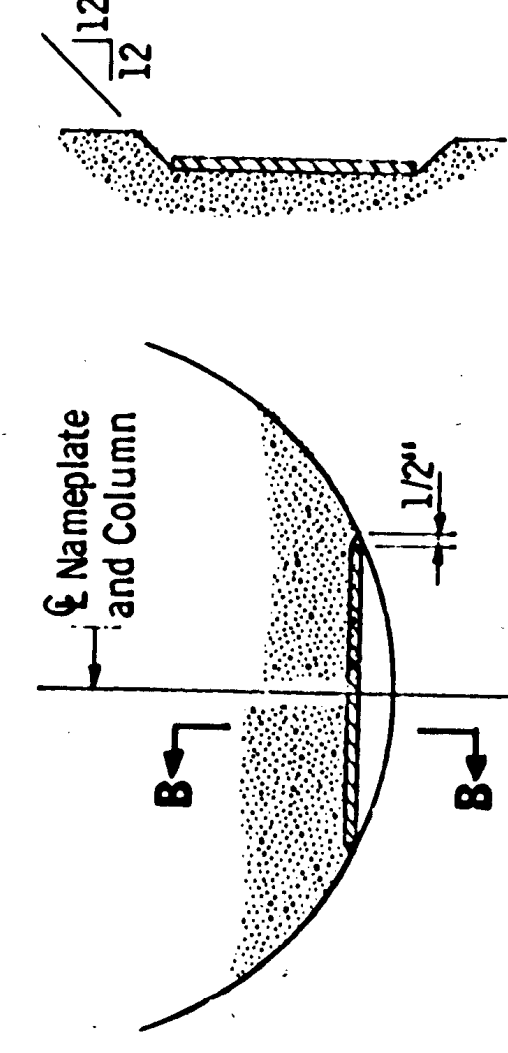


ELEVATION
The dotted letters & numbers shown above are for illustration. Data to be shown on name plate is as follows:

COUNTY ANOKA
BRIDGE 02555
YEAR 1990

SECTION A-A
A 11"
SECTION B-B
B 12"

LETTERS & NUMBERS FOR NAMEPLATES



NAMEPLATE PLACEMENT
(Round Concrete Pier Columns)

NOTES:

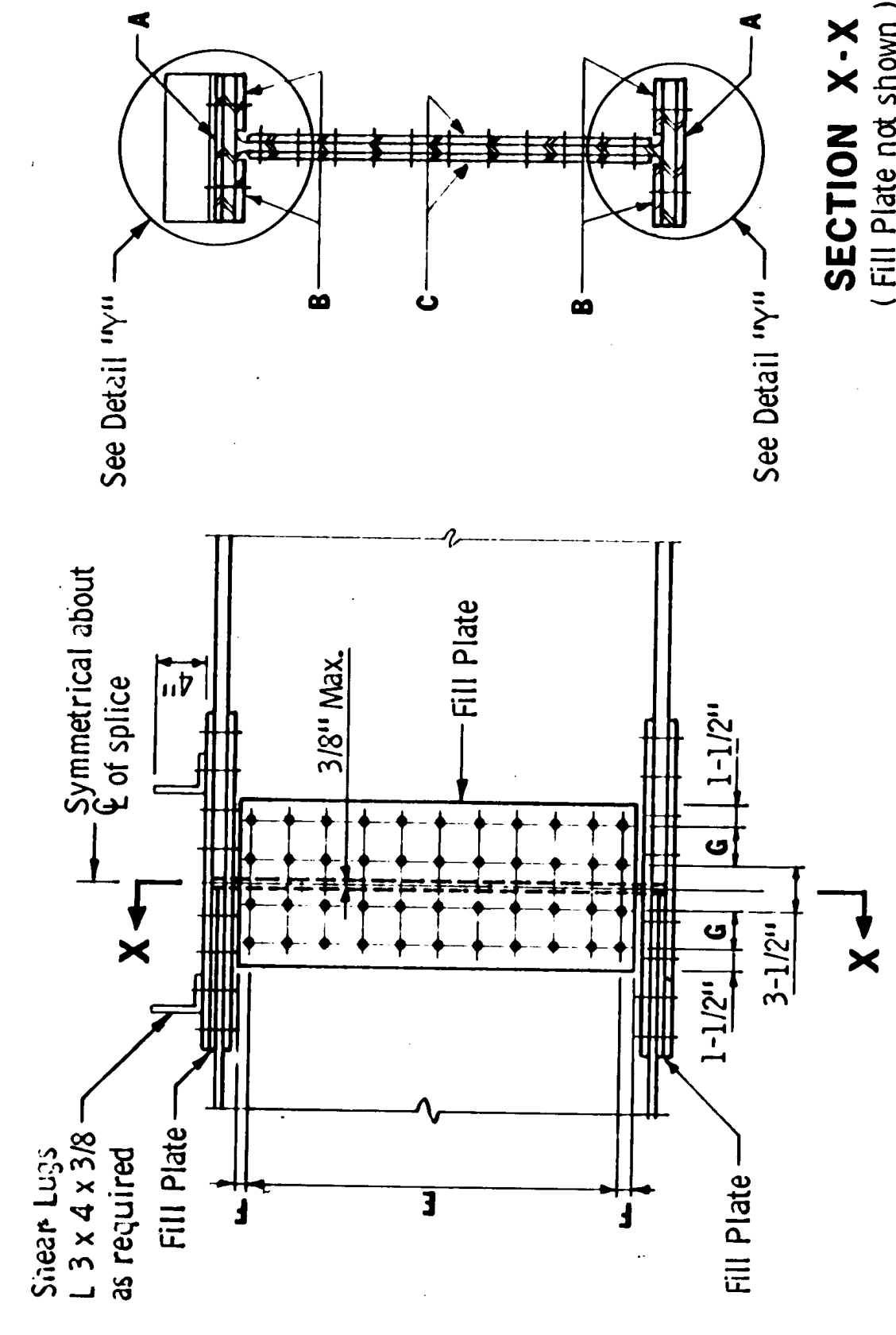
- No shop drawing required.
- Material shall comply with Spec. 3327
- Letters and numbers shall conform to those shown.
- Draft on letters and numbers shall not be more than 3" in 12".
- Horizontal spacing of letters and numbers shall produce a balanced layout in proportion to spacing shown.
- Top surface of letters, numbers and frames shall be burnished.
- Furnish 2 steel bolts 3/8" dia. x 3" long with eccentric plate.
- All dimensions for 3/4" high letters and numbers shall be in direct proportion to those shown for the 1" high letters and numbers.

APPROVED: **May 1, 1985**
Developed by: **ENGINEERING STANDARDS & BRIDGES AND STRUCTURES OFFICES**
Issued by: **OFFICE OF ENGINEERING STANDARDS**

**STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
BRIDGE NAMEPLATE
COUNTY BRIDGES**

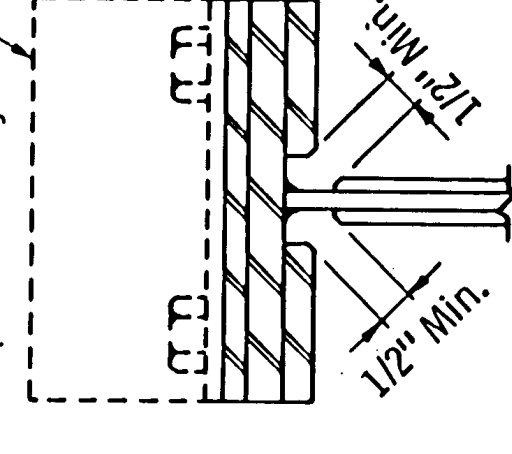
REVISION: **B103**
DETAIL NO.

DESIGN DATA:
Load Factor Design Method
 $F_y = 50$ k. s. i.
12.6k allowable "shear" per bolt at $D_L + \frac{3}{4} (L + D)$
Splice develops ult. moment M_U simultaneously with ult. shear V_U .
 $M_U = F_y S_x$ noncompact sec., $M_U = F_y Z_x$ compact sec.
 $V_U = .55 F_y d^{1.5}$
Area of holes in excess of 15% of gross area are deducted



SECTION X-X
(Fill Plate not shown)

Shear Lugs to be on top of beam only.



DETAIL "Y"

BEAM SIZE	A (in.)	B (in.)	C (in.)	D	E	F	G	H	FLANGE FILL PLATE	WEB FILL PLATE
W21 x 44	7/16 x 6-1/2 x 26-1/4	7/16 x 2-1/2 x 26-1/4	5/16 x 17-1/2 x 12-1/2	3	5 Sps. @ 3"	1-1/4"	3"	4"		
W21 x 50	7/16 x 6-1/2 x 26-1/4	7/16 x 2-1/2 x 26-1/4	5/16 x 17-1/2 x 12-1/2	3	5 Sps. @ 3"	1-1/4"	3"	4"		
W21 x 57	7/16 x 6-1/2 x 26-1/4	7/16 x 2-1/2 x 26-1/4	5/16 x 17-1/2 x 12-1/2	3	5 Sps. @ 3"	1-1/4"	3"	4"		
W21 x 62	7/16 x 8-1/4 x 32-1/4	7/16 x 3-1/4 x 32-1/4	5/16 x 17-1/2 x 12-1/2	4	5 Sps. @ 3"	1-1/4"	3"	5-1/2"		
W21 x 68	7/16 x 8-1/4 x 32-1/4	7/16 x 3-1/4 x 32-1/4	5/16 x 17-1/2 x 12-1/2	4	5 Sps. @ 3"	1-1/4"	3"	5-1/2"		
W21 x 73	7/16 x 8-1/4 x 32-1/4	7/16 x 3-1/4 x 32-1/4	5/16 x 17-1/2 x 12-1/2	4	5 Sps. @ 3"	1-1/4"	3"	5-1/2"		
W21 x 83	9/16 x 8-1/2 x 44-1/4	9/16 x 3-1/4 x 44-1/4	5/16 x 16-7/8 x 12-1/2	5	5 Sps. @ 2-7/8"	1-1/4"	3"	5-1/2"		
W21 x 93	9/16 x 8-1/2 x 44-1/4	9/16 x 3-1/4 x 44-1/4	5/16 x 16-7/8 x 12-1/2	6	5 Sps. @ 2-7/8"	1-1/4"	3"	5-1/2"		
W24 x 55	7/16 x 6-1/2 x 26-1/4	7/16 x 2-1/2 x 26-1/4	5/16 x 16-1/4 x 12-1/2	5	5 Sps. @ 2-7/8"	1-1/4"	3"	5-1/2"		
W24 x 62	7/16 x 8-1/4 x 32-1/4	7/16 x 3-1/4 x 32-1/4	5/16 x 20-1/2 x 12-1/2	3	6 Sps. @ 3"	1-1/4"	3"	4-1/2"		
W24 x 68	7/16 x 8-1/4 x 32-1/4	7/16 x 3-1/4 x 32-1/4	5/16 x 20-1/2 x 12-1/2	3	6 Sps. @ 3"	1-1/4"	3"	4-1/2"		
W24 x 75	7/16 x 8-1/4 x 32-1/4	7/16 x 3-1/4 x 32-1/4	5/16 x 20-1/2 x 12-1/2	4	6 Sps. @ 3"	1-1/4"	3"	5-1/2"		
W24 x 84	7/16 x 8-1/4 x 32-1/4	7/16 x 3-1/4 x 32-1/4	5/16 x 20-1/2 x 12-1/2	5	6 Sps. @ 3"	1-1/4"	3"	5-1/2"		
W24 x 94	7/16 x 8-1/4 x 32-1/4	7/16 x 3-1/4 x 32-1/4	5/16 x 20-1/2 x 12-1/2	6	6 Sps. @ 3"	1-1/4"	3"	5-1/2"		
W24 x 104	7/16 x 12-3/4 x 50-1/4	7/16 x 5-1/4 x 50-1/4	5/16 x 19-3/4 x 12-1/2	7	6 Sps. @ 2-7/8"	1-1/4"	3"	5-1/2"		
W24 x 117	9/16 x 12-3/4 x 50-1/4	9/16 x 5-1/4 x 50-1/4	5/16 x 19-3/4 x 12-1/2	10	6 Sps. @ 2-7/8"	1-1/4"	3"	6-1/2"		
W24 x 124	9/16 x 12-3/4 x 50-1/4	9/16 x 5-1/4 x 50-1/4	5/16 x 19-3/4 x 12-1/2	15	6 Sps. @ 2-7/8"	1-1/4"	3"	6-1/2"		
W24 x 132	9/16 x 12-3/4 x 50-1/4	9/16 x 5-1/4 x 50-1/4	5/16 x 19-3/4 x 12-1/2	10	6 Sps. @ 2-7/8"	1-1/4"	3"	6-1/2"		
W24 x 140	9/16 x 12-3/4 x 50-1/4	9/16 x 5-1/4 x 50-1/4	5/16 x 19-3/4 x 12-1/2	15	6 Sps. @ 2-7/8"	1-1/4"	3"	6-1/2"		
W27 x 94	7/8 x 10 x 59-1/4	7/8 x 4 x 59-1/4	5/16 x 22-5/8 x 12-1/2	7	7 Sps. @ 2-7/8"	1-1/4"	3"	5-1/2"		
W27 x 102	7/8 x 10 x 59-1/4	7/8 x 4 x 59-1/4	5/16 x 22-5/8 x 12-1/2	7	7 Sps. @ 2-7/8"	1-1/4"	3"	5-1/2"		
W27 x 115	7/8 x 10 x 59-1/4	7/8 x 4 x 59-1/4	5/16 x 21-3/4 x 18-1/2	8	5 Sps. @ 3-1/2"	1-1/4"	3"	5-1/2"		
W27 x 127	7/8 x 10 x 59-1/4	7/8 x 4 x 59-1/4	5/16 x 21-3/4 x 18-1/2	8	5 Sps. @ 3-1/2"	1-1/4"	3"	5-1/2"		
W30 x 108	7/8 x 10 x 59-1/4	7/8 x 4 x 59-1/4	5/16 x 21-3/4 x 18-1/2	5	8 Sps. @ 2-7/8"	1-1/4"	3"	5-1/2"		
W30 x 117	7/8 x 10 x 59-1/4	7/8 x 4 x 59-1/4	5/16 x 21-3/4 x 18-1/2	7	8 Sps. @ 2-7/8"	1-1/4"	3"	5-1/2"		
W30 x 127	7/8 x 10 x 59-1/4	7/8 x 4 x 59-1/4	5/16 x 21-3/4 x 18-1/2	9	8 Sps. @ 2-7/8"	1-1/4"	3"	5-1/2"		
W30 x 132	7/8 x 10 x 59-1/4	7/8 x 4 x 59-1/4	5/16 x 21-3/4 x 18-1/2	10	8 Sps. @ 2-7/8"	1-1/4"	3"	5-1/2"		
W30 x 140	7/8 x 10 x 59-1/4	7/8 x 4 x 59-1/4	5/16 x 21-3/4 x 18-1/2	15	8 Sps. @ 2-7/8"	1-1/4"	3"	5-1/2"		
W33 x 130	7/8 x 11 x 68-1/4	7/8 x 4-1/2 x 68-1/4	5/16 x 27-1/2 x 18-1/2	10	6 Sps. @ 3-1/2"	1-1/2"	3"	16-1/2"		
W33 x 141	7/8 x 11 x 68-1/4	7/8 x 4-1/2 x 68-1/4	5/16 x 27-1/2 x 18-1/2	10	6 Sps. @ 4-1/8"	1-1/2"	3"	16-1/2"		
W33 x 152	7/8 x 11 x 68-1/4	7/8 x 4-1/2 x 68-1/4	5/16 x 27-1/2 x 18-1/2	10	6 Sps. @ 4"	1-1/2"	3"	16-1/2"		
W33 x 162	7/8 x 11 x 68-1/4	7/8 x 4-1/2 x 68-1/4	5/16 x 27-1/2 x 18-1/2	11	7 Sps. @ 4"	1-1/2"	3"	16-1/2"		
W36 x 150	7/8 x 12 x 80-1/4	7/8 x 4-3/4 x 80-1/4	5/16 x 31 x 18-1/2	9	8 Sps. @ 3-1/2"	1-1/2"	3"	16-1/2"		
W36 x 160	7/8 x 12 x 80-1/4	7/8 x 4-3/4 x 80-1/4	5/16 x 31 x 18-1/2	9	8 Sps. @ 3-1/2"	1-1/2"	3"	16-1/2"		
W36 x 170	7/8 x 12 x 80-1/4	7/8 x 4-3/4 x 80-1/4	5/16 x 31 x 18-1/2	12	8 Sps. @ 3-1/2"	1-1/2"	3"	16-1/2"		
W36 x 182	7/8 x 12 x 80-1/4	7/8 x 4-3/4 x 80-1/4	5/16 x 31 x 18-1/2	13	8 Sps. @ 3-1/2"	1-1/2"	3"	16-1/2"		
W36 x 194	7/8 x 12 x 80-1/4	7/8 x 4-3/4 x 80-1/4	5/16 x 31 x 18-1/2	14	8 Sps. @ 3-1/2"	1-1/2"	3"	16-1/2"		
W36 x 206	7/8 x 12 x 80-1/4	7/8 x 4-3/4 x 80-1/4	5/16 x 31 x 18-1/2	15	9 Sps. @ 3"	1-3/4"	3"	16-1/2"		

*Non-Compact Section

APPROVED: **April 24, 1979**
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**STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
BEAM SPLICES FOR W BEAMS
(3309 STEEL)**

REVISION: **B400**
June 29, 1979

DETAIL NO.