

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1	Pier 4	0.6 Sp. 2
$I_s$	(in <sup>4</sup> )	50246	79906	50246
$I_c$ (n)	(in <sup>4</sup> )	101819	-	101819
$I_c$ (3n)	(in <sup>4</sup> )	75639	-	75639
$S_s$	(in <sup>3</sup> )	1686.1	2477.7	1686.1
$S_c$ (n)	(in <sup>3</sup> )	2114.2	-	2114.2
$S_c$ (3n)	(in <sup>3</sup> )	1946.4	-	1946.4
Z	(in <sup>3</sup> )	-	-	-
DC <sub>1</sub>	(k/')	0.94	1.05	0.94
M <sub>DC1</sub>	(k)	1442	3308	1475
DC <sub>2</sub>	(k/')	0.15	0.15	0.15
M <sub>DC2</sub>	(k)	249	464	254
DW	(k/')	0.329	0.329	0.329
M <sub>DW</sub>	(k)	547	1017	558
M <sub>LL+IMP</sub>	(k)	2215	2119	2227
M <sub>u</sub> (Strength I)	(k)	6811	9949	6896
$\phi_r M_n$ , $\phi_r M_{nc}$	(k)	10527	11101	10527
$f_s$ DC <sub>1</sub>	(ksi)	10.26	16.02	10.50
$f_s$ DC <sub>2</sub>	(ksi)	1.54	2.25	1.57
$f_s$ DW	(ksi)	3.37	4.93	3.44
$f_s$ 1.3(LL+I)	(ksi)	16.3	13.3	16.4
$f_s$ (Service II)	(ksi)	31.5	36.5	31.9
$f_s$ (Total)(Strength I)	(ksi)	-	-	-
V <sub>r</sub>	(k)	30.2	-	30.1

$I_s, S_s$ : Non-composite moment of inertia and section modulus of the steel section used for computing  $f_s$  (Total-Strength I, and Service II) due to non-composite dead loads (in<sup>4</sup> and in<sup>3</sup>).

$I_c(n), S_c(n)$ : Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing  $f_s$  (Total-Strength I, and Service II) due to short-term composite live loads (in<sup>4</sup> and in<sup>3</sup>).

$I_c(3n), S_c(3n)$ : Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing  $f_s$  (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads (in<sup>4</sup> and in<sup>3</sup>).

Z: Plastic Section Modulus of the steel section in non-composite areas. Omit line in Moment Table if not used in design calculations (in<sup>3</sup>).

DC<sub>1</sub>: Un-factored non-composite dead load (kips/ft.).

M<sub>DC1</sub>: Un-factored moment due to non-composite dead load (kip-ft.).

DC<sub>2</sub>: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M<sub>DC2</sub>: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M<sub>DW</sub>: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M<sub>LL + IMP</sub>: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M<sub>u</sub> (Strength I): Factored design moment (kip-ft.).  
1.25 (M<sub>DC1</sub> + M<sub>DC2</sub>) + 1.5 M<sub>DW</sub> + 1.75 M<sub>LL + IMP</sub>

$\phi_r M_n$ : Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).

$\phi_r M_{nc}$ : Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).

$f_s$  (Service II): Sum of stresses as computed from the moments below (ksi).  
M<sub>DC1</sub> + M<sub>DC2</sub> + M<sub>DW</sub> + 1.3 M<sub>LL + IMP</sub>

$f_s$  (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).  
1.25 (M<sub>DC1</sub> + M<sub>DC2</sub>) + 1.5 M<sub>DW</sub> + 1.75 M<sub>LL + IMP</sub>

V<sub>r</sub>: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

INTERIOR GIRDER REACTION TABLE HL93 Loading				
		Pier 3 - Unit 2	Pier 4	W. Abut.
R <sub>DC1</sub>	(k)	53.4	196.7	54.0
R <sub>DC2</sub>	(k)	8.7	29.3	8.8
R <sub>DW</sub>	(k)	19.0	64.3	19.2
R <sub>LL+Imp</sub>	(k)	94.7	188.9	94.9
R <sub>Total</sub>	(k)	175.8	479.2	176.9

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**MOMENT TABLES - UNIT 2  
STRUCTURE NUMBER 059-0510**

SHEET NO. 29 OF 51 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	761	107B-2	MACOUPIN	98	59
FAP ROUTE 761 (IL RT 108)			CONTRACT NO. 72A94		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			