Index 700-041 Span Sign Structure

Design Criteria

AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals (LRFDLTS); ***Structures Manual (SM)***, Volume 3, FDOT Modifications to LRFDLTS; ***Structures Manual (SM)*** Introduction, I.6 References; ***Structures Design Guidelines (SDG)***; ***FDOT Design Manual (FDM)***

Design Assumptions and Limitations

The maximum span length of Span Sign Structures is 220 feet. See the notes on ***Index 700-041***, ***FDM 230***, ***FDM 261***, ***Structures Manual (SM)***, Volume 3 and the ***SDG*** for additional information.

Use ***Index 700-041*** in conjunction with ***Index 700-030*** and the ***Span Overhead Sign*** Mathcad 15 computer program located on the **Structures Design Programs Library** website.

Consider fabrication constraints when reviewing shop drawings. Mill lengths for large tubes (uprights and truss chords) are limited to 35 to 40 feet lengths; therefore, the general fabrication limits noted on ***Index 700-041*** may not be feasible for larger structures. The following required exceptions have been noted:

- The “three truss panel lengths” minimum cannot be met when panel lengths exceed 10 feet. Fabricator should minimize the number of splices by maximizing mill lengths.
- When the upright post exceeds mill lengths, a complete penetration weld is allowed in the top of the upright, but not within 12 inches of the truss support welds.

Plan Content Requirements

See the ***FDM 940***.

Complete the “*Span Sign Structures Data Table”*. Much of the data for inclusion in the table may be found in the ***Span Overhead Sign*** output. Include Design Wind Speed and soils information.

Span Sign Structures Data Table:

SPAN SIGN STRUCTURES DATA TABLE													Table Date 01-01-11
SIGN#	STATION	DIMENSIONS			PNLS	MEMBER SIZES						SPLICE	
		A	B	C	D	E	F (CHORD)	G (WEB)	H (LEFT UPRIGHT)	J (RIGHT UPRIGHT)	K (CAMBER)	SA	SB	SC
		ft	ft	ft	#	in	O. D. x Wall Thk. (in)	Angle (in)	O. D. x Wall Thk. (in)	O. D. x Wall Thk. (in)	in	Angle (in)	#	in

SPAN SIGN STRUCTURES DATA TABLE (CONT.)																							Table Date 01-01-11
SIGN#	ALTERNATE SPLICE						GUSSET PLATES																
	PA	PB	PC	PD	PE	PF	GA	GB	GC		GD		GE		GF		GG		GH		GJ		GK		GL
	in	in	in	in	in	#	in	in	ft	in	ft	in	ft	in	ft	in	ft	in	ft	in	ft	in	ft	in	in

SPAN SIGN STRUCTURES DATA TABLE (CONT.)																	Table Date 01-01-11
SIGN#	LEFT UPRIGHT CONNECTION								RIGHT UPRIGHT CONNECTION								
	LA	LB	LC	LD	LE	LF	LG	LH	RA	RB	RC	RD	RE	RF	RG	RH	
	in	#	in	in	in	in	in	in	in	#	in	in	in	in	in	in	

NOTES [Notes Date 7-01-13]:
1. Work these Data Tables with Index 700-041.
2. Design Wind Speed = ___ mph
3. Upright wall thickness given is a minimum dimension.
4. Erection is the Contractor's responsibility.
   To facilitate erection, the Contractor should consider using two vertical lift points, each located near a panel point approximately 20 to 25% of the truss length from each end.
5. 'DC' and 'FC' shall include quantity and size of reinforcing steel.

FOUNDATION NOTES [Notes Date 7-01-12]:
1. Design based on Borings taken
   sealed by _____.
2. Assumptions and Values used in design:
   Soil Type _____
   Soil Layer Thickness = ___ ft.
   Soil Friction Angle = ___ deg.
   Soil Weight = ___ pcf
   Design Water Table is ___ ft. below surface

SPAN SIGN STRUCTURES DATA TABLE (CONT.)																					Table Date 01-01-11
SIGN#	LEFT BASE CONNECTION										RIGHT BASE CONNECTION										
	BA	BB	BC	BD		BE	BF	BG	BH	BJ	CA	CB	CC	CD		CE	CF	CG	CH	CJ	
	in	#	in	in	ft	in	in	in	in	in	in	#	in	in	ft	in	in	in	in	in	

SPAN SIGN STRUCTURES DATA TABLE (CONT.)																		Table Date 07-01-14
SIGN#	LEFT DRILLED SHAFT								RIGHT DRILLED SHAFT									
	DA		DB		DC	DD	DE	DF	FA		FB		FC	FD	FE	FF		
	ft	in	ft	in	# / size	#	in	in	ft	in	ft	in	# / size	#	in	in		

Payment

Item number	Item Description	Unit Measure
700-4-12C	Overhead Static Sign Structure (F&I, Span)	EA

See ***Standard Plans Instruction*** for ***Index 700-030*** for sign panel.

See the ***BOE*** and ***Specification 700*** for additional information on payment, pay item use and compensation.