

[illegible]

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LRFR LOAD RATING FACTORS FOR STANDARD PRECAST 10' SPAN BARREL SECTIONS (2020 RELEASE)																								
DIMENSIONS							RATING FACTORS																	
SIZE	FILL	S	H	A	B	C	HL93 INV	HL93 OPR	SU4	SU5	SU6	SU7	TYPE 4	TYPE 3S3A	TYPE 3-3	TYPE 3S3B	TYPE 4S3	TYPE 5-2	90 KIP 6-AXLE	136 KIP (A) 7-AXLE	136 KIP (B) 7-AXLE	156 KIP 8-AXLE	EV2	EV3
10x4	2-11	10	4	9	10	8	1.26	1.63	1.50	1.50	1.50	1.50	1.65	1.65	1.88	1.54	1.65	1.50	1.83	1.65	1.44	1.44	1.62	1.21
	12-21	10	4	9	10	8	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
	22-25	10	4	10	10	9	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
10x5	2-11	10	5	9	10	8	1.25	1.62	1.48	1.48	1.48	1.48	1.61	1.61	1.86	1.53	1.61	1.48	1.78	1.61	1.44	1.44	1.77	1.20
	12-22	10	5	9	10	8	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
	23-25	10	5	10	10	9	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
10x6	2-11	10	6	9	10	8	1.29	1.67	1.52	1.52	1.52	1.52	1.64	1.64	1.92	1.58	1.64	1.52	1.82	1.64	1.64	1.64	1.82	1.24
	12-22	10	6	9	10	8	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
	23-25	10	6	10	10	9	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
10x7	2-11	10	7	9	10	8	1.27	1.65	1.52	1.52	1.52	1.52	1.62	1.62	1.90	1.57	1.62	1.52	1.80	1.62	1.62	1.62	1.89	1.23
	12-22	10	7	9	10	8	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
	23-25	10	7	10	10	9	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
10x8	2-10	10	8	9	10	8	1.36	1.76	1.58	1.58	1.58	1.58	1.68	1.68	2.03	1.67	1.68	1.58	1.87	1.68	1.68	1.68	1.95	1.31
	11-21	10	8	9	10	8	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
	22-25	10	8	10	11	8	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
10x9	2-11	10	9	9	11	8	1.49	1.93	1.67	1.67	1.67	1.67	1.78	1.78	2.19	1.81	1.78	1.67	1.98	1.78	1.78	1.78	2.01	1.41
	12-21	10	9	9	10	8	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
	22-25	10	9	10	11	8	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
10x10	2-11	10	10	9	10	8	1.55	2.02	1.82	1.82	1.82	1.82	1.94	1.94	2.32	1.91	1.94	1.82	2.15	1.94	1.94	1.94	2.07	1.50
	12-21	10	10	9	10	8	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
	22-25	10	10	10	11	9	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
10x11	2-9	10	11	9	10	8	1.67	2.17	1.99	1.99	1.99	1.99	2.07	2.07	2.47	2.05	2.07	1.99	2.30	2.07	2.07	2.07	2.09	1.64
	10-16	10	11	9	10	8	3.61	4.67	3.43	3.31	3.28	3.27	3.52	3.52	4.29	3.86	3.52	3.31	4.01	3.64	3.11	3.11	4.87	3.71
	17-20	10	11	9	10	9	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
	21-25	10	11	10	11	11	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
10x12	2-12	10	12	9	11	8	1.61	2.09	1.93	1.93	1.93	1.93	2.20	2.20	2.32	1.94	2.20	1.93	2.45	2.20	2.20	2.20	2.19	1.57
	13-19	10	12	9	10	10	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
	20-25	10	12	10	11	11	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

LRFR LOAD RATING FACTORS FOR STANDARD PRECAST 12' SPAN BARREL SECTIONS (2020 RELEASE)																								
DIMENSIONS							RATING FACTORS																	
SIZE	FILL	S	H	A	B	C	HL93 INV	HL93 OPR	SU4	SU5	SU6	SU7	TYPE 4	TYPE 3S3A	TYPE 3-3	TYPE 3S3B	TYPE 4S3	TYPE 5-2	90 KIP 6-AXLE	136 KIP (A) 7-AXLE	136 KIP (B) 7-AXLE	156 KIP 8-AXLE	EV2	EV3
12x4	2-9	12	4	9	10	8	1.34	1.74	1.51	1.51	1.48	1.44	1.63	1.63	1.99	1.64	1.63	1.51	1.81	1.63	1.45	1.45	1.70	1.28
	10-15	12	4	9	10	9	2.59	3.35	2.49	2.39	2.27	2.19	2.61	2.63	3.50	2.75	2.63	2.39	2.92	2.62	2.17	2.17	3.68	2.61
	16-19	12	4	11	11	9	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
	20-25	12	4	12	12	9	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
12x5	2-10	12	5	9	10	8	1.48	1.92	1.65	1.65	1.61	1.57	1.78	1.78	2.19	1.80	1.78	1.65	1.98	1.78	1.57	1.57	1.98	1.41
	11-15	12	5	9	10	9	2.54	3.29	2.45	2.35	2.23	2.15	2.57	2.59	3.44	2.70	2.59	2.35	2.87	2.57	2.14	2.14	3.61	2.56
	16-21	12	5	11	11	9	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
	22-25	12	5	12	12	9	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
12x6	2-10	12	6	9	10	8	1.49	1.93	1.69	1.69	1.68	1.68	1.82	1.82	2.25	1.85	1.82	1.69	2.02	1.82	1.76	1.76	2.03	1.45
	11-15	12	6	9	10	8	3.20	4.15	3.08	2.97	2.82	2.72	3.24	3.26	4.22	3.42	3.26	2.97	3.62	3.25	2.70	2.70	4.55	3.23
	16-19	12	6	10	11	8	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
	20-25	12	6	12	12	9	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
12x7	2-10	12	7	9	10	8	1.53	1.98	1.63	1.54	1.42	1.38	1.75	1.75	2.29	1.73	1.75	1.54	1.94	1.75	1.51	1.51	2.06	1.48
	11-15	12	7	9	10	8	2.91	3.77	2.76	2.67	2.55	2.47	2.89	2.91	3.85	3.08	2.91	2.67	3.24	2.90	2.41	2.41	4.14	2.93
	16-20	12	7	10	11	8	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
	21-25	12	7	12	12	9	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
12x8	2-11	12	8	9	10	8	1.49	1.93	1.84	1.84	1.85	1.85	2.05	2.05	2.38	1.92	2.05	1.84	2.28	2.05	1.99	1.99	2.17	1.50
	12-18	12	8	10	10	8	4.39	5.70	4.33	4.25	3.92	3.76	4.67	4.70	5.99	4.79	4.70	4.25	5.22	4.68	3.94	3.94	6.25	4.43
	19-21	12	8	11	11	9	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
	22-25	12	8	12	12	9	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
12x9	2-10	12	9	9	10	8	1.50	1.94	1.85	1.85	1.86	1.86	2.01	2.01	2.34	1.92	2.01	1.85	2.23	2.01	1.95	1.95	2.18	1.51
	11-15	12	9	9	10	8	3.17	4.10	2.90	2.83	2.76	2.74	3.04	3.07	3.89	3.15	3.07	2.83	3.41	3.05	2.56	2.56	4.50	3.19
	16-20	12	9	10	11	9	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
	21-25	12	9	12	12	9	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
12x10	2-11	12	10	9	10	8	1.50	1.94	1.85	1.85	1.86	1.86	2.15	2.15	2.34	1.92	2.15	1.85	2.38	2.15	2.10	2.10	2.18	1.51
	12-17	12	10	10	10	8	4.30	5.57	4.24	4.16	3.84	3.68	4.57	4.60	5.04	4.69	4.60	4.16	5.11	4.58	3.94	3.94	6.11	4.33
	18-20	12	10	11	11	9	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
	21-25	12	10	12	12	8	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
12x11	2-11	12	11	9	10	8	1.50	1.94	1.85	1.85	1.86	1.86	2.15	2.15	2.34	1.93	2.15	1.85	2.38	2.15	2.15	2.15	2.18	1.51
	12-15	12	11	10	10	8	2.89	3.75	2.73	2.71	2.58	2.49	2.75	2.71	2.76	2.74	2.76	2.71	3.54	3.22	2.76	2.76	3.99	3.00
	16-20	12	11	11	11	9	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
	21-25	12	11	12	12	10	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
12x12	2-10	12	12	9	10	8	1.50	1.94	1.85	1.85	1.86	1.86	2.15	2.15	2.34	1.93	2.15	1.85	2.38	2.15	2.15	2.15	2.18	1.51
	11-15	12	12	10	10	10	3.44	4.46	3.06	3.06	3.06	2.95	3.08	3.03	3.08	3.06	3.08	3.06	4.19	3.76	3.15	3.15	4.42	3.47
	16-20	12	12	11	11	11	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
	21-25	12	12	12	12	12	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

LRFR LOAD RATING FACTORS FOR STANDARD PRECAST 14' SPAN BARREL SECTIONS (2020 RELEASE)																								
DIMENSIONS							RATING FACTORS																	
SIZE	FILL	S	H	A	B	C	HL93 INV	HL93 OPR	SU4	SU5	SU6	SU7	TYPE 4	TYPE 3S3A	TYPE 3-3	TYPE 3S3B	TYPE 4S3	TYPE 5-2	90 KIP 6-AXLE	136 KIP (A) 7-AXLE	136 KIP (B) 7-AXLE	156 KIP 8-AXLE	EV2	EV3
14x4	2-8	14	4	9	10	9	1.23	1.59	1.41	1.30	1.21	1.18	1.46	1.46	1.91	1.49	1.46	1.30	1.62	1.46	1.25	1.25	1.70	1.24
	9-12	14	4	10	10	10	1.27	1.65	1.33	1.24	1.14	1.09	1.45	1.46	1.76	1.39	1.46	1.24	1.63	1.44	1.19	1.19	2.02	1.28
	13-16	14	4	11	11	10	2.08	2.70	2.04	1.96	1.80	1.70	2.19	2.25	2.66	2.19	2.23	1.96	2.50	2.20	1.82	1.82	3.06	2.10
14x5	2-8	14	5	9	10	8	1.31	1.70	1.55	1.54	1.49	1.48	1.64	1.64	2.13	1.70	1.64	1.54	1.82	1.64	1.49	1.49	1.83	1.32
	9-13	14	5	10	10	9	1.77	2.29	1.78	1.69	1.56	1.48	1.92	1.96	2.36	1.90	1.96	1.69	2.17	1.92	1.60	1.60	2.69	1.78
	14-16	14	5	11	11	10	1.96	2.55	1.92	1.85	1.70	1.60	2.05	2.11	2.52	2.07	2.10	1.85	2.35	2.06	1.72	1.72	2.89	1.98
14x6	2-8	14	6	9	10	8	1.32	1.71	1.59	1.57	1.52	1.52	1.68	1.68	2.18	1.75	1.68	1.57	1.86	1.68	1.51	1.51	1.90	1.33
	9-11	14	6	9	10	9	1.59	2.06	1.51	1.47	1.43	1.41	1.59	1.59	2.14	1.65	1.59	1.47	1.77	1.59	1.35	1.35	2.24	1.61
	12-16	14	6	11	11	9	2.35	3.05	2.29	2.21	2.03	1.92	2.45	2.52	3.02	2.48	2.50	2.21	2.80	2.46	2.06	2.06	3.45	2.37
14x7	2-9	14	7	9	10	8	1.32	1.71	1.69	1.68	1.68	1.68	1.84	1.84	2.35	1.80	1.84	1.68	2.04	1.84	1.69	1.69	2.14	1.33
	10-13	14	7	10	10	9	1.94	2.51	1.93	1.87	1.71	1.63	2.08	2.11	2.57	2.09	2.11	1.87	2.35	2.08	1.77	1.77	2.98	1.95
	14-16	14	7	11	11	9	2.18	2.82	2.13	2.06	1.89	1.79	2.29	2.35	2.78	2.31	2.33	2.06	2.61	2.30	1.93	1.93	3.20	2.20
14x8	2-9	14	8	9	10	8	1.32	1.72	1.68	1.67	1.70	1.72	1.91	1.91	2.34	1.79	1.91	1.67	2.12	1.91	1.74	1.74	2.11	1.34
	10-13	14	8	10	10	8	1.94	2.52	1.93	1.90	1.72	1.63	2.08	2.11	2.60	2.12	2.11	1.90	2.35	2.08	1.81	1.81	2.98	1.96
	14-16	14	8	11	11	9	2.21	2.87	2.17	2.10	1.92	1.82	2.33	2.39	2.81	2.34	2.37	2.10	2.66	2.34	1.97	1.97	3.25	2.23
14x9	2-9	14	9	9	10	8	1.33	1.72	1.65	1.65	1.67	1.70	1.94	1.94	2.30	1.76	1.94	1.65	2.16	1.88	1.79	1.79	2.04	1.34
	10-12	14	9	10	10	8	1.99	2.58	2.03	1.99	1.80	1.71	2.21	2.22	2.77	2.22	2.22	1.99	2.47	2.19	1.93	1.93	3.23	2.01
	13-16	14	9	11	11	9	2.24	2.91	2.20	2.13	1.95	1.84	2.36	2.43	2.84	2.38	2.41	2.13	2.69	2.37	2.00	2.00	3.29	2.26
14x10	2-9	14	10	9	10	8	1.27	1.65	1.52	1.51	1.53	1.55	1.76	1.76	2.08	1.61	1.76	1.51	1.95	1.71	1.65	1.65	1.95	1.28
	10-13	14	10	10	10	9	1.38	1.79	1.37	1.35	1.22	1.16	1.48	1.50	1.85	1.50	1.50	1.35	1.67	1.47	1.29	1.29	2.13	1.39
	14-16	14	10	11	11	9	2.31	2.99	2.27	2.20	2.01	1.90	2.44	2.50	2.91	2.45	2.48	2.20	2.78	2.45	2.07	2.07	3.39	2.33
14x11	2-9	14	11	9	10	8	1.27	1.65	1.52	1.51	1.52	1.52	1.71	1.71	2.02	1.61	1.71	1.51	1.89	1.70	1.69	1.69	1.95	1.28
	10-12	14	11	10	10	9	1.81	2.35	1.84	1.81	1.64	1.56	2.01	2.02	2.52	2.01	2.02	1.81	2.25	1.98	1.76	1.76	2.95	1.83
	13-16	14	11	11	12	9	2.53	3.28	2.31	2.27	2.11	2.02	2.41	2.49	3.11	2.58	2.46	2.27	2.78	2.44	2.06	2.06	3.70	2.56
14x12	2-9	14	12	9	10	8	1.33	1.72	1.59	1.58	1.58	1.58	1.78	1.78	2.09	1.68	1.78	1.58	1.97	1.78	1.76	1.76	2.04	1.34
	10-12	14	12	10	10	9	1.75	2.27	1.78	1.75	1.58	1.50	1.94	1.95	2.40	1.95	1.95	1.75	2.17	1.92	1.70	1.70	2.85	1.76
	13-16	14	12	11	12	9	2.07	2.69	1.84	1.83	1.82	1.81	1.85	1.85	1.87	1.85	1.85	1.83	2.56	2.27	1.94	1.94	2.72	2.38
14x13	2-9	14	13	10	10	8	1.59	2.06	1.86	1.85	1.81	1.79	1.88	1.86	1.94	1.88	1.87	1.85	2.35	2.12	1.98	1.98	2.43	1.60
	10-13	14	13	10	10	10	1.87	2.42	1.67	1.66	1.64	1.63	1.69	1.69	1.72	1.68	1.69	1.66	2.39	2.12	1.79	1.79	2.49	2.22
	14-16	14	13	11	12	10	1.38	1.78	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.72	1.72	1.72	1.72	1.72	1.72
14x14	2-7	14	14	10	10	8	1.59	2.06	1.85	1.86	1.82	1.81	1.85	1.87	1.93	1.88	1.84	1.86	2.24	2.02	1.81	1.81	2.34	1.60
	8-12	14	14	11	12	10	1.18	1.53	1.07	1.06	1.04	1.03	1.10	1.10	1.13	1.08	1.10	1.06	1.62	1.58	1.53	1.53	1.69	1.53
	13-16	14	14	11	12	12	2.52	3.26	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.20	3.16	2.83	2.40	2.40	3.16	2.90

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DIMENSIONS							RATING FACTORS																	
SIZE	FILL	S	H	A	B	C	HL93 INV	HL93 OPR	SU4	SU5	SU6	SU7	TYPE 4	TYPE 3S3A	TYPE 3-3	TYPE 3S3B	TYPE 4S3	TYPE 5-2	90 KIP 6-AXLE	136 KIP (A) 7-AXLE	136 KIP (B) 7-AXLE	156 KIP 8-AXLE	EV2	EV3
14x4	2-8	14	4	9	10	9	1.15	1.49	1.30	1.20	1.11	1.07	1.36	1.36	1.76	1.35	1.36	1.20	1.52	1.36	1.17	1.17	1.66	1.16
	9-12	14	4	10	10	10	1.27	1.65	1.33	1.24	1.14	1.09	1.45	1.46	1.76	1.39	1.46	1.24	1.63	1.44	1.19	1.19	2.02	1.28
	13-16	14	4	11	11	10	2.08	2.70	2.04	1.96	1.80	1.70	2.19	2.25	2.66	2.19	2.23	1.96	2.50	2.20	1.82	1.82	3.06	2.10
14x5	2-8	14	5	9	10	8	1.36	1.77	1.51	1.43	1.32	1.28	1.61	1.61	1.99	1.61	1.61	1.43	1.79	1.61	1.37	1.37	1.77	1.30
	9-13	14	5	10	10	9	1.77	2.29	1.78	1.69	1.56	1.48	1.92	1.96	2.36	1.90	1.96	1.69	2.17	1.92	1.60	1.60	2.69	1.78
	14-16	14	5	11	11	10	1.96	2.55	1.92	1.85	1.70	1.60	2.05	2.11	2.52	2.07	2.10	1.85	2.35	2.06	1.72	1.72	2.89	1.98
14x6	2-8	14	6	9	10	8	1.40	1.82	1.52	1.46	1.37	1.33	1.63	1.63	2.04	1.62	1.63	1.46	1.81	1.63	1.38	1.38	1.82	1.33
	9-11	14	6	9	10	9	1.39	1.81	1.49	1.40	1.28	1.22	1.63	1.63	2.03	1.58	1.63	1.40	1.81	1.62	1.36	1.36	2.28	1.41
	12-16	14	6	11	11	9	2.35	3.05	2.29	2.21	2.03	1.92	2.45	2.52	3.02	2.48	2.50	2.21	2.80	2.46	2.06	2.06	3.45	2.37
14x7	2-9	14	7	9	10	8	1.57	2.03	1.69	1.64	1.57	1.51	1.82	1.82	2.21	1.82	1.82	1.64	2.02	1.82	1.54	1.54	2.05	1.48
	10-13	14	7	10	10	9	1.94	2.51	1.93	1.87	1.71	1.63	2.08	2.11	2.57	2.09	2.11	1.87	2.35	2.08	1.77	1.77	2.98	1.95
	14-16	14	7	11	11	9	2.18	2.82	2.13	2.06	1.89	1.79	2.29	2.35	2.78	2.31	2.33	2.06	2.61	2.30	1.93	1.93	3.20	2.20
14x8	2-9	14	8	9	10	8	1.58	2.05	1.71	1.64	1.61	1.58	1.82	1.82	2.26	1.82	1.82	1.64	2.02	1.82	1.54	1.54	2.10	1.50
	10-13	14	8	10	10	8	1.94	2.52	1.93	1.90	1.72	1.63	2.08	2.11	2.60	2.12	2.11	1.90	2.35	2.08	1.81	1.81	2.98	1.96
	14-16	14	8	11	11	9	2.21	2.87	2.17	2.10	1.92	1.82	2.33	2.39	2.81	2.34	2.37	2.10	2.66	2.34	1.97	1.97	3.25	2.23
14x9	2-9	14	9	9	10	8	1.58	2.05	1.71	1.66	1.63	1.63	1.85	1.85	2.34	1.85	1.85	1.66	2.05	1.85	1.56	1.56	2.11	1.51
	10-12	14	9	10	10	8	1.99	2.58	2.03	1.99	1.80	1.71	2.21	2.22	2.77	2.22	2.22	1.99	2.47	2.19	1.93	1.93	3.23	2.01
	13-16	14	9	11	11	9	2.24	2.91	2.20	2.13	1.95	1.84	2.36	2.43	2.84	2.38	2.41	2.13	2.69	2.37	2.00	2.00	3.29	2.26
14x10	2-9	14	10	9	10	8	1.59	2.06	1.74	1.66	1.62	1.62	1.84	1.84	2.37	1.84	1.84	1.66	2.04	1.84	1.55	1.55	2.15	1.53
	10-13	14	10	10	10	9	1.38	1.79	1.37	1.35	1.22	1.16	1.48	1.50	1.85	1.50	1.50	1.35	1.67	1.47	1.29	1.29	2.13	1.39
	14-16	14	10	11	11	9	2.31	2.99	2.27	2.20	2.01	1.90	2.44	2.50	2.91	2.45	2.48	2.20	2.78	2.45	2.07	2.07	3.39	2.33
14x11	2-9	14	11	9	10	8	1.29	2.06	1.76	1.69	1.66	1.66	1.87	1.87	2.40	1.88	1.87	1.69	2.08	1.87	1.58	1.58	2.19	1.55
	10-12	14	11	10	10	9	1.81	2.35	1.84	1.81	1.64	1.56	2.01	2.02	2.52	2.01	2.02	1.81	2.25	1.98	1.76	1.76	2.95	1.83
	13-16	14	11	11	12	9	2.53	3.28	2.31	2.27	2.11	2.02	2.41	2.49	3.11	2.58	2.46	2.27	2.78	2.44	2.06	2.06	3.70	2.56
14x12	2-9	14	12	9	10	8	1.59	2.06	1.77	1.77	1.74	1.74	1.90	1.90	2.43	1.94	1.90	1.77	2.12	1.90	1.66	1.66	2.22	1.57
	10-12	14	12	10	10	9	1.75	2.27	1.78	1.75	1.58	1.50	1.94	1.95	2.40	1.95	1.95	1.75	2.17	1.92	1.70	1.70	2.85	1.76
	13-16	14	12	11	12	9	2.07	2.69	1.84	1.83	1.82	1.81	1.85	1.85	1.87	1.85	1.85	1.83	2.56	2.27	1.94	1.94	2.72	2.38
14x13	2-9	14	13	10	10	8	1.59	2.06	1.86	1.85	1.81	1.79	1.88	1.86	1.94	1.88	1.87	1.85	2.35	2.12	1.98	1.98	2.43	1.60
	10-13	14	13	10	10	10	1.87	2.42	1.67	1.66	1.64	1.63	1.69	1.69	1.72	1.68	1.69	1.66	2.39	2.12	1.79	1.79	2.49	2.22
	14-16	14	13	11	12	10	1.38	1.78	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.72	1.72	1.72	1.72	1.72	1.72
14x14	2-7	14	14	10	10	8	1.59	2.06	1.85	1.86	1.82	1.81	1.85	1.87	1.93	1.88	1.84	1.86	2.24	2.02	1.81	1.81	2.34	1.60
	8-12	14	14	11	12	10	1.18	1.53	1.07	1.06	1.04	1.03	1.10	1.10	1.13	1.08	1.10	1.06	1.62	1.58	1.53	1.53	1.69	1.53
	13-16	14	14	11	12	12	2.52	3.26	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.21	2.20	3.16	2.83	2.40	2.40	3.16	2.90

LRFR LOAD RATING FACTORS FOR STANDARD PRECAST 16' SPAN BARREL SECTIONS (2020 RELEASE)																								
DIMENSIONS							RATING FACTORS																	
SIZE	FILL	S	H	A	B	C	HL93 INV	HL93 OPR	SU4	SU5	SU6	SU7	TYPE 4	TYPE 3S3A	TYPE 3-3	TYPE 3S3B	TYPE 4S3	TYPE 5-2	90 KIP 6-AXLE	136 KIP (A) 7-AXLE	136 KIP (B) 7-AXLE	156 KIP 8-AXLE	EV2	EV3
16x4	2-10	16	4	10	10	10	1.25	1.62	1.33	1.25	1.14	1.09	1.44	1.44	1.77	1.39	1.44	1.25	1.61	1.42	1.19	1.19	1.97	1.26
	11-13	16	4	11	11	10	1.21	1.57	1.23	1.21	1.09	1.03	1.31	1.36	1.65	1.34	1.34	1.21	1.51	1.29	1.18	1.18	1.94	1.22
	14-16	16	4	12	12	11	1.53	1.98	1.46	1.42	1.27	1.20	1.54	1.63	1.78	1.58	1.58	1.42	1.81	1.54	1.31	1.31	2.53	1.47
16x5	2-8	16	5	10	10	9	1.40	1.82	1.52	1.44	1.31	1.26	1.57	1.57	1.99	1.59	1.57	1.44	1.74	1.57	1.34	1.34	1.95	1.41
	9-12	16	5	11	11	10	1.31	1.69	1.40	1.32	1.18	1.12	1.50	1.56	1.84	1.46	1.54	1.32	1.73	1.47	1.28	1.28	2.12	1.32
	13-16	16	5	12	12	11	1.31	1.69	1.25	1.22	1.09	1.03	1.33	1.40	1.52	1.36	1.36	1.22	1.55	1.32	1.13	1.13	2.17	1.25
16x6	2-9	16	6	10	10	9	1.43	1.86	1.72	1.63	1.49	1.42	1.83	1.83	2.29	1.83	1.83	1.63	2.03	1.83	1.54	1.54	2.20	1.45
	10-12	16	6	11	11	10	1.38	1.78	1.47	1.39	1.25	1.18	1.57	1.64	1.95	1.54	1.62	1.39	1.82	1.54	1.34	1.34	2.24	1.39
	13-16	16	6	12	12	10	1.33	1.72	1.26	1.26	1.12	1.06	1.34	1.41	1.54	1.40	1.37	1.26	1.56	1.33	1.17	1.17	2.21	1.27
16x7	2-9	16	7	9	10	9	1.20	1.55	1.33	1.24	1.18	1.16	1.35	1.35	1.95	1.41	1.35	1.24	1.50	1.35	1.19	1.19	1.84	1.21
	10-12	16	7	11	11	9	1.71	2.21	1.82	1.73	1.55	1.47	1.94	2.03	2.39	1.91	1.99	1.73	2.26	1.90	1.69	1.69	2.81	1.72
	13-16	16	7	12	12	10	1.61	2.09	1.55	1.51	1.36	1.28	1.65	1.73	1.86	1.68	1.68	1.51	1.92	1.63	1.40	1.40	2.68	1.54
16x8	2-8	16	8	9	10	9	1.21	1.56	1.41	1.38	1.38	1.38	1.55	1.55	1.92	1.47	1.55	1.38	1.72	1.55	1.48	1.48	1.93	1.22
	9-12	16	8	11	11	9	1.84	2.38	1.96	1.86	1.67	1.58	2.08	2.18	2.57	2.06	2.14	1.86	2.42	2.04	1.83	1.83	3.04	1.85
	13-16	16	8	12	12	10	1.45	1.88	1.40	1.36	1.22	1.15	1.49	1.55	1.67	1.52	1.52	1.36	1.73	1.46	1.27	1.27	2.41	1.38
16x9	2-8	16	9	10	10	8	1.45	1.88	1.77	1.73	1.69	1.69	1.91	1.91	2.34	1.87	1.91	1.73	2.13	1.91	1.70	1.70	2.27	1.46
	9-12	16	9	11	11	9	1.68	2.18	1.76	1.73	1.53	1.45	1.86	1.94	2.37	1.90	1.91	1.73	2.16	1.83	1.71	1.71	2.83	1.70
	13-16	16	9	12	12	9	1.81	2.35	1.74	1.71	1.53	1.45	1.86	1.94	2.07	1.90	1.89	1.71	2.16	1.83	1.59	1.59	3.01	1.72
16x10	2-8	16	10	10	10	8	1.45	1.88	1.71	1.67	1.68	1.72	1.94	1.95	2.41	1.80	1.94	1.67	2.17	1.89	1.79	1.79	2.30	1.47
	9-12	16	10	11	11	9	1.57	2.04	1.64	1.62	1.44	1.36	1.74	1.82	2.22	1.78	1.79	1.62	2.02	1.71	1.60	1.60	2.65	1.59
	13-16	16	10	12	12	10	1.40	1.82	1.35	1.32	1.19	1.12	1.44	1.51	1.61	1.47	1.47	1.32	1.68	1.42	1.23	1.23	2.33	1.34
16x11	2-8	16	11	10	10	8	1.46	1.89	1.69	1.65	1.66	1.66	1.86	1.87	2.31	1.77	1.87	1.65	2.08	1.85	1.77	1.77	2.30	1.47
	9-12	16	11	11	11	9	1.52	1.97	1.59	1.57	1.39	1.31	1.69	1.76	2.15	1.72	1.73	1.57	1.96	1.66	1.55	1.55	2.56	1.54
	13-16	16	11	12	12	10	1.82	2.36	1.73	1.72	1.53	1.45	1.84	1.93	2.10	1.92	1.88	1.72	2.14	1.82	1.61	1.61	3.02	1.74
16x12	2-7	16	12	10	10	8	1.46	1.89	1.69	1.65	1.66	1.66	1.86	1.86	2.26	1.78	1.86	1.65	2.06	1.86	1.74	1.74	2.28	1.47
	8-11	16	12	11	11	9	2.05	2.66	2.13	2.09	1.86	1.77	2.28	2.33	2.63	2.31	2.33	2.09	2.59	2.23	2.05	2.05	3.44	2.07
	12-16	16	12	12	12	11	1.37	1.78	1.33	1.30	1.16	1.10	1.41	1.48	1.57	1.44	1.44	1.30	1.64	1.39	1.21	1.21	2.28	1.31
16x13	2-7	16	13	10	10	8	1.46	1.89	1.69	1.65	1.66	1.66	1.86	1.86	2.26	1.77	1.86	1.65	2.06	1.86	1.77	1.77	2.31	1.47
	8-11	16	13	11	11	9	1.61	2.09	1.47	1.47	1.43	1.43	1.49	1.46	1.54	1.49	1.49	1.47	2.13	2.08	2.00	2.00	2.23	2.01
	12-16	16	13	12	12	11	1.54	1.99	1.47	1.46	1.29	1.23	1.56	1.63	1.77	1.62	1.59	1.46	1.81	1.54	1.36	1.36	2.55	1.47
16x14	2-7	16	14	10	10	8	1.46	1.89	1.69	1.65	1.66	1.66	1.85	1.85	1.97	1.77	1.85	1.65	2.06	1.85	1.77	1.77	2.30	1.47
	8-11	16	14	11	11	10	1.22	1.58	1.13	1.12	1.09	1.08	1.14	1.13	1.19	1.14	1.15	1.12	1.65	1.59	1.57	1.55	1.72	1.55
	12-16	16	14	12	12	11	1.35	1.75	1.19	1.19	1.19	1.16	1.19	1.18	1.19	1.19	1.19	1.18	1.68	1.45	1.28	1.28	1.69	1.38

LRFR LOAD RATING FACTORS FOR STANDARD PRECAST 16' SPAN BARREL SECTIONS (2020 RELEASE) Revised 09-2021																								
DIMENSIONS							RATING FACTORS																	
SIZE	FILL	S	H	A	B	C	HL93 INV	HL93 OPR	SU4	SU5	SU6	SU7	TYPE 4	TYPE 3S3A	TYPE 3-3	TYPE 3S3B	TYPE 4S3	TYPE 5-2	90 KIP 6-AXLE	136 KIP (A) 7-AXLE	136 KIP (B) 7-AXLE	156 KIP 8-AXLE	EV2	EV3
16x4	2-10	16	4	10	10	10	1.17	1.52	1.26	1.18	1.09	1.04	1.34	1.34	1.71	1.33	1.34	1.18	1.49	1.34	1.12	1.12	1.87	1.18
	11-13	16	4	11	11	10	1.21	1.57	1.23	1.21	1.09	1.03	1.31	1.36	1.65	1.34	1.34	1.21	1.51	1.29	1.18	1.18	1.94	1.22
	14-16	16	4	12	12	11	1.53	1.98	1.46	1.42	1.27	1.20	1.54	1.63	1.78	1.58	1.58	1.42	1.81	1.54	1.31	1.31	2.53	1.47
16x5	2-8	16	5	10	10	9	1.19	1.54	1.33	1.25	1.15	1.11	1.38	1.38	1.80	1.41	1.38	1.25	1.53	1.38	1.19	1.19	1.86	1.20
	9-12	16	5	11	11	10	1.31	1.69	1.40	1.32	1.18	1.12	1.50	1.56	1.84	1.46	1.54	1.32	1.73	1.47	1.28	1.28	2.12	1.32
	13-16	16	5	12	12	11	1.31	1.69	1.25	1.22	1.09	1.03	1.33	1.40	1.52	1.36	1.36	1.22	1.55	1.32	1.13	1.13	2.17	1.25
16x6	2-9	16	6	10	10	9	1.29	1.67	1.44	1.33	1.22	1.17	1.48	1.48	1.93	1.50	1.48	1.33	1.65	1.48	1.26	1.26	2.11	1.30
	10-12	16	6	11	11	10	1.38	1.78	1.47	1.39	1.25	1.18	1.57	1.64	1.95	1.54	1.62	1.39	1.82	1.54	1.34	1.34	2.24	1.39
	13-16	16	6	12	12	10	1.33	1.72	1.26	1.26	1.12	1.06	1.34	1.41	1.54	1.40	1.37	1.26	1.56	1.33	1.17	1.17	2.21	1.27
16x7	2-9	16	7	9	10	9	1.38	1.79	1.53	1.41	1.29	1.24	1.58	1.58	2.02	1.59	1.58	1.41	1.75	1.58	1.34	1.34	2.16	1.39
	10-12	16	7	11	11	9	1.71	2.21	1.82	1.73	1.55	1.47	1.94	2.03	2.39	1.91	1.99	1.73	2.26	1.90	1.69	1.69	2.81	1.72
	13-16	16	7	12	12	10	1.61	2.09	1.55	1.51	1.36	1.28	1.65	1.73	1.86	1.68	1.68	1.51	1.92	1.63	1.40	1.40	2.68	1.54
16x8	2-8	16	8	9	10	9	1.42	1.84	1.55	1.46	1.34	1.29	1.59	1.59	2.06	1.63	1.59	1.46	1.77	1.59	1.38	1.38	2.02	1.43
	9-12	16	8	11	11	9	1.84	2.38	1.96	1.86	1.67	1.58	2.08	2.18	2.57	2.06	2.14	1.86	2.42	2.04	1.83	1.83	3.04	1.85
	13-16	16	8	12	12	10	1.45	1.88	1.40	1.36	1.22	1.15	1.49	1.55	1.67	1.52	1.52	1.36	1.73	1.46	1.27	1.27	2.41	1.38
16x9	2-8	16	9	10	10	8	1.46	1.89	1.64	1.61	1.55	1.55	1.75	1.75	2.24	1.76	1.75	1.61	1.95	1.75	1.54	1.54	2.09	1.46
	9-12	16	9	11	11	9	1.68	2.18	1.76	1.73	1.53	1.45	1.86	1.94	2.37	1.90	1.91	1.73	2.16	1.83	1.71	1.71	2.83	1.70
	13-16	16	9	12	12	9	1.81	2.35	1.74	1.71	1.53	1.45	1.86	1.94	2.07	1.90	1.89	1.71	2.16	1.83	1.59	1.59	3.01	1.72
16x10	2-8	16	10	10	10	8	1.46	1.89	1.66	1.63	1.57	1.57	1.77	1.77	2.26	1.78	1.77	1.63	1.96	1.77	1.56	1.56	2.12	1.47
	9-12	16	10	11	11	9	1.57	2.04	1.64	1.62	1.44	1.36	1.74	1.82	2.22	1.78	1.79	1.62	2.02	1.71	1.60	1.60	2.65	1.59
	13-16	16	10	12	12	10	1.40	1.82	1.35	1.32	1.19	1.12	1.44	1.51	1.61	1.47	1.47	1.32	1.68	1.42	1.23	1.23	2.33	1.34
16x11	2-8	16	11	10	10	8	1.46	1.89	1.67	1.64	1.59	1.59	1.78	1.78	2.27	1.78	1.78	1.64	1.98	1.78	1.61	1.61	2.15	1.47
	9-12	16	11	11	11	9	1.52	1.97	1.59	1.57	1.39	1.31	1.69	1.76	2.15	1.72	1.73	1.57	1.96	1.66	1.55	1.55	2.56	1.54
	13-16	16	11	12	12	10	1.82	2.36	1.73	1.72	1.53	1.45	1.84	1.93	2.10	1.92	1.88	1.72	2.14	1.82	1.61	1.61	3.02	1.74
16x12	2-7	16	12	10	10	8	1.46	1.89	1.57	1.54	1.50	1.50	1.67	1.67	2.18	1.69	1.67	1.54	1.86	1.67	1.57	1.57	2.03	1.40
	8-11	16	12	11	11	9	2.05	2.66	2.13	2.09	1.86	1.77	2.28	2.33	2.63	2.31	2.33	2.09	2.59	2.23	2.05	2.05	3.44	2.07
	12-16	16	12	12	12	11	1.37	1.78	1.33	1.30	1.16	1.10	1.41	1.48	1.57	1.44	1.44	1.30	1.64	1.39	1.21	1.21	2.28	1.31
16x13	2-7	16	13	10	10	8	1.46	1.89	1.58	1.56	1.51	1.51	1.68	1.68	2.19	1.70	1.68	1.56	1.87	1.68	1.59	1.59	2.05	1.41
	8-11	16	13	11	11	9	1.61	2.09	1.47	1.47	1.43	1.43	1.49	1.46	1.54	1.49	1.49	1.47	2.13	2.08	2.00	2.00	2.23	2.01
	12-16	16	13	12	12	11	1.54	1.99	1.47	1.46	1.29	1.23	1.56	1.63	1.77	1.62	1.59	1.46	1.81	1.54	1.36	1.36	2.55	1.47
16x14	2-7	16	14	10	10	8	1.46	1.89	1.62	1.59	1.54	1.54	1.72	1.72	1.96	1.74	1.72	1.59	1.91	1.72	1.62	1.62	2.10	1.45
	8-11	16	14	11	11	10	1.22	1.58	1.13	1.12	1.09	1.08	1.14	1.13	1.19	1.14	1.15	1.12	1.65	1.59	1.57	1.55	1.72	1.55
	12-16	16	14	12	12	11	1.35	1.75	1.19	1.19	1.19	1.16	1.19	1.18	1.19	1.19	1.19	1.18	1.68	1.45	1.28	1.28	1.69	1.38