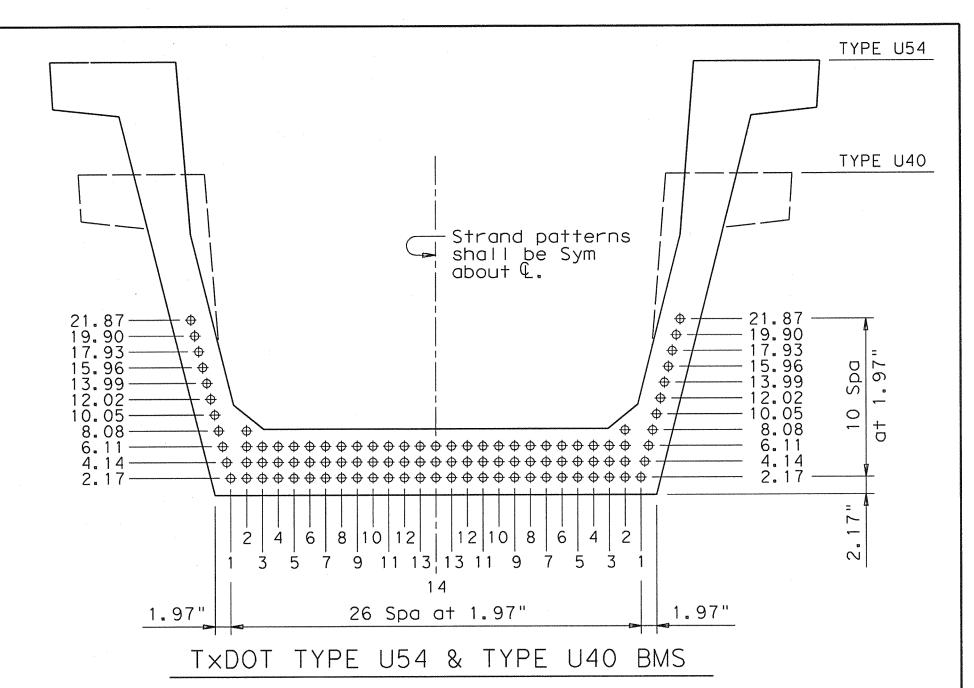
				-			D	ESIGN	ED BE	AMS	(STR	AIGH	T ST	RANE)S)									0	PTIONAL	DESIGN	
					F	PRESTRI	ESSING	STRAND	S			DI	BONDE	ED ST	RAND	PATTI	ERN	PER F	ROW			CONC		DESIGN	DESIGN	REQUIRED	LIV
STRUCTURE	SPAN NO.	BEAM NO.	BEAM TYPE	STRAND PATTERN	TOTAL NO.	SIZE	STRGTH	"e" &	"e" END	TOT NO.	DIST FROM BOTTOM	NO. STR.	OF ANDS	NU	MBER			DS DI		DED TO	o	MINIMUM RELEASE STRGTH	MINIMUM 28 DAY COMP STRGTH	LOAD COMP STRESS (TOP Q)	LOAD TENSILE STRESS (BOTT (£)	MINIMUM ULTIMATE MOMENT CAPACITY	LI' LO DIST FAC
				NO.		· (in)	fpu (ksi)	(in)	(in)	DED	(in)	TOTAL	DE- BONDED	3 (5 9	12	15					f'ci (ksi)	f'C (ksi)	(SERV I) fct(ksi)	(SERV III) fcb(ksi)	(STRGTH I) (ft-kips)	
PONTE AVE BRIDGE	1	1 & 7	U54		95	1/2	270	17.12	15.88	32	2.17 4.14	27 27	20 12	1	0 4		4 0	1	0 0	0 0	0 0	7.105	9.675	5.590	-4.589	10,334	0.
	1	2-6	U54		87	1/2	270	18.00	16.95	38	2.17 4.14	27 27	20 18		6 8	1 1	0	1	0 0	0 0	0 0	6.645	8.114	5.077	-4.304	10,268	0.
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GENERAL NOTES:

Designed in accordance with AASHTO LRFD Specifications. All concrete must be Class H. Use Class H (HPC) if required elsewhere in plans. All reinforcing bars shall be Grade 60. When shown on this sheet, the Fabricator has the option of furnishing either the designed beam or an approved optional beam design. All optional design submittals and shop drawings must be signed, sealed and dated by a registered Professional Engineer. Optional designs must 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 65 percent. Optional designs must likewise

Locate strands for the designed beam as low as possible on the 1.97" grid system. Fill row "2.17", then row "4.14", then row "6.11", etc., beginning each row in the "1" position and, distributing uniformly as practical, working inward until the required number of strands is reached. All strands, including those in the web, must be adequately tied to reinforcing steel, bar supports, or other devices to prevent

displacement during concrete placement. Do not debond strands in position "1". Distribute debonded strands equally about the vertical centerline. Debonded lengths must decrease

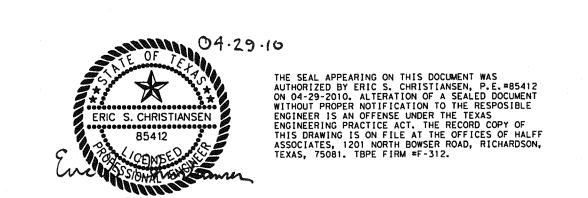
working inward, with debonding staggered in each row. Encase debonded strands in plastic tubing along entire debonded length, and seal ends of tubing with waterproof tape. Split plastic tubing may be used provided the seam of the tubing is sufficiently sealed with waterproof tape to prohibit grout infiltration. Wrapping of strands with tape to provide debonding is not permitted.

Full-length debonded strands are not permitted in strand positions 1 and 2. If placing concrete in two stages, double wrap all full-length debonded strands in row "2.17" and internal vibrator diameter cannot exceed 1 1/8" diameter for first stage. Full-length debonding must comply with Item 426.4.F.4.

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

The grid pattern for the strands is based on exact conversions from a metric grid spacing of 50mm.

(1) Portion of full HL 93





HL93 LOADING

PRESTRESSED CONCRETE U-BEAMS (DESIGN DATA)

		UBND
FILE: ubstde04.dgn	DN: TxDOT	CK: TXDOT DW: TXDOT CK: TXDOT
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REVISIONS		S4-0

CONTROL SECT | JOB | HIGHWAY