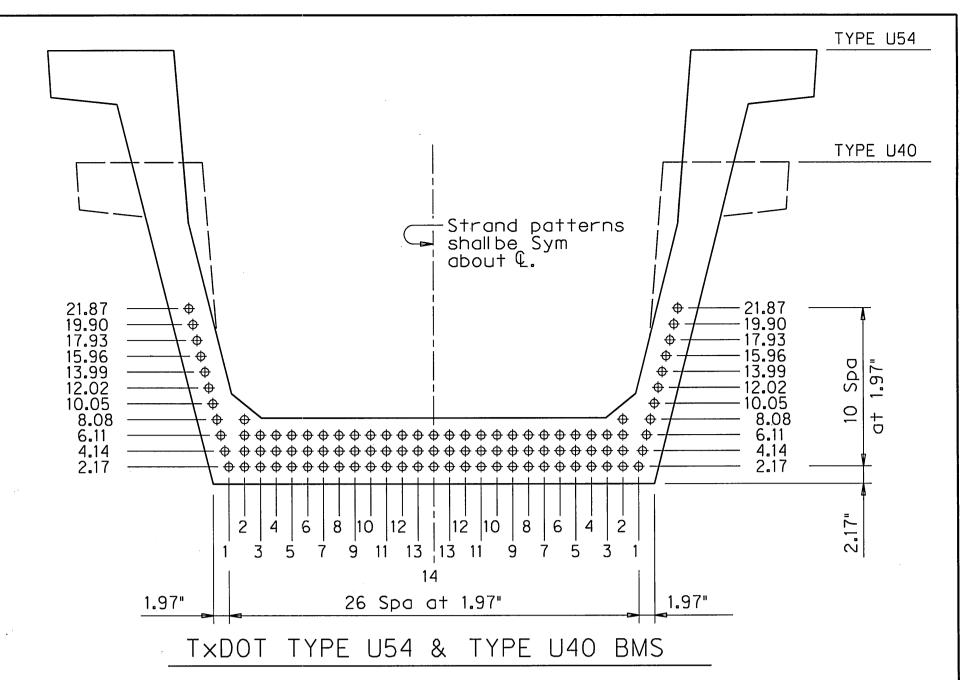
								D	ESIGNE	D BEAI	MS (S	STRAIGI	HT S	TRAN	DS)									C	PTIONAL [DESIGN	
					PRESTRESSING STRANDS DEBONDED STRAND PATTERN PER ROW										CONCRETE		DESIGN	DESIGN	REQUIRED	LIVE							
	STRUCTURE	SPAN NO.	BEAM NO.	BEAM TYPE	STRAND PATTERN	TOTAL NO.	SIZE	STRGTH	"e" Ç	"e" END	TOT NO. DEB	DIST FROM BOTTOM		ANDS			(f†		DS DEE	BONDED)	T0	MINIMUM RELEASE STRGTH	MINIMUM 28 DAY COMP STRGTH	LOAD COMP STRESS (TOP C)	LOAD TENSILE STRESS (BOTT C)	MINIMUM ULTIMATE MOMENT CAPACITY	LIVE LOAD DISTRIB FACTOR
					NO.		(in)	fpu (ksi)	(in) -	(in)		(in)	TOTAL	DE- BONDED	3	6 9	12	15				f'ci (ksi)	f'c (ksi)	(SERV I) fc†(ksi)	(SERV III) fcb(ksi)	(STRGTH I) (ft-kips)	1
	PONTE AVE BRIDGE	1	1 & 7	U54		95	1/2	270	17.12	15.88	32	2.17 4.14	27 27	20 12		0 0	1 2	· I	0 0	0 0	0 0		9.675	5.590	-4.589	10,334	0.999
	Billoge	1	2-6	U54		87	1/2	270	18.00	16.95	38	2 . 17	27	20	0	6 8	3 2	4	0 (0 0	0 0	6.645	8.114	5.077	-4.304	10,268	0.392
5	PONTE AVE	1	1 & 7	U54		64	.600	270	18.84	18.12	34	2.17	27	20	0	4 8	3 6	2	0	6 00	10° 10° 10° 10° 10° 10° 10° 10° 10° 10°	6.930	8.868	5.381	-4.514	10,279	0.999
	BRIDGE OPTION 1	1	2-6	U54		60	.600	270	19.01	18.40	34	4.14 2.17	27 27	14 20	0	i	3 4	2	0 0	0 0		6.487	7.626	4.888	-4 . 253	10,268	0.392
		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		<u> </u>		<u> </u>	_	_	<u> </u>		1	4.14	27	14	12	2 ($\int_{-\infty}^{\circ}$		$\overset{\circ}{\sim}$							
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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 conform.

Locate strands for the designed beam as low as possible on the 1.97" grid system. Fillrow "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 sealends 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.

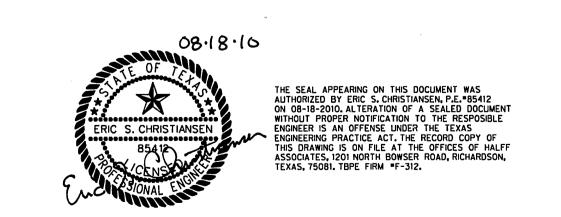
Full-length debonded strands are not permitted in strand positions 1 and 2. If placing concrete in two stages, double wrap all full-length debonded strands in row "2.17" and internal vibrator diameter cannot exceed 1 $\frac{1}{8}$ " diameter for first stage. Full-length debonding must comply with Item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

1)Portion of fullHL 93

a metric grid spacing of 50mm.



Modifications ESC 08/18/10

ADDENDUM #5 - ADDED BEAM DESIGN OPTION

Texas Department of Transportation
Bridge Division

PRESTRESSED

CONCRETE U-BEAMS

(DESIGN DATA)

HL93 LOADING

	UBND							
e: ubstde04.dgn	DN: TXDOT	ck: TxDOT	DW: Tx[TOC	CK:	TxDOT		
TxDOT July 2006	DISTRICT	FEDERAL	AID PROJE	SHEET				
REVISIONS								
	СО	JOB	HIGHWAY					

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LEVELS DISPLAYED
ACC: