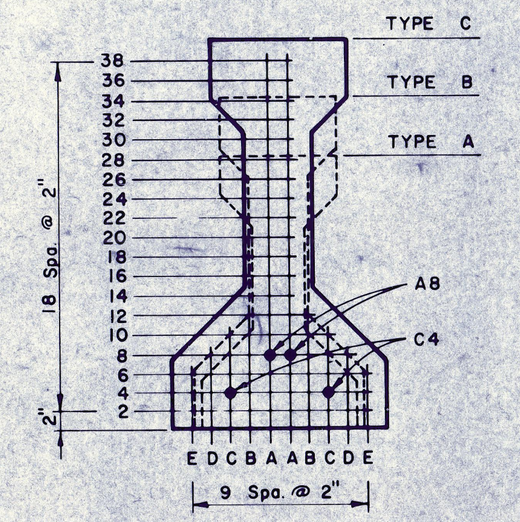
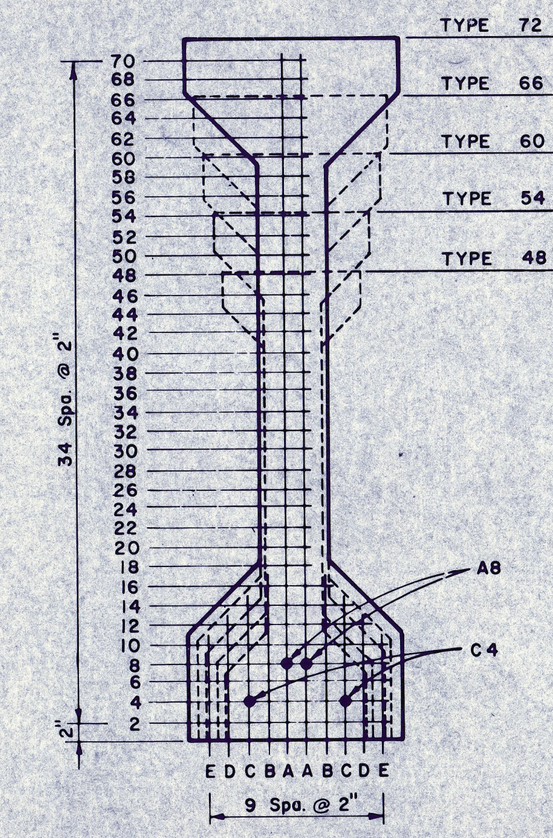
DESIGNED BEAMS (DEPRESSED STRANDS)

△ SPAN NO.	△ SPAN LENGTH Ft.	BEAM NO.	△ BEAM TYPE	△ BEAM LENGTH Ft.	PRESTRESSING STRANDS TOTAL NO.	SIZE	STRGTH.	"e" ℄ in.	"e" END in.	DEPRESSED NO.	DEPRESSED TO	CONCRETE RELEASE STRENGTH f'ci (psi)	CONCRETE MINIMUM 28 DAY COMP. STRENGTH f'c (psi)	OPTIONAL DESIGN DN. LOAD COMP. STRESS (TOP ℄) fct (psi)	OPTIONAL DESIGN DN. LOAD TENSILE STRESS (BOTT. ℄) fcb (psi)	OPTIONAL DESIGN REQUIRED MINIMUM ULTIMATE MOMENT CAPACITY (Ft Kips)
KELLER SPRINGS ROAD OVERPASS																
1 & 3	77.0	1 thru 16	C	75.54	28	½"Ø	270 k	13.23	7.23	6	A-34	4250	5130	3018	3212	2910
2	74.5	1 thru 16	C	71.92	26	½"Ø	270 k	13.40	7.40	6	A-32	4030	5000	2746	2950	2762
WESTGROVE DRIVE OVERPASS																
1 & 3	76.0	1 thru 16	C	74.54	28	½"Ø	270 k	13.23	7.23	6	A-34	4290	5000	2942	3139	2897
2	58.5	1 thru 16	C	55.92	14	½"Ø	270 k	14.52	11.66	4	A-14	4000	5000	1697	1907	1869

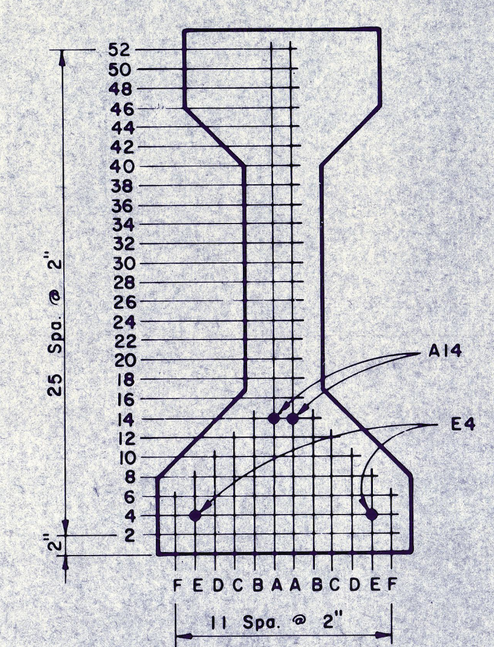
REPRODUCED FROM
TEXAS STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION
STANDARD DRAWING Gp NS
REV. MAR. 1978



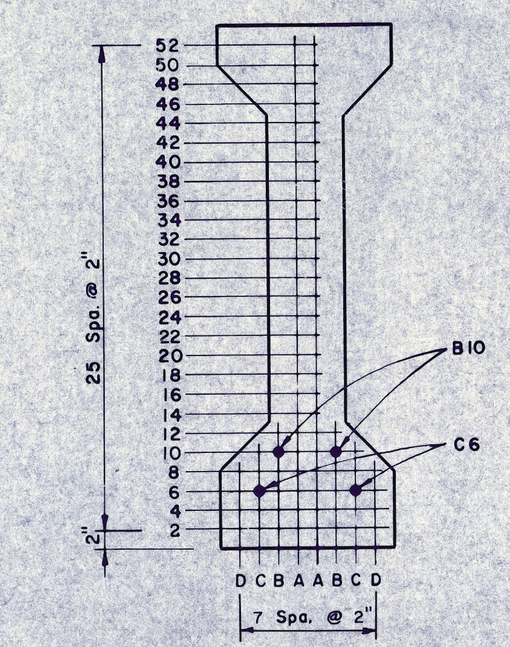
TYPES A, B, & C BMS.



TYPES 48, 54, 60, 66 & 72 BMS.



AASHTO TYPE IV BM.



TYPE 54 (MOD.) BM.

MINIMUM NUMBER OF 1/2" STRANDS										
TYPE	A	B	C	48	54	*54M	60	66	72	IV
NO.	6	8	10	8	10	18	14	16	18	18

*54M Denotes Type 54 (MOD.) Beam.

NON – STANDARD STRAND PATTERNS	
PATTERN	STRAND ARRANGEMENT AT ℄ OF BEAM

GENERAL NOTES:

Designed in accordance with current A.A.S.H.T.O. Specifications.

All concrete shall be Class H.

When shown on this sheet, the fabricator has the option of furnishing either the designed depressed strand beam or an approved optional beam design. Low relaxation strands may be used.

Prestressed losses for the designed beams have been calculated according to the A.A.S.H.T.O. 1982 Interim Specifications for a relative humidity of 65%. 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 wrapped in the following manner:
1. Alternate rows of depressed strands shall be wrapped for 2 feet from each end of the beam.
2. One half of the straight strands, as nearly as possible, shall be wrapped for 4 feet from each end of the beam.
3. The wrapping pattern shall be symmetrical about the vertical axis of the beam for both depressed and straight strands.
4. Strands shall be wrapped so that the centers of gravity of the depressed strands and the straight strands will remain within 1 inch of their original location.
5. Strands shall be tightly wrapped with a waterproof adhesive tape or plastic tubing may be used provided both ends and the seam of the tube are sealed with a waterproof tape.
6. Revised shop drawings will not be required, but wrapping patterns, and the beams affected, shall appear on the as-built drawings.

For depressed strand designed beams, strands shall be located as low as possible on the 2" grid system shown hereon, 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 the upper two strands are in the position shown in the table at the beam ends.

Initial pretension for 1/2" 270 K strands = 28.9 K for regular stress relieved strand or 31.0 K for low relaxation strands.

NO.	REVISION	BY	DATE
△	GENERAL REVISIONS	JFH	01-19-83

TEXAS TURNPIKE AUTHORITY

DALLAS NORTH TOLLWAY

PRESTRESSED CONCRETE BEAMS

DESIGN DETAILS

Gibbs & Hill, Inc.
ENGINEERS DESIGNERS CONSTRUCTORS
DALLAS

SECTION VII

DRAWN _____ DATE _____ DESIGNED _____ DATE _____
CHECKED REF DATE 11-17-83 SCALE As Shown

CONTRACT NO. DNT-115 SHEET S21 OF S21