

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 351	2008-001VB	COOK	579	394
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT-		

SHEET NO. 9  
25 SHEETS

CONTRACT NO. 60E10

	0.5 Span 1	0.5 Span 2
I (in <sup>4</sup> )	13,200	25,700
S (in <sup>3</sup> )	719	1,350
W (k/ft.)	1.45	1.68
M <sub>D</sub> (k)	273.5	595.3
M <sub>L</sub> (k)	633.2	962.8
M <sub>Impact</sub> (k)	315.4	458
M <sub>Total</sub> (k)	1222	2016.1
f <sub>b</sub> (k.s.i.)	20.4	17.9
F <sub>b</sub> (k.s.i.)	27.5	27.5
( $\pm$ ) Deflection (in.)	0.68	0.97
Allowable ( $\pm$ ) Deflection (in.)	0.73	1.00

	Span 1	Span 2
R <sub>P</sub> (k)	28.1	44.7
R <sub>L</sub> (k)	66.7	81.7
R <sub>Impact</sub> (k)	33.2	38.9
R <sub>Total</sub> (k)	128.0	165.3

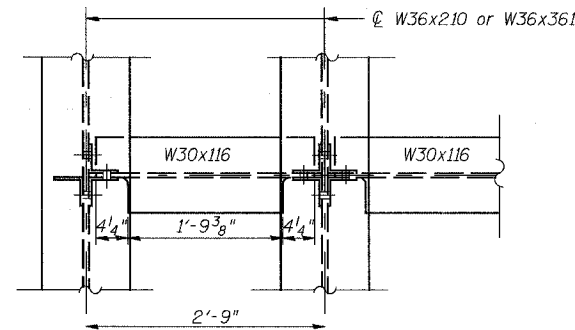
I and S are the moment of inertia and section modulus of the steel section used in computing bending stress, f<sub>b</sub>.

M<sub>L</sub> is the live load moment due to the Cooper E90 loading or the Alternate loading.

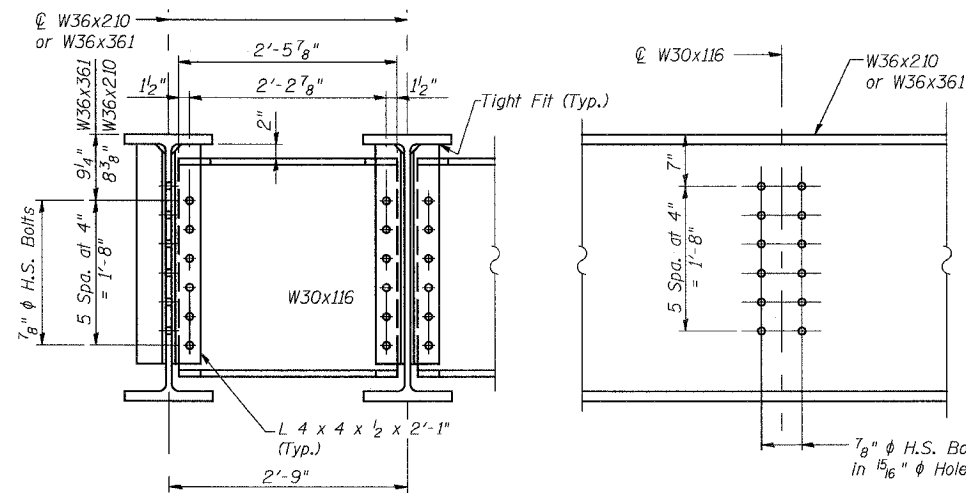
M<sub>Impact</sub> is the impact moment due to equipment without hammer blow.

f<sub>b</sub> is the total bending stress due to M<sub>Total</sub>.

F<sub>b</sub> is the maximum allowable bending stress computed according to AREMA.



PLAN

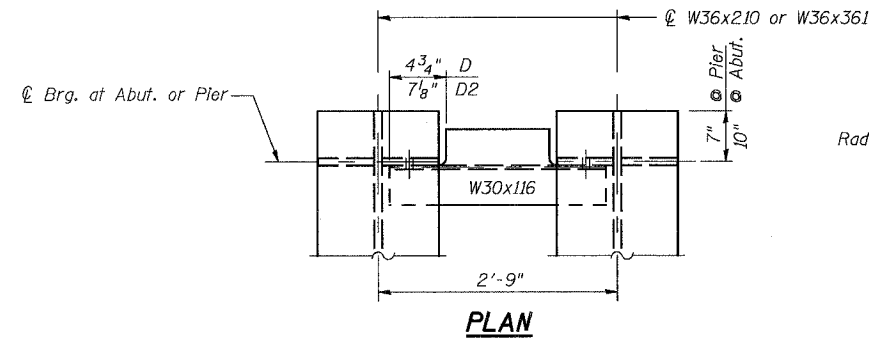


SECTION

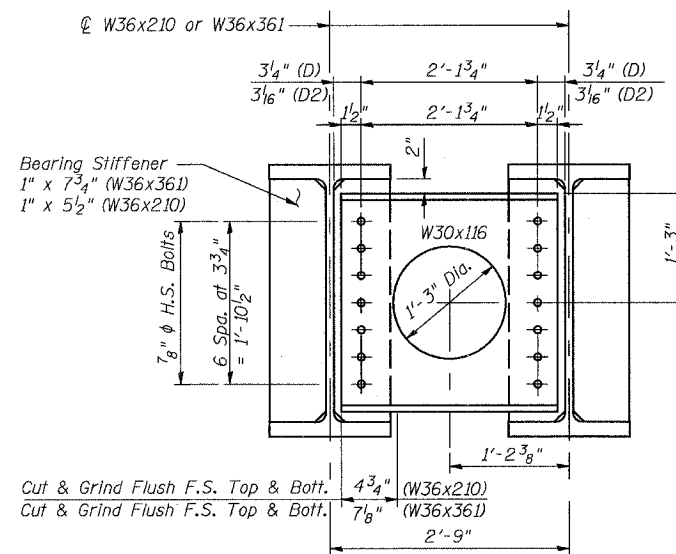
ELEVATION

DIAPHRAGM D1

150 Required  
(Diaphragms: ASTM A709 Gr. 36)



PLAN



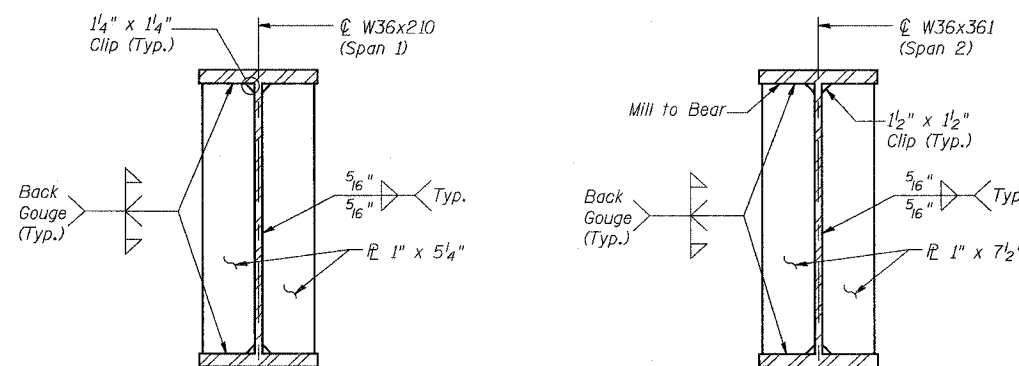
SECTION

DIAPHRAGMS D & D2

30 Ea. Required  
(Diaphragms: ASTM A709 Gr. 36)

Location	Beams 1 Thru 16
⊙ Brg. N. Abut.	616.26
⊙ N. Brg. Pier	616.74
⊙ S. Brg. Pier	616.74
⊙ Brg. S. Abut.	616.19

\* For Fabrication only



BEARING STIFFENER DETAILS

Notes:

Work this Sheet with Sheet 8  
Beams W36x210 or W36x361 are ASTM A709 Gr. 50.  
F.S. = Far Side

REVISIONS	NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
US RTE 6 FROM I-294 TO IL RTE 1  
**BEAM DETAILS**

CN GATEWAY LEAD TRACK  
BRIDGE 20.6E OVER U.S. RTE. 6 (159TH STREET)  
STATION 93+69.01 STRUCTURE NO. 016-2819  
SCALE: 1"=1'-0" DATE: 2/21/2008

**URS**  
100 South Wacker Drive,  
Suite 500  
Chicago, IL 60606  
(312) 939-1000

3/13/2008 11:30:09 AM

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DESIGNED	AEU
CHECKED	JPB
DRAWN	AEU
CHECKED	JPB