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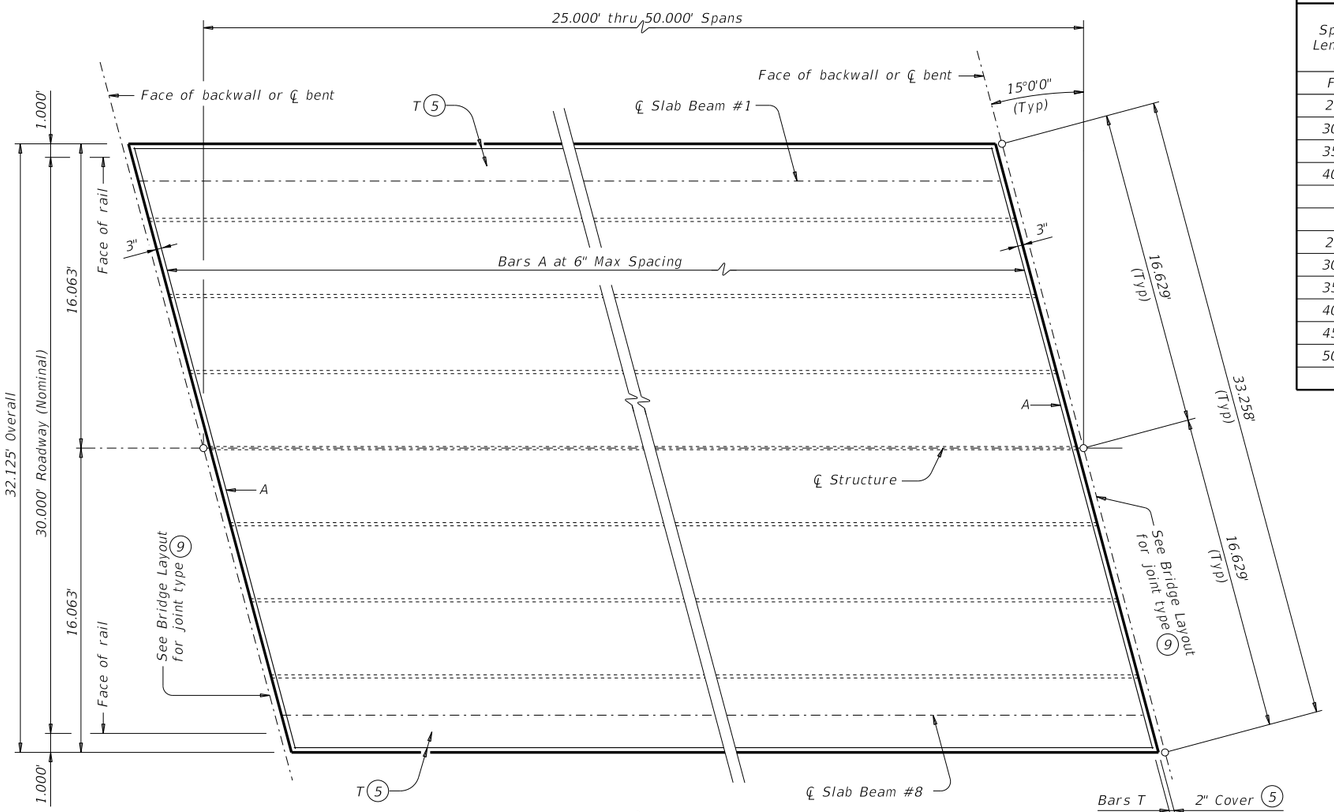
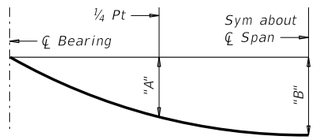


PLAN

TABLE OF VARIABLE VALUES

Span Length	Beam Type	Dead Load Deflection "A"	Dead Load Deflection "B"	Section Depths (3) "X"	Section Depths (3) "Y"
Ft	(1)	Ft	Ft	In	Ft/In
25	4SB12	0.003	0.005	5 ¼"	1'-5 ¼"
30	4SB12	0.007	0.010	5 ½"	1'-5 ½"
35	4SB12	0.014	0.020	6"	1'-6"
40	4SB12	0.025	0.035	6 ½"	1'-6 ½"
25	4SB15	0.002	0.003	5 ¼"	1'-8 ¼"
30	4SB15	0.004	0.005	5 ½"	1'-8 ½"
35	4SB15	0.007	0.010	5 ½"	1'-8 ½"
40	4SB15	0.013	0.018	5 ¾"	1'-8 ¾"
45	4SB15	0.021	0.029	6 ½"	1'-9 ½"
50	4SB15	0.032	0.045	7"	1'-10"



DEAD LOAD DEFLECTION DIAGRAM

NOTE: Deflections shown are due to concrete slab only (E_c = 5000 ksi). Calculated deflections shown are theoretical and actual dimensions may vary. Adjust based on field verification.

TABLE OF ESTIMATED QUANTITIES

SPAN LENGTH	REINF CONCRETE SLAB (SLAB BEAM)	PRESTR CONC SLAB BEAM (4SB12 OR 4SB15) (1) ABUT TO INT BT	PRESTR CONC SLAB BEAM (4SB12 OR 4SB15) (1) INT BT TO INT BT	PRESTR CONC SLAB BEAM (4SB12 OR 4SB15) (1) ABUT TO ABUT	TOTAL (2) REINF STEEL
Ft	SF	LF (4)	LF (4)	LF (4)	Lb
25	803	195.93	196.00	195.86	2,250
30	964	235.93	236.00	235.86	2,700
35	1,124	275.93	276.00	275.86	3,150
40	1,285	315.93	316.00	315.86	3,600
45	1,446	355.93	356.00	355.86	4,050
50	1,606	395.93	396.00	395.86	4,500

(1) See Bridge Layout for beam type used in the superstructure. These standards do not provide for the use of both SB12 and SB15 beams within the same structure.

(2) Reinforcing steel weight is calculated using an approximate factor of 2.8 Lbs/SF.

(3) Based on theoretical beam camber, dead load deflections of 5" cast-in-place concrete slab and a constant grade..

(4) Fabricator will adjust beam lengths for beam slopes as required.

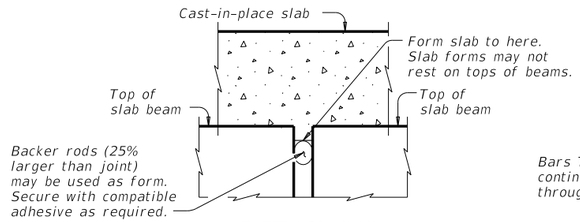
(5) Where slab is continuous over Interior Bents, Bars T are continuous through Joint. See "Continuous Slab Detail".

(6) This standard does not provide for changes in roadway cross-slopes within the structure.

(7) 1 ¼" backer rod must be compatible with joint sealant. Use of multiple pieces to create a backer rod cross section is not permitted. Top of backer rod must be convex as shown.

(8) Class 7 silicone sealant that conforms to DMS-6310. Install when ambient temperature is between 55°F and 85°F and rising. Engineer to determine allowable hours for sealant application.

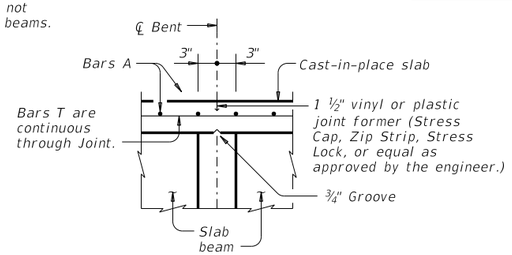
(9) See Bridge Layout for expansion joint locations. If using Type A expansion joints, the maximum distance between joints is 100 feet. Type A joints are subsidiary to Item 422, "Concrete Superstructures".



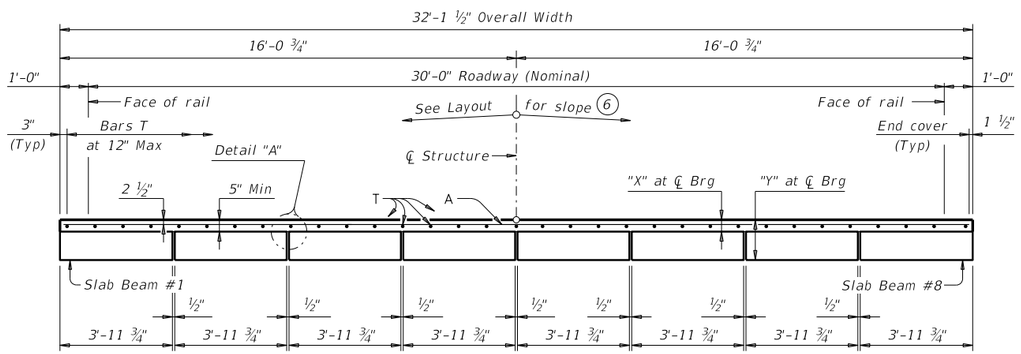
DETAIL "A"

BAR TABLE

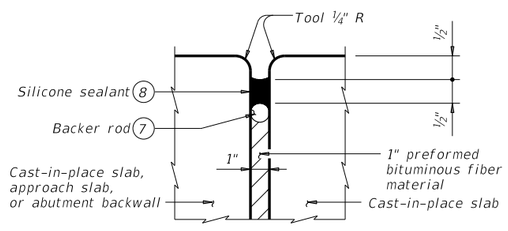
BAR	SIZE
A	#5
T	#4



CONTINUOUS SLAB DETAIL



TYPICAL TRANSVERSE SECTION



TYPE A JOINT DETAIL (9)

GENERAL NOTES:

Designed according to AASHTO LRFD Bridge Design Specifications.
This standard does not provide for vertical curves in roadway grade within the structure.
Two- or three-span units, with slab continuous over interior bents, may be formed with the details shown on this sheet.
See applicable rail details for rail anchorage in slab.
Details are drawn showing right forward skew. See Bridge Layout for actual skew direction.
This standard does not support the use of transition bents.

Cover dimensions are clear dimensions, unless noted otherwise.

MATERIAL NOTES:

Provide Class S concrete (f'c = 4,000 psi).
Provide Class S (HPC) concrete if shown elsewhere in the plans.
Provide Grade 60 reinforcing steel.
Provide bar laps, where required, as follows:
Uncoated ~ #4 = 1'-7"
~ #5 = 2'-0"
Epoxy coated ~ #4 = 2'-5"
~ #5 = 3'-0"
Deformed welded wire reinforcement (WWR) (ASTM A1064) of equal size and spacing may be substituted for Bars A or T unless noted otherwise.

HL93 LOADING

Texas Department of Transportation

Bridge Division Standard

PRESTRESSED CONCRETE SLAB BEAM SPANS

(TYPE SB12 OR SB15)

30' ROADWAY 15° SKEW

SPSB-30-15

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