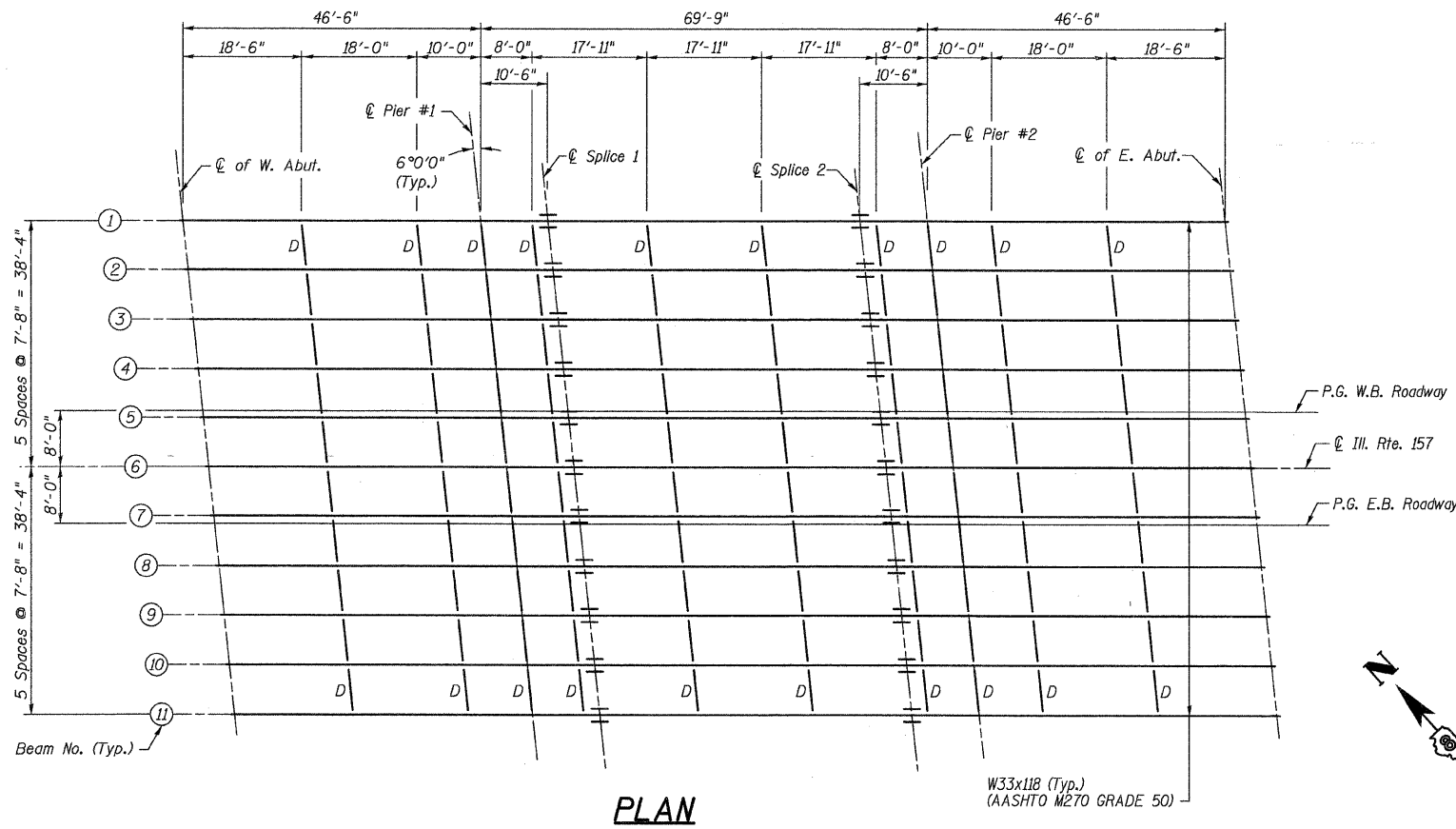


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. RTE.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
592	121-1R 121HVB	ST. CLAIR	239	146
F.H.W.A. REGION 7		ILLINOIS FED. AID PROJECT		

SHEET NO. 10
SHEETS: 23



INTERIOR BEAM MOMENT TABLE

	0.4 SPAN 1 & 0.6 SPAN 3	PIER 1 & 2	0.5 SPAN 2
I_s (In.4)	5900	5900	5900
I_c (In.4) (n=9)	15913		15913
I_c (In.4) (n=27)	11935		11935
S_s (In.3)	359	359	359
S_c (In.3) (n=9)	526		526
S_c (In.3) (n=27)	480		480
Z (In.3)		415	
DL (k./ft.)	0.867	1.384	0.867
M(DL) (ft.k./beam)	102.2	471.7	211.8
s DL (k./ft.)	0.517		0.517
M(s DL) (ft.k./beam)	70.5		158.1
M(LL) (ft.k./beam)	332.7	230.8	492.7
M(Imp.) (ft.k./beam)	97.1	63.0	126.6
5/3 M(LL+Imp.) (ft.k./beam)	716.4	489.7	1032.2
M(a) (ft.k.)	1155.8	1249.8	1822.8
M(u) (ft.k.)	2842.9	1729.2	2842.9
f_s (DL non-comp) (k.s.i.)	3.42	15.76	7.08
f_s (DL comp.) (k.s.i.)	1.76		3.95
f_s 5/3 [M LL+M(Imp.)] (k.s.i.)	16.34	16.37	23.55
f_s (Overload) (k.s.i.)	21.52	32.13	34.58
f_s (Total) (k.s.i.)			
VR (R)	61.8		108.4

INTERIOR BEAM REACTION TABLE

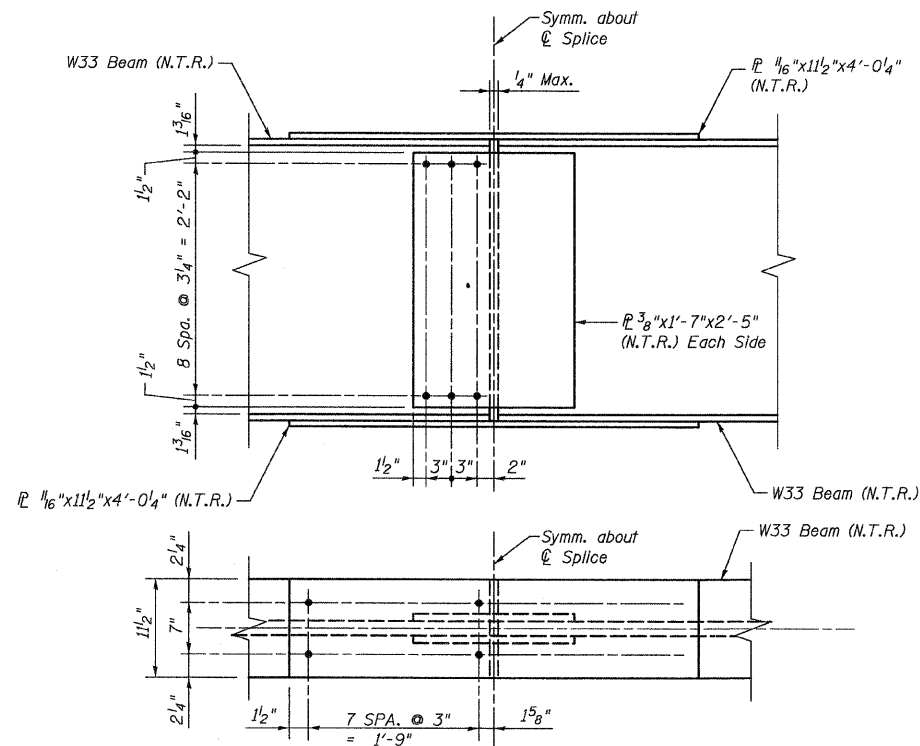
	E. & W. ABUT.	PIER 1 & 2
R DL (K)	22.1	90.6
R LL (K)	43.5	47.7
R IMP. (K)	12.7	9.9
R TOTAL (K)	78.3	148.2

MOMENT TABLE NOTES:

- I_s AND S_s ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING f_s (TOTAL AND OVERLOAD).
- $I_{c(n)}$ AND $S_{c(n)}$ ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE COMPOSITE SECTION USED IN COMPUTING STRESSES DUE TO LIVE LOAD.
- $I_{c(27)}$ AND $S_{c(27)}$ ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE COMPOSITE SECTION USED IN COMPUTING STRESSES DUE TO SUPERIMPOSED DEAD LOAD.
- VR IS THE MAXIMUM $\frac{1}{2}$ + IMPACT SHEAR RANGE IN SPAN.
- Z IS THE PLASTIC SECTION MODULUS USED TO DETERMINE THE FULLY PLASTIC MOMENTS IN THE NON-COMPOSITE AREAS.
- THE PLASTIC MOMENT CAPACITY (Mu) IS COMPUTED ACCORDING TO AASHTO 10.48.1 & 10.50.1.1.
- f_s (TOTAL) IS THE SUM OF THE STRESSES DUE TO $1.3[M_D + M_s] + 5/3[M_L + M_{IMP}]$.
- f_s (OVERLOAD) IS THE SUM OF THE STRESSES DUE TO $M_D + M_s + 5/3[M_L + M_{IMP}]$.
- M_D - MOMENT DUE TO DEAD LOADS ON NON-COMPOSITE SECTION.
- M_s - MOMENT DUE TO DEAD LOADS ON COMPOSITE SECTION.
- M_L - MOMENT DUE TO LIVE LOAD ON NON-COMPOSITE OR COMPOSITE SECTION.
- M_{IMP} - MOMENT DUE TO LIVE LOAD IMPACT ON NON-COMPOSITE OR COMPOSITE SECTION.
- M_a (APPLIED MOMENT) = $1.3[M_D + M_s] + 5/3[M_L + M_{IMP}]$.

NOTES:

- "N.T.R." INDICATES NOTCH TOUGHNESS REQUIREMENT.
- FOR BEAM ELEVATION AND DETAILS, SEE SHEET 11 OF 20.



FIELD SPLICE 1 & 2 DETAIL

(All Flange & Web Splice Plates
Shall Be AASHTO M270 Grade 50)

FRAMING PLAN
F.A.P. 592 (IL Rte. 157) OVER
UNION PACIFIC RAILROAD
SECTION 121-1R, 121HVB
ST. CLAIR COUNTY
STATION 5029+64.85
STRUCTURE NO. 082-0303