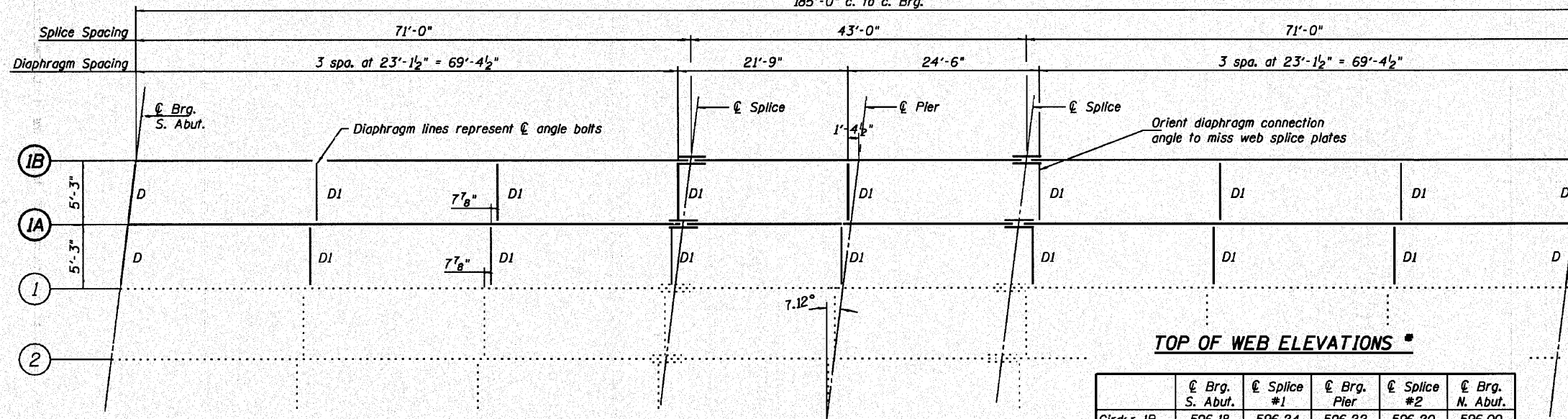
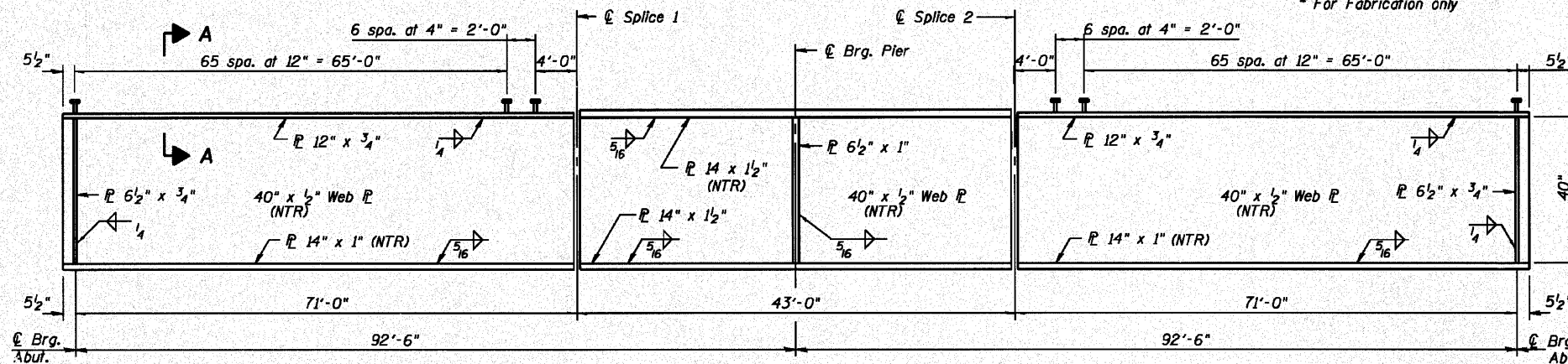


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

185'-0" c. to c. Brg.



FRAMING PLAN



GIRDER ELEVATION

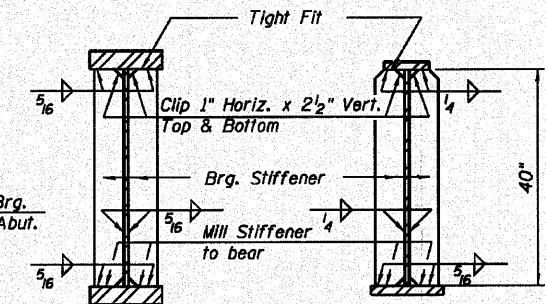
"NTR" denotes plates to which notch toughness requirements are applicable. The main load carrying members components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

- 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_I : Un-factored moment due to impact (kip-ft.).
- M_a : Factored design moment (kip-ft.).
- $1.5 [M_D + M_{SD} + \frac{2}{3} (M_L + M_I)]$
- 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).
- $M_D + M_{SD} + \frac{2}{3} (M_L + M_I)$
- VR: Maximum $\frac{1}{2}$ + impact shear range within the composite portion of the span for stud shear connector design (kips).

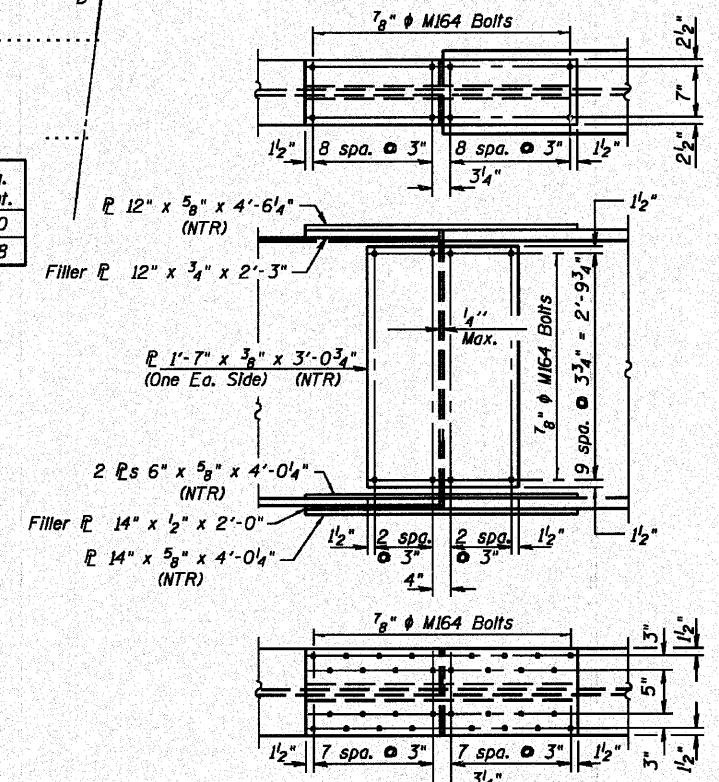
INTERIOR GIRDER REACTION TABLE		
	Abut.	Pier
R_D (k)	33.8	119.8
R_L (k)	30.2	46.8
R_I (k)	7.0	7.5
R_{Total} (k)	71.0	174.1

INTERIOR GIRDER MOMENT TABLE (1A)		
	0.4 Sp. 1 or 0.6 Sp. 2	Pier
I_s (in ⁴)	12038	20758
$I_c(n)$ (in ⁴)	30698	
$I_c(3n)$ (in ⁴)	21809	
S_s (in ³)	647.6	966
$S_c(n)$ (in ³)	904.7	
$S_c(3n)$ (in ³)	818.0	
Z (in ³)		1072
ρ (k/')	0.842	1.084
M_D (k)	435	1194
s_D (k/')	0.175	
M_{SD} (k)	108	
M_L (k)	540	412
M_I (k)	142	97
$\frac{2}{3} [M_L + M_I]$ (k)	1137	848
M_a (k)	2184	2655
M_u (k)	3408	3215
$f_s \rho$ non-comp (ksi)	8.1	14.8
$f_s \rho$ (comp) (ksi)	1.6	
$f_s \frac{2}{3} [M_L + M_I]$ (ksi)	15.1	10.5
f_s (Overload) (ksi)	24.7	25.4
VR (k)	41.5	

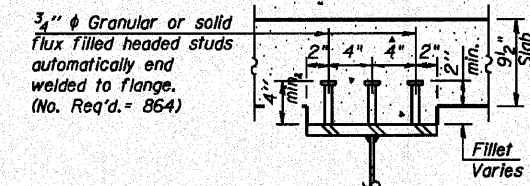
* Compact section



SECTION AT PIER
SECTION AT ABUTMENT



FIELD SPLICE DETAIL



SECTION A-A

FRAMING PLAN AND GIRDER DETAILS
STRUCTURE NO. 082-0176

SHEET NO. 13	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
				64	96
34 SHEETS		82-5K-2	ST. CLAIR	162	96
			CONTRACT NO. 76D59		
ILLINOIS FED. AID PROJECT					

- 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).
- Z: Plastic Section Modulus of the steel section in non-composite areas (in. 3).
- ρ : 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.).

DESIGNED - T.J.Z
CHECKED - C.W.C
DRAWN - DL.H
CHECKED - C.W.C, SDS

WHKS & CO.
ENGINEERING
7018 KINGSMILL CT.,
SPRINGFIELD, IL
(217) 483-9457
DESIGN FIRM #184001036