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Figure 1: Typical Bridge Deck Cross Sections. The figure shows four cross-sections of bridge deck types: Type A BM, Type B BM, Type C BM, and Type IV BM (AASHTO Type IV BM). Each section is detailed with dimensions and reinforcement specifications. Type A BM has a total height of 26 inches, with 12 spaces at 2 inches for the top reinforcement and 5 spaces at 2 inches for the bottom reinforcement. Type B BM has a total height of 32 inches, with 15 spaces at 2 inches for the top reinforcement and 7 spaces at 2 inches for the bottom reinforcement. Type C BM has a total height of 38 inches, with 18 spaces at 2 inches for the top reinforcement and 9 spaces at 2 inches for the bottom reinforcement. Type IV BM has a total height of 52 inches, with 25 spaces at 2 inches for the top reinforcement and 11 spaces at 2 inches for the bottom reinforcement. The reinforcement is shown as a grid of circles representing bars, with labels C, B, A, A, B, C for Type A, D, C, B, A, A, B, C, D for Type B, E, D, C, B, A, A, B, C, D for Type C, and F, E, D, C, B, A, A, B, C, D, E, F for Type IV. The bottom reinforcement is labeled "9 Spa at 2" for Type C and "11 Spa at 2" for Type IV.

GENERAL NOTES:

Designed in accordance with AASHTO LRFD Specifications.

All concrete shall be Class H. All reinforcing bars shall be Grade 60.

When shown on this sheet, the Fabricator has the option of furnishing either the designed depressed strand beam or an approved optional design. All optional design submittals shall be signed, sealed and dated by a registered Professional Engineer.

Optional designs for beams 120 feet or longer shall have a calculated residual camber equal to or greater than that of the designed beam.

Prestress losses for the designed beams have been calculated for a relative humidity of 75 percent. Optional designs shall likewise conform.

Certain beams with depressed strands are subject to cracking in the end of the beam. When such cracks occur, all subsequent beams of the same type and strand pattern shall have strands debonded in the following manner:

1. Alternate rows of depressed strands shall be debonded for two feet from each end of the beam.
2. One half of the straight strands, as nearly as possible, shall be debonded for four feet from each end of the beam.
3. The debonding pattern shall be symmetrical about the vertical axis of the beam for both depressed and straight strands.
4. Strands shall be debonded so that the centers of gravity of the depressed strands and the straight strands will remain within one inch of their original location.
5. Strands shall be encased in plastic tubing along entire debonded length, and ends of tubing shall be sealed with waterproof tape. Split plastic tubing may be used provided the seam of the tubing is sufficiently sealed with waterproof tape to prohibit grout infiltration. Wrapping of strands with tape to provide debonding will not be permitted.
6. Revised shop drawings will not be required.

For depressed strand designed beams, strands shall be located as low as possible on the 2" grid system unless a Non-Standard Strand Pattern is indicated. Fill row "2", then row "4", then row "6", etc., beginning each row in the "A" position and working outward until the required number of strands is reached. All strands in the "A" position shall be depressed, maintaining the 2" spacing so that, at the beam ends, the upper two strands are in the position shown in the table.

Strands for the designed beam shall be low relaxation strands pretensioned to 75 percent of fpu each.

HL93 LOADING

PRESTRESSED CONCRETE I-BEAM DESIGNS (NON-STANDARD SPANS)

IBND

FILE: fbndstel.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
© TxDOT January 2005	DISTRICT	FEDERAL AID PROJECT		
REVISIONS	13	189		
6/06 - GAF/MFG - CORRECTED DESIGN STRESS VALUES.	COUNTY	CONTROL	SECT	JOB
	MATAGORDA	0604	01	040
				HIGHWAY
				FM203

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