



PLAN
(Beam lengths shown on sheets S11 and S12 of S21.)

	0.4 Sp. #1	Pier #1	0.5 Sp. #2	Pier #2	0.6 Sp. #3
I	(in ⁴) 48647.6	----	48647.6	----	48647.6
I'	(in ⁴) 176440	----	176440	----	176440
S_b	(in ³) 3165.1	----	3165.1	----	3165.1
S_b'	(in ³) 5926	----	5926	----	5926
S_t	(in ³) 2358.1	----	2358.1	----	2358.1
S_t'	(in ³) 28343	----	28343	----	28343
\bar{Q}	(k/')	1.09	----	1.09	----
$M\bar{Q}$	(k)	123	----	288	----
$s\bar{Q}$	(k/')	0.55	0.55	0.55	0.55
$Ms\bar{Q}$	(k)	27	87	60	87
$M\bar{L}$	(k)	163.0	167.7	219.5	167.7
M (Imp)	(k)	48.9	50.3	64.1	50.3

	Abutment	Pier #1 Span 1 Pier #2 Span 3	Pier #1 Span 2 Pier #2 Span 2
$R\bar{Q}$	(k) 16.4	16.4	25.1
$Rs\bar{Q}$	(k) 5.4	11.9	11.9
$R\bar{L}$	(k) 32.0	22.5	22.5
$Imp.$	(k) 9.6	6.8	6.8
R (Total)	(k) 63.4	57.6	66.3

* The total $R\bar{Q}$, $R\bar{L}$, and Impact Reactions are assumed to be distributed evenly to each bearing line at a pier regardless of the span ratios.

I and I' are the moment of inertia 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.
 $M\bar{Q}$ is the moment due to dead loads on the non-composite prestressed beam. It is conservatively calculated at 0.5 of the span.
 $Ms\bar{Q}$ is the moment due to dead loads on the composite section.
 $M\bar{L}$ 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.

Note:
For Beam Details see Sheets S11 thru S13 of S21.

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 ILLINOIS PROFESSIONAL DESIGN FIRM
 LICENSE NO. 184-000993

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 US ROUTE 52 (STATE STREET)
 OVER PRAIRIE CREEK
 FAP RTE. 852 SEC. 18B-5-R
 WILL COUNTY
 STA. 1008+00.00 STRUCTURE NO. 099-4643
FRAMING PLAN
 DRAWN BY: KAC
 CHECKED BY: JMH/DGS
 DATE: OCTOBER, 2004