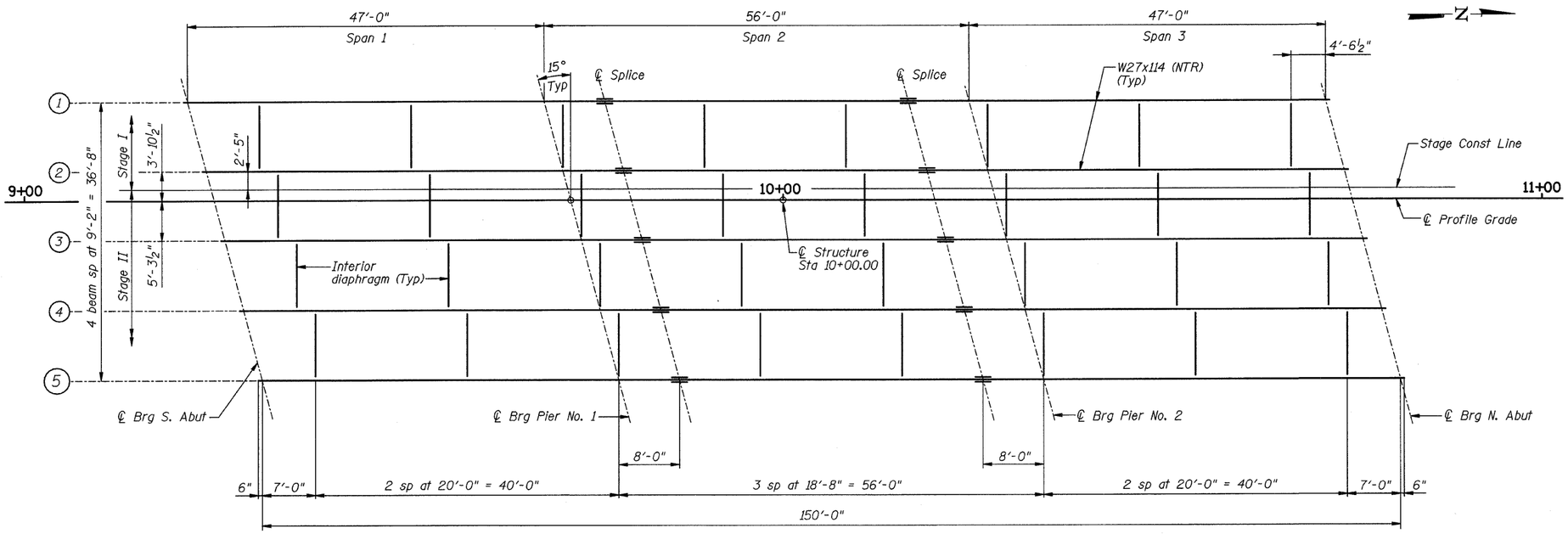
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAU 7432	*	MACON	47	27
FED.ROAD DIST.NO.		ILLINOIS	PROJECT	

• 08-00602-00-BR



FRAMING PLAN

INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
I_s	(in^4)	4080	4080	4080
$I_c(n)$	(in^4)	12965		12965
$I_c(3n)$	(in^4)	9858		9858
S_s	(in^3)	299	299	299
$S_c(n)$	(in^3)	474		474
$S_c(3n)$	(in^3)	431		431
Z	(in^3)			
DC1	(k/')	1.045	1.045	1.045
M_{DC1}	('k)	166	280	132
DC2	(k/')	0.18	0.18	0.18
M_{DC2}	('k)	31	42	28
DW	(k/')	0.458	0.458	0.458
M_{DW}	('k)	70	94	62
M_{L+Imp}	('k)	658	444	675
M_u(Strength I)	('k)	1503	1321	1474
$\phi_f M_n$, $\phi_f M_{nc}$	('k)	2400	1429	2433
f_s DC1	(ksi)	4.20	11.24	3.34
f_s DC2	(ksi)	0.79	1.69	0.71
f_s DW	(ksi)	1.77	3.77	1.57
f_s 1.3(L+I)	(ksi)	21.7	23.2	22.2
f_s (Service II)	(ksi)	28.4	39.9	27.8
f_s (Total)(Strength I)	(ksi)			
V_r	(k)	17.9	25.9	18.2

INTERIOR GIRDER REACTION TABLE HL93 Loading			
		S Abut N Abut	Pier No. 1 Pier No. 2
R_{DC1}	(k)	20.1	60.0
R_{DC2}	(k)	3.4	10.3
R_{DW}	(k)	7.5	23.0
R_{L+Imp}	(k)	80.3	118.1
R_{Total}	(k)	111.2	211.4

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 ($in.^4$ 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-Strength I, and Service II) 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-Strength I, and Service II) 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. Omit line in Moment Table if not used in design calculations ($in.^3$).

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+Imp}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

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

$\phi_f M_n$: 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).
$M_{DC1} + M_{DC2} + M_{DW} + 1.3\ M_{L+Imp}$

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

V_r: Factored shear range computed according to Article 6.10.10.

NOTES

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.

For Beam Elevations, Field Splice and Interior Diaphragm Details, see Sheet No. 18 of 26.

For details of diaphragms at abutments see Sheet No. 14 of 26.

MACARTHUR ROAD (FAU 7432) OVER STEVENS CREEK

FRAMING PLAN AND DESIGN DATA

REVISIONS		
No.	DATE	INITIALS
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

SECTION 08-00602-00-BR MACARTHUR ROAD (FAU 7432)
SN 058-6025
STA 10+00.00 MACON COUNTY

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ROCKFORD (815) 489-0050

DRAWN BY	DATE
R KING	07/09
CHECKED BY	DATE
JMB	07/09
BOOK NUMBER	
486	
PROJECT No.	
5307	
SHEET No.	