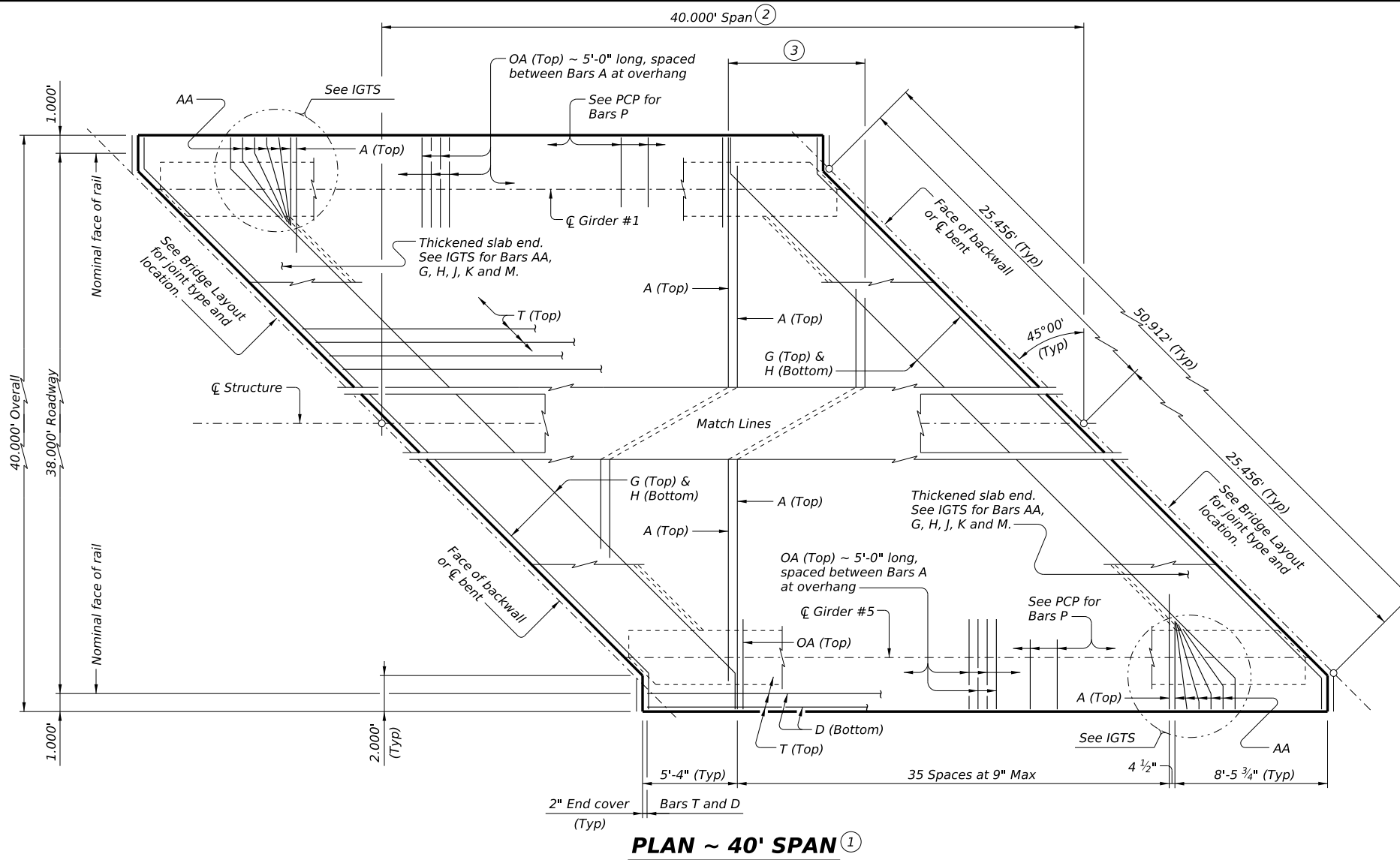
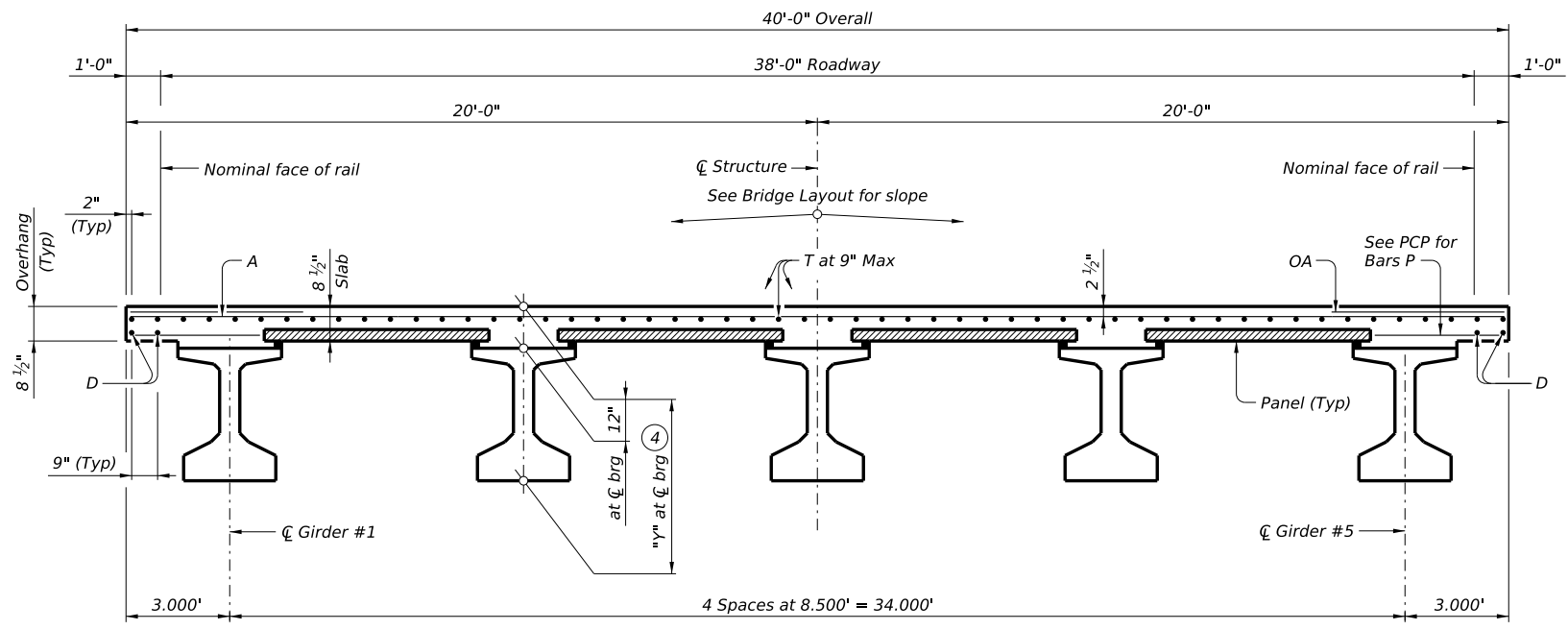


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PLAN ~ 40' SPAN (1)

- ① If multi-span units (with slab continuous over interior bents) are indicated on the Bridge Layout, see standard IGCS for adjustment to slab reinforcement and quantities.
- ② Span lengths for prestressed concrete I-Girder type:
 Type Tx28 for spans lengths 40.000' thru 70.000'.
 Type Tx34 for spans lengths 40.000' thru 80.000'.
 Type Tx40 for spans lengths 40.000' thru 95.000'.
 Type Tx46 for spans lengths 40.000' thru 105.000'.
 Type Tx54 for spans lengths 40.000' thru 125.000'.
 See appropriate "Plan Detail" for span length.
- ③ Bars A (Top) at 9" Max Spacing.
- ④ "Y" value shown is based on theoretical girder camber, dead load deflection from an 8 1/2" concrete slab, a constant roadway grade, and using precast panels (PCP). The Contractor will adjust this value as necessary for any roadway vertical curve.



TYPICAL TRANSVERSE SECTION
(Showing girder type Tx46)

TABLE OF SECTION DEPTHS	
GIRDER TYPE	"Y" AT C BRG (4)
Tx28	3'-4"
Tx34	3'-10"
Tx40	4'-4"
Tx46	4'-10"
Tx54	5'-6"

BAR TABLE	
BAR	SIZE
A	#4
AA	#5
D	#4
G	#4
H	#4
J	#4
K	#4
M	#4
OA	#5
P	#4
T	#4

HL93 LOADING SHEET 1 OF 3



PRESTRESSED CONCRETE I-GIRDER SPANS (TYPE Tx28 THRU Tx54) 38' ROADWAY 45° SKEW

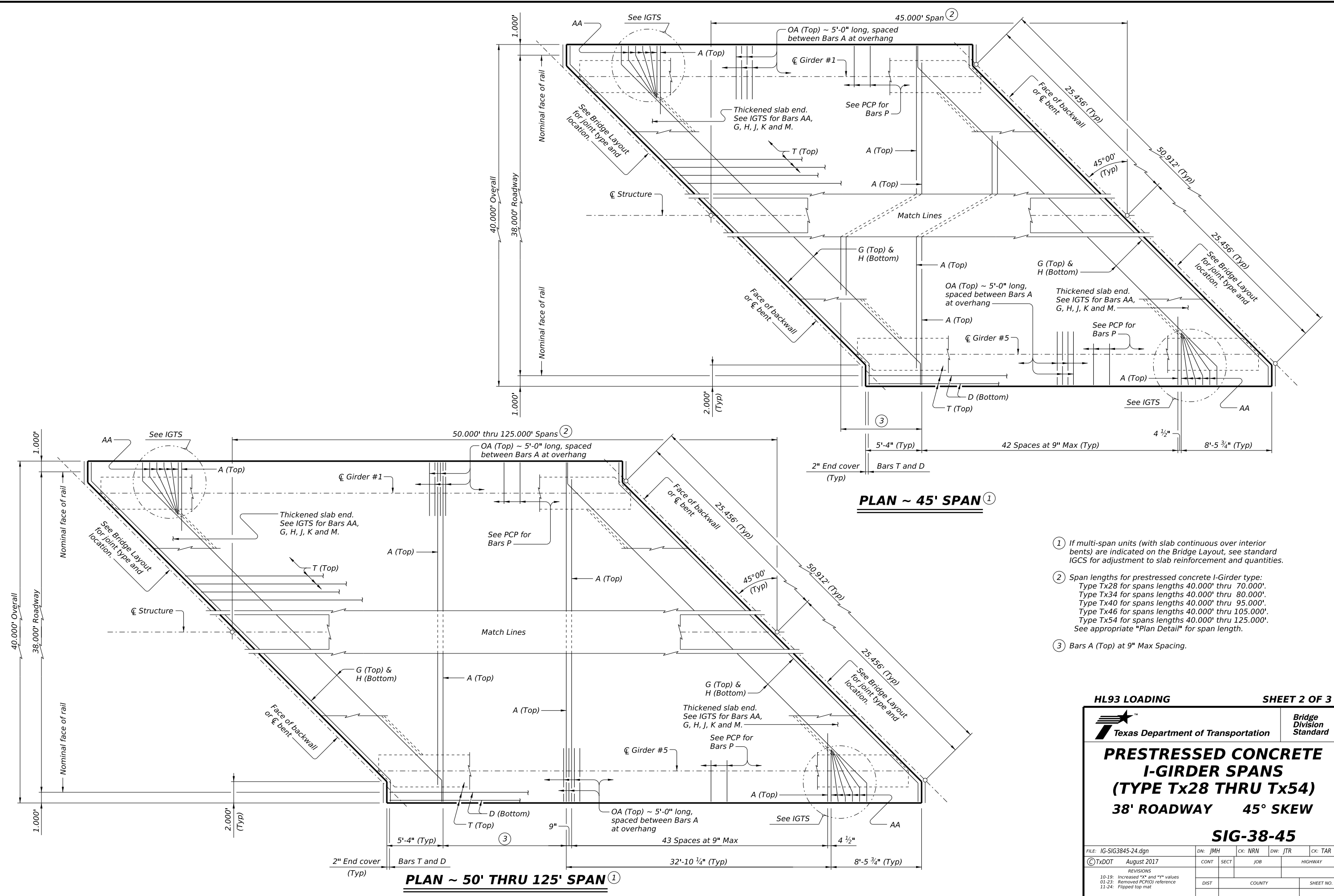
SIG-38-45

FILE: IG-SIG3845-24.dgn	DN: JMH	CK: NRM	DW: JTR	CK: TAR
© TxDOT August 2017	CONT	SECT	JOB	HIGHWAY
REVISIONS				
10-19: Increased "X" and "Y" values				
01-23: Removed PCP(D) reference				
11-24: Flipped top mat				
DIST	COUNTY	SHEET NO.		

DATE: FILE:

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DATE: FILE:



- ① If multi-span units (with slab continuous over interior bents) are indicated on the Bridge Layout, see standard IGCS for adjustment to slab reinforcement and quantities.
- ② Span lengths for prestressed concrete I-Girder type:
 Type Tx28 for spans lengths 40.000' thru 70.000'.
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 Type Tx46 for spans lengths 40.000' thru 105.000'.
 Type Tx54 for spans lengths 40.000' thru 125.000'.
 See appropriate "Plan Detail" for span length.
- ③ Bars A (Top) at 9" Max Spacing.

HL93 LOADING **SHEET 2 OF 3**

Texas Department of Transportation
Bridge Division Standard

PRESTRESSED CONCRETE I-GIRDER SPANS
(TYPE Tx28 THRU Tx54)
38' ROADWAY 45° SKEW

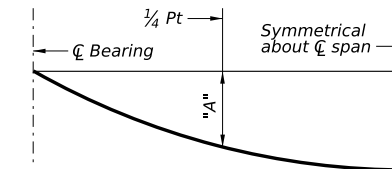
SIG-38-45

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©TxDOT August 2017	CONT	SECT	JOB	HIGHWAY
REVISIONS				
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TABLE OF DEAD LOAD DEFLECTIONS

TYPE Tx28 GIRDERS			TYPE Tx34 GIRDERS			TYPE Tx40 GIRDERS			TYPE Tx46 GIRDERS			TYPE Tx54 GIRDERS		
SPAN LENGTH	"A"	"B"	SPAN LENGTH	"A"	"B"	SPAN LENGTH	"A"	"B"	SPAN LENGTH	"A"	"B"	SPAN LENGTH	"A"	"B"
Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft	Ft
40	0.009	0.013	40	0.006	0.008	40	0.004	0.005	40	0.003	0.004	40	0.001	0.002
45	0.016	0.022	45	0.009	0.013	45	0.006	0.009	45	0.004	0.006	45	0.003	0.004
50	0.024	0.034	50	0.014	0.020	50	0.009	0.013	50	0.006	0.009	50	0.004	0.006
55	0.036	0.051	55	0.021	0.030	55	0.014	0.020	55	0.009	0.013	55	0.006	0.009
60	0.052	0.073	60	0.031	0.043	60	0.020	0.028	60	0.014	0.019	60	0.009	0.013
65	0.072	0.101	65	0.043	0.060	65	0.028	0.040	65	0.019	0.027	65	0.013	0.018
70	0.098	0.137	70	0.058	0.082	70	0.038	0.054	70	0.026	0.037	70	0.017	0.024
			75	0.078	0.109	75	0.051	0.071	75	0.035	0.049	75	0.023	0.032
			80	0.101	0.142	80	0.066	0.093	80	0.045	0.063	80	0.030	0.042
						85	0.085	0.119	85	0.058	0.081	85	0.038	0.054
						90	0.107	0.150	90	0.073	0.103	90	0.048	0.068
						95	0.134	0.188	95	0.091	0.128	95	0.061	0.085
						100			100	0.113	0.158	100	0.074	0.104
						105			105	0.137	0.192	105	0.090	0.127
									110			110	0.110	0.154
									115			115	0.131	0.184
									120			120	0.156	0.219
									125			125	0.184	0.259



DEAD LOAD DEFLECTION DIAGRAM

Calculated deflections shown are due to the concrete slab on interior girders only ($E_c = 5000$ ksi). Adjust values as required for exterior girders and if optional slab forming is used. These values may require field verification.

TABLE OF ESTIMATED QUANTITIES

SPAN LENGTH	REINF CONCRETE SLAB	Prestressed Concrete Girders			TOTAL REINF STEEL (6)
		ABUT TO INT BT (5)	INT BT TO INT BT (5)	ABUT TO ABUT (5)	
Ft	SF	LF	LF	LF	Lb
40	1,600	196.98	197.50	196.46	3,680
45	1,800	221.98	222.50	221.46	4,140
50	2,000	246.98	247.50	246.46	4,600
55	2,200	271.98	272.50	271.46	5,060
60	2,400	296.98	297.50	296.46	5,520
65	2,600	321.98	322.50	321.46	5,980
70	2,800	346.98	347.50	346.46	6,440
75	3,000	371.98	372.50	371.46	6,900
80	3,200	396.98	397.50	396.46	7,360
85	3,400	421.98	422.50	421.46	7,820
90	3,600	446.98	447.50	446.46	8,280
95	3,800	471.98	472.50	471.46	8,740
100	4,000	496.98	497.50	496.46	9,200
105	4,200	521.98	522.50	521.46	9,660
110	4,400	546.98	547.50	546.46	10,120
115	4,600	571.98	572.50	571.46	10,580
120	4,800	596.98	597.50	596.46	11,040
125	5,000	621.98	622.50	621.46	11,500

- (5) Fabricator will adjust lengths for girder slopes as required.
- (6) Reinforcing steel weight is calculated using an approximate factor of 2.3 lbs/SF.

MATERIAL NOTES:

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

GENERAL NOTES:

Designed according to AASHTO LRFD Bridge Design Specifications.
 Multi-span units, with slab continuous over interior bents, may be formed with the details shown on this sheet and the I-Girder Continuous Slab Detail (IGCS) standard.
 See I-Girder Thickened Slab End Details (IGTS) standard for details and quantity adjustments.
 See Prestressed Concrete Panels (PCP) standard and Prestressed Concrete Panel Fabrication Details (PCP-FAB) standard for panel details not shown.
 See I-Girder Miscellaneous Slab Details (IGMS) standard for miscellaneous details.
 See applicable rail details for rail anchorage in slab.
 See Permanent Metal Deck Forms (PMDf) standard for details and quantity adjustments if this option is used.
 This standard is 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.

HL93 LOADING

SHEET 3 OF 3



PRESTRESSED CONCRETE I-GIRDER SPANS (TYPE Tx28 THRU Tx54)

38' ROADWAY 45° SKEW

SIG-38-45

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