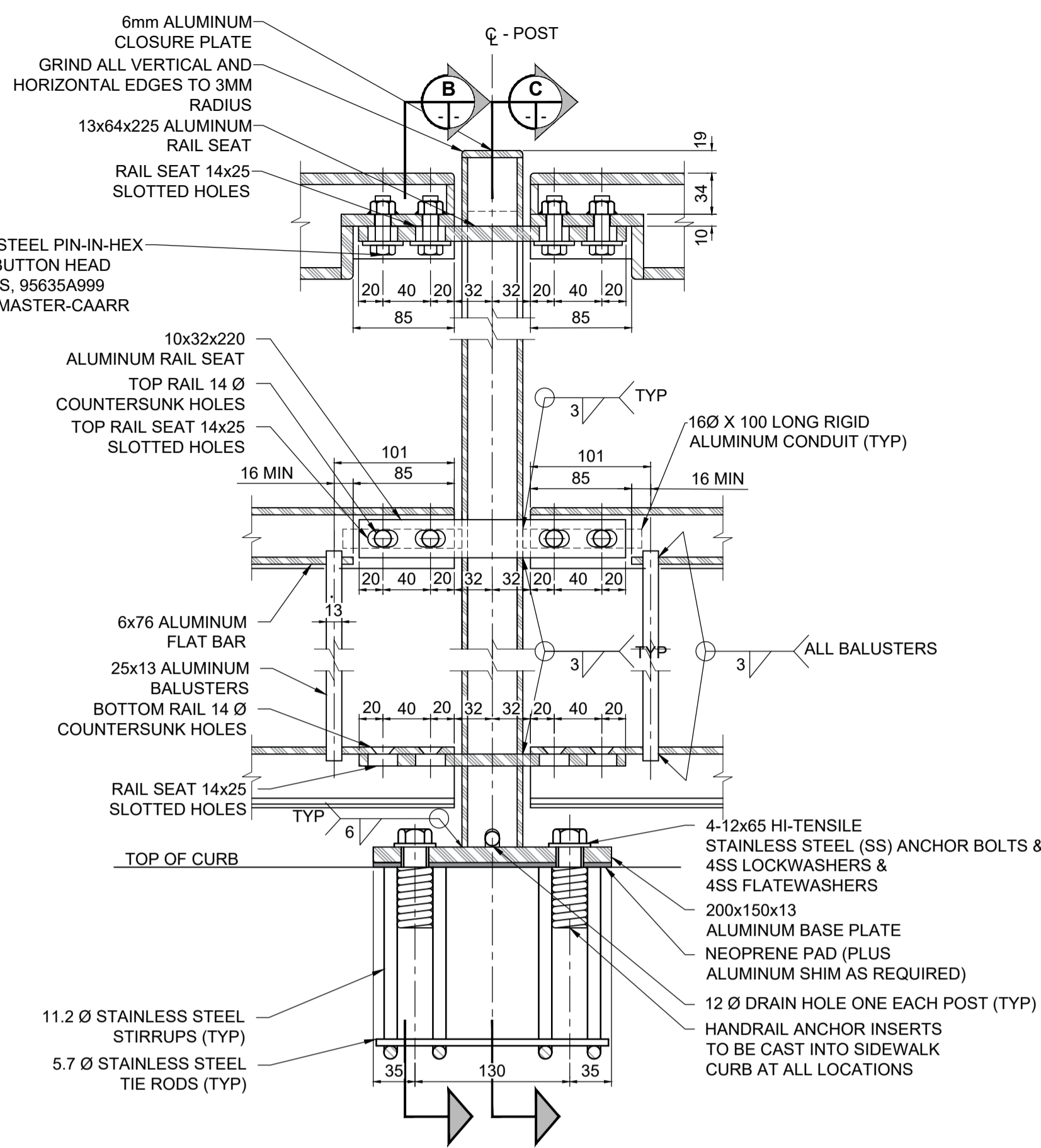
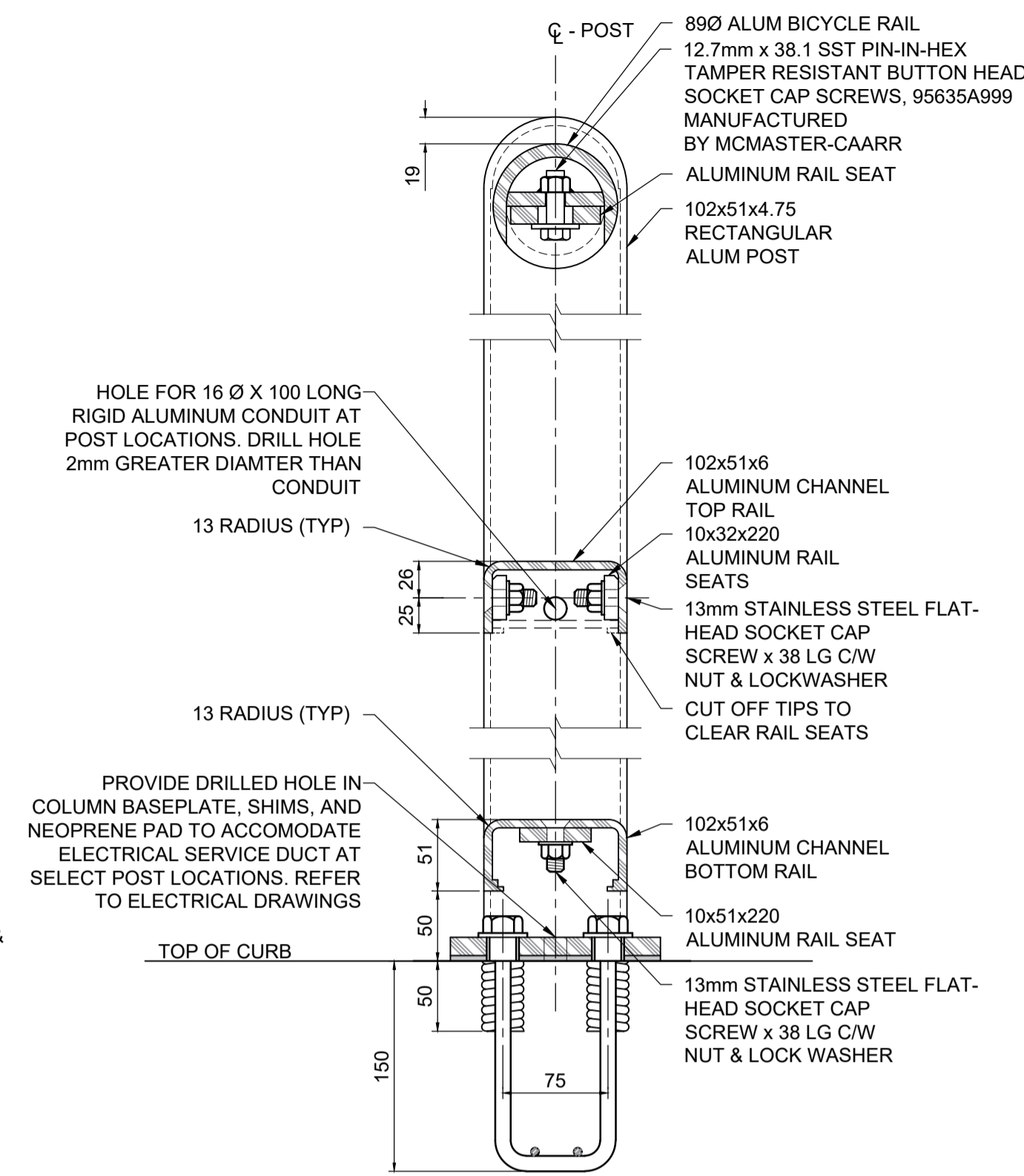


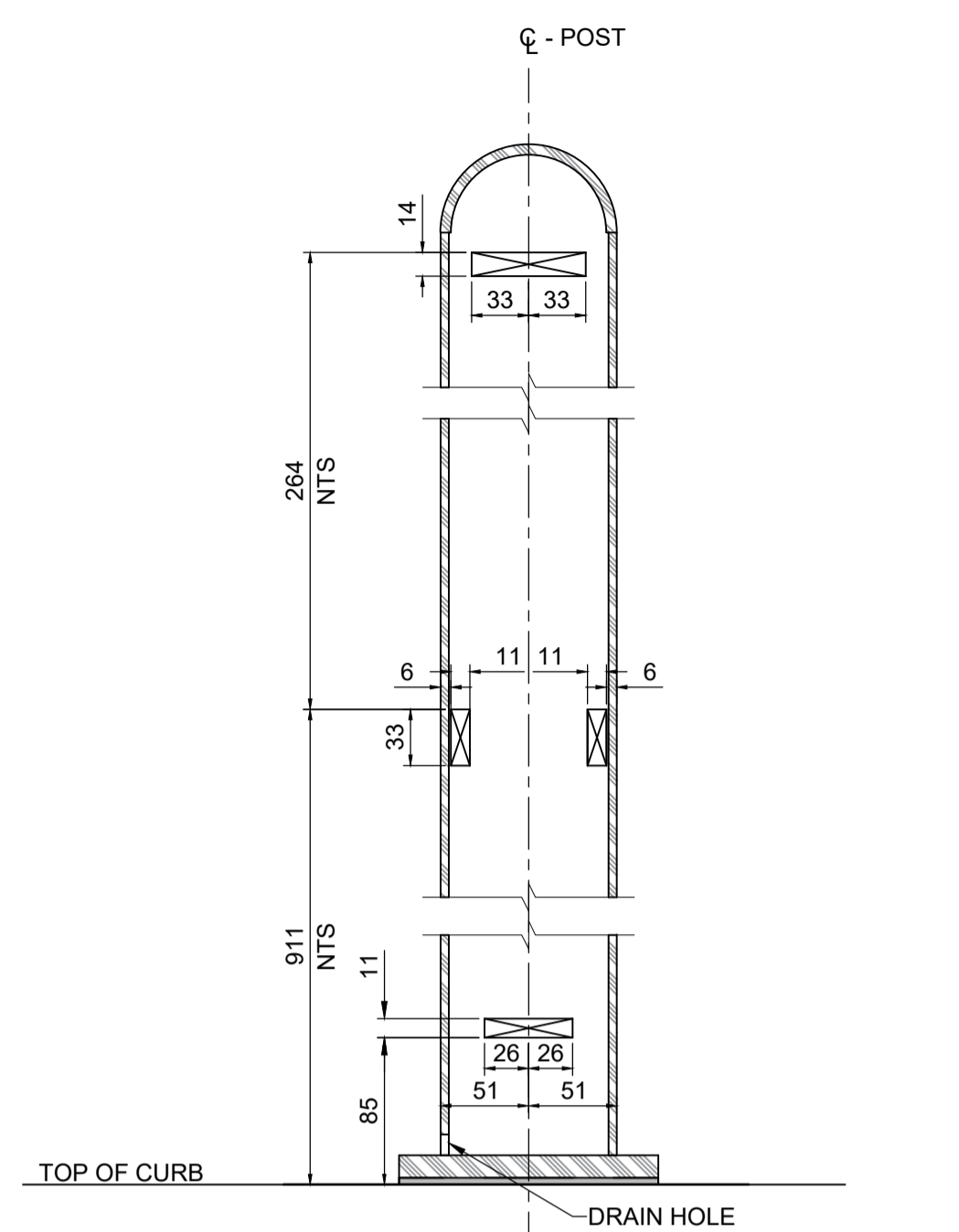
**1** **DETAIL - END POSTS**  
SCALE: 1:4



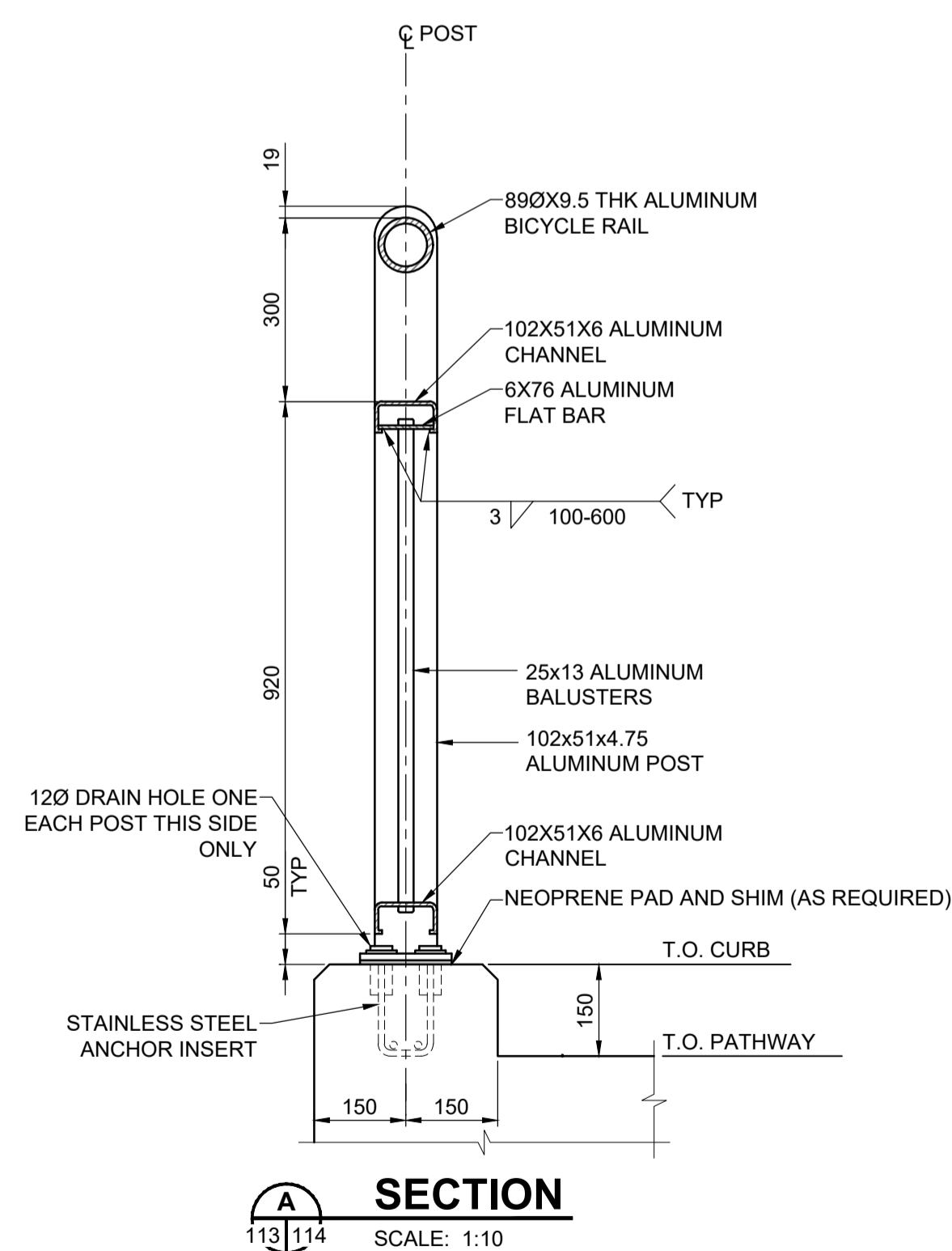
**2** **DETAIL - INTERMEDIATE POSTS**  
SCALE: 1:4



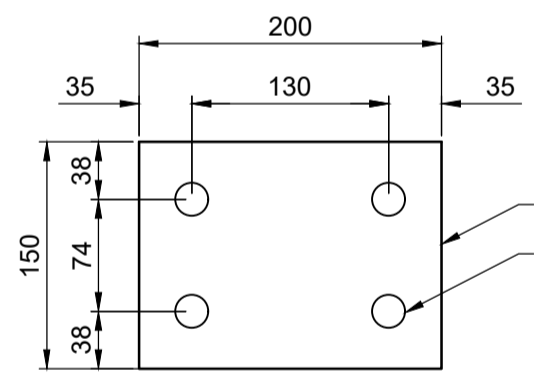
**B** **SECTION - HANDRAIL POST**  
SCALE: 1:4



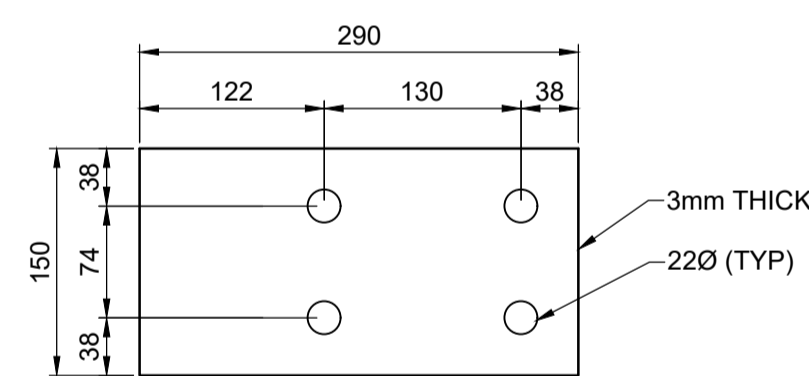
**C** **SECTION - HANDRAIL POST**  
SCALE: 1:4



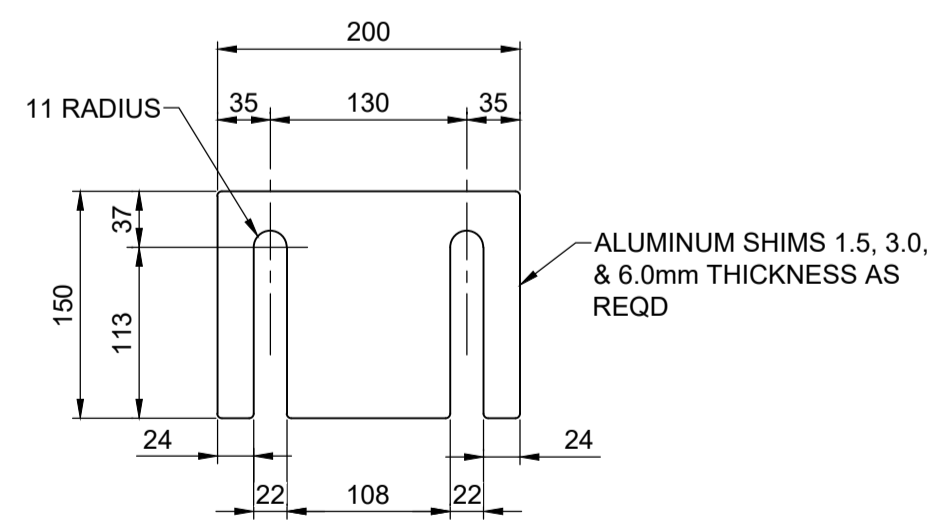
**A** **SECTION**  
SCALE: 1:10



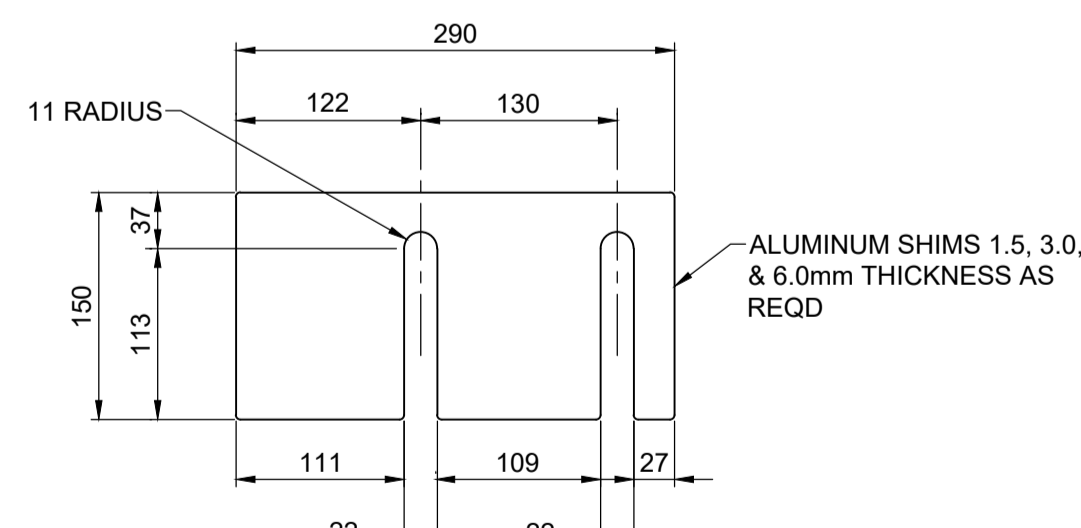
**INTERMEDIATE NEOPRENE PAD DETAIL**  
SCALE 1:5



**END NEOPRENE PAD DETAIL**  
SCALE 1:5



**INTERMEDIATE SHIM DETAIL**  
SCALE 1:5



**END SHIM DETAIL**  
SCALE 1:5

ALUMINUM BICYCLE RAIL QUANTITIES	
ITEM	NO.
NORTH END PANEL	1
SOUTH END PANEL	1
INTERMEDIATE PANEL	23
EXPANSION PANNEL	2
TOTAL NUMBER OF PANELS = 27	

**NOTES:**

- ALUMINUM EXTRUSIONS SHALL CONFORM TO ASTM B221 ALLOY 6351-T6.
- ALUMINUM PLATES SHALL CONFORM TO ASTM B221 ALLOY 5083.
- THE M.I.G. PROCESS OF WELDING SHALL BE USED.
- RAIL POSTS AND BALUSTERS SHALL BE SET PLUMB.
- PLACE NEOPRENE PAD UNDER EACH POST BETWEEN BASE PLATE OR SHIM AND CONCRETE SURFACE. ALUMINUM SHIMS MAY BE REQUIRED FOR VERTICAL ALIGNMENT.
- HANDRAIL ANCHOR INSERTS SHALL BE ACROW-RICHMOND TYPE DGRS-1.

**LOCATION APPROVED**  
UNDERGROUND STRUCTURES

**NOTE:**  
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

**ENGINEERS & GEOSCIENTISTS**  
Certificate of Authorization  
**MORRISON HERSHFIELD**  
No. 1736

**METRIC**  
WHOLE NUMBERS INDICATE MILLIMETRES  
DECIMALIZED NUMBERS INDICATE METRES

DESIGNED BY	AF	CHECKED BY	YM
DRAWN BY	AH	APPROVED BY	BE
DATE	18/09/04	DATE	18/08/07
B ISSUED FOR TENDER		18/09/04 BAP	
A ISSUED FOR 95% DESIGN REVIEW		18/08/07 BAP	
No. REVISIONS			



PROFESSIONAL'S SEAL  
PROVINCE OF MANITOBA  
**A. FATHI**  
Member  
41159  
REGISTERED PROFESSIONAL ENGINEER  
CONSULTANT FILE NAME

**THE CITY OF WINNIPEG**  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

**EMPRESS STREET PROJECT**  
OVERPASS REHABILITATION WORKS  
SUPERSTRUCTURE  
BICYCLE RAIL DETAILS 2

CITY DRAWING NUMBER  
P-3494-114  
SHEET 114 OF 168  
DRAWING No. REV  
**114** B

BID OPPORTUNITY No. 602-2018