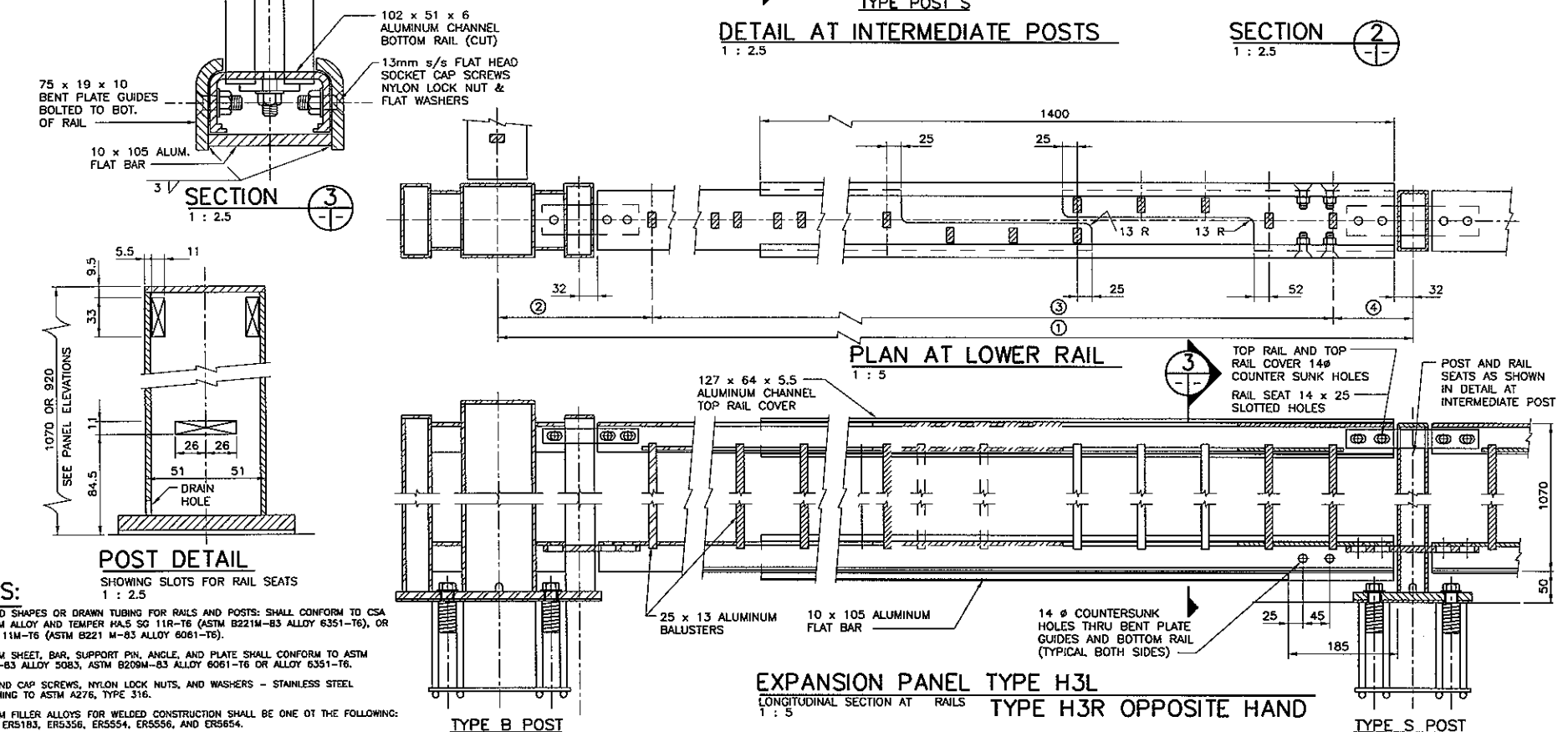
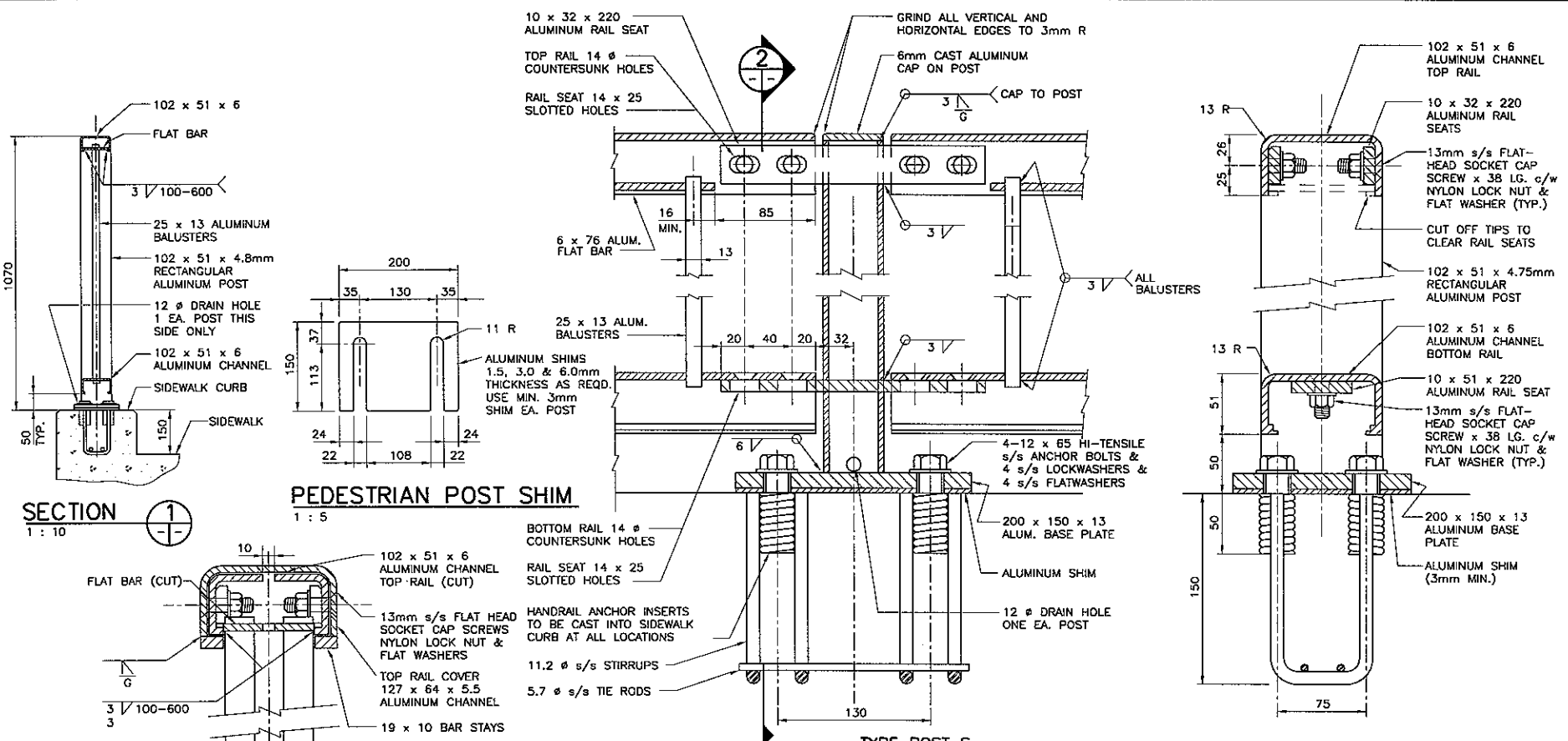


HANDRAIL POST SCHEDULE		
POST TYPE	NO. REQ'D	COMPONENT (PER POST)
S	67	POST TYPE S 1-HSS 102x51x4.8 CENTRAL POST 2-220x32x10 TOP RAIL SEAT 1-200x51x10 BOT. RAIL SEAT 1-6mm CAP ON POST 1-200x150x13 BASE PLATE C/W 4-11.2 # STIRRUPS 2-5.7 # TIE RODS 4-12 #x65 ANCHOR BOLTS C/W LOCKWASHERS AND FLATWASHERS ALUMINUM SHIM (3mm THICK MIN.) AS REQUIRED.
A	10	POST TYPE A 1-HSS 127x127x6.4 CENTRAL POST AND 2-HSS 127x51x6.4 SIDE POSTS 2-HSS 102x51x6.4x 51 LONG TOP BRACE 2-HSS 102x51x6.4x 51 LONG BOT. BRACE 4-140x 32x10 TOP RAIL SEAT 2-95x32x10 TOP RAIL SEAT 2-140x51x10 BOT. RAIL SEAT 1-95x51x10 BOT. RAIL SEAT 1-6mm THICK CAP EACH POST 1-380x200x13 BASE PLATE (SEE POST TYPE S FOR SIMILAR BASE PLATE COMPONENTS)
B	10	POST TYPE B 1-HSS 127x127x6.4 CENTRAL POST AND 2-HSS 127x51x6.4 SIDE POSTS 2-HSS 102x51x6.4x 51 LONG TOP BRACE 2-HSS 102x51x6.4x 51 LONG BOT. BRACE 4-140x 32x10 TOP RAIL SEAT 2-95x32x10 TOP RAIL SEAT 2-140x51x10 BOT. RAIL SEAT 1-95x51x10 BOT. RAIL SEAT 1-6mm THICK CAP EACH POST 1-380x200x13 BASE PLATE (SEE POST TYPE S FOR SIMILAR BASE PLATE COMPONENTS)
C	1	POST TYPE C 1-HSS 127x127x6.4 CENTRAL POST AND 2-HSS 127x51x6.4 SIDE POSTS 2-HSS 102x51x6.4x 51 LONG TOP BRACE 2-HSS 102x51x6.4x 51 LONG BOT. BRACE 4-140x 32x10 TOP RAIL SEAT 2-95x32x10 TOP RAIL SEAT 2-140x51x10 BOT. RAIL SEAT 1-95x51x10 BOT. RAIL SEAT 1-6mm THICK CAP EACH POST 1-380x200x13 BASE PLATE (SEE POST TYPE S FOR SIMILAR BASE PLATE COMPONENTS)
D	2	POST TYPE D POST COMPONENTS SIMILAR TO POST TYPE C
E	2	POST TYPE E POST COMPONENTS SIMILAR TO POST TYPE C

HANDRAIL PANEL SCHEDULE						
PANEL TYPE	NO. REQ'D	①	②	③	④	REMARKS
H1	54	2440	140	20 SP. @ 108 = 2160	140	
H2	1	2440	140	20 SP. @ 108 = 2160	140	LIFE PRESERVER PANEL
H3L	1	2440	140	20 SP. @ 108 = 2160	140	EXPANSION PANEL
H3R	1	2440	140	20 SP. @ 108 = 2160	140	EXPANSION PANEL
H4	10	500	165	2 SP. @ 85 = 170	165	
H5	4	2440	280	19 SP. @ 106± = 2020	140	
H6	4	2440	140	19 SP. @ 106± = 2020	280	
H7	1	2440	420	17 SP. @ 102± = 1740	280	
H8	2	2440	280	19 SP. @ 106± = 2020	140	
H9	1	2200±	140	17 SP. @ 105± = 1780	280	CONFIRM LENGTH PRIOR TO FABRICATION
H10	3	2440	140	19 SP. @ 106± = 2020	280	
H11	1	2865±	140	23 SP. @ 108± = 2445	280	CONFIRM LENGTH PRIOR TO FABRICATION
H12	1	2435±	280	19 SP. @ 106± = 2015	140	CONFIRM LENGTH PRIOR TO FABRICATION
H13	1	2550±	140	20 SP. @ 107± = 2130	280	CONFIRM LENGTH PRIOR TO FABRICATION
H14	1	2520±	280	20 SP. @ 105± = 2100	140	CONFIRM LENGTH PRIOR TO FABRICATION
H15	1	2415±	280	19 SP. @ 105± = 1995	140	CONFIRM LENGTH PRIOR TO FABRICATION
H16	1	2590±	280	21 SP. @ 103± = 2170	140	CONFIRM LENGTH PRIOR TO FABRICATION
H17	1	2440	280	19 SP. @ 106± = 2020	140	
H18	1	1950	140	15 SP. @ 102 = 1530	280	CONFIRM LENGTH PRIOR TO FABRICATION
H19	1	2440	280	17 SP. @ 102± = 1740	420	



- NOTES:**
- EXTRUDED SHAPES OR DRAWN TUBING FOR RAILS AND POSTS: SHALL CONFORM TO CSA ALUMINUM ALLOY AND TEMPER HA.5 50 11R-T6 (ASTM B221M-B3 ALLOY 6351-T6), OR HA.7 GA 11M-T6 (ASTM B221 M-B3 ALLOY 6061-T6).
 - ALUMINUM SHEET, BAR, SUPPORT PIN, ANGLE, AND PLATE SHALL CONFORM TO ASTM B221M-B3 ALLOY 5083, ASTM B209M-B3 ALLOY 6061-T6 OR ALLOY 6351-T6.
 - BOLTS AND CAP SCREWS, NYLON LOCK NUTS, AND WASHERS - STAINLESS STEEL CONFORMING TO ASTM A276, TYPE 316.
 - ALUMINUM FILLER ALLOYS FOR WELDED CONSTRUCTION SHALL BE ONE OF THE FOLLOWING: ER4043, ER5183, ER5356, ER5554, ER5556, AND ER5854.
 - THE M.I.G. PROCESS OF WELDING SHALL BE USED.
 - S/S DENOTES STAINLESS STEEL.
 - RAIL POSTS SHALL BE SET VERTICAL OR MAY BE PERPENDICULAR TO CONCRETE BASE IF SLOPE OF BASE IS LESS THAN 1:3.
 - PLACE MINIMUM OF ONE 3mm ALUMINUM SHIM UNDER EACH POST. ADDITIONAL SHIMS MAY BE REQUIRED FOR VERTICAL ALIGNMENT. THE SURFACE SHIMS IN CONTACT WITH CONC. SHALL BE PAINTED WITH 2 COATS OF ALKALI RESISTANT BITUMINOUS PAINT MEETING THE REQUIREMENTS OF COSS 31-0P-3M.
 - HANDRAIL ANCHOR INSERTS SHALL BE ACROW -RICHMOND TYPE DCR-1 s/s.

DESIGNED BY N.B.G.	ENGINEER'S SEAL		THE CITY OF WINNIPEG PUBLIC WORKS DEPARTMENT MARYLAND TWIN BRIDGES REHABILITATION PROJECT EAST BRIDGE REHABILITATION ALUMINUM PEDESTRIAN HANDRAIL DETAILS
DRAWN BY N.B.G.	ENGINEER'S SEAL		
CHECKED BY R.A.W.			
REVIEWED BY R.A.W.			
HOR. SCALE AS NOTED	CONSULTANT PROJECT NO. 05-5069-1000		CITY DRAWING NUMBER B108-06-32 SHEET 32 OF 38
ISSUED FOR TENDER 12/02/06 N.B.G.	DATE DEC. 2005	RELEASED FOR CONSTRUCTION 12/14/06 N.B.G.	