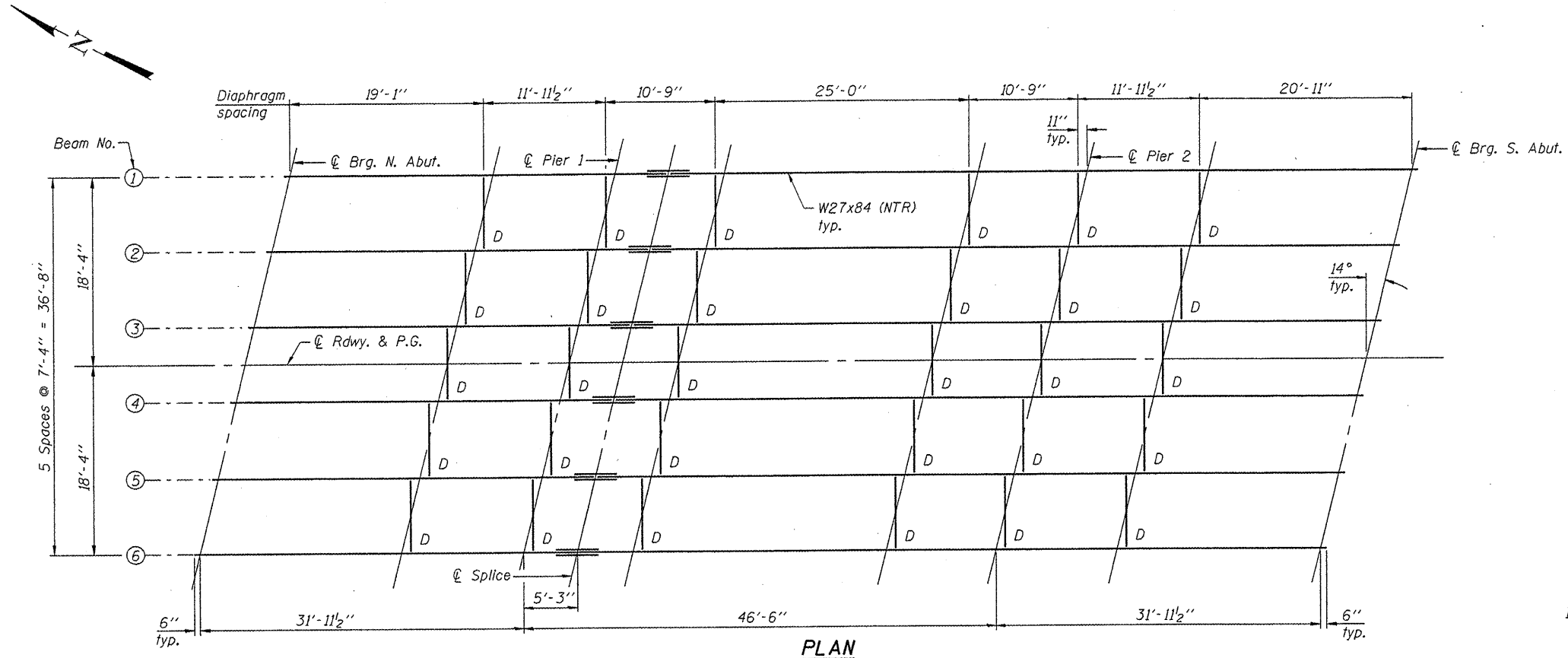
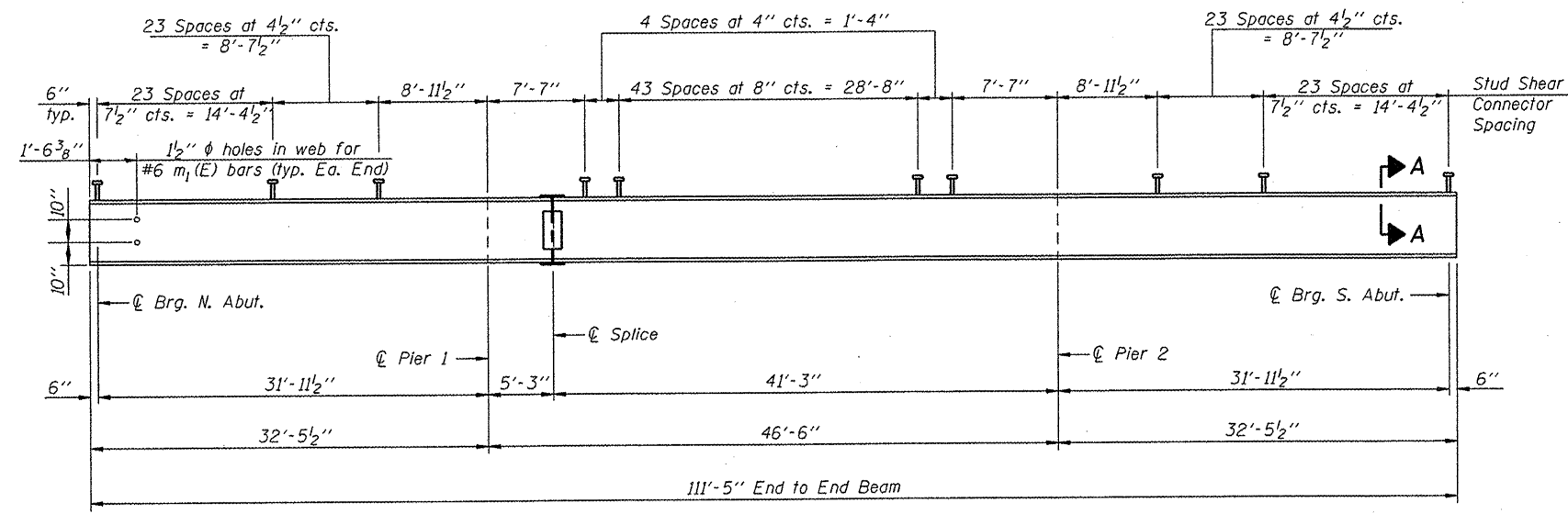


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN



ELEVATION

TOP OF BEAM ELEVATIONS
(For Fabrication Only)

	☉ Brg. N. Abut.	☉ Pier 1	☉ Splice	☉ Pier 2	☉ Brg. S. Abut.
Beam 1	533.052	532.915	532.893	532.785	532.702
Beam 2	533.242	533.185	533.176	533.163	533.152
Beam 3	533.432	533.445	533.448	533.535	533.602
Beam 4	533.602	533.695	533.711	533.897	534.042
Beam 5	533.772	533.935	533.962	534.250	534.472
Beam 6	533.932	534.175	534.215	534.597	534.892

		0.4 Sp. 1 or 0.6 Sp. 3	Pier	.5 Span 2
I_s	(in ⁴)	2850	2850	2850
$I_c(n)$	(in ⁴)	8935	--	2935
$I_c(3n)$	(in ⁴)	6815	--	6815
S_s	(in ³)	213	213	213
$S_c(n)$	(in ³)	337	--	337
$S_c(3n)$	(in ³)	306	--	306
Z	(in ³)	--	244	--
DC1	(k/ft)	.838	.988	.838
M _{DC1}	(k)	47.9	155.4	89.3
DC2	(k/ft)	.150	--	.150
M _{DC2}	(k)	11.1	--	22.4
DW	(k/ft)	.333	.333	.333
M _{DW}	(k)	24.7	40.4	49.6
M _{ℓ + IM}	(k)	346.7	224.0	445.6
M _U (Strength I)	(k)	717.5	646.9	993.8
$\phi_f M_n$, $\phi_f M_{nc}$	(k)	1773.1	1016.7	1727.2
f_s DC1	(ksi)	2.70	8.75	5.03
f_s DC2	(ksi)	0.43	--	0.88
f_s DW	(ksi)	0.97	2.28	1.94
f_s 1.3(ℓ + IM)	(ksi)	16.05	16.41	15.87
f_s (Service II)	(ksi)	20.15	27.44	23.72
V _r	(k)	18.5	--	17.7

		Abut.	Pier
R _{DC1}	(k)	9.1	37.2
R _{DC2}	(k)	1.8	6.5
R _{DW}	(k)	4.1	14.3
R _{ℓ + IM}	(k)	57.1	87.5
R _{Total}	(k)	72.1	145.5

- 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 (in⁴ and in³).
- $I_c(n)$, $S_c(n)$: 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 (in⁴ and in³).
- $I_c(3n)$, $S_c(3n)$: 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 (in⁴ and in³).
- Z: Plastic Section Modulus of the steel section in non-composite areas (in³).
- 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.).
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{\ell + IM}$
- $\phi_f M_n$: 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).
 $M_{DC1} + M_{DC2} + M_{DW} + 1.3 M_{\ell + IM}$
- f_s (Total/Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{\ell + IM}$
- V_r: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

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.

All structural steel shall be AASHTO M270 Grade 50W.

DESIGNED - JAE
CHECKED - BAS
DRAWN - SGM
CHECKED - BAS

FRAMING PLAN AND ELEVATION
STRUCTURE NO. 090-3244

SHEET NO. 12	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	156	06-07109-00-BR	TAZEWELL	53	32
22 SHEETS	FED. ROAD DIST. NO. ILLINOIS		CONTRACT NO. 89472		
FED. AID PROJECT					

