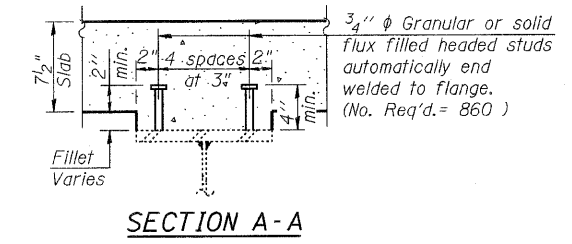
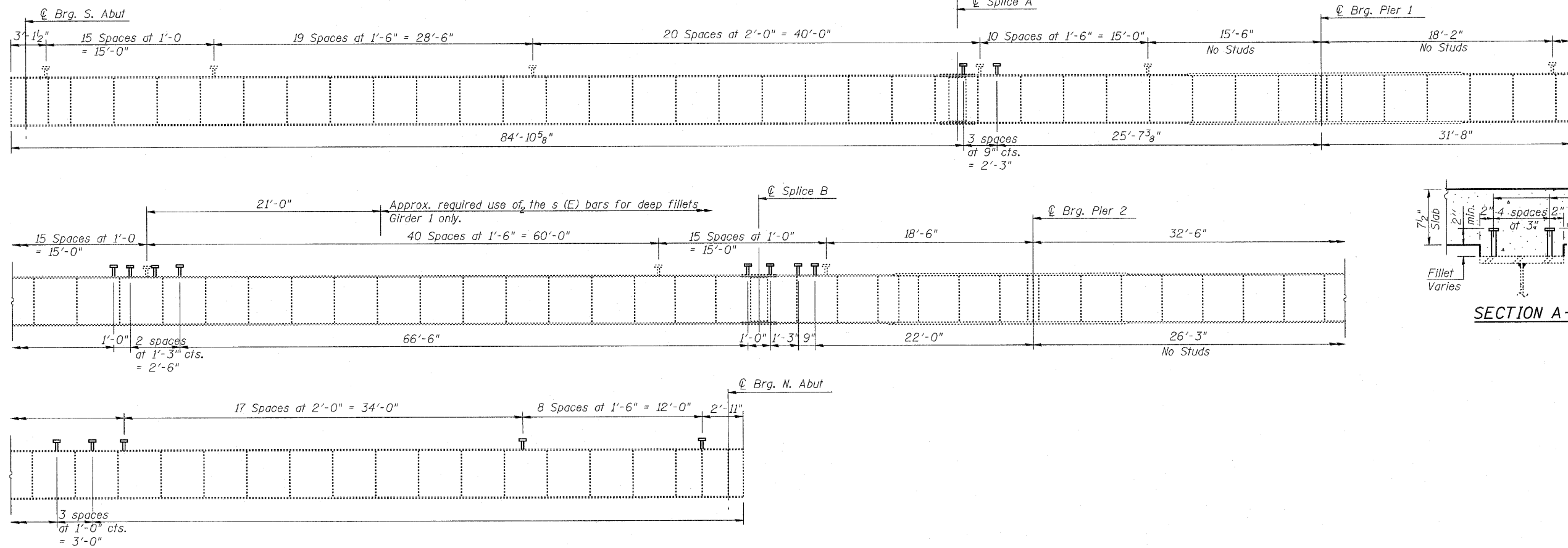
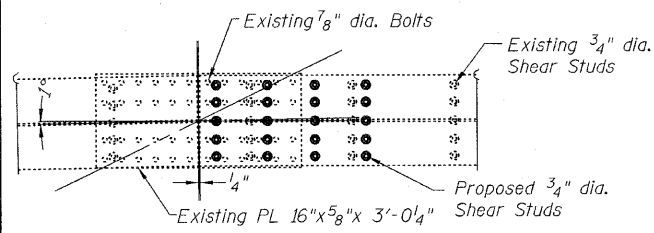


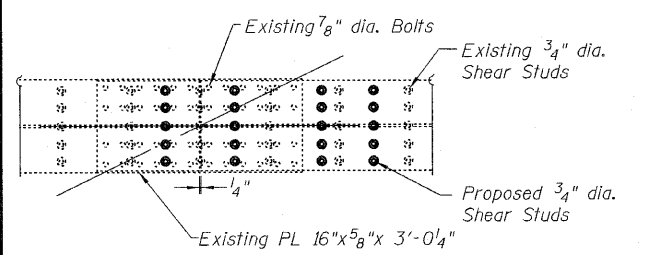
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



GIRDER ELEVATION



SPLICE 'A' DETAIL



SPLICE 'B' DETAIL

INTERIOR GIRDER MOMENT TABLE						
		0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. 3
$I_s$	(in <sup>4</sup> )	30177	53078	24717	38564	19361
$I_c(n)$	(in <sup>4</sup> )	63527	--	55581	--	46731
$I_c(3n)$	(in <sup>4</sup> )	47643	--	41718	--	35151
$S_s$	(in <sup>3</sup> )	1150	1948	951	1448	752
$S_c(n)$	(in <sup>3</sup> )	1450	--	1237	--	1020
$S_c(3n)$	(in <sup>3</sup> )	1343	--	1144	--	940
$\rho$	(k/')	.944	1.165	.935	1.148	.910
$M \rho$	(k)	874	1911	568	1230	317
$s \rho$	(k/')	.225	--	.225	--	.225
$M_s \rho$	(k)	234	--	187	--	94
$M_L$	(k)	993	877	937	687	663
$M_{IM}$	(k)	206	178	186	150	161
$M_{s3} [M_L + I]$	(k)	1998	1758	1871	1395	1374
$M_u$	(k)	4038	4770	3414	3413	2321
$M_u$	(k)	4030	--	3469	--	2903
$f_s \rho$ non-comp	(ksi)	9.12	11.77	7.17	10.19	5.06
$f_s \rho$ (comp)	(ksi)	2.09	--	1.96	--	1.2
$f_s \rho_3 [M_L + M_I]$	(ksi)	16.54	10.83	18.15	11.56	16.17
$f_s$ (Overload)	(ksi)	27.75	22.60	27.28	21.75	22.43
$f_s$ (Total)	(ksi)	36.08	26.85	35.47	26.00	29.16
VR	(k)	56.8	--	52.46	--	59.65

INTERIOR GIRDER REACTION TABLE					
	S. Abut.	Pier 1	Pier 2	N. Abut.	
$R \rho$	(k)	50.9	162.8	129.2	31.0
$R_L$	(k)	42.2	77.3	71.5	42.2
$R_I$	(k)	8.8	15.7	15.6	10.1
$R_{Total}$	(k)	101.9	255.8	216.3	83.3

\* Compact section  
\*\* Braced non-compact and partially braced section  
Fillet of 2" was included in calculating composite section properties.

DESIGNED PRD
CHECKED RKM
DRAWN PRD
CHECKED RKM

$I_s, S_s$ : 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).  
 $\rho$ : 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.).  
 $M_L$ : Un-factored live load moment (kip-ft.).  
 $M_I$ : Un-factored moment due to impact (kip-ft.).  
 $M_u$ : Factored design moment (kip-ft.).  
 $1.3 [M \rho + M_s \rho + \frac{5}{3} (M_L + M_I)]$   
 $M_u$ : 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).  
 $M \rho + M_s \rho + \frac{5}{3} (M_L + M_I)$   
 $f_s$  (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).  
 $1.3 [M \rho + M_s \rho + \frac{5}{3} (M_L + M_I)]$   
 VR: Maximum  $L_t$  + impact shear range within the composite portion of the span for stud shear connector design (kips).

BILL OF MATERIAL

Item	Unit	Total
Stud Shear Connectors	Each	860

Notes:  
 Existing Stud Shear Connectors are to be maintained.  
 No Transverse saw-cuts are allowed.  
 Contractor is responsible for the replacement of Stud Shear Connectors that are damaged during Removal of Existing Concrete Deck.  
 Resident Engineer may relocate Stud Shear Connectors shown as required to miss exiting connection bolts or existing Stud Shear Connections.

GIRDER ELEVATION AND TABLES  
STRUCTURE NO. 101-0123

**rjngroup**  
 Excellence through Ownership  
 200 West Front Street  
 Wheaton, IL 60187  
 PH. 630.682.4700

SHEET NO. 19 OF 33 SHEETS	F.A.P. & F.A.U. RTE. & RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	303 5146	1-HBR & 1-2HB-D	WINNEBAGO	216	135
	CONTRACT NO. 64B79				
FED. ROAD DIST. NO. 2 ILLINOIS FED. AID PROJECT					