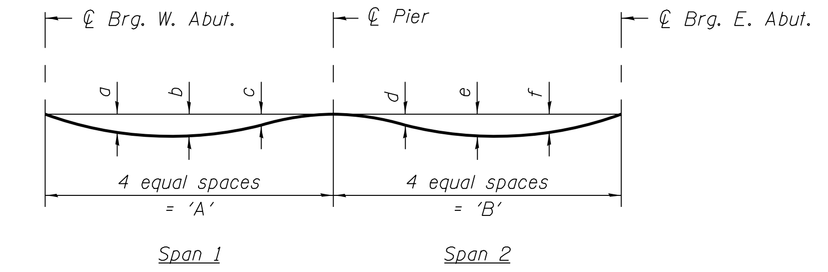



## STEEL DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of steel only.)

Note:
The calculated deflections of the primary girders under steel self-weight shall be used to detail the cross frame D connections and to erect the structural steel such that the girders will be plumb within a tolerance of ±1/8" per vertical foot throughout when supporting their own weight. The combined calculated steel self-weight and concrete dead load deflections of the primary girders shall be used to detail the cross frame D2 connections. See sheet S-7 for calculated concrete dead load deflections.

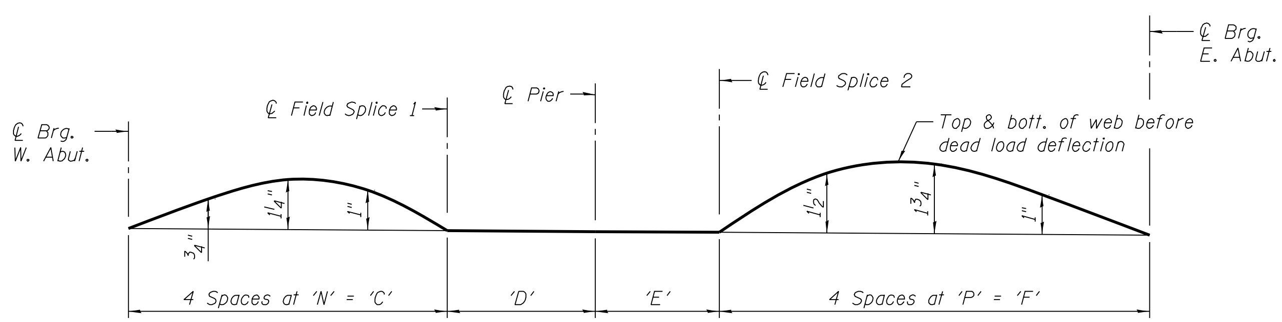
## STEEL DEAD LOAD DEFLECTION TABLE

| | Span 1 | | | | Span 2 | | | |
|---|---|---|---|---|---|---|---|---|
| | a | b | c | 'A' | d | e | f | 'B' |
| Girder 1 | 3/16" | 3/16" | 0 | 116'-8 3/4" | 7/16" | 13/16" | 5/8" | 138'-6 5/16" |
| Girder 2 | 1/4" | 1/4" | 1/16" | 115'-8 15/16" | 1/2" | 15/16" | 3/4" | 136'-5 9/16" |
| Girder 3 | 5/16" | 5/16" | 1/16" | 114'-9 9/16" | 9/16" | 1 1/16" | 7/8" | 134'-6 5/16" |
| Girder 4 | 3/16" | 3/16" | 0 | 113'-10 11/16" | 3/8" | 11/16" | 9/16" | 132'-8 1/2" |
| Girder 5 | 1/4" | 1/4" | 1/16" | 113'-0 5/16" | 7/16" | 13/16" | 5/8" | 130'-11 7/8" |
| Girder 6 | 1/4" | 1/4" | 1/16" | 112'-2 5/16" | 1/2" | 15/16" | 3/4" | 129'-4 7/16" |

## TOP OF WEB ELEVATIONS

(For fabrication use only)

| Girder No. | ℄ Brg. W. Abut. | ℄ Splice 1 | ℄ Pier | ℄ Splice 2 | ℄ Brg. E. Abut. |
|---|---|---|---|---|---|
| 1 | 606.69 | 606.10 | 605.88 | 605.70 | 604.96 |
| 2 | 607.06 | 606.46 | 606.26 | 606.08 | 605.35 |
| 3 | 607.42 | 606.83 | 606.63 | 606.45 | 605.74 |
| 4 | 607.78 | 607.19 | 607.00 | 606.83 | 606.13 |
| 5 | 608.13 | 607.56 | 607.37 | 607.20 | 606.52 |
| 6 | 608.48 | 607.92 | 607.74 | 607.57 | 606.90 |




## CAMBER DIAGRAM

## GIRDER 6 MOMENT TABLE

| | | 0.4 Sp. 1 | Pier | 0.6 Sp. 2 |
|---|---|---|---|---|
| $I_s$ | ($in^4$) | 27,858 | 41,967 | 41,308 |
| $I_c(n)$ | ($in^4$) | 55,772 | - | 77,376 |
| $I_c(3n)$ | ($in^4$) | 41,635 | - | 57,956 |
| $I_c(cr)$ | ($in^4$) | - | 47,540 | - |
| $S_s$ | ($in^3$) | 1,076 | 1,507 | 1,662 |
| $S_c(n)$ | ($in^3$) | 1,364 | - | 2,008 |
| $S_c(3n)$ | ($in^3$) | 1,250 | - | 1,858 |
| $S_c(cr)$ | ($in^3$) | - | 1,843 | - |
| $S_{xc}$ | ($in^3$) | 1,286 | - | 1,905 |
| DC1 | (k/') | 0.86 | 0.95 | 0.94 |
| $M_{DC1}$ | ('k) | 767 | 1,731 | 1,328 |
| DC2 | (k/') | 0.17 | 0.17 | 0.17 |
| $M_{DC2}$ | ('k) | 295 | 688 | 401 |
| DW | (k/') | 0.26 | 0.26 | 0.26 |
| $M_{DW}$ | ('k) | 237 | 498 | 360 |
| $M_{LL+IM}$ | ('k) | 1,493 | 1,760 | 1,818 |
| $f_l$ (Strength I) | (ksi) | 5.5 | 0 | 3.7 |
| $M_u + \frac{1}{3} f_l S_{xc}$ | ('k) | 4,494 | - | 6,078 |
| $\phi_f M_n$ | ('k) | 5,286 | - | 7,797 |
| $f_s$ DC1 | (ksi) | 8.6 | 13.8 | 9.6 |
| $f_s$ DC2 | (ksi) | 2.8 | 4.5 | 2.6 |
| $f_s$ DW | (ksi) | 2.3 | 3.2 | 2.3 |
| $f_s$ (LL+IM) | (ksi) | 13.1 | 11.5 | 10.9 |
| $f_l$ (Service II) | (ksi) | 4.2 | 0 | 2.8 |
| $f_s + f_l/2$ (Service II) | (ksi) | 32.8 | 36.4 | 30.0 |
| $0.95 R_h F_{yf}$ | (ksi) | 47.5 | 47.5 | 47.5 |
| $f_s + f_l/3$ (Total)(Strength I) | (ksi) | - | 47.7 | - |
| $\phi_f F_n$ | (ksi) | - | 50.0 | - |
| $V_f$ | (k) | 24 | 32 | 34 |

## REACTION TABLE

| | | W. Abut. @ Girder 6 | Pier @ Girder 5 | E. Abut. @ Girder 6 |
|---|---|---|---|---|
| $R_{DC1}$ | (k) | 38.9 | 204.8 | 55.7 |
| $R_{DC2}$ | (k) | 16.4 | 25.0 | 24.5 |
| $R_{DW}$ | (k) | 11.4 | 52.1 | 15.7 |
| $R_{LL+IM}$ | (k) | 66.8 | 178.4 | 96.3 |
| $R_{Total}$ | (k) | 133.5 | 460.3 | 192.2 |

Note:
$M_{LL}$ and $R_{LL}$ include the effects of centrifugal force and superelevation.

## GIRDER CAMBER DIMENSIONS

| Girder No. | 'C' | 'D' | 'E' | 'F' | 'N' | 'P' |
|---|---|---|---|---|---|---|
| 1 | 79'-8 3/4" | 37'-0" | 31'-0" | 107'-6 5/16" | 19'-11 3/16" | 26'-10 9/16" |
| 2 | 79'-9 11/16" | 35'-11 1/4" | 30'-9 5/16" | 105'-8 1/4" | 19'-11 7/16" | 26'-5 1/16" |
| 3 | 79'-10 11/16" | 34'-10 7/8" | 30'-6 3/4" | 103'-11 9/16" | 19'-11 11/16" | 25'-11 7/8" |
| 4 | 79'-11 13/16" | 33'-10 15/16" | 30'-4 3/8" | 102'-4 1/8" | 19'-11 15/16" | 25'-7 1/16" |
| 5 | 80'-1" | 32'-11 5/16" | 30'-2 1/8" | 100'-9 3/4" | 20'-0 1/4" | 25'-2 7/16" |
| 6 | 80'-2 5/16" | 32'-0" | 30'-0" | 99'-4 7/16" | 20'-0 9/16" | 24'-10 1/8" |

$I_s$, $S_s$: 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 ($in.^4$ 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-Strength I, and Service II) in uncracked sections 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-Strength I, and Service II) in uncracked sections due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

$I_c(cr)$, $S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing $f_s$ (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

$S_{xc}$: Section modulus about the major axis of section to the controlling flange, tension or compression, taken as yield moment with respect to the controlling flange over the yield strength of the controlling flange ($in.^3$).

DC1: Un-factored non-composite dead load (kips/ft.).

$M_{DC1}$: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

$M_{DC2}$: 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.).

$M_{DW}$: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

$M_{LL+IM}$: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

$M_u$ (Strength I): Factored design moment (kip-ft.).
$1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{LL+IM}$

$f_l$: Factored calculated normal stress at edge of flange for controlling flange plate due to lateral bending, Strength I or Service II as applicable (ksi).

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

$f_s$ DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
$M_{DC1} / S_{nc}$

$f_s$ DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
$M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.

$f_s$ DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
$M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.

$f_s$ (LL+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live plus impact loads as calculated below (ksi).
$M_{LL+IM} / S_c(n)$ or $M_{LL+IM} / S_c(cr)$ as applicable.

$f_s + f_l/2$ (Service II): Sum of stresses as computed below (ksi).
$f_{s\,DC1} + f_{s\,DC2} + f_{s\,DW} + 1.3 f_s(_{LL+IM}) + f_l/2$

$0.95 R_h F_{yf}$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

$f_s + f_l/3$ (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
$1.25 (f_{s\,DC1} + f_{s\,DC2}) + 1.5 f_{s\,DW} + 1.75 f_s(_{LL+IM}) + f_l/3$

$\phi_f F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

$V_f$: Maximum factored shear range in span computed according to Article 6.10.10.