



CAMBER DIAGRAM

* See Table for Final Top of Web Elevations at abutments and piers.
 ** Theoretical Top of Web Elevations before dead load deflection.

***TOP OF WEB ELEVATIONS

| | Girder #1 | Girder #2 | Girder #3 | Girder #4 |
|-----------------|-----------|-----------|-----------|-----------|
| ⊕ Brg. W. Abut. | 553.953 | 554.123 | 554.123 | 553.953 |
| ⊕ Splice #1 | 553.920 | 554.090 | 554.090 | 553.920 |
| ⊕ Pier #1 | 553.800 | 553.970 | 553.970 | 553.800 |
| ⊕ Splice #2 | 554.009 | 554.179 | 554.179 | 554.009 |
| ⊕ Pier #2 | 553.800 | 553.970 | 553.970 | 553.800 |
| ⊕ Splice #3 | 553.920 | 554.090 | 554.090 | 553.920 |
| ⊕ Brg. E. Abut. | 553.953 | 554.123 | 554.123 | 553.953 |

*** For Fabrication Only

INTERIOR GIRDER MOMENT TABLE

| | 0.4 Sp. 1 or 0.6 Sp. 3 | 0.5 Sp. 2 | Pier 1 & 2 |
|---------------------------------|------------------------|-----------|------------|
| I_s | 26951 | 31352 | 79907 |
| $I_c(n)$ | 67266 | 81773 | - |
| $I_c(3n)$ | 50087 | 59514 | - |
| S_s | 904 | 1157 | 2478 |
| $S_c(n)$ | 1284 | 1616 | - |
| $S_c(3n)$ | 1169 | 1478 | - |
| ρ | 1.11 | 1.14 | 1.56 |
| $M \rho$ | 941 | 1321 | 4370 |
| $s \rho$ | 0.42 | 0.42 | - |
| $M_s \rho$ | 412 | 607 | - |
| $M \ell$ | 1306 | 1598 | 1714 |
| M_{imp} | 256 | 288 | 308 |
| $\rho_3 [M \ell + M_{imp}]$ | 2603 | 3142 | 3370 |
| M_a | 5143 | 6592 | 10062 |
| M_u | 5453 | 6995 | - |
| $f_s \rho$ non-comp | 12.50 | 13.70 | 21.16 |
| $f_s \rho$ (comp) | 4.23 | 4.93 | - |
| $f_s \rho_3 [M \ell + M_{imp}]$ | 24.33 | 23.33 | 16.32 |
| f_s (Overload) | 41.07 | 41.97 | 37.49 |
| f_s (Total) | - | - | 48.73 |
| VR | 74 | 71 | - |

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads (in.⁴ and in.³).

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

$I_c(3n), S_c(3n)$: 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 and Overload) due to long-term composite (superimposed) dead loads (in.⁴ and in.³).

ρ : Un-factored non-composite dead load (kips/ft.).

$M \rho$: Un-factored moment due to non-composite dead load (kip-ft.).

$s \rho$: Un-factored long-term composite (superimposed) dead load (kips/ft.).

$M_s \rho$: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

$M \ell$: Un-factored live load moment (kip-ft.).

M_{imp} : Un-factored moment due to impact (kip-ft.).

M_a : Factored design moment (kip-ft.).
 $1.3 [M \rho + M_s \rho + \frac{5}{3} (M \ell + M_{imp})]$

M_u : Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).

f_s (Overload): Sum of stresses as computed from the moments below (ksi).
 $M \rho + M_s \rho + \frac{5}{3} (M \ell + M_{imp})$

f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
 $1.3 [M \rho + M_s \rho + \frac{5}{3} (M \ell + M_{imp})]$

VR: Maximum ℓ + impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).

INTERIOR GIRDER REACTION TABLE

| | Abutments | Piers |
|-------------|-----------|-------|
| $R \rho$ | 65.8 | 273.0 |
| $R \ell$ | 55.2 | 110.6 |
| Imp. | 10.8 | 19.9 |
| R_{Total} | 131.8 | 403.5 |

**** Compact section
 ***** Braced non-compact and partially braced section

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 LAYOUT
 DRAWN DAP
 11/20/07
 12/28/07
 REVIEWED JHM
 02/04/08

STRUCTURAL STEEL DETAILS (SHEET 2)
 F.A.S. 662 (TR 61) OVER EMBARRAS RIVER
 CUMBERLAND COUNTY
 SECTION 01-00061-00-BR
 STA. 470+75.00
 STRUCTURE NUMBER 018-3191
 PROFESSIONAL DESIGN FIRM LICENSE #184-001084

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JOB NO.
01S2021B
DATE
05/30/08