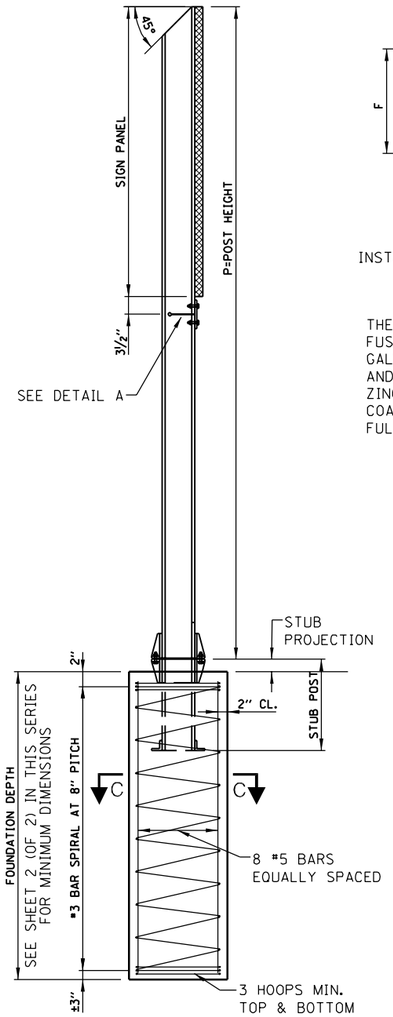
APPROVED Jeff Haley CHIEF ENGINEER DATE 1-1-2007

DATE	REVISIONS
1-1-2009	ADDED PLAN VIEWS FOR SIGN STRUCTURES

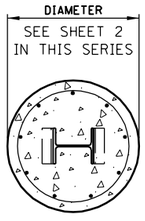
Illinois Tollway
Open Roads for a Faster Future

OVERHEAD SIGN STRUCTURE SIGN AND LUMINAIRE SUPPORTS

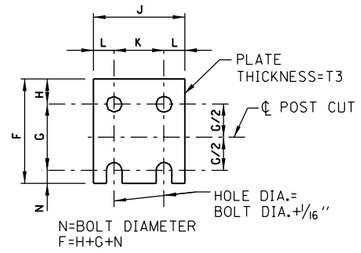
STANDARD F8-01



SIDE ELEVATION
POST & FOUNDATION



SEC. C-C

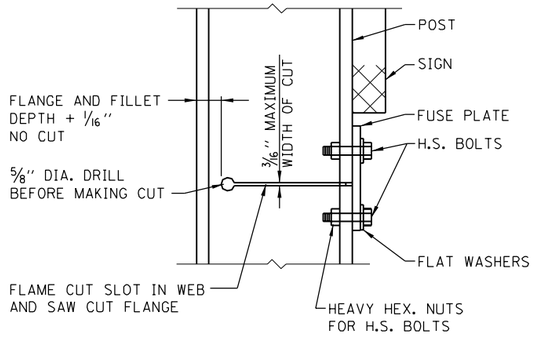


FUSE PLATE DETAIL
INSTALL WITH NOTCHES TOWARDS BASE

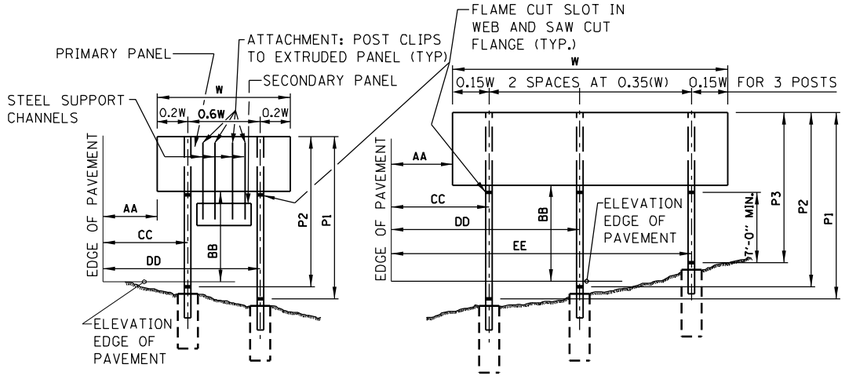
G & H DIM. TABLE		
BOLT DIA.	G	H
½"	2"	1⅛"
⅝"	2¼"	1¼"
¾"	2½"	1⅜"
⅞"	2¾"	1½"
1"	3"	1⅝"
1⅛"	3¼"	1¾"
1¼"	3½"	1⅞"

FABRICATORS NOTES

THE SLOT AND THE ⅝" DIA. HOLE IN THE WEB AND THE FUSE PLATE BOLT HOLES IN THE FLANGE SHALL BE MADE BEFORE GALVANIZING. POST FLANGE SHALL BE SAW CUT AFTER GALVANIZING AND BARE METAL SURFACES SHALL BE COATED WITH AN APPROVED ZINC SOLDER OR ZINC-RICH PAINT. THESE SURFACES SHALL NOT BE COATED UNTIL THE FUSE PLATE IS INSTALLED AND BOLTS FULLY TIGHTENED.

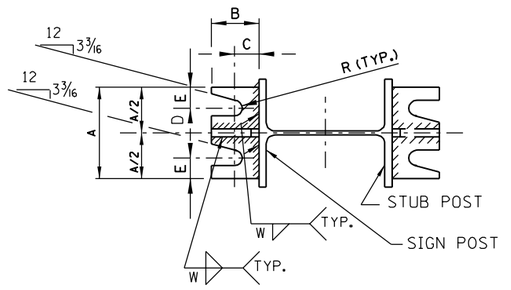


DETAIL A

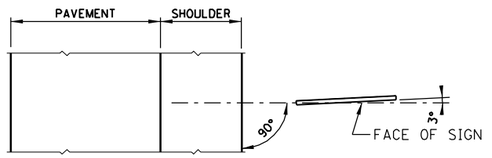


DETAIL FOR MOUNTING SECONDARY SIGN PANEL

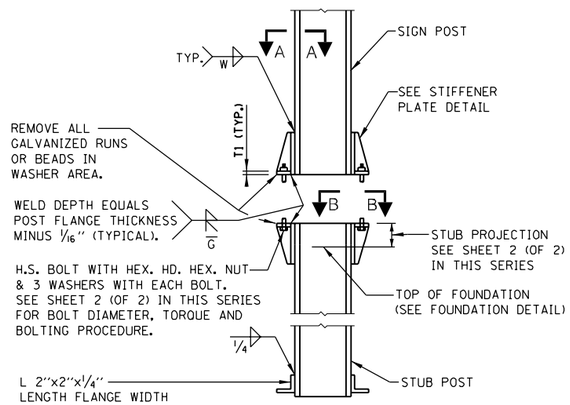
1. SEE SIGN INSTALLATION SCHEDULE IN CONTRACT PLANS FOR DIMENSIONS.
2. THE DIMENSIONS OF ALL POSTS FOR GROUND MOUNTED SIGNS ARE BASED ON DESIGN CROSS SECTIONS. THE CONTRACTOR SHALL VERIFY REQUIRED POST LENGTHS IN THE FIELD, PRIOR TO SUBMITTING SHOP DRAWINGS AND POST FABRICATION, TO MAINTAIN THE CLEARANCES SHOWN.
3. BB=5' MIN. FOR AA=30 FT.
   BB=7' MIN. FOR < 30 FT.
4. BB=7' MIN. FOR AA < 30 FT. MAY BE REDUCED TO 6' WHEN A SECONDARY PANEL IS MOUNTED BELOW THE MAIN PANEL.
5. FOR NEW CONSTRUCTION EITHER THE DETAILS SHOWN ON THIS SHEET OR STANDARD F10 MAY BE USED TO MOUNT THE SECONDARY SIGN PANEL.
6. ANY ADDITIONAL SIGN TO BE ADDED LATER MUST BE SUPPORTED BY THE EXISTING SIGN AND NOT THE SIGN POST, AS SHOWN
7. THE DISTANCE BETWEEN TOP OF STUB POST AND FUSE PLATE MAY BE REDUCED FROM 7'-0" MINIMUM TO 5'-0" WHEN AA IS ≥ 2:1 OR WHERE IT WOULD BE UNLIKELY FOR AN OUT OF CONTROL VEHICLE TO REACH THE POST.



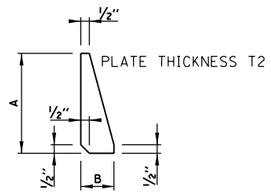
SEC. A-A SEC. B-B



LOCATION SKETCH

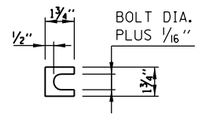


SIGN POST & STUB POST ELEVATION



STIFFENER LP DETAIL

SEE SHEET 2 (OF 2) IN THIS SERIES FOR DIMENSIONS



SHIM DETAIL

FURNISH 2-.012" THICK AND 2-.032" THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO ASTM B36.

GENERAL NOTES

DESIGN: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRE AND TRAFFIC SIGNALS-DATED 1994 OR LATEST EDITION.

CONSTRUCTION: IDOT STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS.

LOADING: FOR 80 MPH WIND VELOCITY PLUS 30 % GUST FACTOR NORMAL TO SIGN.

UNIT STRESSES:
STRUCTURAL STEEL - PER AASHTO
REINFORCING STEEL - 24,000 P.S.I.
CLASS SP CONCRETE - 1,400 P.S.I.
MINIMUM SOIL PRESSURE - 1.25 TONS/SQ. FT.

WELDING: ALL WELDING TO BE CONTINUOUS UNLESS OTHERWISE SHOWN. ALL WELDING TO BE DONE IN ACCORDANCE WITH CURRENT AWS SPECIFICATIONS, AND IDOT STANDARD SPECIFICATIONS.

MATERIALS: ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 AND IDOT STANDARD SPECIFICATIONS.

ALL HIGH STRENGTH STEEL BOLTS, NUTS AND WASHERS SHALL CONFORM TO IDOT STANDARD SPECIFICATIONS.

HIGH STRENGTH STEEL BOLTS, NUTS AND HARDENED WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M232.

HIGH STRENGTH BOLTS IN BASE PLATES SHALL BE TIGHTENED TO THE TORQUE SHOWN ON SHEET 2 (OF 2) IN THIS SERIES.

AFTER FABRICATION, THE POST, FUSE PLATE, BASE PLATE AND UPPER 6" OF STUB POST SHALL BE HOT-DIP GALVANIZED ACCORDING TO ASTM M111, EXCEPT AS NOTED UNDER FABRICATOR NOTES.

APPROVED Jeff Haley CHIEF ENGINEER DATE 1-1-2007

DATE	REVISIONS
1-1-2009	REVISED NOTES

Illinois Tollway
Open Roads for a Faster Future

BREAKAWAY SIGN SUPPORT DETAILS

STANDARD F9-01

POST	FOUNDATION TABLE												BASE CONNECTION DATA TABLE									
	FOUNDATION			REINFORCEMENT						STUB POST			BOLT SIZE AND TORQUE	A	B	C	D	E	T1	T2	W	R
	DIA.	MIN. DEPTH	CY. SP* CONC.	VERTICAL BARS NO.	VERTICAL BARS SIZE	VERTICAL BARS LGTH.	BAR SPIRALS SIZE	BAR SPIRALS O.D.	BAR SPIRALS LGTH.	LBS.**	STUB LGTH.	STUB PROJECTION	LBS.***										
W6x9	2'-0"	6'-0"	.70	8	#5	5'-9"	#3	20½"	79'	78	2'-3"	3"	44	⅝" Ø x 3¼" LG. TORQUE = 450" #	6"	2¼"	1¼"	3½"	1¼"	¾"	½"	¼"	11/32"
W6x15	2'-0"	6'-0"	.70	8	#5	5'-9"	#3	20½"	79'	78	2'-6"	3"	71										
W8x18	2'-0"	6'-0"	.70	8	#5	5'-9"	#3	20½"	79'	78	2'-6"	3"	85	¾" Ø x 3¾" LG. TORQUE = 750" #	6"	2½"	1⅜"	3¼"	1⅜"	1"	½"	5/16"	13/32"
W10x22	2'-6"	6'-6"	1.18	8	#5	6'-3"	#3	26½"	105'	92	3'-0"	2½"	110										
W10x26	2'-6"	7'-0"	1.27	8	#5	6'-9"	#3	26½"	112'	98	3'-0"	2½"	137										
W12x26	2'-6"	7'-9"	1.41	8	#5	7'-6"	#3	26½"	119'	107	3'-0"	2½"	140	⅞" Ø x 4" LG. TORQUE = 950" #	7"	2¾"	1½"	4"	1½"	1"	¾"	⅜"	15/32"
W14x30	3'-0"	7'-3"	1.90	8	#5	7'-0"	#3	32½"	145'	113	3'-0"	2½"	150										
W14x38	3'-0"	8'-0"	2.09	8	#5	7'-9"	#3	32½"	153'	122	3'-6"	2½"	208	1" Ø x 4½" LG. TORQUE = 1100" #	7½"	3"	1¾"	4"	1¾"	1¼"	¾"	⅜"	17/32"
W16x45	3'-0"	8'-6"	2.23	8	#5	8'-3"	#3	32½"	162'	130	3'-6"	2½"	233										

* QUANTITY OF CLASS SP CONCRETE CONSISTS OF ALL CONCRETE NECESSARY FOR ONE FOUNDATION. (CUBIC YARDS)

** THIS INCLUDES REINFORCEMENT BARS AND SPIRAL HOOPING REQUIRED FOR ONE FOUNDATION.

*** INCLUDES WEIGHT OF STUB POST WITH ANGLES, GUSSETS, BASE PLATES, BOLTS, NUTS, WASHERS, PLUS BASE PLATES AND GUSSETS ON MAIN POST, PLUS FUSE PLATE (IF ANY) WITH BOLTS, NUTS AND WASHERS. (ONE POST)

EQUIVALENT TORQUE VALUES

450" # = 37.5' #
750" # = 62.5' #
950" # = 79.2' #
1100" # = 91.7' #

PROCEDURE FOR ASSEMBLY OF BASE CONNECTION:

1. ASSEMBLE POST TO STUB WITH H.S. BOLTS AND ONE OF THE THREE FLAT WASHERS ON EACH BOLT BETWEEN PLATES AS SHOWN.
2. SHIMS MAY BE USED BETWEEN PLATES TO LEVEL POST.
3. TIGHTEN BOLTS IN BASE PLATE IN A SYSTEMATIC ORDER TO THE REQUIRED TORQUE.
4. LOOSEN EACH BOLT AND RETIGHTEN TO THE REQUIRED TORQUE IN SAME ORDER AS INITIAL TIGHTENING.
5. BURR OR CENTER PUNCH THREADS AT JUNCTURE OF BOLT AND NUT TO PREVENT NUT FROM LOOSENING.

POST	FUSE PLATE DATA TABLE				FUSE PLATE BOLT SIZE TABLE SIGN DEPTH										
	J	K	L	T3	4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'
W6x9	4"	2¼"	⅞"	¼"	½"Ø x 1½"	½"Ø x 1½"	½"Ø x 1½"	⅝"Ø x 1¾"	⅝"Ø x 1¾"	⅝"Ø x 1¾"	---	---	---	---	---
W6x15	6"	3½"	1¼"	⅜"	½"Ø x 1¾"	½"Ø x 1¾"	⅝"Ø x 2"	⅝"Ø x 2"	¾"Ø x 2"	¾"Ø x 2"	¾"Ø x 2"	¾"Ø x 2"	⅞"Ø x 2"	⅞"Ø x 2"	---
W8x18	5¼"	2¾"	1¼"	⅜"	½"Ø x 1¾"	½"Ø x 1¾"	½"Ø x 1¾"	⅝"Ø x 2"	⅝"Ø x 2"	¾"Ø x 2"	¾"Ø x 2"	⅞"Ø x 2¼"	⅞"Ø x 2¼"	⅞"Ø x 2¼"	⅞"Ø x 2¼"
W10x22	5¾"	2¾"	1½"	½"	½"Ø x 2"	½"Ø x 2"	½"Ø x 2"	⅝"Ø x 2"	⅝"Ø x 2"	¾"Ø x 2¼"	¾"Ø x 2¼"	⅞"Ø x 2¼"	¾"Ø x 2¼"	⅞"Ø x 2½"	1"Ø x 2½"
W10x26	5¾"	2¾"	1½"	⅝"	½"Ø x 2"	½"Ø x 2"	½"Ø x 2"	⅝"Ø x 2¼"	⅝"Ø x 2¼"	¾"Ø x 2½"	¾"Ø x 2½"	⅞"Ø x 2½"	⅞"Ø x 2½"	1"Ø x 2¾"	1"Ø x 2¾"
W12x26	6½"	3½"	1½"	⅝"	---	---	---	---	---	⅝"Ø x 2¼"	---	---	⅞"Ø x 2½"	⅞"Ø x 2½"	1"Ø x 2½"
W14x30	6¾"	3½"	1⅝"	½"	½"Ø x 2"	½"Ø x 2"	½"Ø x 2"	½"Ø x 2"	½"Ø x 2"	⅝"Ø x 2"	⅝"Ø x 2¼"	¾"Ø x 2¼"	¾"Ø x 2¼"	⅞"Ø x 2½"	1"Ø x 2½"
W14x38	6¾"	3½"	1⅝"	½"	---	½"Ø x 2"	½"Ø x 2"	½"Ø x 2"	½"Ø x 2"	⅝"Ø x 2¼"	⅝"Ø x 2¼"	¾"Ø x 2½"	¾"Ø x 2½"	⅞"Ø x 2½"	⅞"Ø x 2½"
W16x45	7"	3½"	1¾"	½"	---	---	---	½"Ø x 2"	½"Ø x 2"	⅝"Ø x 2¼"	⅝"Ø x 2¼"	⅝"Ø x 2¼"	¾"Ø x 2½"	¾"Ø x 2½"	⅞"Ø x 2½"

POST	FUSE PLATE DATA TABLE				FUSE PLATE BOLT SIZE TABLE SIGN DEPTH										
	J	K	L	T3	15'	16'	17'	18'	19'	20'	21'	22'	23'	24'	---
W6x9	4"	2¼"	⅞"	¼"	---	---	---	---	---	---	---	---	---	---	---
W6x15	6"	3½"	1¼"	⅜"	---	---	---	---	---	---	---	---	---	---	---
W8x18	5¼"	2¾"	1¼"	⅜"	⅞"Ø x 2¼"	⅞"Ø x 2¼"	---	---	---	---	---	---	---	---	---
W10x22	5¾"	2¾"	1½"	½"	1"Ø x 2¾"	1"Ø x 2¾"	1"Ø x 2¾"	1"Ø x 2¾"	1"Ø x 2¾"	1"Ø x 2¾"	---	---	---	---	---
W10x26	5¾"	2¾"	1½"	⅝"	1"Ø x 2¾"	1⅛"Ø x 3"	1⅛"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	---
W12x26	6½"	3½"	1½"	⅝"	1"Ø x 2¾"	1"Ø x 2¾"	1⅛"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	---
W14x30	6¾"	3½"	1⅝"	½"	1"Ø x 2¾"	1"Ø x 2¾"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	---
W14x38	6¾"	3½"	1⅝"	½"	1"Ø x 2½"	1"Ø x 2¾"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	---
W16x45	7"	3½"	1¾"	½"	⅞"Ø x 2½"	1"Ø x 2¾"	1"Ø x 2¾"	1⅛"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	1¼"Ø x 3"	---

PROCEDURE FOR FUSE PLATE BOLT TIGHTENING:

ALL FRICTION FUSE BOLTS SHALL BE TIGHTENED IN THE SHOP AS APPROVED BY THE ENGINEER ACCORDING TO ONE OF THE FOLLOWING METHODS:

1. TURN-OF-NUT TIGHTENING,
2. TIGHTENING BY USE OF A DIRECT TENSION INDICATOR.

THE ABOVE METHODS OF INSTALLATION AND TIGHTENING SHALL CONFORM TO THE LATEST ISSUE OF THE SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A-325 OR A-490 BOLTS, FOR SLIP-CRITICAL CONNECTIONS AS ISSUED BY THE RESEARCH COUNCIL ON RIVETED AND BOLTED STRUCTURAL JOINTS OF THE ENGINEERING FOUNDATION.

TIGHTENING SHALL BE TO SUCH A DEGREE AS TO OBTAIN THE FOLLOWING MINIMUM RESIDUAL TENSION IN EACH BOLT.

BOLT DIA.	MIN. RESIDUAL BOLT TENSION	BOLT DIA.	MIN. RESIDUAL BOLT TENSION	BOLT DIA.	MIN. RESIDUAL BOLT TENSION
½"	12,050	⅞"	39,250	1¼"	71,700
⅝"	19,200	1"	51,500		
¾"	28,400	1⅛"	56,450		

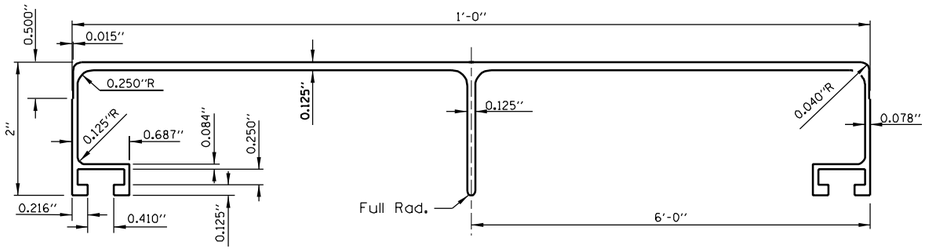
APPROVED Jeff Daley CHIEF ENGINEER DATE 1-1-2007

SHEET 2 OF 2

Illinois Tollway
Open Roads for a Faster Future

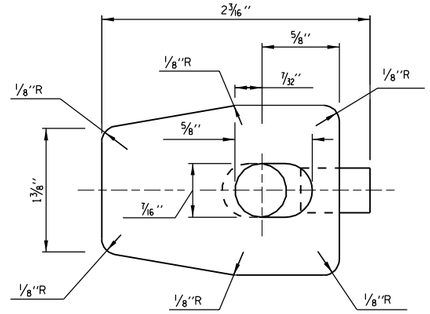
BREAKAWAY SIGN SUPPORT DETAILS

STANDARD F9-01

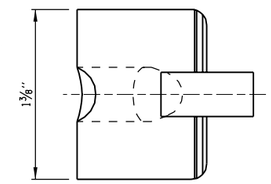


12'' PANEL

TYPE B SIGN PANEL EXTRUSIONS

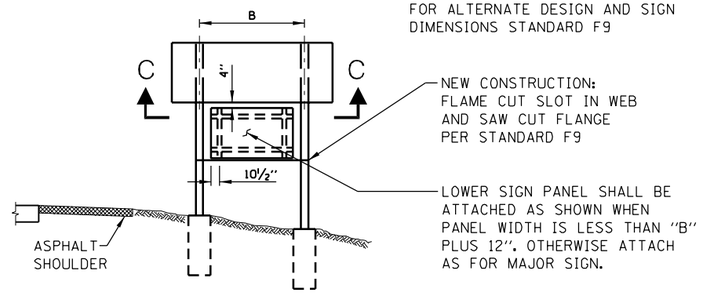


PLAN VIEW

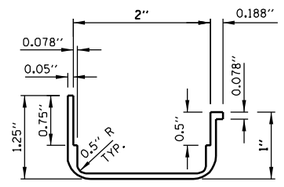


END VIEW

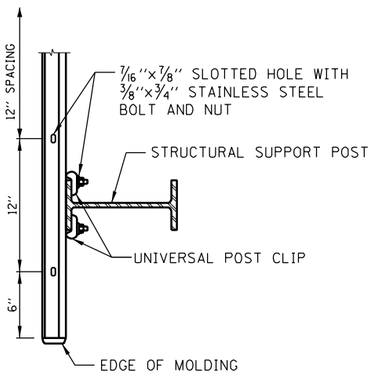
NOTE:
FOR ALTERNATE DESIGN AND SIGN DIMENSIONS STANDARD F9



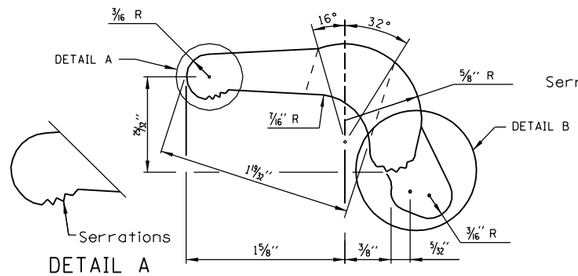
DETAIL FOR MOUNTING TWO PANEL GROUND MOUNT SIGNS



EDGE MOLDING SECTION FOR SIGN PANEL

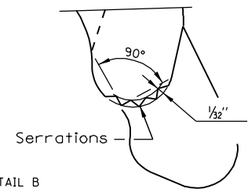


SECTION C-C

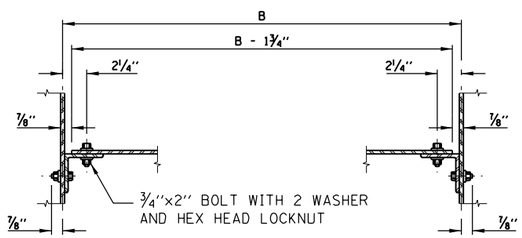


DETAIL A
(Enlarged view of serrations)

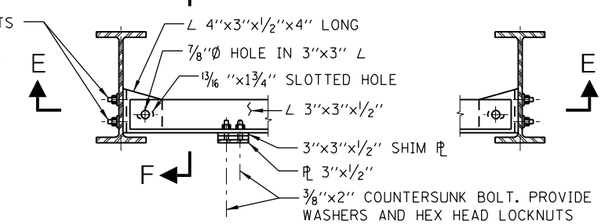
ELEVATION VIEW



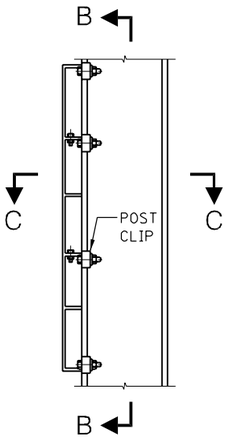
DETAIL B
(Enlarged detail of serrations)



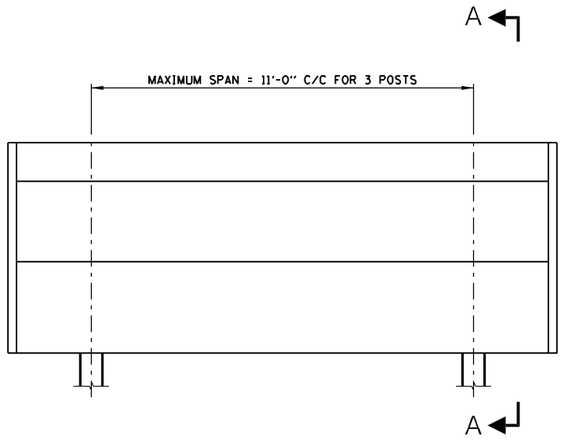
SECTION E-E



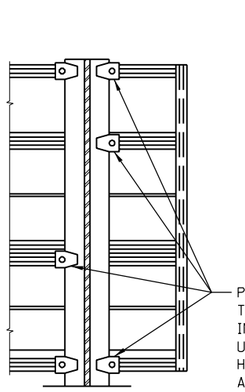
SECTION D-D



SECTION A-A

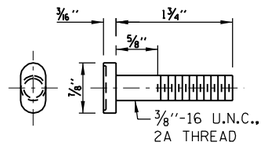


FACE OF SIGN PANEL

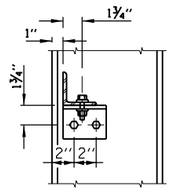


PROVIDE TWO (2) POST CLIPS AT TOP AND BOTTOM. ALTERNATE INTERIOR POST CLIPS ON SIGNS UNDER 24 FEET LONG AND OVER HEAD MOUNTED SIGNS. DO NOT ALTERNATE INTERIOR CLIPS ON OTHER SIGNS.

SECTION B-B



POST CLIP BOLT STAINLESS STEEL



SECTION F-F

ALUMINUM CLIP DETAIL

BASIS OF MEASUREMENT AND PAYMENT

3''x3''x5/16'' ANGLE	6.1 LBS./FT.
3''x1/2'' FLAT PLATE	5.1 LBS./FT.
2 POST CONN.	27.6 LBS.

CONNECTIONS INCLUDE ALL ANGLES, SHIMS, BOLTS, NUTS AND WASHERS NECESSARY TO ERECT SUPPORTS FOR LOWER SIGN.
LOWER PANEL MOUNTING WILL BE PAID FOR AS GROUND MOUNTED SIGN SUPPORT (BREAKAWAY).

GENERAL NOTE:

HOLES WHICH ARE FIELD DRILLED IN STRUCTURAL STEEL MEMBERS SHALL BE POINTED WITH ONE (1) COAT OF ZINC PAINT IMMEDIATELY FOLLOWING DRILLING. THE PAINT SHALL CONFORM TO FEDERAL SPECIFICATION TT-P641b, TYPE 2 FOR GALVANIZING PRIMER.

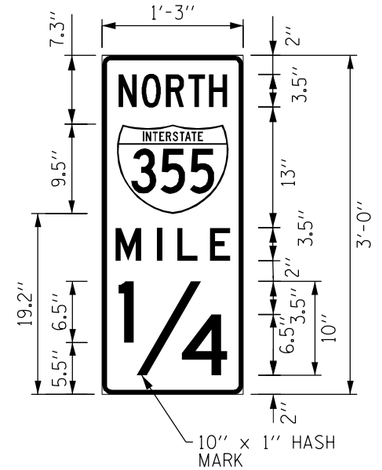
APPROVED Jeff Daley CHIEF ENGINEER DATE 1-1-2007

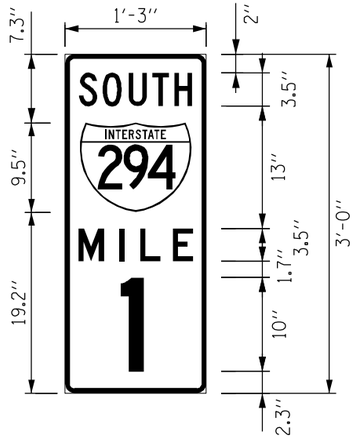
Illinois Tollway
Open Roads for a Faster Future

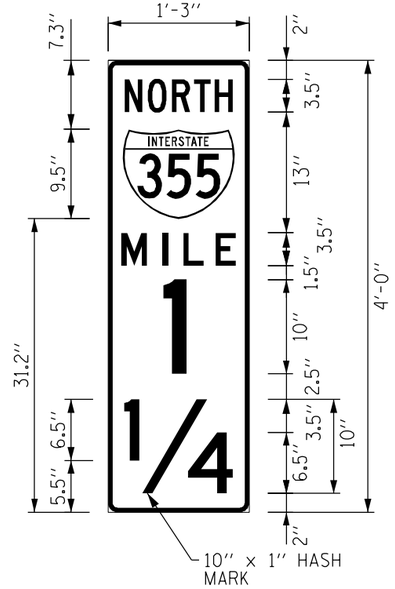
DATE	REVISIONS
1-1-2009	MODIFIED TYPE B SIGN PANEL DIM.
	MODIFIED POST CLIP DETAIL

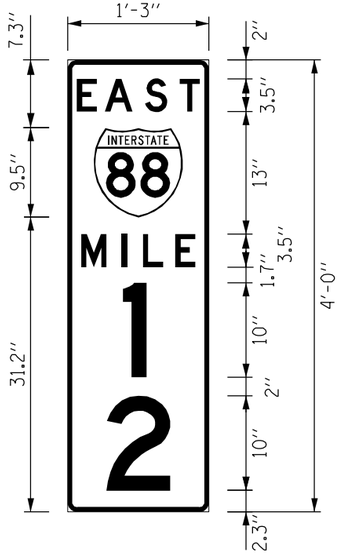
MISCELLANEOUS DETAILS AND ALUMINUM SIGN PANELS

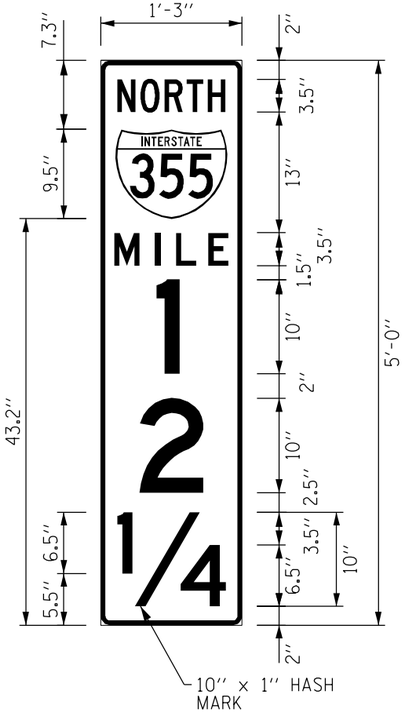
STANDARD F10-01

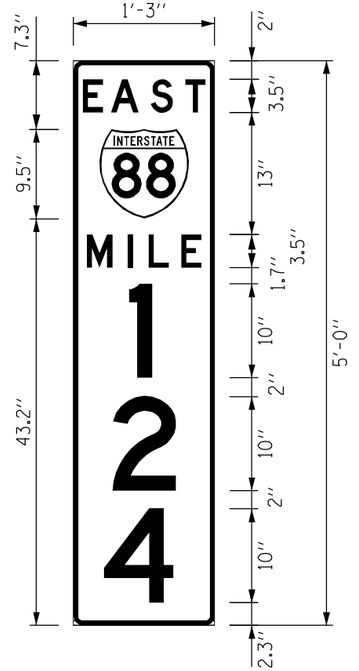


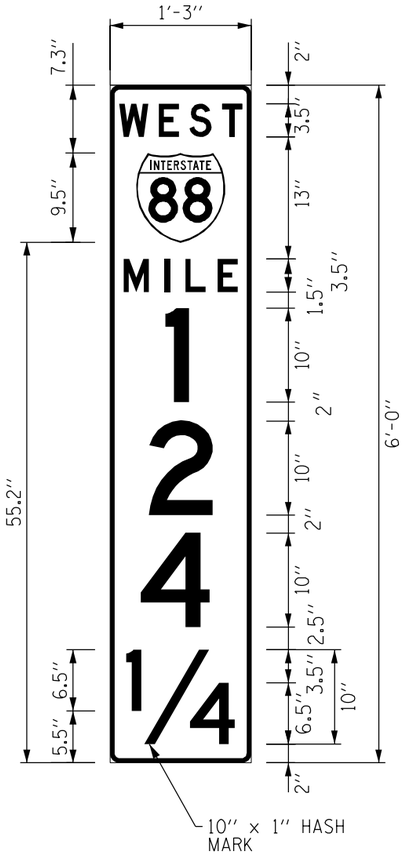












GENERAL NOTES:

1. 1" TYPICAL RADIUS FOR SIGN BORDER.
2. CLEARVIEW 5 (CV5) SHALL BE USED FOR THE WORD "MILE" AND NUMBERS BELOW "MILE".
3. HWY D, WITH REDUCED LETTER SPACING, SHALL BE USED FOR THE WORD "NORTH", "SOUTH", "EAST" AND "WEST".
4. BORDER SHALL BE WHITE AND ½" WIDE AND LOCATED ½" FROM THE EDGE OF SIGN.
5. SIGN SHALL BE WHITE LETTERS ON A GREEN BACKGROUND EXCEPT FOR INTERSTATE SHIELD WHICH SHALL HAVE A RED (TOP) AND BLUE (BOTTOM) BACKGROUND.
6. DG3 SHEETING SHALL BE USED.

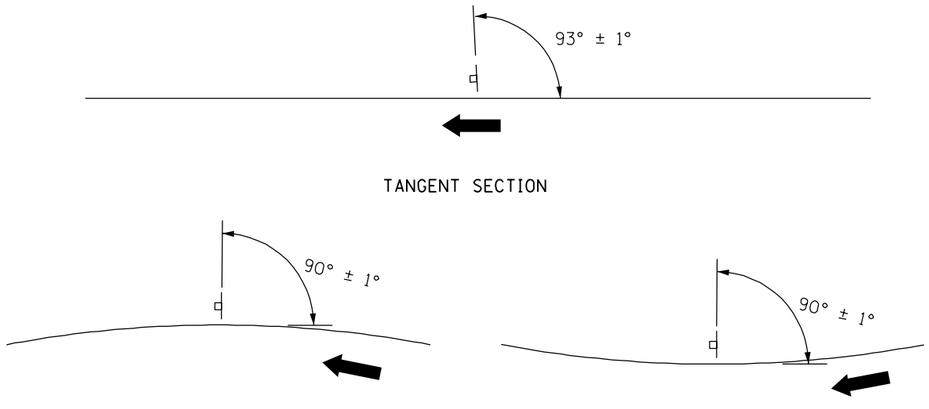
Illinois Tollway
Open Roads for a Faster Future

DATE	REVISIONS
5-8-2009	POSITIONING DETAILS

MILEPOST MARKER

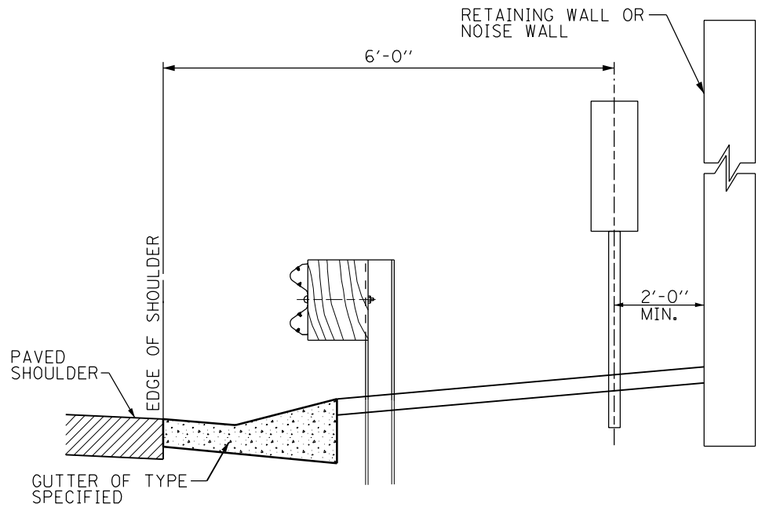
STANDARD F11-01

APPROVED Paul Kovacs CHIEF ENGINEER DATE 4-6-2009



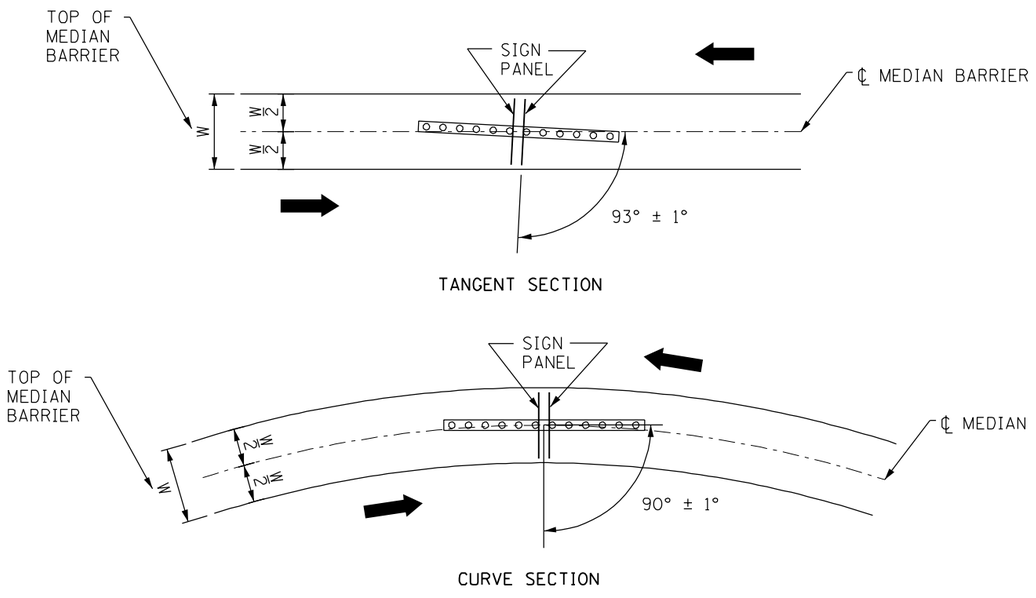
GROUND MOUNT SIGN POSITIONING

NOT TO SCALE



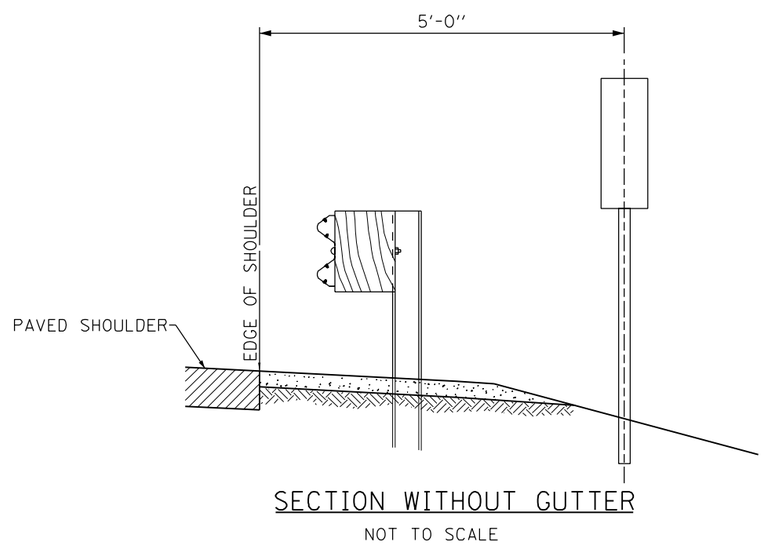
SECTION WITH GUTTER

NOT TO SCALE



MEDIAN BARRIER SIGN POSITIONING

NOT TO SCALE



SECTION WITHOUT GUTTER

NOT TO SCALE

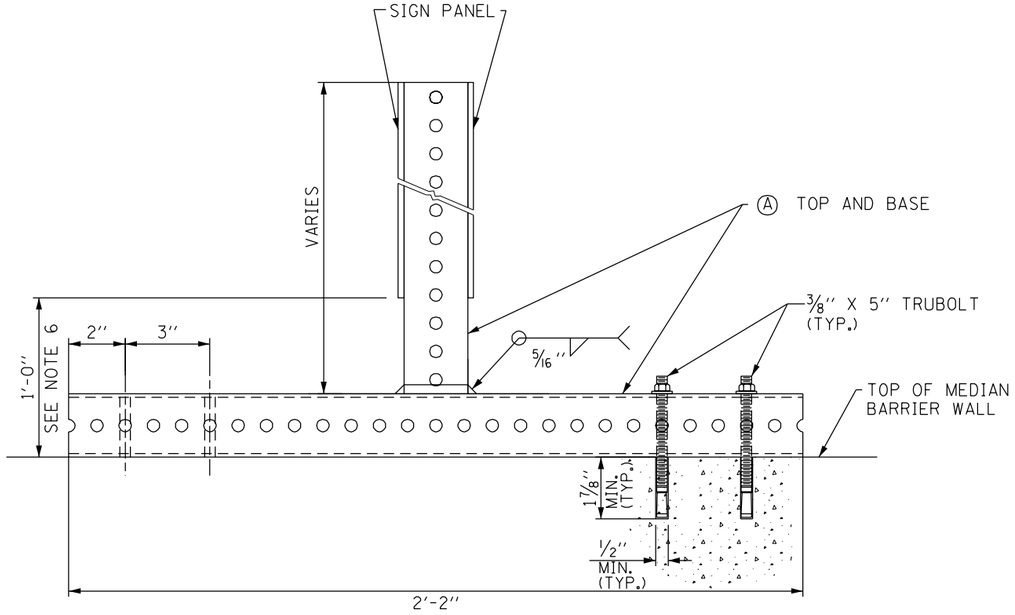
DIRECTION OF TRAFFIC

APPROVED Paul Kovacs CHIEF ENGINEER DATE 4-6-2009

Illinois Tollway
Open Roads for a Faster Future

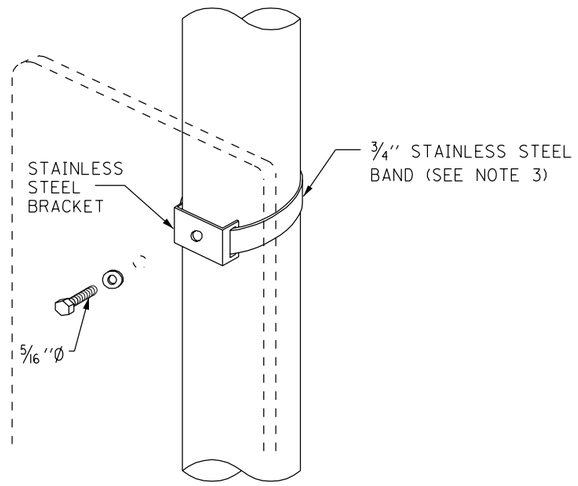
MILEPOST MARKER

STANDARD F11-01



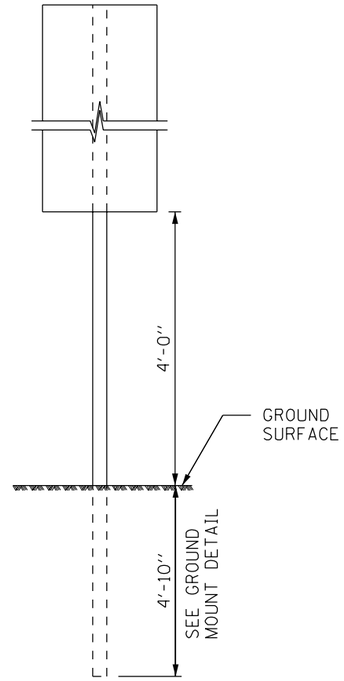
BARRIER WALL MOUNT DETAIL

NOT TO SCALE



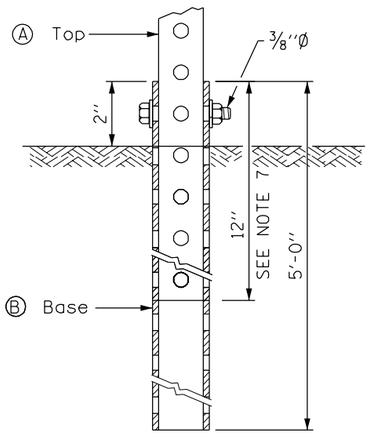
LIGHT POLE/SIGN STRUCTURE MOUNT DETAIL

NOT TO SCALE



ONE POST INSTALLATION

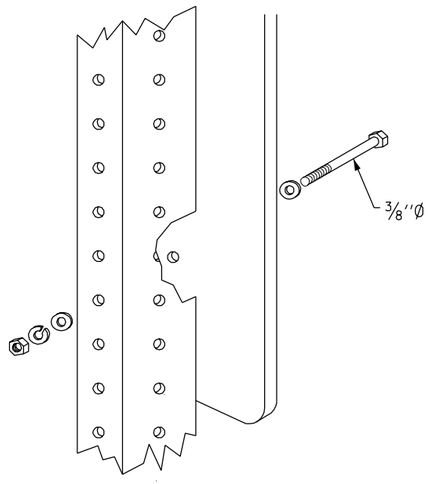
NOT TO SCALE



GROUND MOUNT DETAIL

NOT TO SCALE

Ⓐ	2 x 2 x VAR. (12 GA.)
Ⓑ	2½ x 2½ x 60 (12 GA.)



TELESCOPING STEEL POSTS

NOT TO SCALE

GENERAL NOTES:

1. ALL ANCHOR BOLTS FOR MEDIAN BARRIER MOUNT DETAIL SHALL BE 3/8" DIA. RED HEAD "TRUBOLT" OR APPROVED EQUAL.
2. ALL DIMENSIONS ARE IN INCHES UNLESS SHOWN OTHERWISE.
3. THE EDGE DISTANCE BETWEEN THE STEEL BAND AND EDGE OF SIGN SHALL NOT EXCEED 6". THE DISTANCE BETWEEN THE INTERMEDIATE BANDS SHALL NOT EXCEED 24".
4. CENTER THE 5/16" DIA. BOLT IN THE MIDDLE OF THE SIGN.
5. USE THE SAME ATTACHMENT FOR BACK TO BACK MILEPOST MARKER SIGN.
6. DISTANCE FROM THE GROUND TO THE BOTTOM OF THE MILEPOST MARKER SIGN SHALL HAVE A MINIMUM OF 4'-0" REGARDLESS OF BARRIER TYPE.
7. THE TOP SECTION SHALL BE TELESCOPED INTO THE BASE SECTION 12 INCHES AND FASTENED TOGETHER.
8. ALL BOLTS SHALL BE A325 GRADE UNLESS OTHERWISE NOTED.
9. FOR ATTACHMENT TO BRIDGE PARAPET USE BARRIER MOUNT WALL DETAIL. ONLY ONE PANEL REQUIRED WHEN ATTACHED TO PARAPET ALONG OUTSIDE SHOULDER.

Paul Kovacs
APPROVED CHIEF ENGINEER DATE 4-6-2009

Illinois Tollway
Open Roads for a Faster Future

MILEPOST MARKER

STANDARD F11-01