



FRAMING PLAN

	0.5 Sp. #1	0.4 Sp. #2 or 0.6 Sp. #3	Pier 2	0.5 Sp. #4
Strand Pattern	12-S	26-A	---	12-S
I	(10 ⁸ mm ⁴) 59986	59986	---	59986
I'	(10 ⁸ mm ⁴) 169924	162120	---	167991
S _b	(10 ³ mm ³) 111991	111991	---	111991
S _b '	(10 ³ mm ³) 185518	182322	---	184748
S _t	(10 ³ mm ³) 87754	87754	---	87754
S _t '	(10 ³ mm ³) 560290	49186	---	542068
Q	(kN/m) 19.7	18.3	---	19.3
M _D	(kN-m) 296	1274	---	415
s _D	(kN/m) 9.3	8.9	8.9	9.1
Ms _D	(kN-m) 140	350	621	195
M _L	(kN-m) 369	766	636	474
M (Imp)	(kN-m) 111	189	157	142
Ma	(kN) 1607	4180	2525	2128
Mcap	(kN m) 2765	5770	2740	2765

	North Abut. and Pier 1 Span 1	Pier 1 Span 2 and Pier 3 Span 3	Pier 2 Span 2 and Pier 2 Span 3	Pier 3 Span 4 and South Abut.
R _D	(kN) 108	216	216	126
Rs _D	(kN) 51	80	132	60
R _L	(kN) 171	171	123	174
Imp.	(kN) 51	43	22	52
R (Total)	(kN) 381	510	493	412

I and I' are the non-composite and composite moment of inertia of the beam section.
 S_b and S_b' are the non-composite and composite section modulus for the bottom fiber of the prestressed beam.
 S_t and S_t' are the non-composite and composite section modulus for the top fiber of the prestressed beam.
 M_D is the moment due to dead loads on the non-composite prestressed beam.
 Ms_D is the moment due to dead loads on the composite section.
 M_L is the moment due to live load on the composite section.
 M (Imp) is the moment due to live load impact on the composite section.

SPAN 1				SPANS 2 & 3				SPAN 4			
BEAM NO.	ANGLE A	ANGLE B	BEAM LENGTH (m)	BEAM NO.	ANGLE A	ANGLE B	BEAM LENGTH (m)	BEAM NO.	ANGLE A	ANGLE B	BEAM LENGTH (m)
1 - 7	88°-35'-30"	88°-35'-30"	10.128	1 - 12	88°-35'-30"	88°-35'-30"	23.437	1 - 8	88°-35'-30"	88°-35'-30"	12.585
8	83°-09'-35"	83°-09'-35"	10.195					9	92°-36'-08"	92°-36'-08"	12.594
9	77°-50'-55"	77°-50'-55"	10.349					10	96°-35'-14"	96°-35'-14"	12.662
10	72°-44'-23"	72°-44'-23"	10.584					11	100°-30'-35"	100°-30'-35"	12.789
11	67°-53'-58"	67°-53'-58"	10.896					12	104°-20'-08"	104°-20'-08"	12.972
12	63°-22'-10"	63°-22'-10"	11.280					13	108°-02'-03"	108°-02'-03"	13.211
13	59°-09'-18"	59°-09'-18"	11.728								

LOCATION	BEAM 1	BEAM 2	BEAM 3	BEAM 4	BEAM 5	BEAM 6	BEAM 7	BEAM 8	BEAM 9	BEAM 10	BEAM 11	BEAM 12	BEAM 13
© Brg. S. Abut.	189.863	189.905	189.947	189.982	190.014	190.045	190.019	189.988	189.949	189.903	189.851	189.800	189.749
© S. Brg. Pier 3	190.080	190.122	190.164	190.199	190.231	190.262	190.236	190.205	190.179	190.153	190.120	190.085	190.051
© N. Brg. Pier 3	190.052	190.094	190.136	190.171	190.203	190.234	190.208	190.177	190.145	190.110	190.068	190.026	---
© S. Brg. Pier 2	190.239	190.281	190.323	190.358	190.390	190.421	190.395	190.364	190.332	190.297	190.255	190.213	---
© N. Brg. Pier 2	190.281	190.323	190.358	190.390	190.421	190.421	190.395	190.364	190.332	190.297	190.255	190.213	---
© S. Brg. Pier 1	190.086	190.128	190.170	190.205	190.237	190.268	190.242	190.211	190.179	190.144	190.102	190.060	---
© N. Brg. Pier 1	190.118	190.160	190.202	190.237	190.269	190.300	190.274	190.247	190.221	190.194	190.159	190.123	190.087
© Brg. N. Abut.	189.957	189.999	190.041	190.076	190.108	190.139	190.113	190.072	190.032	189.978	189.924	189.869	189.815

Notes:
 All dimensions are in millimeters (mm) except as noted.
 See Sheets S21, S22 & S23 for Beam Details.

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 ILLINOIS PROFESSIONAL DESIGN FIRM
 LICENSE NO. 084-000993

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 90 (1-90)
 AT NAGLE AVENUE
 F.A.U. RTE. 2783 SEC 1314B
 COOK COUNTY STATION O+998.813
 STRUCTURE NO. 016-0708

FRAMING PLAN

DRAWN BY KAC
 CHECKED BY LDB/DGS
 DATE: DEC. 2004