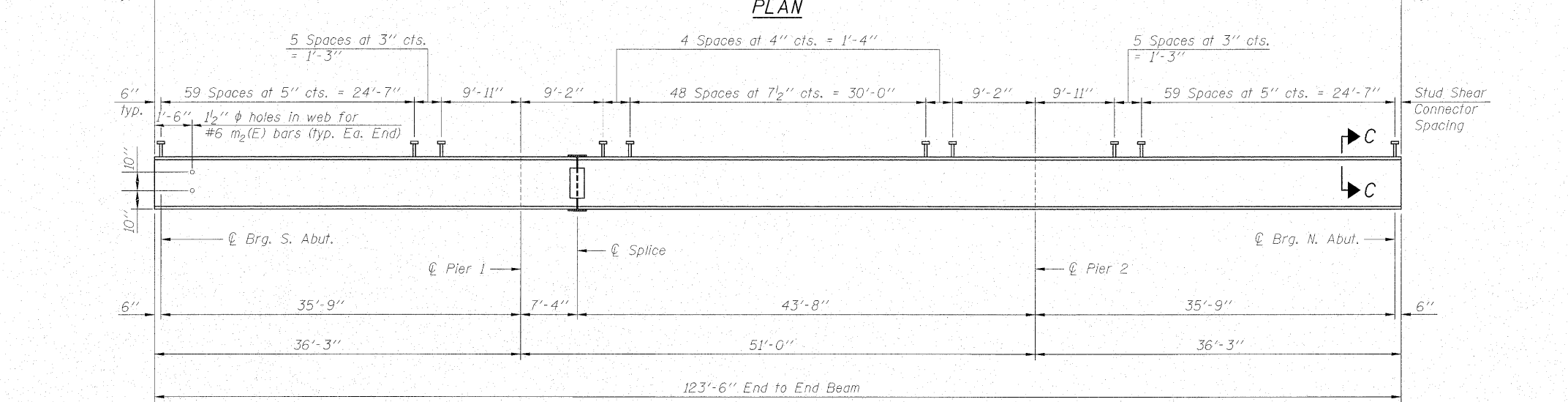
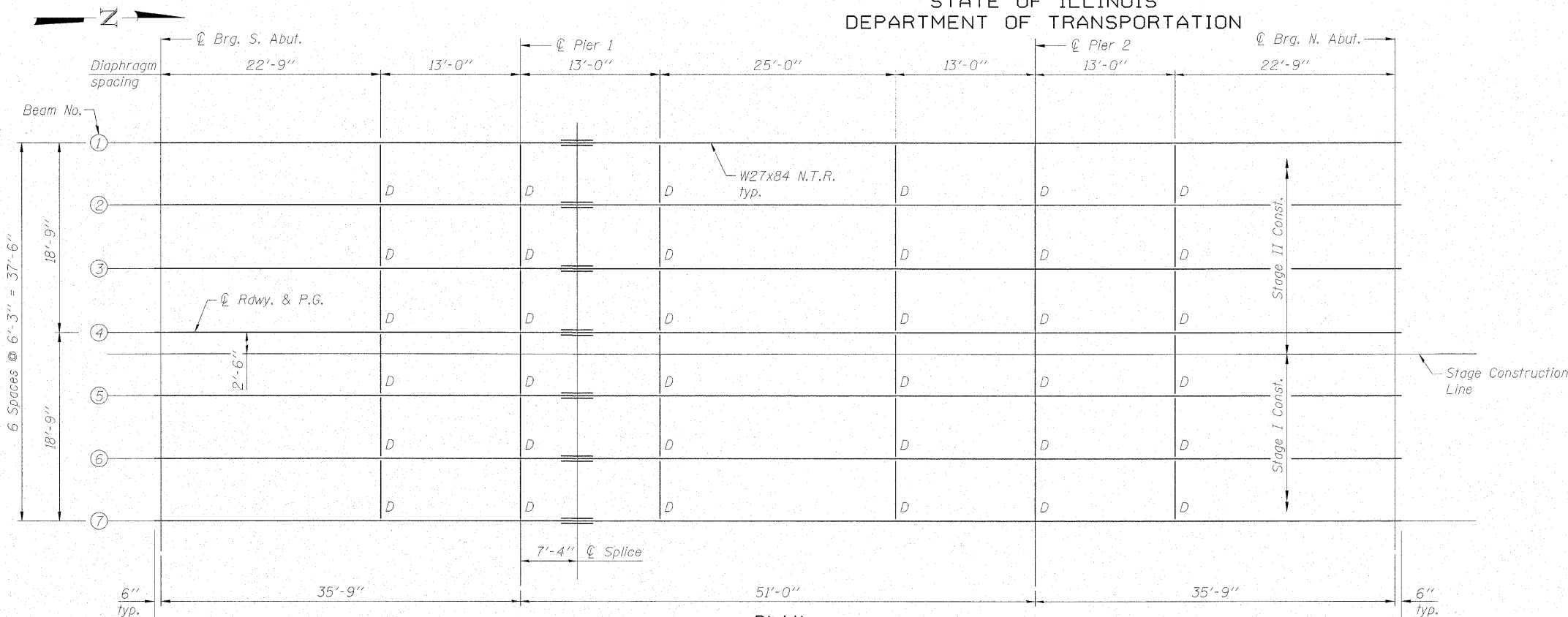


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**Notes:**

Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.

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 may be temporarily disconnected to install bearing anchor rods.

Steel beams shall be AASHTO M270 Gr. 50.

See sheet 15 of 24 for details of steel diaphragms, bearings, and Section C-C.

**MAURER & STUTZ, INC.**  
ENGINEERS ARCHITECTS

DESIGNED - BAS  
CHECKED - KEF  
DRAWN - SGM  
CHECKED - RJA/KEF

**TOP OF BEAM ELEVATIONS**  
(For Fabrication Only)

	℄ Brg. S. Abut.	℄ Pier 1	℄ Splice	℄ Pier 2	℄ Brg. N. Abut.
Beam 1	618.55	617.65	617.47	616.45	615.62
Beam 2	618.68	617.78	617.60	616.58	615.75
Beam 3	618.78	617.88	617.70	616.68	615.85
Beam 4	618.87	617.97	617.79	616.77	615.94
Beam 5	618.78	617.88	617.70	616.68	615.85
Beam 6	618.68	617.78	617.60	616.58	615.75
Beam 7	618.55	617.65	617.47	616.45	615.62

**INTERIOR GIRDER MOMENT TABLE**

		0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
$I_s$	(in <sup>4</sup> )	2850	2850	2850
$I_c(n)$	(in <sup>4</sup> )	8647	—	8647
$I_c(3n)$	(in <sup>4</sup> )	6496	—	6496
$S_s$	(in <sup>3</sup> )	213	213	213
$S_c(n)$	(in <sup>3</sup> )	333	—	333
$S_c(3n)$	(in <sup>3</sup> )	302	—	302
$Z$	(in <sup>3</sup> )	—	244	—
$DC1$	(k/ft)	0.729	0.729	0.729
$M_{DC1}$	(k)	53.9	144.8	92.2
$DC2$	(k/ft)	0.129	0.129	0.129
$M_{DC2}$	(k)	12.1	19.2	22.8
$DW$	(k/ft)	0.286	0.286	0.286
$M_{DW}$	(k)	26.9	42.5	50.5
$M_L + IM$	(k)	349.2	224.5	449.1
$M_u$ (Strength I)	(k)	733.9	661.5	1005.3
$\phi_f M_{nc}$	(k)	1745.0	1016.7	1703.4
$f_s DC1$	(ksi)	3.04	8.16	5.19
$f_s DC2$	(ksi)	0.48	1.08	0.91
$f_s DW$	(ksi)	1.07	2.39	2.01
$f_s 1.3(4+IM)$	(ksi)	16.36	16.44	21.04
$f_s$ (Service II)	(ksi)	20.95	28.07	29.15
$V_f$	(k)	17.6	—	17.1

$I_s, S_s$ : 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>).

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

$M_L + IM$ : Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

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

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

$\phi_f M_{nc}$ : Compact non-composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).

$f_s$  (Service II): Sum of stresses as computed from the moments below (ksi).  
 $M_{DC1} + M_{DC2} + M_{DW} + 1.3 M_L + IM$

$f_s$  (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).  
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_L + IM$

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

**INTERIOR GIRDER REACTION TABLE**

	Abut.	Pier
$R_{DC1}$	9.0	35.7
$R_{DC2}$	1.8	6.1
$R_{DW}$	3.9	13.6
$R_L + IM$	54.1	81.8
$R_{Total}$	68.8	137.2

**FRAMING PLAN & DETAILS**  
**STRUCTURE NO. 037-0175**

SHEET NO. 14 24 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	638	129 BR-3	HENRY	73	31
CONTRACT NO. 64B08					
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					