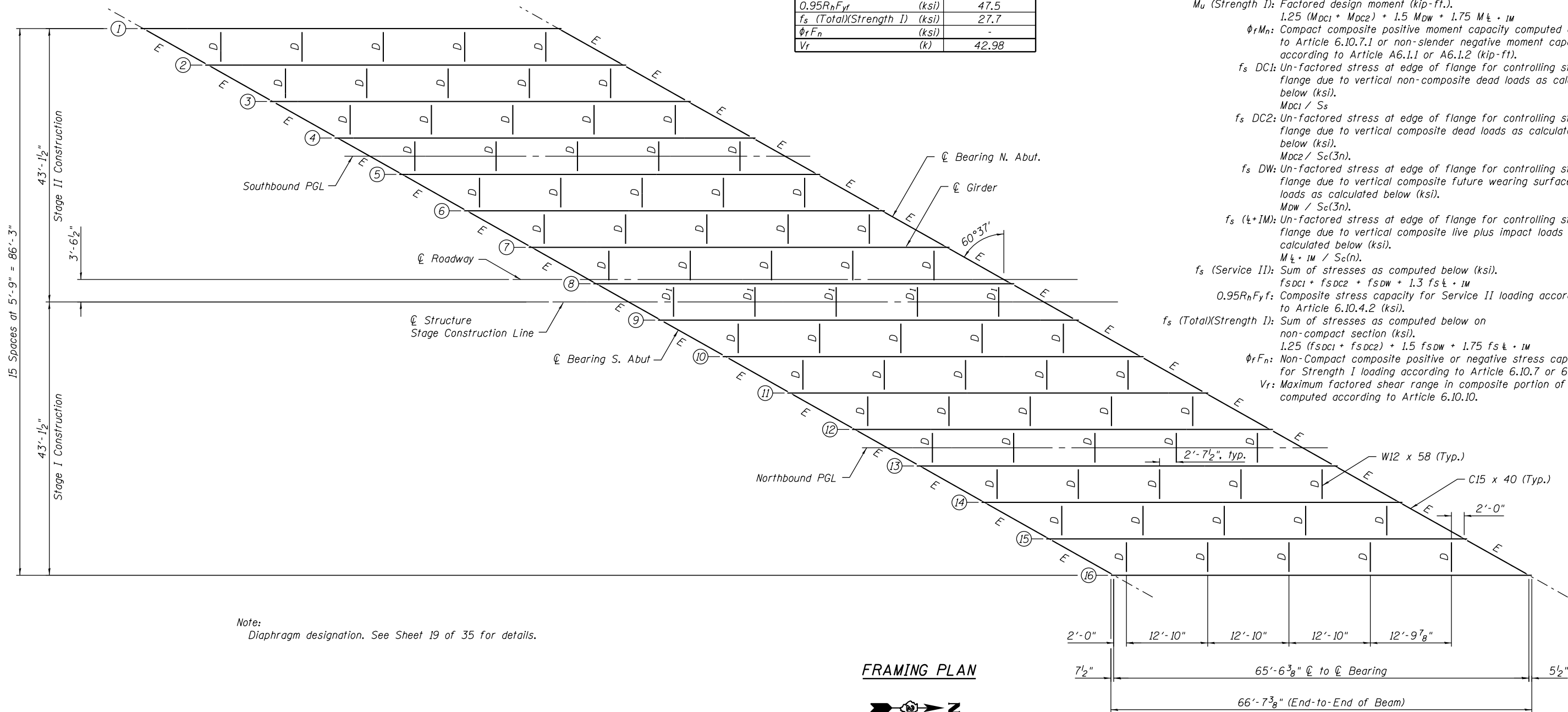


* TOP OF WEB ELEVATIONS		
Beam Number	℄ Brg. S. Abut.	℄ Brg. N. Abut.
1	645.83	646.07
2	646.00	646.20
3	646.16	646.32
4	646.32	646.43
5	646.47	646.54
6	646.62	646.64
7	646.75	646.73
8	646.88	646.81
9	646.88	646.81
10	646.78	646.62
11	646.65	646.46
12	646.53	646.29
13	646.39	646.11
14	646.25	645.92
15	646.10	645.73
16	645.95	645.53

\* For Fabrication Only

INTERIOR GIRDER REACTION TABLE	
	Abutment
$R_{DC1}$	(k) 26.08
$R_{DC2}$	(k) 10.10
$R_{DW}$	(k) 8.60
$R_{\ell + IM}$	(k) 103.15
$R_{Total}$	(k) 147.92

INTERIOR GIRDER MOMENT TABLE	
	0.5 Sp.
$I_s$	(in <sup>4</sup> ) 7,246
$I_c(n)$	(in <sup>4</sup> ) 25,684
$I_c(3n)$	(in <sup>4</sup> ) 16,956
$S_s$	(in <sup>3</sup> ) 714
$S_c(n)$	(in <sup>3</sup> ) 1,064
$S_c(3n)$	(in <sup>3</sup> ) 965
$DC1$	(k/ft.) 0.775
$M_{DC1}$	(k) 404
$DC2$	(k/ft.) 0.338
$M_{DC2}$	(k) 158
$DW$	(k/ft.) 0.288
$M_{DW}$	(k) 134
$M_{\ell + IM}$	(k) 721
$M_u$ (Strength I)	(k) 2,165
$\phi_r M_n$	(k) 4,293
$f_s DC1$	(ksi) 6.78
$f_s DC2$	(ksi) 1.96
$f_s DW$	(ksi) 1.67
$f_s (\ell + IM)$	(ksi) 8.13
$f_s$ (Service II)	(ksi) 20.98
$0.95R_n F_y f$	(ksi) 47.5
$f_s$ (Total)(Strength I)	(ksi) 27.7
$\phi_r F_n$	(ksi) -
$V_r$	(k) 42.98



Note:  
Diaphragm designation. See Sheet 19 of 35 for details.

$I_s, S_s$ : 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>).

$DC1$ : 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.).

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

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

$\phi_r M_n$ : Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (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).  
 $M_{DC1} / S_s$

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

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

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

$f_s$  (Service II): Sum of stresses as computed below (ksi).  
 $f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3 f_{s\ell + IM}$

$0.95R_n F_y f$ : Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

$f_s$  (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).  
 $1.25 (f_{sDC1} + f_{sDC2}) + 1.5 f_{sDW} + 1.75 f_{s\ell + IM}$

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

$V_r$ : Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

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**STRAND ASSOCIATES**  
1170 SOUTH HOUBOLT ROAD  
JOLIET, ILLINOIS 60431  
(815) 744-4200  
IDFPR NO. 184-001273

USER NAME = briantf  
DESIGNED - MJD  
CHECKED - AJS  
DRAWN - BJF  
CHECKED - RRD  
PLOT SCALE =  
PLOT DATE = 12/6/2012

DESIGNED - MJD  
CHECKED - AJS  
DRAWN - BJF  
CHECKED - RRD  
REVISED  
REVISED  
REVISED  
REVISED

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STEEL FRAMING PLAN  
STRUCTURE NO. 098-0015**  
SHEET NO. 18 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
646	101 BR-3	WHITESIDE	113	74
CONTRACT NO. 64C17				
ILLINOIS FED. AID PROJECT				