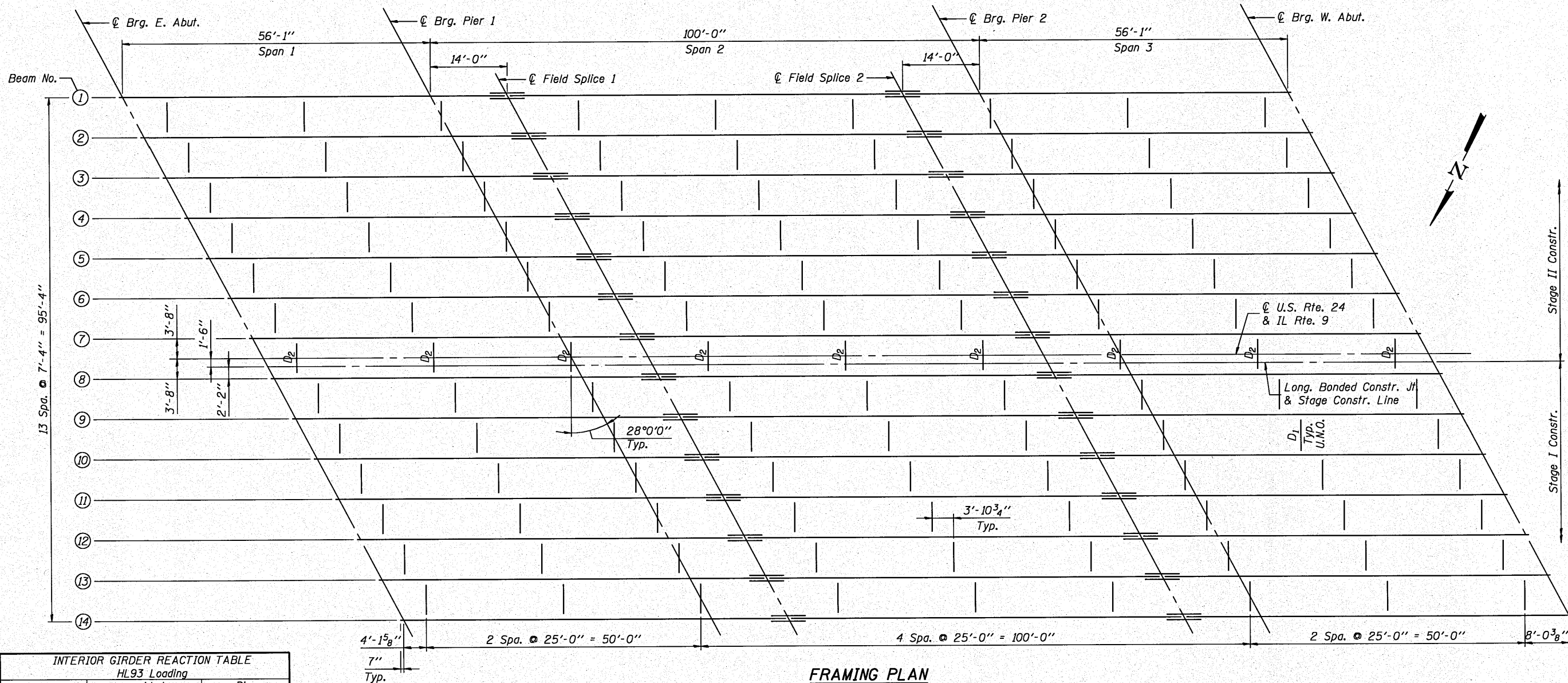


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



INTERIOR GIRDER REACTION TABLE
HL93 Loading

	Abut.	Pier
R_{DC1} (k)	12.32	83.01
R_{DC2} (k)	1.39	7.72
R_{DW} (k)	5.46	30.28
$R_{\xi + Imp}$ (k)	79.56	124.48
R_{Total} (k)	98.73	245.50

INTERIOR GIRDER MOMENT TABLE

	0.4 Sp. 1 & 0.6 Sp. 3	Pier 1 & Pier 2	0.5 Span 2
I_s (in ⁴)	6,437	12,029	7,266
I_c (n) (in ⁴)	17,397	-	20,511
I_c (3n) (in ⁴)	13,311	-	15,415
S_s (in ³)	373	668	453
S_c (n) (in ³)	535	-	642
S_c (3n) (in ³)	493	-	594
Z (in ³)	-	740	-
$DC1$ (k/')	0.871	0.932	0.881
M_{DC1} (k')	87.1	702	407
$DC2$ (k/')	0.086	0.086	0.086
M_{DC2} (k')	11.2	57.9	49.7
DW (k/')	0.336	0.336	0.336
M_{DW} (k')	44.4	226	196
$M_{\xi + Imp}$ (k')	680	810	1,092
M_u (Strength I) (k')	1,324	2,705	2,776
$\phi_f M_n$ (k')	2,851	3,084	3,165
$\phi_f M_{nc}$ (k')	-	-	-
f_s DC1 (ksi)	2.80	12.61	10.78
f_s DC2 (ksi)	0.27	1.04	1.01
f_s DW (ksi)	1.08	4.05	3.96
f_s 1.3($\xi + I$) (ksi)	19.82	18.90	26.52
f_s (Service II) (ksi)	23.97	36.60	42.27
f_s (Total)(Strength I) (ksi)	32.14	48.57	-
V_r (k)	55.5	-	47.8

FRAMING PLAN

- 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.
- $I_c(n), S_c(n)$ 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.
- $I_c(3n), S_c(3n)$ 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.
- Z Plastic Section Modulus of the steel section in non-composite areas.
- $DC1$ Un-factored non-composite dead load.
- M_{DC1} Un-factored moment due to non-composite dead load.
- $DC2$ Un-factored long-term composite (superimposed excluding future wearing surface) dead load.
- M_{DC2} Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load.
- DW Un-factored long-term composite (superimposed future wearing surface only) dead load.
- M_{DW} Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load.
- $M_{LL} + Imp$ Un-factored live load moment plus dynamic load allowance (Impact).

- M_u (Strength I) Factored design moment.
 $1.25 (M_{DC1} + M_{DC2}) + 1.5M_{DW} + 1.75M_{LL} + Imp$
- $\phi_f M_n$ Compact composite positive moment capacity computed according to Article 6.10.7.1.
- $\phi_f M_{nc}$ Compact non-composite negative moment capacity computed according to Article A6.1.1.
- f_s (Service II) Sum of stresses as computed from the moments below.
 $M_{DC1} + M_{DC2} + M_{DW} + 1.3M_{LL} + Imp$
- f_s (Total)(Strength I) Sum of stresses as computed from the moments below on non-compact section.
 $1.25 (M_{DC1} + M_{DC2}) + 1.5M_{DW} + 1.75M_{LL} + Imp$
- V_r Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

NOTES

1. Two hardened washers required for each set of oversized holes at diaphragms.
2. All Structural Steel on this sheet shall be AASHTO M270 Grade 50W.
3. All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

FRAMING PLAN
U.S. ROUTE 24 & IL ROUTE 9 OVER LA MARSH CREEK
STATION 337+89.89 STRUCTURE NO. 072-0228

SHEET NO.	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S21 OF 39 SHEETS	317	45BR-2	PEORIA	122	69
			CONTRACT NO. 68719		
		ILLINOIS FED. AID PROJECT			

DESIGNED J.Z.
CHECKED J.A.Z.
DRAWN R.B.H.
CHECKED J.A.Z.