

APPENDIX A

WORKING DRAWING REVIEW AIDS

The following tables list the Standard Plan Sheets typically needed to perform a review of a Working Drawing submittal. These tables are only for Overhead Sign Structures based on the Standard Plans as discussed in Section 1 "Overhead Sign Structure Types". This reference was developed in accordance with the 1999 Standard Plans.

Standard Plan Overhead Sign Structure Index

Overhead Signs – Truss: One-Post Type	
S1 -	Overhead Signs - Truss, Instructions and Examples
S2 -	Overhead Signs - Truss, Single Post Type - Post Types II thru VII
S4 -	Overhead Signs - Truss, Single Post Type - Structural Frame Members
S6 -	Overhead Signs - Truss, Structural Frame Details
S7 -	Overhead Signs - Truss, Frame Juncture Details
S9 -	Overhead Signs - Walkway Details No. 1

Overhead Signs - Truss: One-Post Type (cont.)
<p>S10 - Overhead Signs - Walkway Details No. 2</p> <p>S11 - Overhead Signs - Walkway Safety Railing Details</p> <p>S13 - Overhead Signs - Truss, Pile Foundation</p>
<p>Notes:</p> <ul style="list-style-type: none"> • If using laminated panel signs see also S8C. • If using formed panel signs see also S8A and S8B. • If using formed panels signs having a panel depth of 2794mm (110") or 3048mm (120") see also S8D. • If the base of the post is at a barrier see also A76C, A76F, A76I.
Overhead Signs – Truss: Two-Post Type
<p>S1 - Overhead Signs - Truss, Instructions and Examples</p> <p>S3 - Overhead Signs - Truss, Two Post Type - Post Types I-S thru VII-S</p> <p>S5 - Overhead Signs - Truss, Two Post Type - Structural Frame Members</p> <p>S6 - Overhead Signs - Truss, Structural Frame Details</p> <p>S7 - Overhead Signs - Truss, Frame Juncture Details</p> <p>S9 - Overhead Signs - Walkway Details No. 1</p> <p>S10 - Overhead Signs - Walkway Details No. 2</p> <p>S11 - Overhead Signs - Walkway Safety Railing Details</p> <p>S13 - Overhead Signs - Truss, Pile Foundation</p>
<p>Notes:</p> <ul style="list-style-type: none"> • If using laminated panel signs see also S8C. • If using formed panel signs see also S8A and S8B. • If using formed panels signs having a panel depth of 2794mm (110") or 3048mm (120") see also S8D. • If the base of the post is at a barrier see also A76C, A76F, A76I. • If using a closed circuit television (CCTV) pole on the sign structure see also ES16B and ES7M

Overhead Signs – Lightweight: Balanced – One-Post Steel
<p>S14A - Overhead Signs - Lightweight Balanced - Single Steel Post Connection and Mounting Details</p> <p>S14B - Overhead Signs - Lightweight Balanced - Single Steel Post Details</p> <p>S20A - Overhead Signs - Lightweight, Post Details</p> <p>S20B - Overhead Signs - Lightweight, Foundation Details</p>
<p>Notes:</p> <ul style="list-style-type: none"> • If the base of the post is at a barrier see also A76C, A76F, A76I.
Overhead Signs – Lightweight: Type A-1 or Type A-2
<p>S15 - Overhead Signs - Lightweight, Type A, Connection Details</p> <p>S18A - Overhead Signs - Lightweight, Sign Panel Mounting Details, Laminated Panel - Type A</p> <p>S18B - Overhead Signs - Lightweight, Light Fixture Mounting Details</p> <p>S20A - Overhead Signs - Lightweight, Post Details</p> <p>S20B - Overhead Signs - Lightweight, Foundation Details</p>
<p>Notes:</p> <ul style="list-style-type: none"> • If the base of the post is at a barrier see also A76C, A76F, A76I.
Overhead Signs – Lightweight: Type B-1 or Type B-2
<p>S16 - Overhead Signs - Lightweight, Type B, Connection Details</p> <p>S18A - Overhead Signs - Lightweight, Sign Panel Mounting Details, Laminated Panel - Type A</p> <p>S18B - Overhead Signs - Lightweight, Light Fixture Mounting Details</p> <p>S20A - Overhead Signs - Lightweight, Post Details</p> <p>S20B - Overhead Signs - Lightweight, Foundation Details</p>
<p>Notes:</p> <ul style="list-style-type: none"> • If the base of the post is at a barrier see also A76C, A76F, A76I.

Overhead Signs – Lightweight: Type C-1 or Type C-2
S17 - Overhead Signs - Lightweight, Type C, Connection Details
S18A - Overhead Signs - Lightweight, Sign Panel Mounting Details, Laminated Panel - Type A
S18B - Overhead Signs - Lightweight, Light Fixture Mounting Details
S20A - Overhead Signs - Lightweight, Post Details
S20B - Overhead Signs - Lightweight, Foundation Details
Note:
<ul style="list-style-type: none"> • If the base of the post is at a barrier see also A76C, A76F, A76I.
Overhead Signs – Box Beam Closed Truss: Two-Post Type
S1 - Overhead Signs - Truss, Instructions and Examples
S9 - Overhead Signs - Walkway Details No. 1
S10 - Overhead Signs - Walkway Details No. 2
S11- Overhead Signs - Walkway Safety Railing Details
S39 - Overhead Signs - Box Beam Closed Truss, Foundation Details
S40A - Overhead Signs - Box Beam Closed Truss, Two Post Type Frame Members
S40B - Overhead Signs - Box Beam Closed Truss, Single and Two Post Type, General Frame Details
S40C - Overhead Signs - Box Beam Closed Truss, Ribbed Sheet Metal Details
S40D - Overhead Signs - Box Beam Closed Truss, Two Post Type, Frame Details
S40E - Overhead Signs - Box Beam Closed Truss, Two Post Type, Frame Juncture Details
S40F - Overhead Signs - Box Beam Closed Truss, Two Post Type, Post Details

Overhead Signs - Box Beam Closed Truss: Two-Post Type (cont.)

Notes:

- If using laminated panel signs see also S8C. The laminated panel mounting system may require interrupting the ribbed sheet metal system and may require special detailing not contained in the Standard Plans.
- If using formed panel signs see also S40C and S8B.
- If the base of the post is at a barrier see also A76C, A76F, A76I.

Overhead Signs – Box Beam Closed Truss: Single Cantilever Post Type

- S1 - Overhead Signs - Truss, Instructions and Examples
- S9 - Overhead Signs - Walkway Details No. 1
- S10 - Overhead Signs - Walkway Details No. 2
- S11- Overhead Signs - Walkway Safety Railing Details
- S39 - Overhead Signs - Box Beam Closed Truss, Foundation Details
- S40B - Overhead Signs - Box Beam Closed Truss, Single and Two Post Type, General Frame Details
- S40C - Overhead Signs - Box Beam Closed Truss, Ribbed Sheet Metal Details
- S40D - Overhead Signs - Box Beam Closed Truss, Two Post Type, Frame Details
- S40G - Overhead Signs - Box Beam Closed Truss, Single Post Type, Frame Members
- S40H - Overhead Signs - Box Beam Closed Truss, Single Post Cantilever, Frame Details
- S40I - Overhead Signs - Box Beam Closed Truss, Single Post Cantilever, Frame Juncture Details
- S40J - Overhead Signs - Box Beam Closed Truss, Single Post Cantilever, Post Details

Overhead Signs - Box Beam Closed Truss: Single Cantilever Post Type (cont.)
<p>Notes:</p> <ul style="list-style-type: none"> • If using laminated panel signs see also S8C. The laminated panel mounting system may require interrupting the ribbed sheet metal system and may require special detailing not contained in the Standard Plans. • If using formed panel signs see also S40C and S8B. • If the base of the post is at a barrier see also A76C, A76F, A76I.
Overhead Signs – Box Beam Closed Truss: Single Butterfly Post Type
<p>S1 - Overhead Signs - Truss, Instructions and Examples</p> <p>S9 - Overhead Signs - Walkway Details No. 1</p> <p>S10 - Overhead Signs - Walkway Details No. 2</p> <p>S11- Overhead Signs - Walkway Safety Railing Details</p> <p>S39 - Overhead Signs - Box Beam Closed Truss, Foundation Details</p> <p>S40B - Overhead Signs - Box Beam Closed Truss, Single and Two Post Type, General Frame Details</p> <p>S40C - Overhead Signs - Box Beam Closed Truss, Ribbed Sheet Metal Details</p> <p>S40D - Overhead Signs - Box Beam Closed Truss, Two Post Type, Frame Details</p> <p>S40G - Overhead Signs - Box Beam Closed Truss, Single Post Type, Frame Members</p> <p>S40I - Overhead Signs - Box Beam Closed Truss, Single Post Cantilever, Frame Juncture Details</p> <p>S40K - Overhead Signs - Box Beam Closed Truss, Single Post Butterfly, Frame Details</p> <p>S40L - Overhead Signs - Box Beam Closed Truss, Single Post Butterfly, Frame Juncture Details</p> <p>S40M - Overhead Signs - Box Beam Closed Truss, Single Post Butterfly, Post Details</p>

Overhead Signs – Box Beam Closed Truss: Single Butterfly Post Type (cont.)
<p>Notes:</p> <ul style="list-style-type: none"> • If using laminated panel signs see also S8C. The laminated panel mounting system may require interrupting the ribbed sheet metal system and may require special detailing not contained in the Standard Plans. • If using formed panel signs see also S40C and S8B. • If the base of the post is at a barrier see also A76C, A76F, A76I.
Overhead Signs – Tubular: One-Post Type
<p>S40N - Overhead Signs - Tubular, Instructions and Examples</p> <p>S40P - Overhead Signs - Tubular, Single Post Type, Layout and Pipe Selection</p> <p>S40R - Overhead Signs - Tubular, Structural Frame Details No. 1</p> <p>S40S - Overhead Signs - Tubular, Structural Frame Details No. 2</p> <p>S40T - Overhead Signs - Tubular, Base Plate and Anchorage Details</p> <p>S40U - Overhead Signs - Tubular, Foundation Details</p>
<p>Notes:</p> <ul style="list-style-type: none"> • If the base of the post is at a barrier see also A76C, A76F, A76I.
Overhead Signs – Tubular: Two-Post Type
<p>S40N - Overhead Signs - Tubular, Instructions and Examples</p> <p>S40Q - Overhead Signs - Tubular, Two Post Type, Layout and Pipe Selection</p> <p>S40R - Overhead Signs - Tubular, Structural Frame Details No. 1</p> <p>S40S - Overhead Signs - Tubular, Structural Frame Details No. 2</p> <p>S40T - Overhead Signs - Tubular, Base Plate and Anchorage Details</p> <p>S40U - Overhead Signs - Tubular, Foundation Details</p>

Overhead Signs – Tubular: Two Post Type (cont.)
Notes: <ul style="list-style-type: none"> • If the base of the post is at a barrier see also A76C, A76F, A76I.
Bridge Mounted Signs
<p>Most of the detailing for bridge mounted signs is usually included in the project plans. However, often the following Standard Plan Sheets are needed in addition to the project plans</p> <p>S9 - Overhead Signs - Walkway Details No. 1 S10 - Overhead Signs - Walkway Details No. 2 S11- Overhead Signs - Walkway Safety Railing Details</p>

Extinguishable Message Sign Structure
ES-14C- Signal Lighting and Electrical Systems - Extinguishable Message Sign and Flashing Beacons
S20A - Overhead Signs - Lightweight, Post Details
S20B - Overhead Signs - Lightweight, Foundation Details
Notes: <ul style="list-style-type: none"> • If the base of the post is at a barrier see also A76C, A76F, A76I.

Most or all of the detailing for CMS sign structures is included in the project plans for overhead sign structures supporting CMS signs. In some cases the Standard Plans are needed to provide supplemental information. If that is the case, then use the sheets for the Standard Plan structure type that most closely matches the CMS sign structure (unless noted otherwise). This will usually be the Truss - One-Post Type.

OVERHEAD SIGN STRUCTURES

Quick Reference for Overhead Sign Structure (One-Post Type) using the 1999 Standard Plans

For Single Post Type Truss Overhead Sign Structure, the post type and chord angle thickness are the basis for the majority of the dimensions. The following charts show dimensions for many member elements. Imperial values are provided on the next page to ensure consistency of unit conversions. The remaining dimensions are to be calculated while other can be found in the tables in the contract documents.

1999 Standard Plans - Overhead Truss - Single Post Type NOT INTENDED FOR USE WITH OTHER STANDARD PLAN RELEASES												
Post Type	Chord Angle Thick (mm)	Post Inside Dia. (mm)	Post Outer Dia. (mm)	Post Thick (mm)	Cap Plate Width and Length (mm)	Cap Plate Thick (mm)	Post Plate Length (mm)	Post Plate Width (mm)	Post Plate Thick (mm)	Post Plate Hole Dia. (mm)	Chord Angle Thick (mm)	Post Type
II	7.94	304.8	323.9	9.53	482.6	22.23	584.2	482.6	22.2	328.6	7.94	II
II	12.7	304.8	323.9	9.53	482.6	22.23	584.2	482.6	22.2	328.6	12.70	II
III	7.94	330.2	355.6	12.7	508.0	22.23	609.6	508.0	22.2	360.4	7.94	III
III	12.7	330.2	355.6	12.7	508.0	22.23	609.6	508.0	22.2	360.4	12.70	III
IV	7.94	381.0	406.4	12.7	558.8	22.23	660.4	558.8	22.2	411.2	7.94	IV
IV	12.7	381.0	406.4	12.7	558.8	22.23	660.4	558.8	22.2	411.2	12.70	IV
V	7.94	431.8	457.2	12.7	609.6	22.23	711.2	609.6	22.2	462.0	7.94	V
V	12.7	431.8	457.2	12.7	609.6	22.23	711.2	609.6	22.2	462.0	12.70	V
VI	7.94	482.6	508.0	12.7	660.4	25.40	762.0	660.4	25.4	512.8	7.94	VI
VI	12.7	482.6	508.0	12.7	660.4	25.40	762.0	660.4	25.4	512.8	12.70	VI
VII	7.94	584.2	609.6	12.7	762.0	25.40	863.6	762.0	25.4	614.4	7.94	VII
VII	12.7	584.2	609.6	12.7	762.0	25.40	863.6	762.0	25.4	614.4	12.70	VII

1999 Standard Plans - Overhead Truss - Single Post Type NOT INTENDED FOR USE WITH OTHER STANDARD PLAN RELEASES													
Post Type	Chord Angle Thick (mm)	Truss Plate Hole Dia. (mm)	Truss Width (mm)	Base Plate Length (mm)	Base Plate Width (mm)	Base Plate Thick (mm)	Walk-way Bracket Length (mm)	Radius for Inner Shaped Washer (mm)	Approx Radius for Outer Shaped Washer (mm)	Cross Tie Length (mm)	End Tie Length (mm)	Chord Angle Thick (mm)	Post Type
II	7.94	349.3	498.5	711.2	635.0	50.8	1972	152.4	180.2	444.5	457.2	7.94	II
II	12.70	349.3	508.0	711.2	635.0	50.8	1981	152.4	180.2	444.5	457.2	12.70	II
III	7.94	381.0	523.9	787.4	685.8	50.8	1997	165.1	196.1	469.9	482.6	7.94	III
III	12.70	381.0	533.4	787.4	685.8	50.8	2007	165.1	196.1	469.9	482.6	12.70	III
IV	7.94	431.8	574.7	939.8	838.2	50.8	2048	190.5	221.5	520.7	533.4	7.94	IV
IV	12.70	431.8	584.2	939.8	838.2	50.8	2057	190.5	221.5	520.7	533.4	12.70	IV
V	7.94	482.6	625.5	990.6	914.4	50.8	2099	215.9	246.9	571.5	584.2	7.94	V
V	12.70	482.6	635.0	990.6	914.4	50.8	2108	215.9	246.9	571.5	584.2	12.70	V
VI	7.94	533.4	676.3	990.6	914.4	50.8	2149	241.3	272.3	622.3	635.0	7.94	VI
VI	12.70	533.4	685.8	990.6	914.4	50.8	2159	241.3	272.3	622.3	635.0	12.70	VI
VII	7.94	635.0	777.9	1092.2	990.6	50.8	2251	292.1	323.1	723.9	736.6	7.94	VII
VII	12.70	635.0	787.4	1092.2	990.6	50.8	2261	292.1	323.1	723.9	736.6	12.70	VII

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1999 Standard Plans - Overhead Truss - Single Post Type NOT INTENDED FOR USE WITH OTHER STANDARD PLAN RELEASES												
Post Type	Chord Angle Thick (in)	Post Inside Dia. (in)	Post Outer Dia (in)	Post Thick (in)	Cap Plate Width and Length (in)	Cap Plate Thick (in)	Post Plate Length (in)	Post Plate Width (in)	Post Plate Thick (in)	Post Plate Hole Dia. (in)	Chord Angle Thick (in)	Post Type
II	0.3125	12	12.75	0.375	19	0.875	23	19	0.875	12.938	0.3125	II
II	0.5	12	12.75	0.375	19	0.875	23	19	0.875	12.938	0.5	II
III	0.3125	13	14	0.5	20	0.875	24	20	0.875	14.188	0.3125	III
III	0.5	13	14	0.5	20	0.875	24	20	0.875	14.188	0.5	III
IV	0.3125	15	16	0.5	22	0.875	26	22	0.875	16.188	0.3125	IV
IV	0.5	15	16	0.5	22	0.875	26	22	0.875	16.188	0.5	IV
V	0.3125	17	18	0.5	24	0.875	28	24	0.875	18.188	0.3125	V
V	0.5	17	18	0.5	24	0.875	28	24	0.875	18.188	0.5	V
VI	0.3125	19	20	0.5	26	1	30	26	1	20.188	0.3125	VI
VI	0.5	19	20	0.5	26	1	30	26	1	20.188	0.5	VI
VII	0.3125	23	24	0.5	30	1	34	30	1	24.188	0.3125	VII
VII	0.5	23	24	0.5	30	1	34	30	1	24.188	0.5	VII

1999 Standard Plans - Overhead Truss - One Post Type NOT INTENDED FOR USE WITH OTHER STANDARD PLAN RELEASES													
Post Type	Chord Angle Thick (in)	Truss Plate Hole Dia. (in)	Truss Width (in)	Base Plate Length (in)	Base Plate Width (in)	Base Plate Thick (in)	Walk-way Bracket Length (in)	Radius for Inner Shaped Washer (in)	Approx Radius for Outer Shaped Washer (in)	Cross Tie Length (in)	End Tie Length (in)	Chord Angle Thick (in)	Post Type
II	0.3125	13.75	19.625	28	25	2	77.625	6	7.094	17.5	18	0.3125	II
II	0.5	13.75	20	28	25	2	78	6	7.094	17.5	18	0.5	II
III	0.3125	15	20.625	31	27	2	78.625	6.5	7.719	18.5	19	0.3125	III
III	0.5	15	21	31	27	2	79	6.5	7.719	18.5	19	0.5	III
IV	0.3125	17	22.625	37	33	2	80.625	7.5	8.719	20.5	21	0.3125	IV
IV	0.5	17	23	37	33	2	81	7.5	8.719	20.5	21	0.5	IV
V	0.3125	19	24.625	39	36	2	82.625	8.5	9.719	22.5	23	0.3125	V
V	0.5	19	25	39	36	2	83	8.5	9.719	22.5	23	0.5	V
VI	0.3125	21	26.625	39	36	2	84.625	9.5	10.719	24.5	25	0.3125	VI
VI	0.5	21	27	39	36	2	85	9.5	10.719	24.5	25	0.5	VI
VII	0.3125	25	30.625	43	39	2	88.625	11.5	12.719	28.5	29	0.3125	VII
VII	0.5	25	31	43	39	2	89	11.5	12.719	28.5	29	0.5	VII



OVERHEAD SIGN STRUCTURES

Pipe Designation Cross Reference

There are several ways that pipe sizes may be called out on the contract plans or shop plans. This table allows for easy cross reference between different ways to call out the same size. The table is based on the pipe sizes likely to be encountered with overhead sign structures using the 1999 Standard Plans as well as many CMS designs.

Using this table will usually require two pieces of information to get started. Most commonly this will be a diameter or NPS designation coupled with a weight, schedule, or thickness designation.

Nominal Pipe Size (NPS)	ANSI B36.10 Nominal Wall Thickness	ANSI B36.10 Schedule No	Listed Weight without Galv. (lb/ft)	Approx Weight without Galv. (kg/m)	Outside Diameter		Inside Diameter		Wall Thickness		Nominal Pipe Size (NPS)
					(in)	to nearest (mm)	(in)	to nearest (mm)	(in)	to nearest tenth (mm)	
1	Std	40	1.679	2.50	1.315	33	1.05	27	0.133	3.4	1
1-1/4	Std	40	2.273	3.38	1.66	42	1.38	35	0.14	3.6	1-1/4
1-1/4	XS	80	2.997	4.46	1.66	42	1.278	32	0.191	4.9	1-1/4
3-1/2	Std	40	9.11	13.6	4.00	102	3.548	90	0.226	5.7	3-1/2
6	Std	40	18.97	28.2	6.625	168	6.065	154	0.28	7.1	6
6	XS	80	28.57	42.5	6.625	168	5.761	146	0.432	11.0	6
8	Std	40	28.55	42.5	8.625	219	7.981	203	0.322	8.2	8
8	XS	80	43.39	64.6	8.625	219	7.625	194	0.5	12.7	8
10	Std	40	40.48	60.2	10.75	273	10	254	0.365	9.3	10
10	XS	60	54.74	81.5	10.75	273	9.75	248	0.5	12.7	10
12	Std	---	49.56	73.8	12.75	324	12	305	0.375	9.5	12
12	XS	---	65.42	97.4	12.75	324	11.75	298	0.5	12.7	12
14	Std	30	54.57	81.2	14	356	13.25	337	0.375	9.5	14
14	XS	---	72.09	107	14	356	13	330	0.5	12.7	14
14	---	---	89.3	133	14	356	12.75	324	0.625	15.9	14
14	---	80	106.13	158	14	356	12.5	318	0.75	19.1	14
16	Std	30	62.58	93.1	16	406	15.25	387	0.375	9.5	16
16	XS	40	82.77	123	16	406	15	381	0.5	12.7	16
18	Std	---	70.59	105	18	457	17.25	438	0.375	9.5	18
18	XS	---	93.45	139	18	457	17	432	0.5	12.7	18
20	Std	20	78.6	117	20	508	19.25	489	0.375	9.5	20
20	XS	30	104.13	155	20	508	19	483	0.5	12.7	20
24	Std	20	94.62	141	24	610	23.25	591	0.375	9.5	24
24	XS	---	125.49	187	24	610	23	584	0.5	12.7	24
24	---	60	238.11	354	24	610	22.064	560	0.968	24.6	24

Example Designations

NPS 14 Std	NPS 14 @ 54.57	356 OD pipe t = 9.5
NPS 14 t = 9.5	NPS 14 Schedule 30	356 Dia Std pipe

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Guide for Reviewing Working Drawings for Overhead Sign Structures

Listed below are the basic things to check for when reviewing any particular component of an overhead sign structure. For additional information on what to look for in bolted and welded connections see Chapter 4 and Chapter 5.

Also provided are checklists for many overhead sign structure types. These checklists are provided as an aid in reviewing working drawings, however, the contract documents are the overriding resources and the checklists may not have every item listed that could appear on a contract. Also, some jobs may not include items listed in the checklist. Refer to your contract documents to determine which items are not applicable.

Location

- Is it located where it is supposed to be on the structure?
- Are there any special limits on how close or how far it is from some other part of the structure?

Orientation

- Is there a certain direction that the member is supposed to face?

Size

- What are basic dimensions that the piece should have?

Material

- What materials is the part supposed to be made out of?
- What ASTM, AASHTO, or other material specification is it supposed to meet?
- Is there any special treatment called for, such as hardening?

Holes

- Are there any holes required in the part (for bolting or other reasons)?
- What size are these holes supposed to be and where on the part should they be located?

Finish

- Is the material supposed to be galvanized, painted, or otherwise finished.
- Are there special surface roughness requirements or chasing requirements?
- Keep in mind that pieces that are to be welded together should usually be welded together prior to galvanizing. For things like overhead truss type structures, the truss is to be fabricated into the largest practical section prior to galvanizing.

Connections

- How is the piece connected to other parts of the structure?

Other

- Are there other special requirements for the piece? Is the piece supposed to be bent into a special shape

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CHECKLIST

Overhead Truss

	Location	Orientation	Size	Material	Holes	Finish	Other
Chord Angles							
Verticals							
Diagonals							
Wind Bracing							
End Ties (One Post Type)							
Struts (Two Post Type)							
Cross Ties							
Internal Diagonals							
CCTV Pole							

	Welding	Bolting	Other
Connection of Chords to Verticals, Diagonals, and Diagonal Wind Bracing			
Connection of End Ties (One Post Type)			
Connection of Struts (Two Post Type)			
Connection of Cross Ties to Verticals and Diagonals			
Connection of Internal Diagonals and Verticals			
Upper Juncture Connection (One Post Type)			
Lower Juncture Connection (One Post Type)			
Upper Chord Connection to Post (Two Post Type)			
Lower Chord Connection to Post (Two Post Type)			
Connection of CCTV Pole			

See "Round Post for Post

See "Walkway" if walkway is required

See "Removable Sign Panel Frames" if formed sign panels are required

See "Sign Panel Mounting Beams/Channels" if laminated Type A panels are required

CHECKLIST

Lightweight - Laminated Type A or EMS Panel

	Location	Orientation	Size	Material	Holes	Finish	Other
Mast Arms or Cross Beams							
Spacers (Balanced - One Steel Post)							
Diagonals (A-2 or C-2)							
Verticals (A-2 or C-2)							

	Welding	Bolting	Other
Connection of Mast Arms or Cross Beams to Post			
Connection of Spacers (Balanced - One Steel Post)			
Connection of Diagonals and Verticals (A-2 or C-2)			
Connection of Mast arm Cap Plates			
Cross Beam Splice (A-1 or A-2)			

See "Round Post for Post

See also "Laminated Panel Mounting Beams/Channels"

If lighting is required, see "Light Fixture Mounting Details (Lightweight Signs)"

CHECKLIST

Box Beam Closed Truss

	Location	Orientation	Size	Material	Holes	Finish	Other
Chord Angles							
Verticals							
Diagonals							
Wind Bracing							
End Ties (One Post Type)							
Struts (Two Post Type)							
Cross Ties							
Internal Diagonals							
Ribbed Sheet Metal							

	Welding	Bolting	Other
Connection of Chords to Verticals, Diagonals, and Wind Bracing			
Connection of End Ties (One Post Type)			
Connection of Struts (Two Post Type)			
Connection of Cross Ties to Verticals and Diagonals			
Connection of Internal Diagonals and Verticals			
Splices in Ribbed Sheet Metal			
Connection of Ribbed Sheet Metal to Truss			
Upper Juncture Connection (One Post Type)			
Lower Juncture Connection (One Post Type)			
Upper Chord Connection to Post (Two Post Type)			
Lower Chord Connection to Post (Two Post Type)			

See "Multi-celled Posts" for One Post Types

See "Cruciform Posts" for Two Post Type

See "Walkway" if walkway is required

See "Removable Sign Panel Frames" if formed sign panels are required

See "Sign Panel Mounting Beams/Channels" if laminated Type A panels are required

CHECKLIST

Tubular

	Location	Orientation	Size	Material	Holes	Finish	Other
Mast Arm							
Handholes							

	Welding	Bolting	Other
Connection of Mast Arm to Post			
Mast Arm Splices			

See "Round Post" for Post

See "Walkway" if walkway is required

See also "Sign Panel Mounting Beams"

CMS Sign Structure (most common type)

	Location	Orientation	Size	Material	Holes	Finish	Other
Shelf Angles							
Walkway Grating on Interior of Truss							
Walkway Grating Supports on Interior of Truss							

	Welding	Bolting	Other
Connection of Shelf Angles			
Connection for Walkway Grating and Supports at Interior of Truss			

See "Overhead Truss"

Bridge Mounted

	Location	Orientation	Size	Material	Holes	Finish	Other
Tube Frames (Skewed)							
Braces (usually on non-skewed)							

	Welding	Bolting	Other
Connection to Bridge			
Welding of Tube Frame Pieces			
Connection of Braces to Steel Members			

See "Walkway" if walkway is required

See also "Sign Panel Mounting Beams"

OVERHEAD SIGN STRUCTURES

CHECKLIST

Round Posts

	Location	Orientation	Size	Material	Finish	Other
Post						
Handholes						
Base plate connection						
Anchor bolts						
Nipples, elbows, and other attachments for electrical						

	Welding	Bolting	Other
Connection of Cap Plate (if required)			
Splice			
Split			
Photoelectric Control Unit			

Multi-celled Posts

	Location	Orientation	Size	Material	Finish	Other
Cell Components						
Handholes						
Base plate connection						
Anchor bolts						
Nipples, elbows, and other attachments for electrical						

	Welding	Bolting	Other
Connection of Cell Components to each other			
Connection of Cap Plate			
Splice			
Photoelectric Control Unit			

Cruciform Posts

	Location	Orientation	Size	Material	Finish	Other
Cruciform Components						
Base plate connection						
Anchor bolts						
Nipples, elbows, and other attachments for electrical						

	Welding	Bolting	Other
Connection to Cruciform			
Connection of Cap Plate			
Splice			
Photoelectric Control Unit			

CHECKLIST

Walkway

	Location	Orientation	Size	Material	Holes	Finish	Other
Walkway Brackets							
Safety Angle							
Walkway Grating							
Handrail Assembly							
Lighting Channels							
Safety Chains							
Safety Cables							
Overhead Tie off Cable							
Overhead Tie off Cable Supports							

	Welding	Bolting	Other
Walkway Bracket Connection to Supports			
Safety Angle Connection to Walkway Brackets			
Walkway Grating Connection to Walkway Brackets			
Welding of Handrail Pieces			
Handrail Hinge Connections			
Lighting Channel Connection to Walkway Brackets			
Safety Chain Connections			
Safety Cable Connections			
Overhead Tie off Cable Connections			
Overhead Tie off Cable Support Connections			

Light Fixture Mounting Details (Lightweight Signs)

	Location	Orientation	Size	Material	Holes	Finish	Other
Light Fixture Mounting Angles							
Lighting Channels							

	Welding	Bolting	Other
Light Fixture Mounting Angle Connection to Sign Panel Mounting Beams			
Lighting Channel Connection to Mounting Angle			

CHECKLIST

Removable Sign Panel Frames

	Location	Orientation	Size	Material	Holes	Finish	Other
Frame Angles							
Bars							
WT Shapes							

	Welding	Bolting	Other
Bar to Frame Angle Connection			
Angle to Angle Connection			
WT to Angle Connection			
Connection of RSPF to Structure			

Sign Panel Mounting Beams/Channels

	Location	Orientation	Size	Material	Holes	Finish	Other
Beam or Channel							
Plate on back of channel							
Chord Angle Clamps							
Stop Plate							

	Welding	Bolting	Other
Connection to Supporting Structure			
Connection to Stop Plate			
Welding of Plate to Back of Channel			
Holes for Sign Panel Mounting			
Special Detailing for holes in ribbed sheet metal			