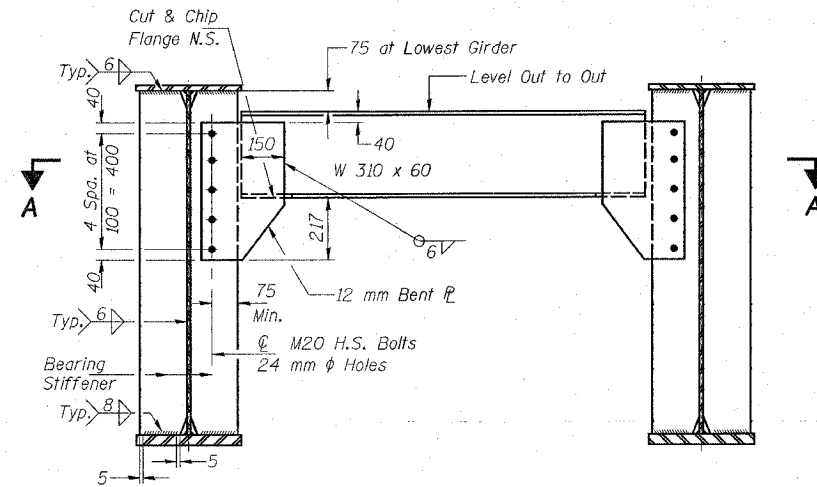
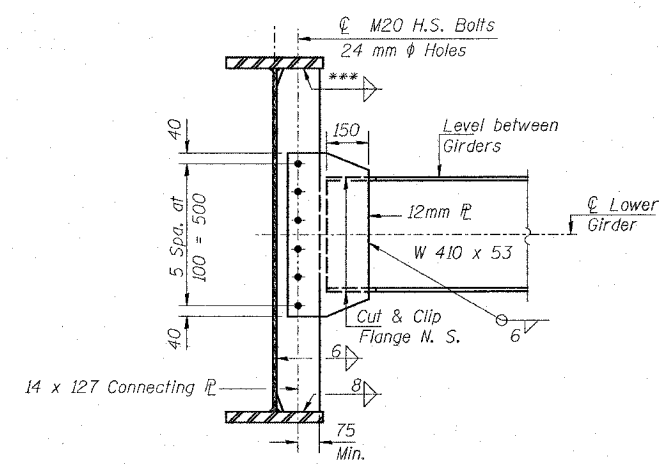


SECTION A-A



DIAPHRAGM D
(10 Required)



DIAPHRAGM D1
(45 Required)

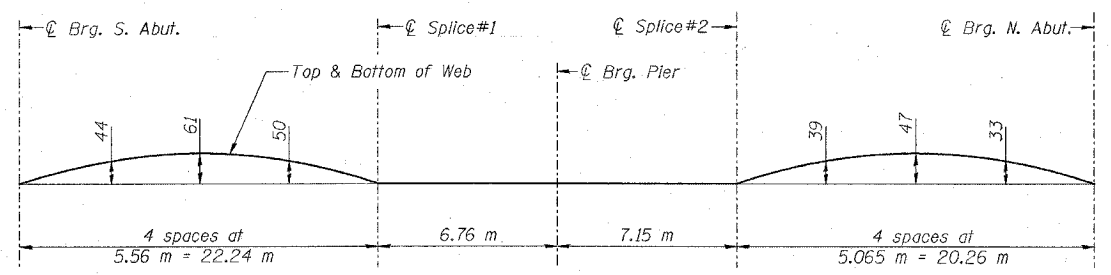
*** 6 for 20 mm flange
8 for 35 mm flange

	0.4 Sp. #1	Pier	0.6 Sp. #2
I_s (10^6 mm^4)	5629	7637	5629
$I_c (n)$ (10^6 mm^4)	14596		14596
$I_c (3n)$ (10^6 mm^4)	10494		10494
S_s (10^3 mm^3)	11147	13398	11147
$S_c (n)$ (10^3 mm^3)	15611		15611
$S_c (3n)$ (10^3 mm^3)	14181		14181
D (kN/m)	11.13	11.69	11.13
M_D (kN-m)	645	1213	524
s_e (kN/m)	6.08	6.08	6.08
M_{sD} (kN-m)	393	551	327
M_L (kN-m)	877	596	823
$M (Imp)$ (kN-m)	199	137	191
$1.3 [M_L + M(Imp)]$ (kN-m)	1794	1222	1690
M_u (kN-m)	3682	3882	3303
M_u (kN-m)	5443		5513
$f_s @ (non-comp)$ (MPa)	58	132	47
$f_s @ (comp)$ (MPa)	28		23
$f_s 1/3 (L + Imp)$ (MPa)	115	91	108
f_s (Overload) (MPa)	201	223	178
f_s (Total) (MPa)		290	
VR (kN)	203.5		205.1

*Compact, Braced Section
**Non-Compact Section

	S. Abut.	Pier	N. Abut.
R_D (kN)	189.23	617.36	172.00
R_L (kN)	151.45	231.66	150.39
Imp. (kN)	34.40	37.35	34.99
R (Total) (kN)	375.08	886.37	357.38

Note: Two hardened washers shall be required over all oversized holes.



CAMBER DIAGRAM

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.
 $I_c (3n)$ and $S_c (3n)$ are the Moment of Inertia and Section Modulus of the Composite Section Used in Computing Stresses Due to Superimposed Dead Loads.
 VR is the Maximum $L_L + Impact$ 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 (M_u) is Computed According to AASHTO 10.48.1 & 10.50.1.1
 f_s (Total) is the Sum of the Stresses Due to $1.3 [M_D + M_s D_s + \frac{1}{3} (M_L + M (Imp))]$.
 f_s (Overload) is the Sum of the Stresses Due to $M_D + M_s D_s + \frac{1}{3} (M_L + M (Imp))$.
 M_D - Moment Due to Dead Loads on Non-Composite Section.
 $M_s D_s$ - 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_s (Applied Moment) = $1.3 [M_D + M_s D_s + \frac{1}{3} (M_L + M (Imp))]$.

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 Date: 02/03 File: 0600305.DWG

REVISIONS	
NO.	NAME

ILLINOIS DEPARTMENT OF TRANSPORTATION
DIAPHRAGM DETAILS
 WENZEL ROAD OVER F.A.P. RTE 310
 SECTION 60-15HB
 MADISON COUNTY
 STA. 36+335.990 (FAP 310)
 STA. 10+000.000 (WENZEL ROAD)
 STRUCTURE NO. 060-0306