THE ILLINOIS STATE TOLL HIGHWAY AUTHORITY

April 13, 2022

CONSTRUCTION BULLETIN No. 22-02

SUBJECT: Standard F1 Overhead Sign Material Modifications

The Illinois Tollway will allow overhead sign materials specified within contract documents for the following contracts to be modified to meet the requirements of the attached 2022 F1-12 Standard Drawing in lieu of prior versions of Standard F1-12 included in the contract:

- I-18-4431
- I-19-4449
- I-19-4458
- I-20-4517
- I-20-4518
- I-20-4519
- I-20-4533
- I-21-4582
- RR-21-4591

Per the 2022 F1-12 Standard Drawing, for Overhead Sign Structure Span Type the 10” X.X.S Pipe is replaced with HSS 12.75x0.500 pipe and the 12” X.X.S Pipe is replaced with HSS 14x0.625 pipe. Material shall be ASTM A500 Grade B or C per Note 2 of the F1-12 Standard.

For Overhead Sign Structures listed below, an exception to the 2022 F1-12 Standard Drawing allowing for the use of HSS 12.75x0.500 in place of the HSS 14x0.625 is allowable.

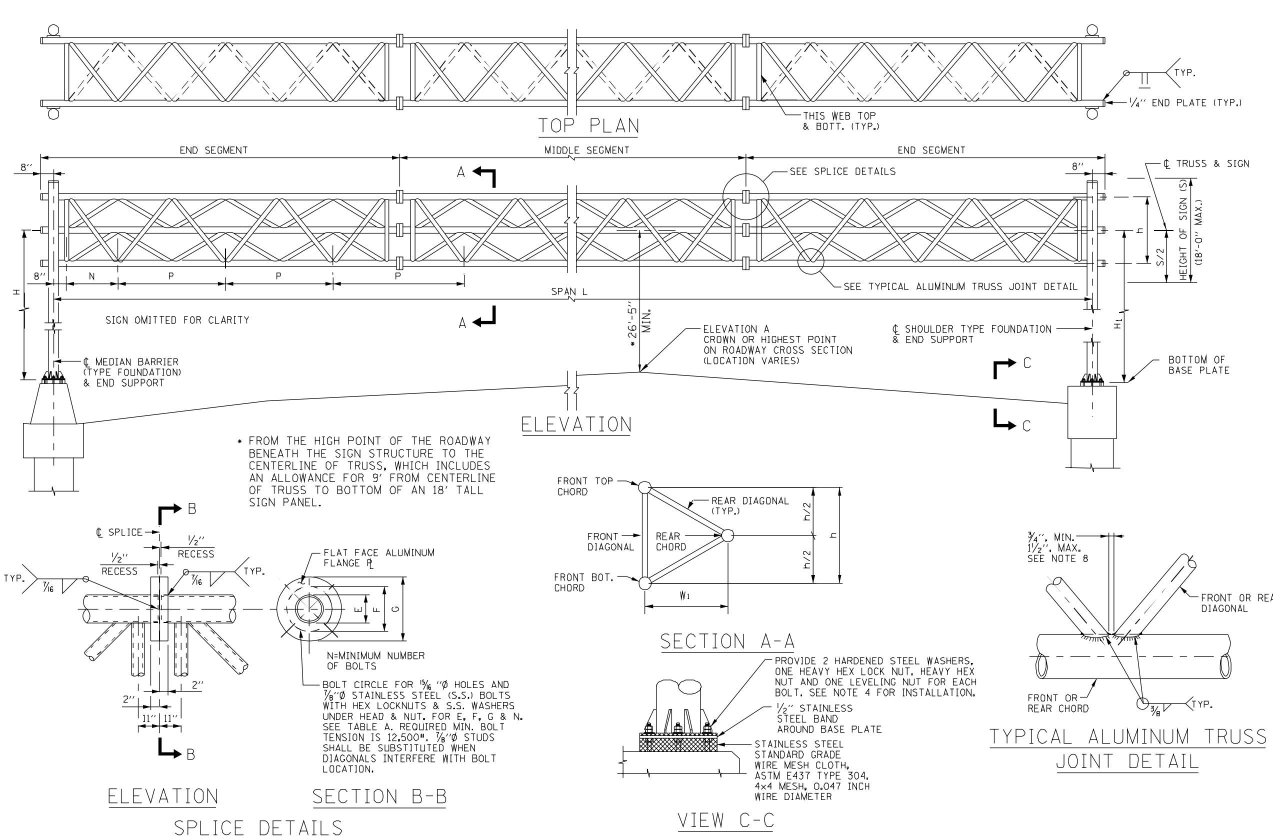
- I-18-4431
  - Overhead Sign Structure No. TS21.33T,NB (Span length 100’, Max. Height (H1) 36’-4”)
  - Overhead Sign Structure No. TS21.80T,NB (Span length 100’, Max. Height (H1) 37’-0 3/4”)
  - Overhead Sign Structure No. TS22.40T,SB (Span length 150’, Max. Height (H) 22’-11 3/8”)
- I-19-4449
  - Overhead Sign Structure No. TS36.7T,NB (Span length 100’, Max. Height (H1) 35’-6 ½”)
- I-19-4458
  - Overhead Sign Structure TS33.59T,SB (Span length 125’, Max. Height (H1) 26’-9”)
- I-20-4518
  - Overhead Sign Structure No. TS19.90T,NB (Span length 150’, Max. Height (H1) 27’-4”)
- I-21-4582
  - Overhead Sign Structure No. TS31.81T,SB (Span length 90’, Max. Height (H1/H) 36’-0”)

This Construction Bulletin is applicable only to contracts listed herein.

Attached document:
Standard F1-12 with modified table designated.

Manar Nashif
Manar Nashif (Apr 13, 2022 14:27 CDT)
Manar Nashif, P.E.
Acting Chief Engineering Officer

04/13/2022
Date



SIGN STRUCTURE MEMBER SCHEDULE

TRUSS NO.	DIMENSIONS: TRUSS SPAN L (MAX.)	P (MAX.)	N	h	W_1	ALUMINUM TRUSS *: MAXIMUM ALLOWABLE SIGN PANEL AREA	DL (TRUSS) DEFLECTION	MIDDLE SEGMENT OR END SEGMENT: CHORD (O.D.) FRONT	CHORD (O.D.) REAR	DIAGONAL (O.D.) FRONT	DIAGONAL (O.D.) REAR	STEEL END SUPPORT: W	HSS COLUMN (NOMINAL DIAMETER): HSS 12.75x0.500 H OR H_1	HSS 14x0.625 H OR H_1
T-80	80'-0"	9'-0"	3'-4"	4'-6"	3'-10¾"	900 S.F.	1"	5½"Ø x½"	5½"Ø x½"	2½"Ø x¼"	2½"Ø x¼"	5'-9"	32'-0" (MAX)	38'-0" (MAX)
T-85	85'-0"	9'-6"	3'-10"	4'-9"	4'-1⅜"	955 S.F.	1 1/16"	6⅞"Ø x½"	6⅞"Ø x½"	3"Ø x¼"	3"Ø x¼"	6'-7"	31'-0" (MAX)	38'-0" (MAX)
T-90	90'-0"	10'-0"	4'-4"	5'-0"	4'-4"	1010 S.F.	1⅛"	6⅞"Ø x½"	6⅞"Ø x½"	3"Ø x¼"	3"Ø x¼"	6'-7"	31'-0" (MAX)	38'-0" (MAX)
T-95	95'-0"	10'-6"	4'-10"	5'-3"	4'-6⅝"	1065 S.F.	1 3/16"	6⅞"Ø x½"	6⅞"Ø x½"	3"Ø x¼"	3"Ø x¼"	6'-7"	31'-0" (MAX)	38'-0" (MAX)
T-100	100'-0"	11'-4"	4'-0"	5'-8"	4'-10⅞"	1125 S.F.	1¼"	7"Ø x½"	7"Ø x½"	3½"Ø x¼"	3½"Ø x¼"	7'-5"	31'-0" (MAX)	38'-0" (MAX)
T-105	105'-0"	12'-0"	3'-10"	6'-0"	5'-2⅜"	1180 S.F.	1 5/16"	7"Ø x½"	7"Ø x½"	3½"Ø x¼"	3½"Ø x¼"	7'-5"	31'-0" (MAX)	38'-0" (MAX)
T-110	110'-0"	12'-6"	4'-4"	6'-3"	5'-5"	1200 S.F.	1⅜"	7"Ø x½"	7"Ø x½"	3½"Ø x¼"	3½"Ø x¼"	7'-5"	31'-0" (MAX)	38'-0" (MAX)
T-115	115'-0"	13'-0"	4'-10"	6'-6"	5'-7⅝"	1200 S.F.	1½"	7½"Ø x½"	7½"Ø x½"	3½"Ø x¼"	3½"Ø x¼"	10'-2"	34'-0" (MAX)	40'-0" (MAX)
T-120	120'-0"	13'-8"	4'-8"	6'-10"	5'-11"	1200 S.F.	1 9/16"	7½"Ø x½"	7½"Ø x½"	3½"Ø x¼"	3½"Ø x¼"	10'-2"	34'-0" (MAX)	40'-0" (MAX)
T-130	130'-0"	15'-0"	4'-4"	7'-6"	6'-5⅞"	1200 S.F.	1 9/16"	9"Ø x½"	9"Ø x½"	4"Ø x¼"	4"Ø x¼"	10'-2"	NOT APPLICABLE	40'-0" (MAX)
T-140	140'-0"	16'-3"	4'-4"	8'-2"	7'-0⅞"	1200 S.F.	1 11/16"	10"Ø x½"	10"Ø x½"	4"Ø x¼"	4"Ø x¼"	10'-2"	NOT APPLICABLE	40'-0" (MAX)
T-150	150'-0"	17'-6"	4'-4"	8'-10"	7'-7¾"	1200 S.F.	1 13/16"	11"Ø x½"	11"Ø x½"	4½"Ø x¼"	4½"Ø x¼"	10'-2"	NOT APPLICABLE	40'-0" (MAX)

* SUBSTITUTION OF LARGER TRUSS SIZE IS ACCEPTABLE.

NOTES:

1. A PAIR OF MAIN HSS COLUMN SIZES FOR EACH SUPPORT SHALL BE SELECTED INDEPENDENTLY BASED ON SPECIFIC NEEDS.

CAMBER

SPAN IN FEET	CAMBER IN INCHES
80 THRU 95	1½"
96 THRU 110	1⅝"
111 THRU 120	1⅞"
121 THRU 130	1⅞"
131 THRU 140	2"
141 THRU 150	2⅛"

PROVIDE THE ABOVE CAMBER AT MIDDLE OF SPAN OF STRUCTURES

TABLE A

CHORD O.D. E	F	G	N
5½"Ø	10"	13"	8
6⅞"Ø & 7"Ø	11½"	14½"	10
7½"Ø	12½"	15½"	12
9"Ø	13½"	16½"	14
10"Ø	15½"	18½"	16
11"Ø	17½"	20½"	18

Paul Kovacs
APPROVED .... CHIEF ENGINEERING OFFICER DATE 2-07-2012

GENERAL NOTES:

1. WORK THIS SHEET WITH OVERHEAD SIGN STRUCTURES SPAN TYPE SUMMARY AND TOTAL BILL OF MATERIAL.
2. 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.
3. 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.
4. TRUSS SEGMENTS SHALL BE SHIPPED INDIVIDUALLY WITH ADEQUATE PROVISION TO PREVENT DETRIMENTAL MOTION DURING TRANSPORT. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE CONFIGURATION AND PROTECTION OF THE TRUSSES.
5. ONLY SIGN PANELS ARE PERMITTED TO BE MOUNTED ON THIS TRUSS.

DESIGN SPECIFICATIONS:

1. 2015 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, 1ST EDITION WITH 2020 INTERIM REVISIONS, INSTRUCTIONS AND INFORMATION.
2. FOUNDATION DESIGN IS IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION, 2020

CONSTRUCTION SPECIFICATIONS:

1. ALL MATERIALS, EXCEPT AS SHOWN, FABRICATION, ERECTION AND CONSTRUCTION REQUIREMENTS SHALL BE IN ACCORDANCE WITH SECTION 733 OF THE LATEST ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS.

LOADING:

1. BOTH END SUPPORTS ARE DESIGNED FOR 60% OF THE TOTAL LOAD.
2. WIND LOADING SHALL BE A MINIMUM OF 50 PSF ON SIGN PANELS AND 35 PSF NORMAL TO TRUSS ELEMENTS NOT BEHIND SIGN PANELS.
3. ICE LOAD, OSHA, WALKWAY = 3 P.S.F. APPLIED WITH A FACTOR OF 1.0 FOR STRENGTH I ONLY.

FABRICATION NOTES:

1. NO SPLICES SHALL BE LOCATED WITHIN 0.1xL OF THE CENTERLINE OF THE SPAN.
2. MATERIALS: ALUMINUM SHALL CONFORM TO ASTM B221, ALLOY 6061 TEMPER T6. ALL STRUCTURAL STEEL PIPE SHALL BE ASTM A53 GRADE B OR A106 GRADE B OR API 5L GRADE B OR X42 OR X52. ALL STRUCTURAL STEEL HSS SHALL BE ASTM A500 GRADE B OR C. ALL STRUCTURAL STEEL PLATES AND SHAPES SHALL CONFORM TO ASTM A36 (AASHTO M183) OR ASTM A572 GRADE 50. 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 HSS 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.
3. 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 IDOT STANDARD SPECIFICATIONS. ALUMINUM WELD FILLER SHALL BE ALLOY 5556.
4. FASTENERS FOR ALUMINUM TRUSSES: HIGH STRENGTH BOLTS SHALL SATISFY THE REQUIREMENTS OF AASHTO M164 (ASTM A325), OR APPROVED ALTERNATE, AND SHALL HAVE MATCHING LOCK NUTS. THREADED STUDS FOR SPLICES (IF MEMBERS INTERFERE) SHALL SATISFY THE REQUIREMENTS OF ASTM A449, ASTM A193, GRADE B7, OR APPROVED ALTERNATE, AND SHALL HAVE MATCHING LOCK NUTS. BOLTS AND LOCK NUTS NOT REQUIRED TO BE HIGH STRENGTH SHALL SATISFY THE REQUIREMENTS OF ASTM A307. ALL BOLTS AND LOCK NUTS SHALL BE HOT DIP GALVANIZED PER AASHTO M232, EXCEPT STAINLESS STEEL FASTENERS, NUTS AND WASHERS. THE LOCK NUTS SHALL 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.
5. U-BOLTS: U-BOLTS SHALL BE STAINLESS STEEL AND SHALL CONFORM TO ASTM 193, CLASS I, GRADE B8 (AISI TYPE 304). WASHERS FOR U-BOLTS SHALL CONFORM TO ASTM A240, TYPE 302. NUTS FOR U-BOLTS SHALL CONFORM TO ASTM A194 (AASHTO M292), GRADE 8F (AISI TYPE 303).
6. GALVANIZING: ALL STEEL GRATING, PLATES, SHAPES, HSS AND PIPE SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111. PAINTING IS NOT PERMITTED.
7. SEE TABLE "SIGN STRUCTURE MEMBER SCHEDULE" FOR "W" AND "W_1".
8. DIAGONALS SHALL BE DETAILED TO MINIMIZE OFFSET FOR THEORETICAL PANEL POINT AND PROVIDE ¾ TO 1 ½ INCH CLEARANCE BETWEEN DIAGONALS AND PROVIDE CLEARANCE FOR U-BOLT CONNECTIONS OF SIGNS OR WALKWAY BRACKETS.
9. FOR ANY DESIGN SPAN LENGTH THAT FALLS BETWEEN TWO CONSECUTIVE SPANS PROVIDED IN COLUMN 2 OF TABLE "SIGN STRUCTURE MEMBER SCHEDULE", THE LARGER DESIGN SPAN LENGTH SHALL BE USED (I.E. FOR A 92' SPAN LENGTH FALLING BETWEEN 90' AND 95' DESIGN SPAN LENGTHS IN TABLE, THE 95' DESIGN SPAN LENGTH TRUSS AND POST DETAILS SHALL BE USED).

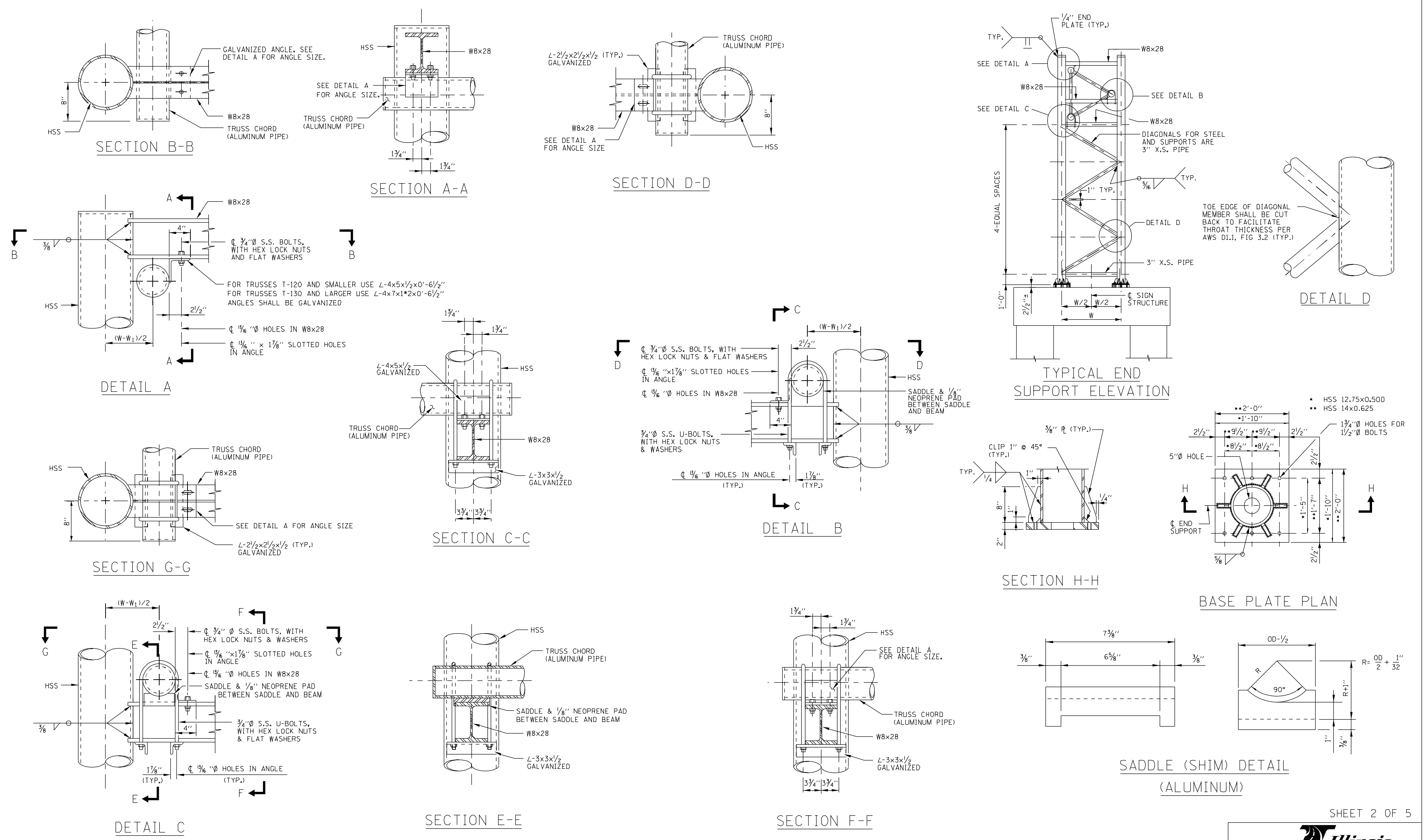
DATE	REVISIONS
3-01-2022	REV. FABRICATION NOTE 5, MATERIALS NOTE 2 REPLACE XXS PIPE WITH HSS, INC. BASE PL. & ADD HOT-POURED JOINT SEALER IN THE SLAB.
3-01-2021	UPDATE DESIGN LOADING, DESIGN CRITERIA AND P AND L DIMS. AS MAX. REVISED DRILLED SHAFT LENGTH.
3-01-2020	ADDED WASHER & NUTS CALLOUT-VIEW C-C. ADDED NOTE 9 FOR DESIGN SPAN LENGTH. REVISED ANGLE SIZE & ANCHOR BOLT DETAIL CHANGED GRADE BEAM IN SHEET 4 TO CLASS DS CONCRETE.
3-01-2019	UPDATE BARRIER SHAPE. CHANGED GRADE BEAM TO CLASS SI CONCRETE. REVISED †1(E) BAR IN BAR LIST.
3-01-2018	REVISED VER. CLEARANCE, AND ADDED NOTE.
3-31-2017	COLUMN MEMBER ADJUSTMENTS AND FOUNDATION REINFORCEMENT.
3-31-2016	REVISED FOUNDATION NOTE AND REVISED BASE PLATE DIMENSIONS.
3-11-2015	REVISED NOTES.

SHEET 1 OF 5

Illinois Tollway

OVERHEAD SIGN STRUCTURE
SPAN TYPE
STRUCTURE DETAILS

STANDARD F1-12



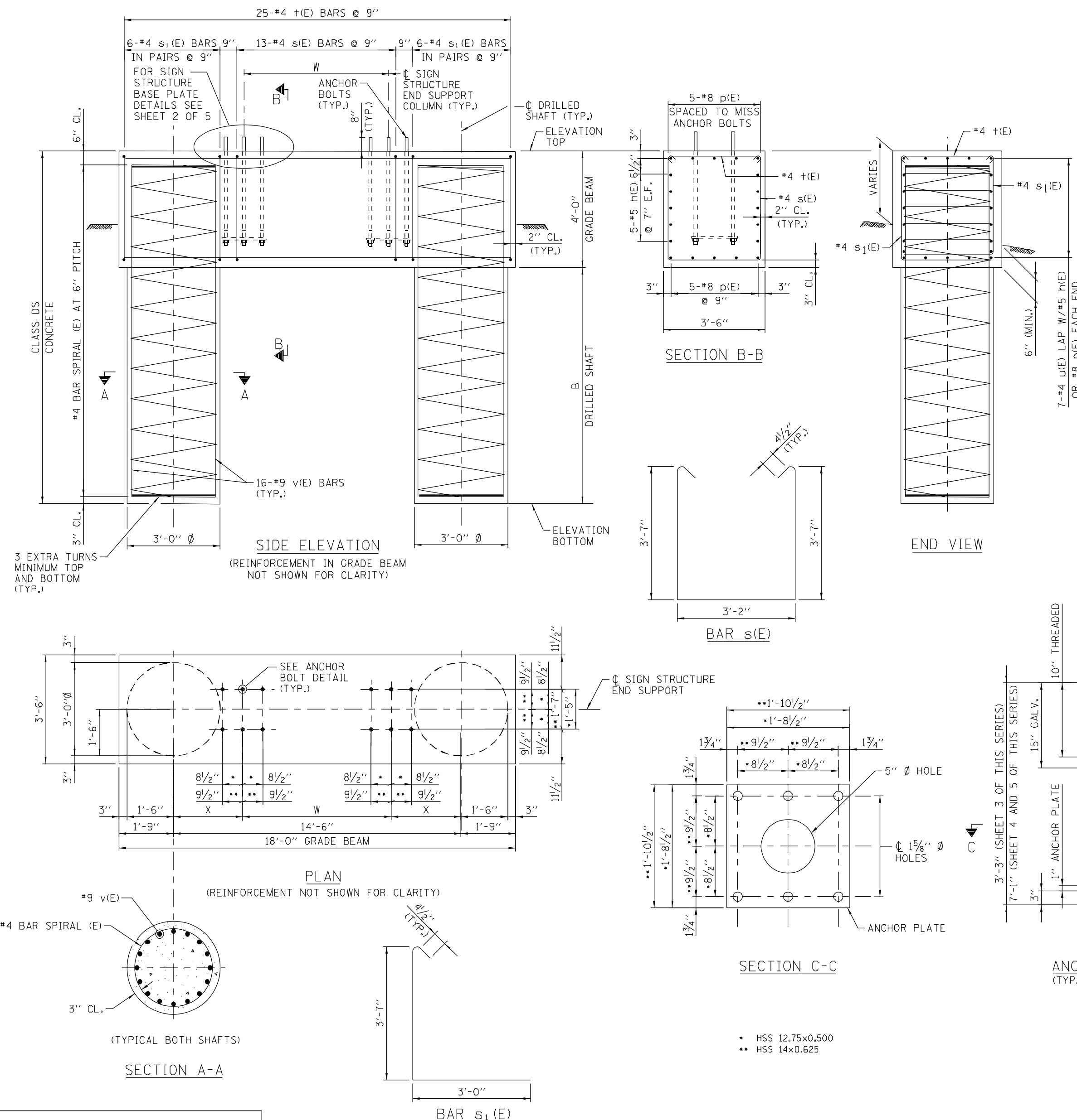
SHEET 2 OF 5

Illinois Tollway

OVERHEAD SIGN STRUCTURE
SPAN TYPE
STRUCTURE DETAILS

STANDARD F1-12

APPROVED Paul Kovacs CHIEF ENGINEERING OFFICER DATE 2-7-2012



NOTES:

1. THE FOUNDATION DETAILS SHOWN ARE BASED ON THE PRESENCE OF MOSTLY COMMON COHESIVE SOIL CONDITIONS (SILTY OR SANDY CLAY), WITH AN AVERAGE UNCONFINED COMPRESSIVE STRENGTH (QU) > 1.25 TON/SQ. FT. WHICH SHALL BE DETERMINED BY PREVIOUS SOIL INVESTIGATIONS AT THE JOBSITE. WHEN OTHER CONDITIONS ARE INDICATED, THE FOUNDATION DIMENSIONS SHOWN SHALL BE INCLUDED IN THE PLANS AND THE FOUNDATION DIMENSIONS SHOWN SHALL BE THE RESULT OF SITE SPECIFIC DESIGNS. IF CONDITIONS ENCOUNTERED IN THE FIELD ARE DIFFERENT THAN THOSE INDICATED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO DETERMINE IF THE FOUNDATION DIMENSIONS NEED TO BE MODIFIED.
2. ANCHOR BOLTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M314 OR ASTM F1554 GRADE 55. ALL OTHER MATERIAL, FABRICATION, AND CONSTRUCTION REQUIREMENTS SHALL BE IN ACCORDANCE WITH SECTION 734 OF THE ILLINOIS TOLLWAY SUPPLEMENTAL SPECIFICATIONS.
3. CONCRETE SHALL BE PLACED MONOLITHICALLY, WITHOUT CONSTRUCTION JOINTS UNLESS NOTED OTHERWISE.
4. BACKFILL SHALL BE PLACED PER SECTION 502 OF THE IDOT STANDARD SPECIFICATION AND PRIOR TO ERECTION OF SUPPORT COLUMN.
5. A NORMAL SURFACE FINISH FOLLOWED BY A CONCRETE SEALER APPLICATION WILL BE REQUIRED ON CONCRETE SURFACES ABOVE THE LOWEST ELEVATION 6″ BELOW FINISHED GROUND LINE.
6. ALL REBAR DESIGNATED (E) SHALL BE EPOXY COATED. REBAR SHALL BE POSITIONED SO THAT THERE WILL BE NO INTERFERENCE BETWEEN VERTICAL REINFORCEMENT AND ANCHOR BOLTS.
7. SITE GROUNDING ELECTRODE SYSTEM TO BE PROVIDED AS INDICATED ON THE PLANS.
8. NO SONOTUBES OR DECOMPOSABLE FORMS SHALL BE USED 6″ BELOW THE FINISHED GROUND LINE. PERMANENT METAL FORMS OR OTHER SHIELDING SHALL NOT BE LEFT IN PLACE BELOW THE ELEVATION WITHOUT THE ENGINEER'S WRITTEN PERMISSION. EXCAVATIONS SHALL BE DEWATERED BEFORE CONCRETE PLACEMENT IF DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST.
9. IF NECESSARY TO INCREASE STEEL END SUPPORT HEIGHT ABOVE THE LIMITATIONS SHOWN IN SIGN STRUCTURE MEMBER SCHEDULE ON SHEET 1 OF THIS SERIES, GRADE BEAM DEPTH SHALL BE INCREASED UP TO 6′-0″ WITHOUT CHANGES TO THE DRILLED SHAFT DESIGN. GRADE BEAM REINFORCEMENT, CONCRETE VOLUME AND LENGTH OF ANCHOR BOLTS SHALL BE REVISED ACCORDINGLY.

DESIGN TABLE FOR DRILLED SHAFTS IN COHESIVE SOILS (QU > 1.25 TON/SQ. FT.)

TRUSS No.	W	X	B	CLASS DS CONC. CY	REINF. BARS POUND
T-80	5′-9″	4′-4½″	40′-0″	30.3	6650
T-85	6′-7″	3′-11½″	50′-0″	35.5	7940
T-90	6′-7″	3′-11½″	50′-0″	35.5	7940
T-95	6′-7″	3′-11½″	50′-0″	35.5	7940
T-100	7′-5″	3′-6½″	50′-0″	35.5	7940
T-105	7′-5″	3′-6½″	50′-0″	35.5	7940
T-110	7′-5″	3′-6½″	50′-0″	35.5	7940
T-115	10′-2″	2′-2″	50′-0″	35.5	7940
T-120	10′-2″	2′-2″	50′-0″	35.5	7940
T-130	10′-2″	2′-2″	55′-0″	38.1	8590
T-140	10′-2″	2′-2″	55′-0″	38.1	8590
T-150	10′-2″	2′-2″	55′-0″	38.1	8590

BAR LIST - EACH FOUNDATION
(2 SHAFT AND 1 GRADE BEAM)

BAR	NUMBER	SIZE	LENGTH	SHAPE
h(E)	10	#5	17′-8″	
p(E)	10	#8	17′-8″	
s(E)	13	#4	11′-1″	
s₁(E)	24	#4	6′-11½″	
t(E)	25	#4	3′-11″	
u(E)	14	#4	7′-0″	
v(E)	32	#9	B ADD 3′-3″	
#4 BAR SPIRAL (E) - SEE SIDE ELEVATION				

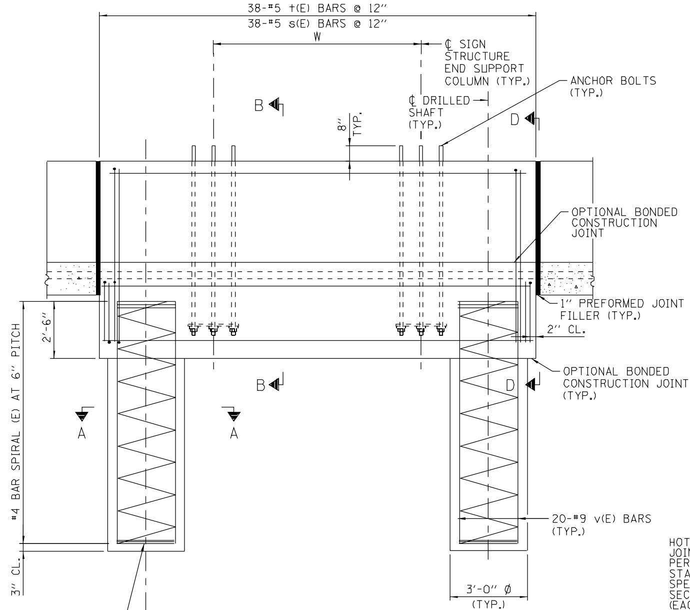
SHEET 3 OF 5

Illinois Tollway

OVERHEAD SIGN STRUCTURE
SPAN TYPE
STRUCTURE DETAILS

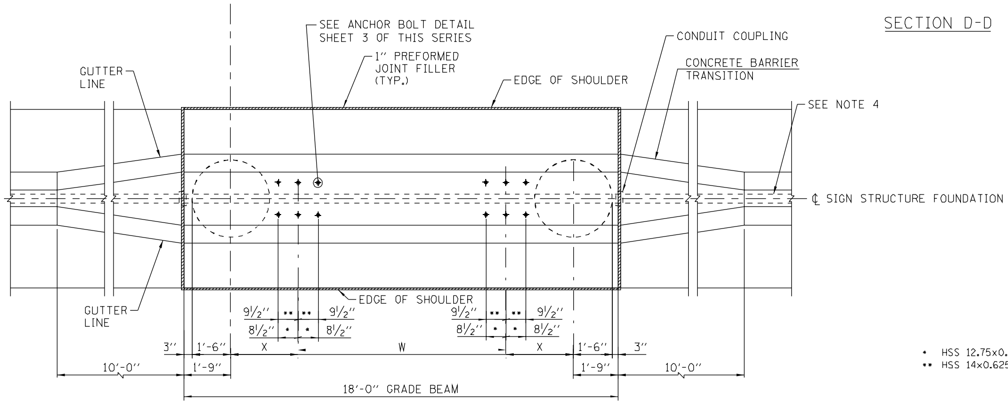
STANDARD F1-12

Paul Kovacs
APPROVED .... CHIEF ENGINEERING OFFICER DATE 2-7-2012



SIDE ELEVATION

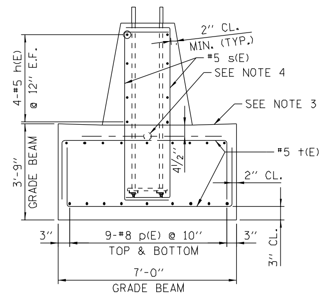
(REINFORCEMENT IN GRADE BEAM NOT SHOWN FOR CLARITY)



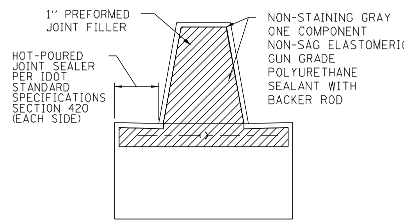
PLAN

(REINFORCEMENT NOT SHOWN FOR CLARITY)

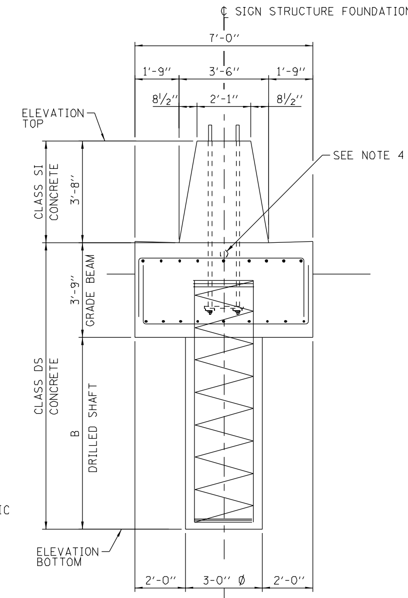
• HSS 12.75x0.500
•• HSS 14x0.625



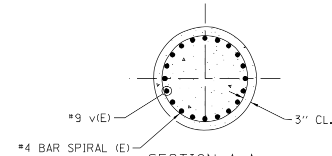
SECTION B-B



SECTION D-D



END VIEW

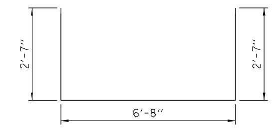


SECTION A-A

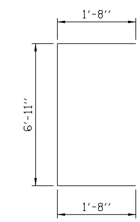
(TYPICAL BOTH SHAFTS)

BAR LIST - EACH FOUNDATION

BAR	NUMBER	SIZE	LENGTH	SHAPE
h(E)	8	#5	17'-8"	——
p(E)	18	#8	17'-8"	——
s(E)	38	#5	10'-3"	⊏
t(E)	38	#5	11'-10"	⊔
v(E)	40	#9	B ADD 2'-3"	——
#4 BAR SPIRAL (E) - SEE SIDE ELEVATION				



BAR t(E)



BAR s(E)

DESIGN TABLE FOR DRILLED SHAFTS IN COHESIVE SOILS (QU > 1.25 TON/SQ. FT.)							
TRUSS No.	W	X	B	CLASS DS CONC. CU. YD.	CLASS SI CONC. CU. YD.	REINF. BARS POUND	PROTECTIVE COAT SQ. YD.
T-80	5'-9"	4'-4½"	50'-0"	43.7	6.8	10110	26.1
T-85	6'-7"	3'-11½"	55'-0"	46.3	6.8	10890	26.1
T-90	6'-7"	3'-11½"	55'-0"	46.3	6.8	10890	26.1
T-95	6'-7"	3'-11½"	55'-0"	46.3	6.8	10890	26.1
T-100	7'-5"	3'-6½"	55'-0"	46.3	6.8	10890	26.1
T-105	7'-5"	3'-6½"	55'-0"	46.3	6.8	10890	26.1
T-110	7'-5"	3'-6½"	55'-0"	46.3	6.8	10890	26.1
T-115	10'-2"	2'-2"	55'-0"	46.3	6.8	10890	26.1
T-120	10'-2"	2'-2"	55'-0"	46.3	6.8	10890	26.1
T-130	10'-2"	2'-2"	60'-0"	48.9	6.8	11670	26.1
T-140	10'-2"	2'-2"	60'-0"	48.9	6.8	11670	26.1
T-150	10'-2"	2'-2"	60'-0"	48.9	6.8	11670	26.1

NOTES:

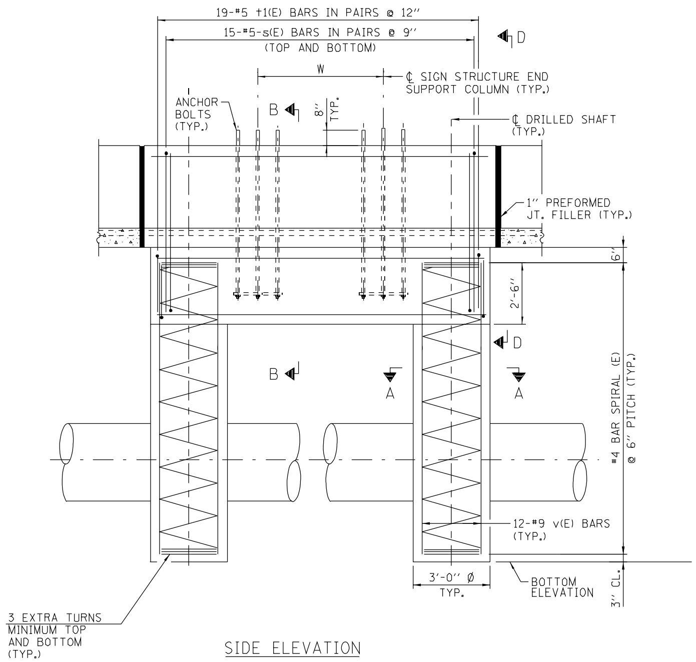
1. SEE SHEET 3 OF THIS SERIES FOR GENERAL NOTES AND DESIGN CRITERIA.
2. FOR SIGN STRUCTURE BASE PLATE DETAIL, SEE SHEET 2 OF THIS SERIES.
3. REFERENCE ILLINOIS TOLLWAY STANDARD DRAWING C5 FOR GUTTER SLOPE.
4. COORDINATE CONDUIT SIZE, LOCATION AND QUANTITY WITH ELECTRICAL PLANS. CONDUITS SHALL BE PLACED TO MISS REINFORCEMENT BARS. DO NOT CUT REINFORCEMENT BARS.
5. PROTECTIVE COAT SHALL BE APPLIED TO THE TRAFFIC AND TOP FACES OF THE BARRIER AND TOP FACE OF GUTTER.

Paul Kovacs
APPROVED .... CHIEF ENGINEERING OFFICER DATE 2-7-2012

Illinois Tollway

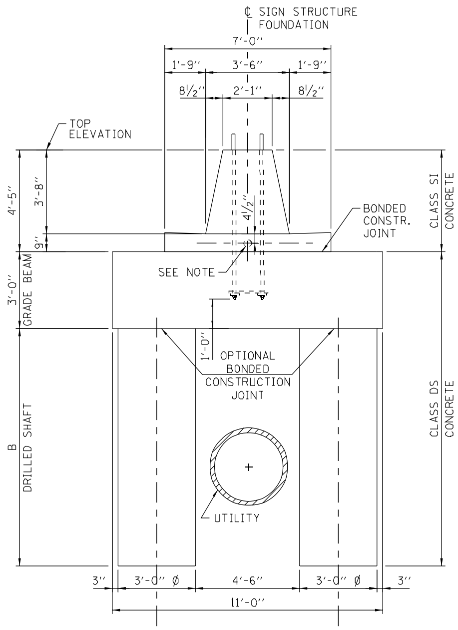
OVERHEAD SIGN STRUCTURE
SPAN TYPE
STRUCTURE DETAILS

STANDARD F1-12



SIDE ELEVATION

(REINFORCEMENT IN GRADE BEAM NOT SHOWN FOR CLARITY)



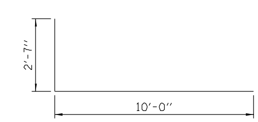
END VIEW

BAR LIST - EACH FOUNDATION

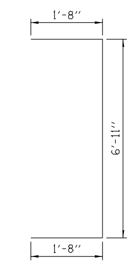
BAR	NUMBER	SIZE	LENGTH	SHAPE
h(E)	16	#5	13′-8″	——
p(E)	30	#8	13′-8″	——
s(E)	38	#5	10′-3″	⊏
t(E)	15	#5	6′-8″	——
t1(E)	60	#8	12′-7″	L
v(E)	48	#9	B ADD 2′-3″	——
#4 BAR SPIRAL (E) - SEE SIDE ELEVATION				

DESIGN TABLE FOR DRILLED SHAFTS IN COHESIVE SOILS (QU > 1.25 TON/SQ. FT.)

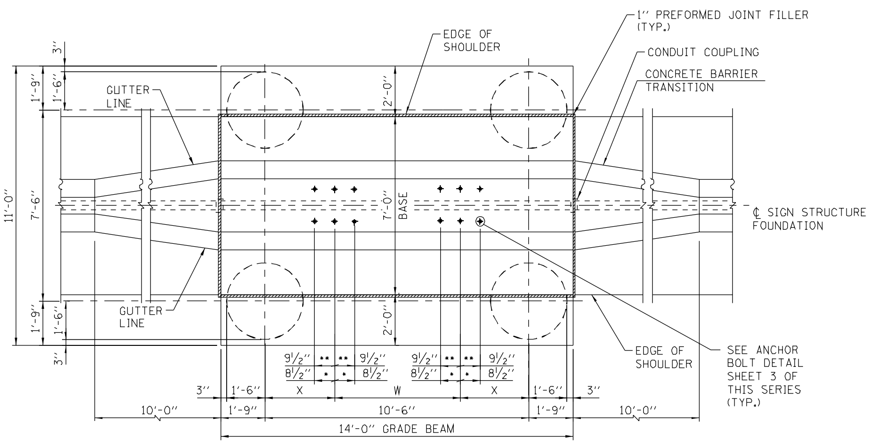
TRUSS No.	W	X	B	CLASS DS CONC. CU. YD.	CLASS SI CONC. CU. YD.	REINF. BARS POUND	PROTECTIVE COAT SQ. YD.
T-80	5′-9″	2′-4½″	25′-0″	43.3	8.0	9950	20.3
T-85	6′-7″	1′-11½″	25′-0″	43.3	8.0	9950	20.3
T-90	6′-7″	1′-11½″	25′-0″	43.3	8.0	9950	20.3
T-95	6′-7″	1′-11½″	25′-0″	43.3	8.0	9950	20.3
T-100	7′-5″	1′-6½″	25′-0″	43.3	8.0	9950	20.3
T-105	7′-5″	1′-6½″	30′-0″	48.5	8.0	10980	20.3
T-110	7′-5″	1′-6½″	30′-0″	48.5	8.0	10980	20.3
T-115	10′-2″	0′-2″	30′-0″	48.5	8.0	10980	20.3
T-120	10′-2″	0′-2″	30′-0″	48.5	8.0	10980	20.3
T-130	10′-2″	0′-2″	35′-0″	53.7	8.0	12010	20.3
T-140	10′-2″	0′-2″	35′-0″	53.7	8.0	12010	20.3
T-150	10′-2″	0′-2″	35′-0″	53.7	8.0	12010	20.3



BAR t1(E)



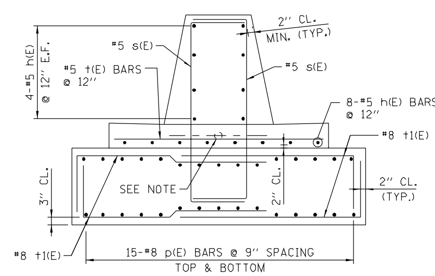
BAR s(E)



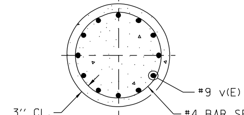
PLAN

(REINFORCEMENT NOT SHOWN FOR CLARITY)

• HSS 12.75x0.500
•• HSS 14x0.625

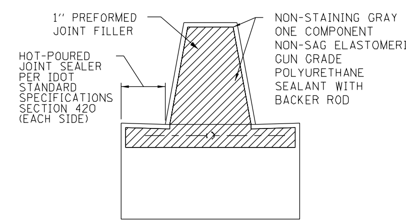


SECTION B-B



SECTION A-A

(TYPICAL FOR 4 SHAFTS)



SECTION D-D

NOTE:

1. SEE NOTES ON SHEET 4 OF THIS SERIES.

APPROVED Paul Kovacs CHIEF ENGINEERING OFFICER DATE 2-7-2012

SHEET 5 OF 5

Illinois Tollway

OVERHEAD SIGN STRUCTURE
SPAN TYPE
STRUCTURE DETAILS

STANDARD F1-12