

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			

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.

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	ft	in	in	in	in		

- 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 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.