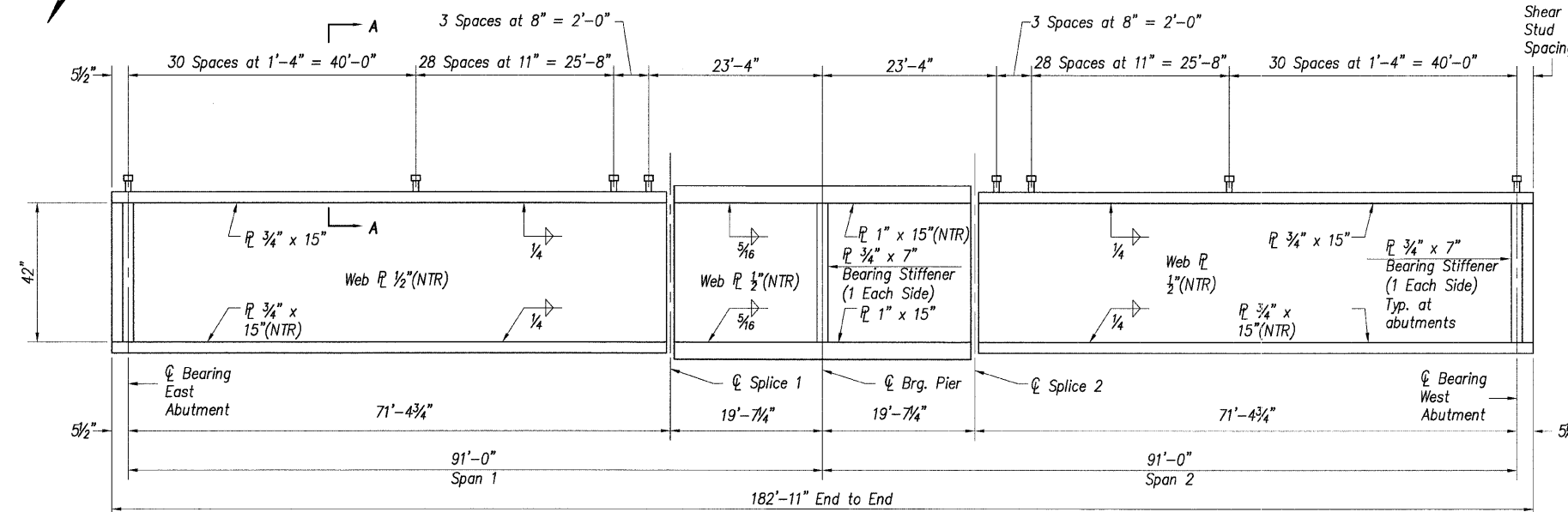


FRAMING PLAN

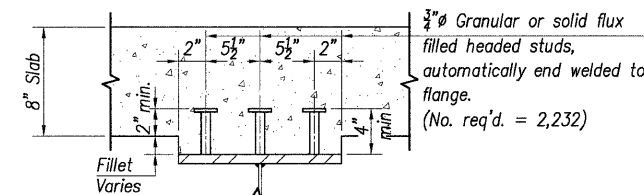


GIRDER ELEVATION

"NTR" denotes plates to which notch toughness requirements are applicable

Notes

- All girders, splice plates, and bearing stiffeners shall be AASHTO M270 Grade 50.
- See sheet 15 of 30 for structural steel details.
- All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
- Load carrying components designated "NTR" shall conform to the supplemental requirements for Notch Toughness, Zone 2.



SECTION A-A

	0.4 Sp. 1 or 0.6 Sp. 2	Pier
$I_s$	(in <sup>4</sup> ) 13,368	16,957
$I_c(n)$	(in <sup>4</sup> ) 31,178	-
$I_c(3n)$	(in <sup>4</sup> ) 23,239	-
$S_s$	(in <sup>3</sup> ) 615	771
$S_c(n)$	(in <sup>3</sup> ) 835	-
$S_c(3n)$	(in <sup>3</sup> ) 763	-
$Z$	(in <sup>3</sup> )	
$\rho$	(k/' ) 0.805	1.4
$M_D$	(k) 446	1,367
$S_D$	(k/' ) 0.569	-
$M_{SD}$	(k) 374	-
$M_L$	(k) 652	453
$M_{imp}$	(k) 150	104
$5/3 [M_L + M_{imp}]$	(k) 1,337	929
$M_o$	(k) 2,804	2,985
* $M_u$	(k) 3,297	-
$f_s \rho(\text{non-comp})$	(ksi) 8.7	21.3
$f_s \rho(\text{comp})$	(ksi) 5.9	-
$f_s 5/3 [M_L + M_{imp}]$	(ksi) 19.2	14.5
$f_s(\text{Overload})$	(ksi) 33.8	35.8
** $f_s(\text{Total})$	(ksi) 46.5	-
VR	(k) 104.0	-

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

- $I_s, S_s$  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<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 and Overload) 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 and Overload) due to long-term composite (superimposed) dead loads (in<sup>4</sup> and in<sup>3</sup>).
- $D$  Un-factored non-composite dead load (kips/ft.).
- $M_D$  Un-factored moment due to non-composite dead load (kip-ft.).
- $S_D$  Un-factored long-term composite (superimposed) dead load (kips/ft.).
- $M_{SD}$  Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
- $M_L$  Un-factored live load moment (kip-ft.).
- $M_{imp}$  Un-factored moment due to impact (kip-ft.).
- $M_o$  Factored design moment (kip-ft.).  
 $1.3[M_D + M_{SD} + 5/3 (M_L + M_{imp})]$
- $M_u$  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.).
- $f_s(\text{Overload})$  Sum of stresses as computed from the moments below (ksi).  
 $M_D + M_{SD} + 5/3 (M_L + M_{imp})$
- $f_s(\text{Total})$  Sum of stresses as computed from the moments below on non-compact section (ksi).  
 $1.3[M_D + M_{SD} + 5/3 (M_L + M_{imp})]$
- VR Maximum L + impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).

INTERIOR GIRDER REACTION TABLE

	Abut.	Pier
$R_D$	(k) 47.4	155.1
$R_L$	(k) 35.7	54.5
Imp.	(k) 8.2	12.5
$R_{Total}$	(k) 91.3	222.1

DESIGNED	T.M.M.
CHECKED	C.M.W.
DRAWN	B.D.M./S.H.K.
CHECKED	C.M.W.



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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
FRAMING PLAN AND GIRDER DETAILS  
WEST CORBIN STREET OVER F.A.P. 310 (IL-255)  
F.A.U. 8959 SECTION 05-00016-03-BR  
MADISON COUNTY  
STATION 36+23.37  
STRUCTURE NO. 060-6851