

- Note:
1. Blockout to be nailed to post using 90 mm nail to prevent block rotation.
 2. All scales are approximate.
 3. Dimensions in millimetres.
 4. 20 x 65 Post bolt slots to be field drilled, if required, to accommodate post bolts
 5. Guardrail to be lapped for traffic approaching the bridge, both side of roadway.

NOTE: Original structural drawing sealed by J. Lukashenko P.Eng., Feb.23, 2000. It is filed in the Bridges and Structures Branch.

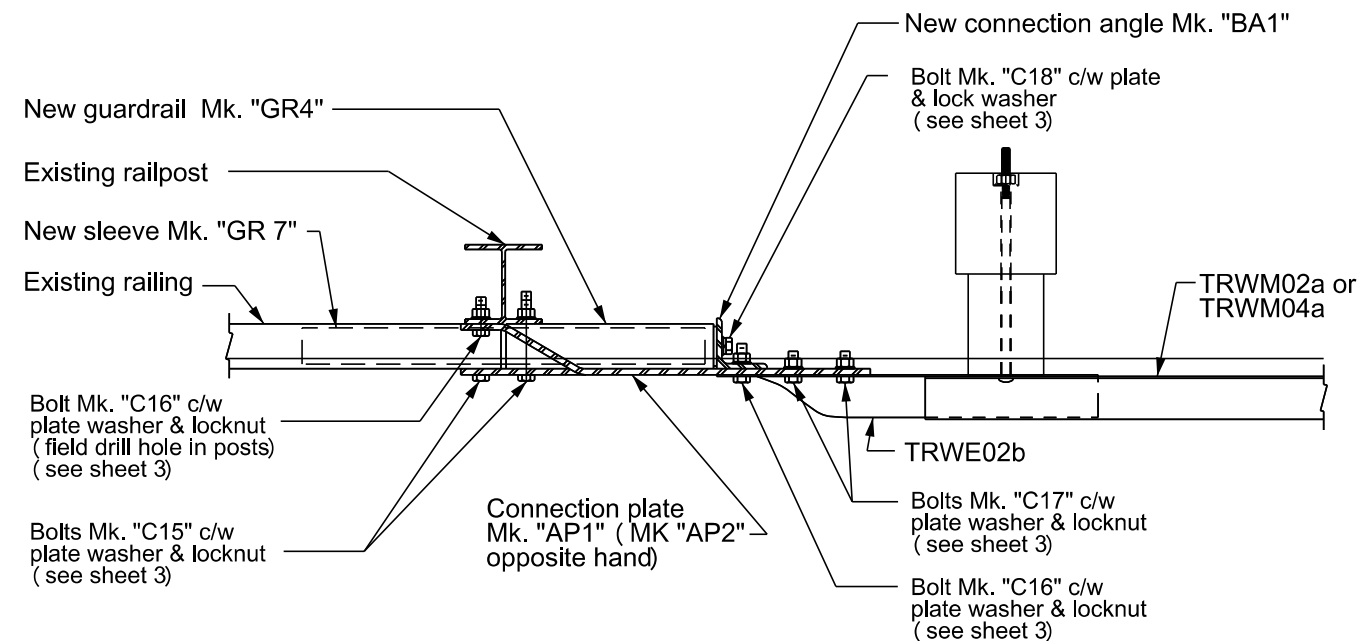
REVISIONS		
DATE	DESCRIPTION	BY
2025-03	Reissued	HPL

Manitoba Infrastructure
Traffic Engineering

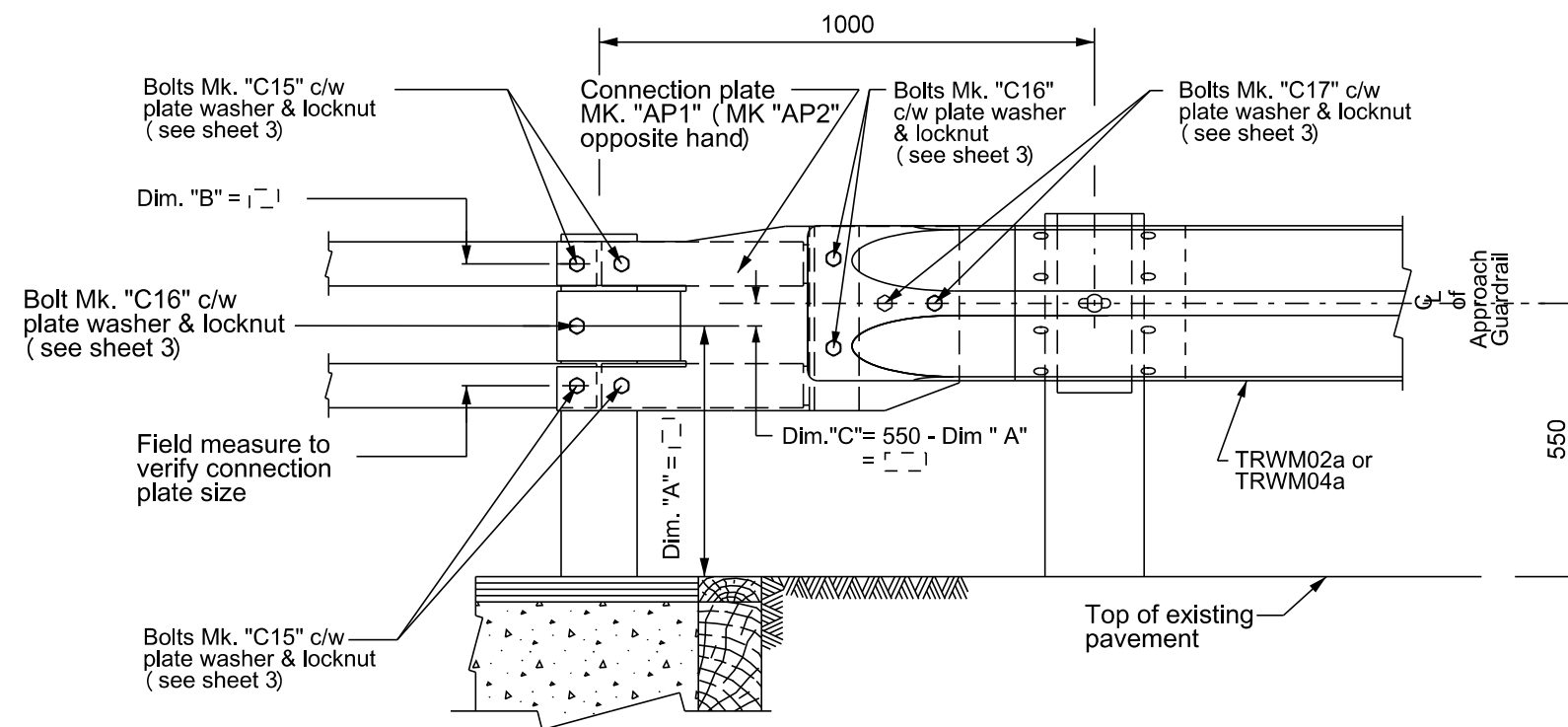


NESTED W BEAM TO
2 RAIL PL - 2 BRIDGE

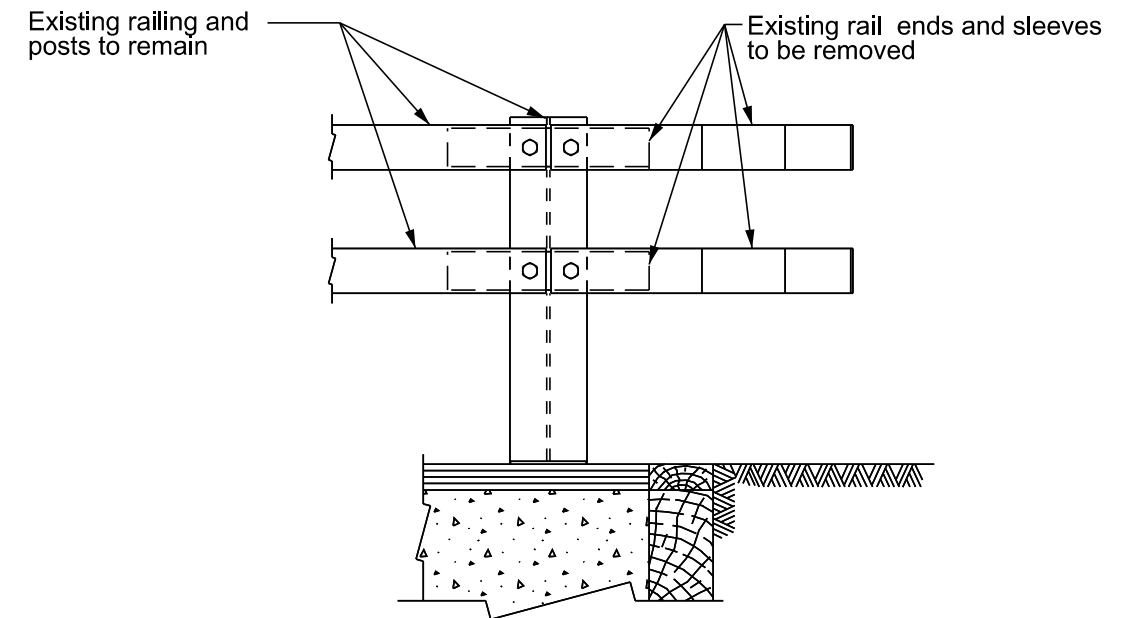
SHEET NO: 1 OF 3	DATE: 2022 - 09
DESIGNED BY:	H.P. LARSEN
DRAWN BY:	A.E. JANZEN
REVIEWED BY:	A.H. PANKRATZ
TSTB10	



PLAN VIEW 1:15

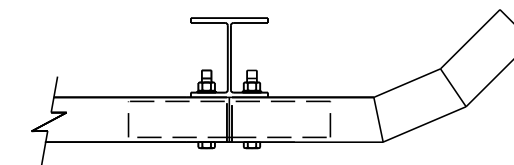


ELEVATION 1:15



ELEVATION VIEW 1:15

Showing existing railing.



PLAN VIEW 1:15

Showing existing railing.

Note:

1. Dimensions shown thus: \square to be filled in using field measurements.
2. All scales are approximate.

NOTE: Original structural drawing sealed by J. Lukashenko P.Eng., Feb.23, 2000. It is filed in the Bridges and Structures Branch.

PROPOSED APPROACH GUARDRAIL ATTACHMENT TO MODIFIED EXISTING BRIDGE RAIL END

REVISIONS		
DATE	DESCRIPTION	BY
2025-03	REISSUED	HPL

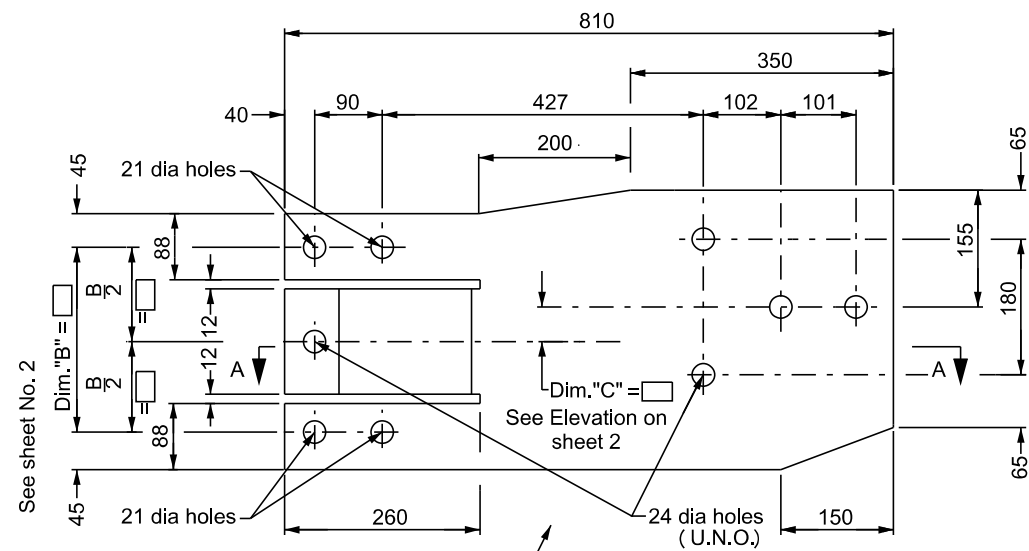
Manitoba
Infrastructure
Traffic Engineering



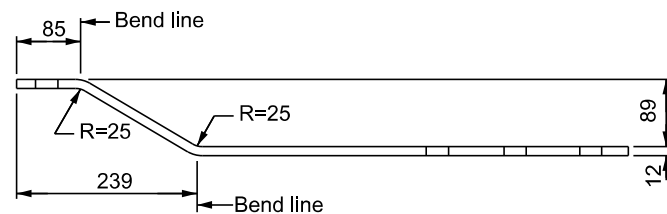
NESTED W BEAM TO
2 RAIL PL - 2 BRIDGE

SHEET NO: 2 OF 3	DATE: 2023 - 05
DESIGNED BY:	H.P. LARSEN
DRAWN BY:	A.E. JANZEN
REVIEWED BY:	A.H. PANKRATZ

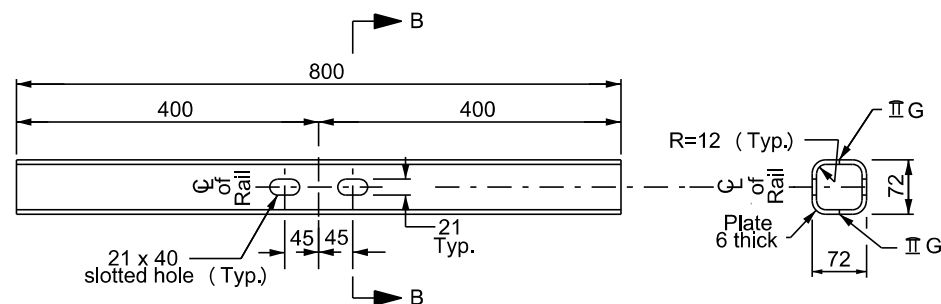
TSTB10



ELEVATION 1:10



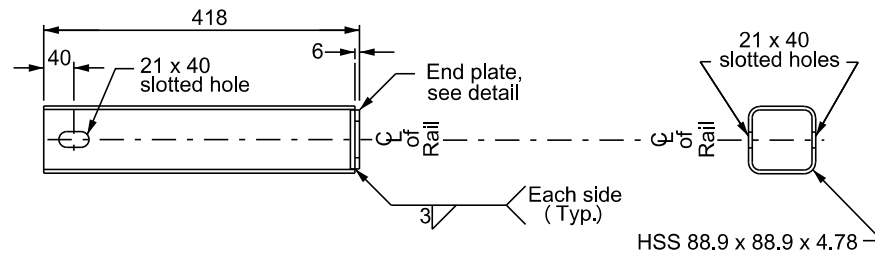
CONNECTION PLATE MK. "AP1" & "AP2" 1:10
("AP2" Opposite hand)



ELEVATION 1:10

SECTION B-B 1:10

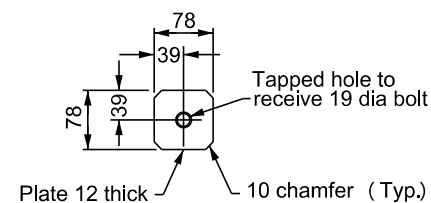
SLEEVE MK. "GR7" 1:10



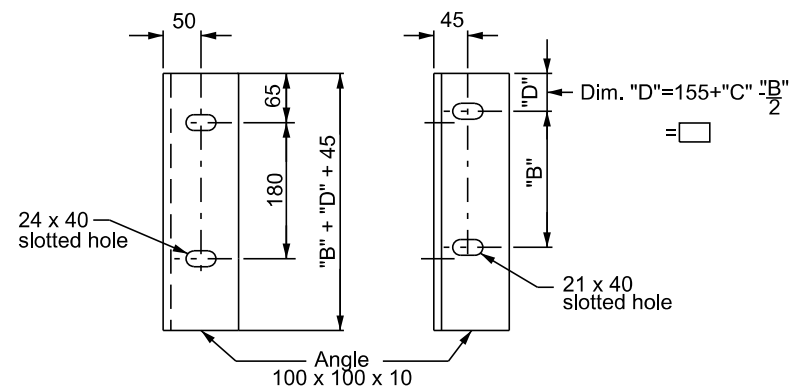
ELEVATION 1:10

SECTION 1:10

RAIL MK. "GR4" 1:10



END PLATE 1:10



CONNECTION ANGLE MK "BA1" & "BA2" 1:10

NOTE: MK. "BA1" SHOWN, MK. "BA2" OPPOSITE HAND

MARK	QTY	DESCRIPTION	SIZE	MASS PER UNIT	TOTAL MASS
AP1		Connection plate	Plate, 12 thick As detailed	25.841	
AP2		Connection plate	Plate, 12 thick As detailed	25.841	
BA1		Connection angle	Angle, 100 x 100 x 10 As detailed	4.956	
BA2		Connection angle	Angle, 100 x 100 x 10 As detailed	4.956	
GR4		Rail - Each unit to be fabricated from:			
		Rail	HSS 88.9x88.9x4.78, 412 long-As detailed	4.971	
		End plate	Plate, 12 thick As detailed	0.541	
				4.971	
GR7		Sleeve - each unit to be fabricated from:			
		Plates	2 plates, 6 thick As detailed	9.576	
C15		Hex bolts	19 dia x 165 hex. bolt c/w all metal locknut		
C16		Hex bolts	22 dia x 65 hex. bolt c/w all metal locknut		
C17		Hex bolts	22 dia x 50 hex. bolt c/w all metal locknut		
C18		Hex bolts	19 dia x 38 hex. bolt - no nut		
		Plate washers	For 19 dia bolts, one per bolt Mk. C15, C16, C17 & C18	0.045	
		Lock washers	For 19 dia bolts, one per bolt Mk. C18	0.019	
Total mass				kg	

NOTES:

1. All angles and plates shall conform to the requirements of CAN/CSA-G40.21-M95 Grade 300W.
2. All structural tubing shall conform to CAN/CSA-G40.21-M92 Grade 350W.
3. Welding shall meet the current requirements of the American Welding Society, Structural Welding Code ANSI/AASHTO/AWS D1.5.
4. All material in the above Bill shall be galvanized in accordance with CAN/CSA-G164-M92. No punching, drilling, cutting or welding will be permitted after galvanizing.
5. All bolts shall conform to the requirements of ASTM A325 unless noted otherwise
6. For location of dimensions "A", "B" & "C" see sheet No. 2
7. Dimensions shown thus: to be filled in using field measurements.
8. Field drilled holes, where previously approved by the Engineer, shall be touched up using Galvalloy.
9. All scales are approximate.

NOTE: Original structural drawing sealed by
J. Lukashenko P.Eng., Feb.23, 2000. It is
filed in the Bridges and Structures Branch.

REVISIONS		
DATE	DESCRIPTION	BY
2025-03	REISSUED	HPL



NESTED W BEAM TO
2 RAIL PL - 2 BRIDGE

SHEET NO: 3 OF 3	DATE: 2002 - 09
DESIGNED BY:	H.P. LARSEN
DRAWN BY:	A.E. JANZEN
REVIEWED BY:	A.H. PANKRATZ
TSTB10	