
No. 1 Hampshire Road Singapore 219428
Tel: (65) 375 7100 Fax: (65) 396 1002

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26 September 2003

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To Whom It May Concern:

**STANDARD DETAILS OF ROAD ELEMENTS – REVISION TO
SUPPORT FOR DIRECTIONAL AND INFORMATION SIGNS and PC.
C DROP-INLET CHAMBER**

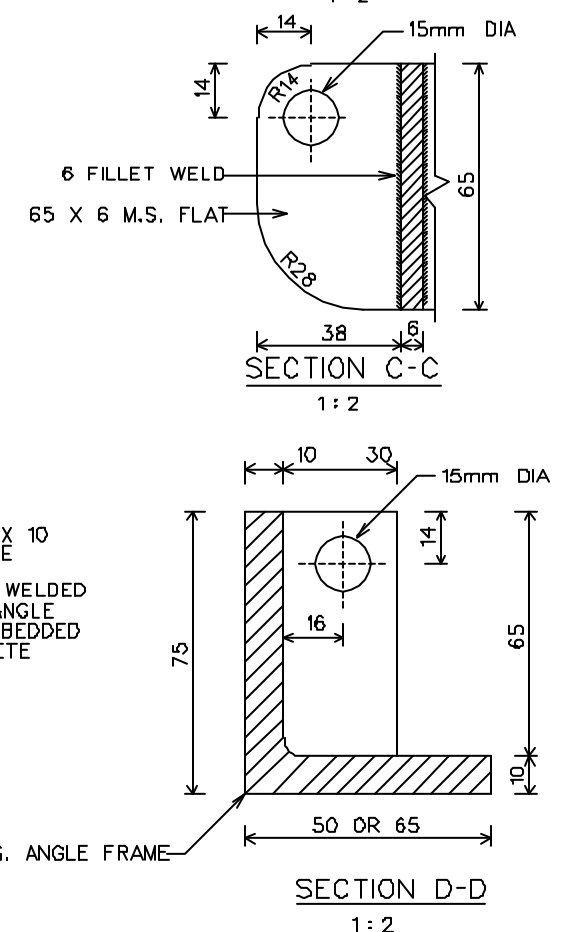
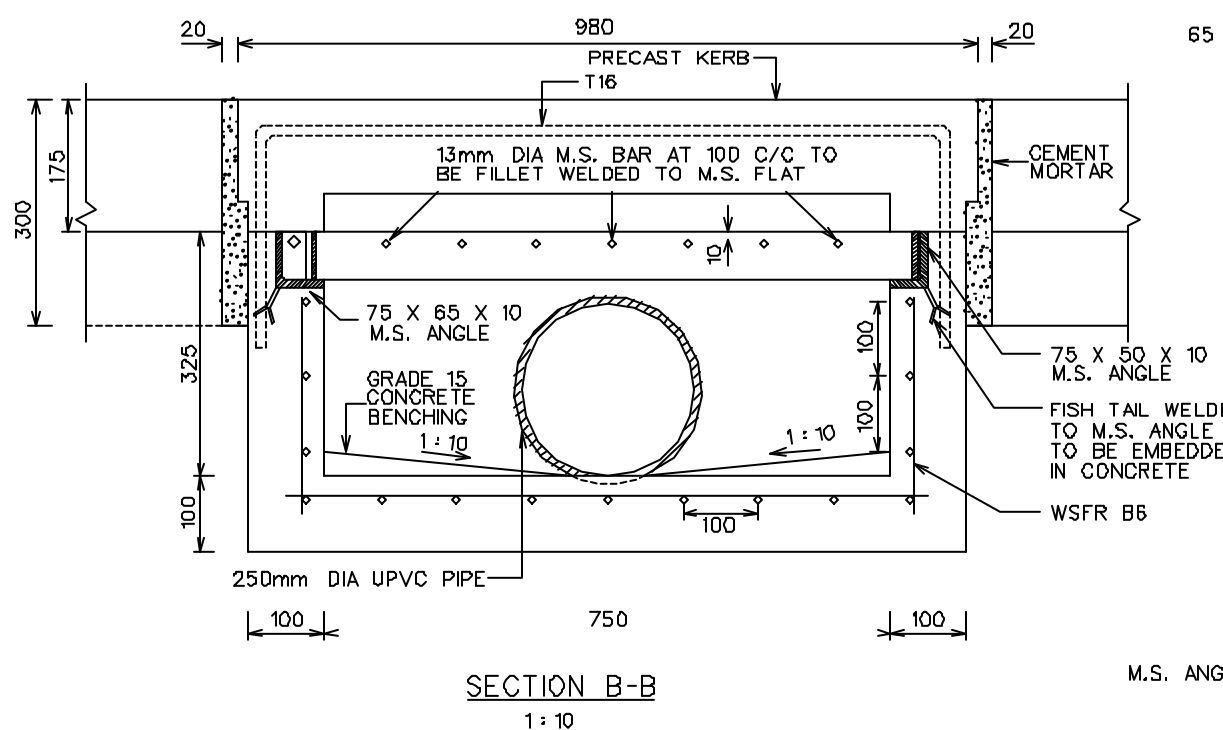
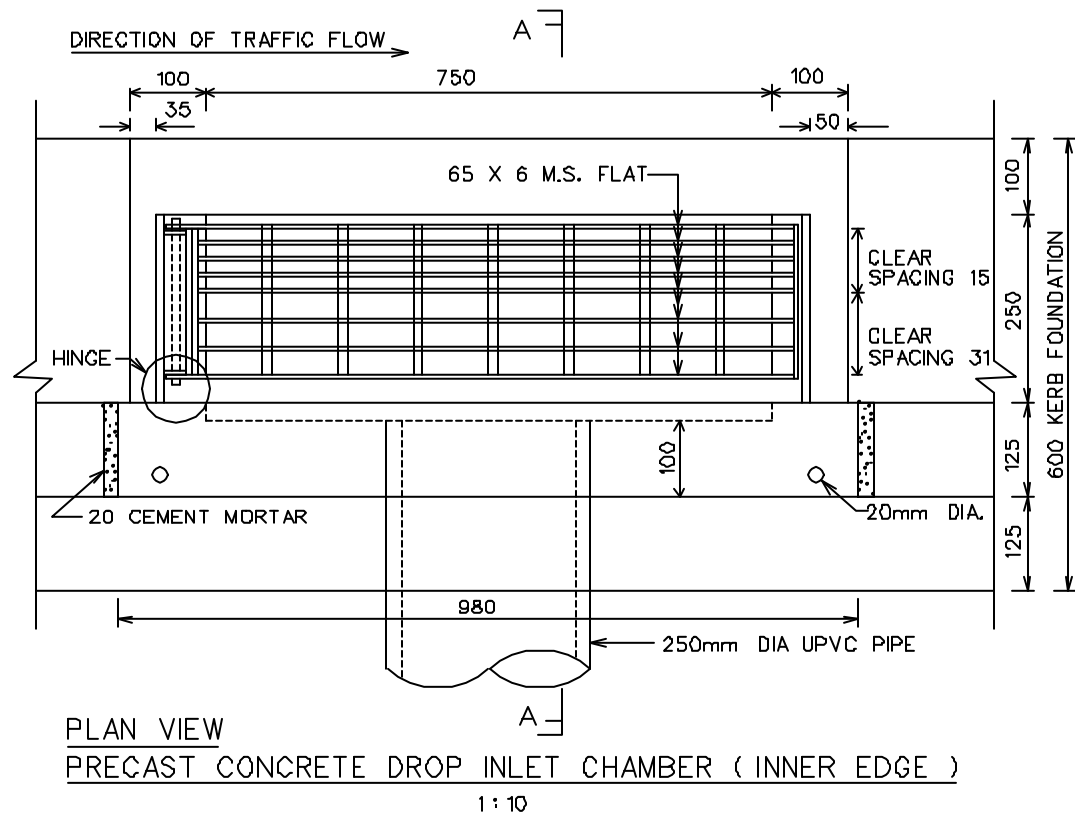
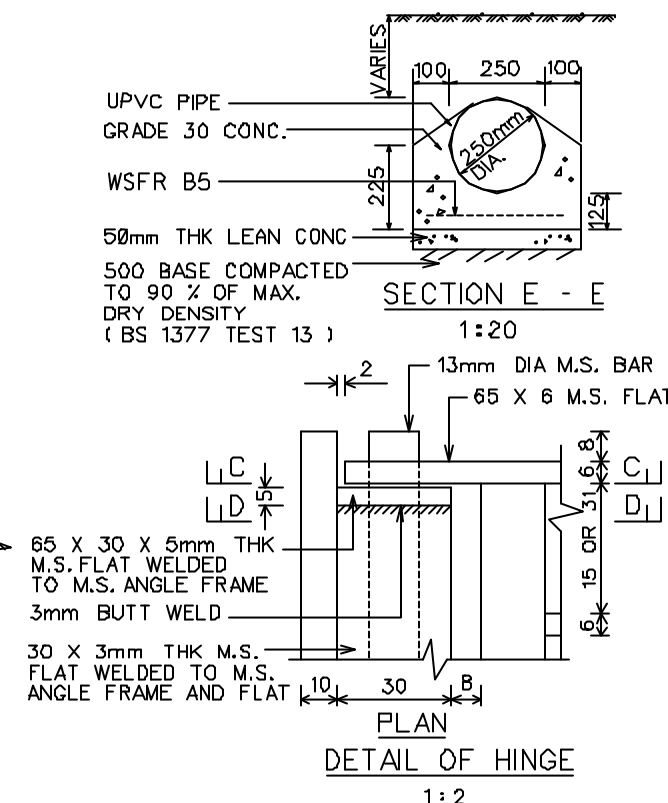
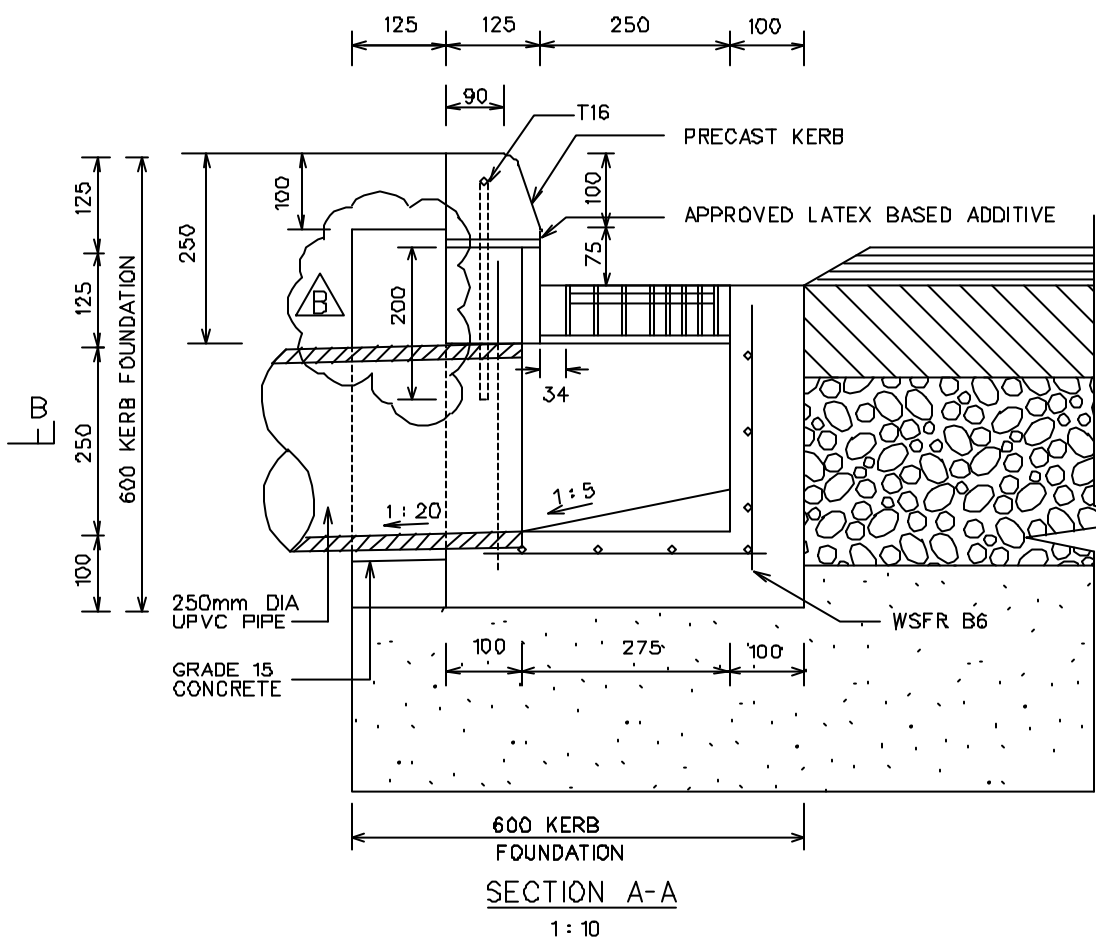
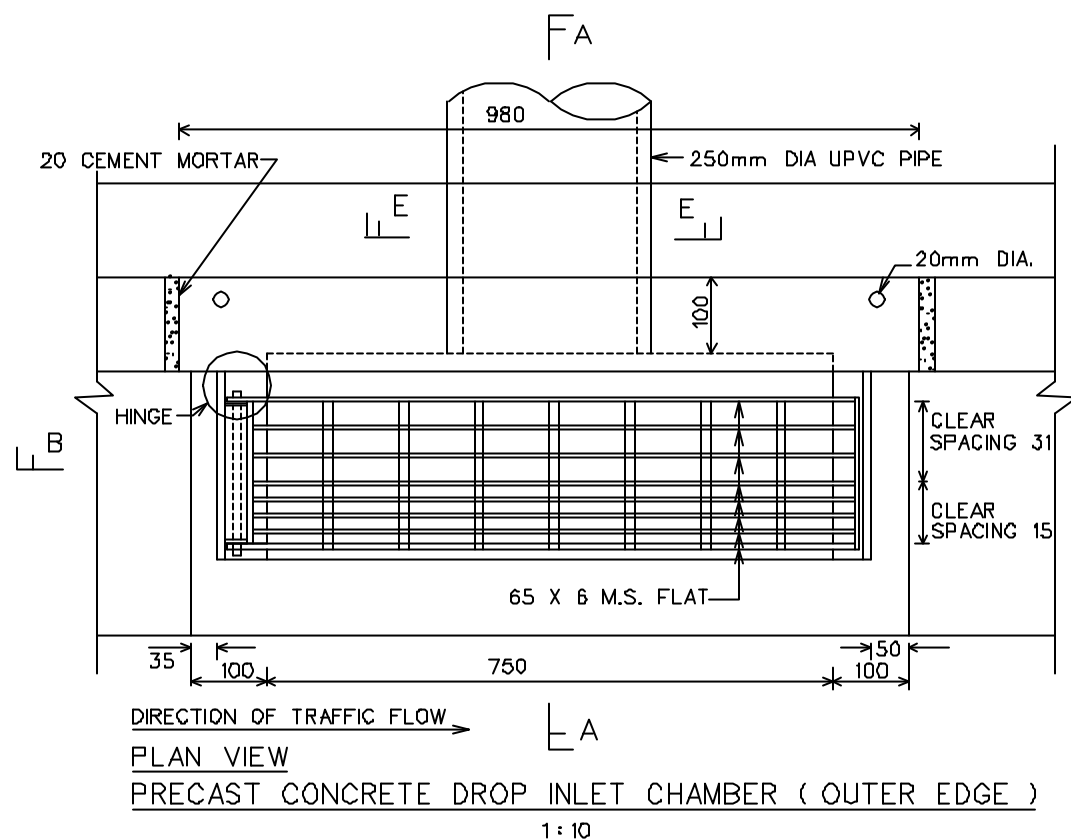
We would like to inform you that the Details on the Support for Directional and Information Signs have been revised as shown in drawing LTA/RD/SD99/SUP/1A, 2A & 3A.

The length of the dowel bar in the PC. C. Drop-Inlet Chamber has also been revised as shown in the Drawing LTA/RD/SD99/DRA/7B.

The documents are available at this website: - <http://www.corenet.gov.sg/einfo>.



**NEO BIAN HONG
MANAGER
DESIGN DEVELOPMENT DEPARTMENT**



NOTES:-

1. GRATINGS AND FRAMES ARE TO BE GALVANISED BY HOT-DIP GALVANISING PROCESS IN ACCORDANCE WITH SS117.
2. THE COMPLETE ASSEMBLY EXCEPT FISH TAIL ARE TO BE GALVANISED BY HOT-DIP GALVANISING PROCESS IN ACCORDANCE WITH S.S.117.
3. FISH TAIL IS TO BE WELDED TO M.S. ANGLE AND PLACED AT ALL CORNERS OF THE FRAME. ALL FLATS AND ANGLES ARE TO BE FILLET WELDED THROUGHOUT UNLESS OTHERWISE STATED.
4. THE HINGE MUST BE LOCATED SUCH THAT GRATING WILL BE CLOSED IN THE DIRECTION OF TRAFFIC FLOW.
5. 250mm DIA UPVC PIPE (OUTSIDE DIAMETER) SHALL CONFORM TO SS272 WITH NO. JOINTING (MIN. WALL THICKNESS 6.1mm).

DATE OF REVISION

- A. 23-12-2001
- B. 30-04-2002

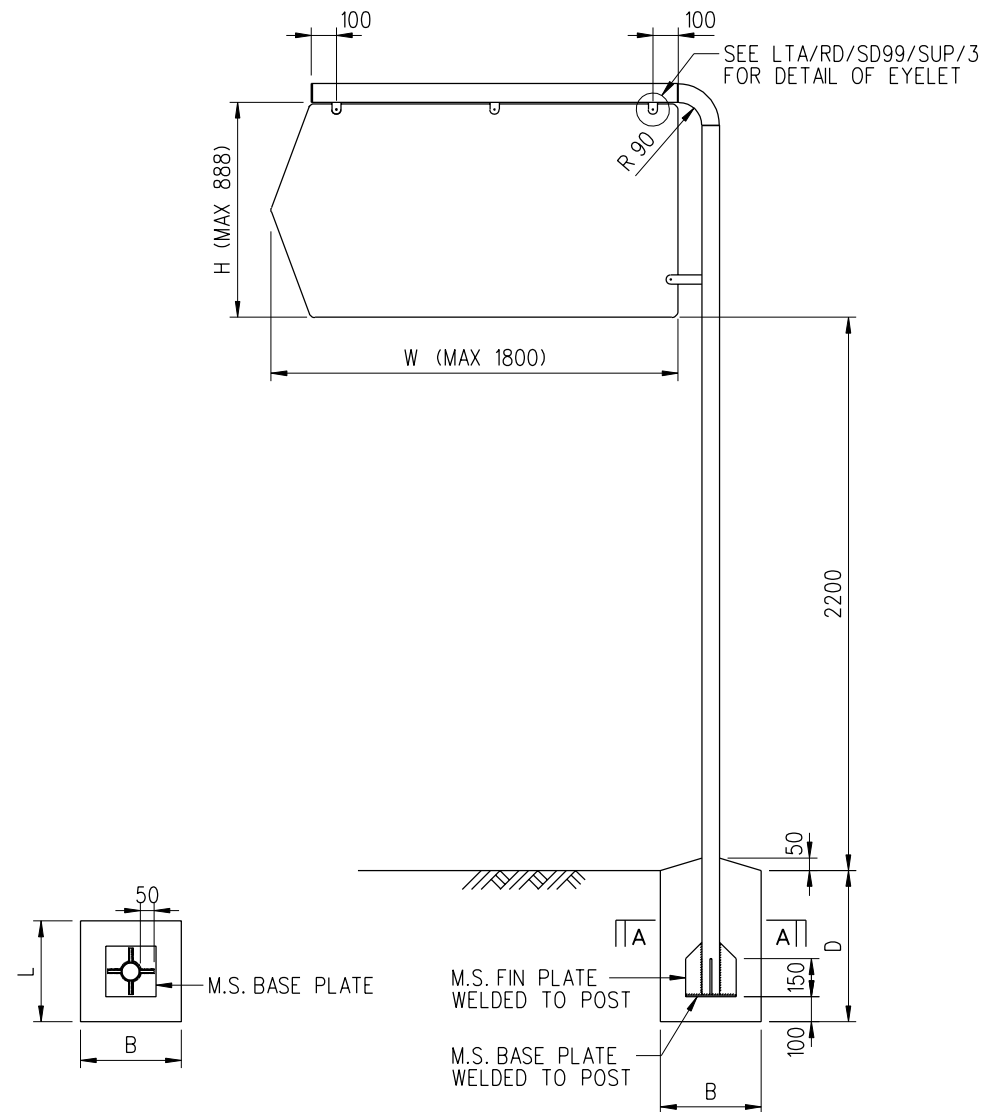
STANDARD DETAIL

PC.C. DROP-INLET CHAMBER

Land Transport Authority

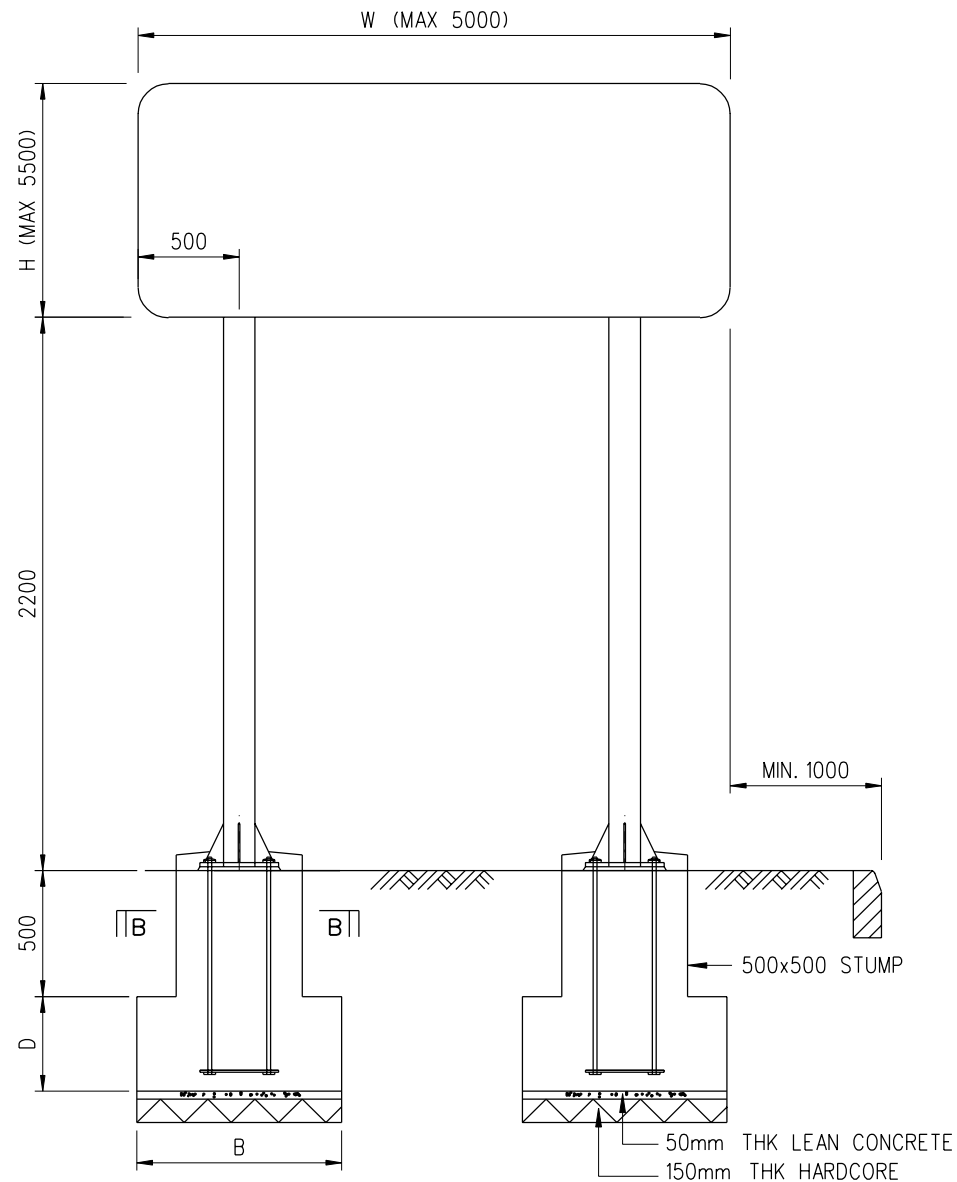
DRAWING NO. LTA/RD/SD99/DRA/7B

DATE OF ISSUE APR 2000 SCALE AS SHOWN SHEET NO. 1 OF 1

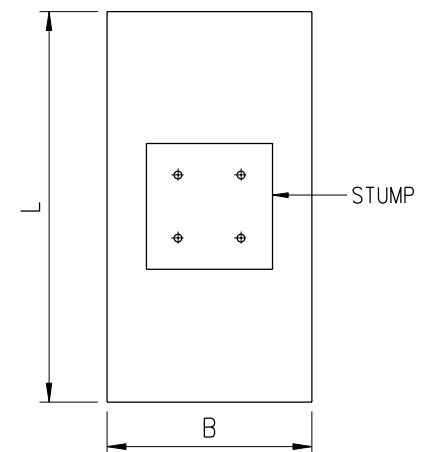


SECTION A - A

SUPPORT TYPE A



SUPPORT TYPE B, C & D



SECTION B - B

DETAILS FOR TYPE OF SUPPORT (SEE LTA/RD/SD99/SUP/2 & 3 FOR DETAILS)

SUPPORT TYPE	MAX AREA OF SIGNBOARD	POST SIZES	FOOTING SIZES			BASE PLATE SIZES	DIAMETER OF HD BOLTS (GRADE 8.8) FOR BASE PLATES (mm)	BOLT ANCHORAGE LENGTH (mm)	FIN PLATE SIZES (mm)
	AREA, (m ²) = W x H		L (mm)	B (mm)	D (mm)				
A	AREA ≤ 1.6	Ø75 G.I. PIPE 3.2mm THK	400	400	600	200 x 200 x 10	-	-	150 x 50 x 8
B	1.6 < AREA ≤ 10	100 x 100 x 6	1650	800	300	250 x 250 x 12.5	16	600	100 x 75 x 10
C	10 < AREA ≤ 20	120 x 120 x 8	2300	800	400	300 x 300 x 15	20	650	150 x 75 x 12.5
D	20 < AREA ≤ 27.5	150 x 150 x 6	2600	800	500	350 x 350 x 15	24	700	200 x 75 x 15

NOTES :

1. CONCRETE GRADE 30; MIN. COVER TO ALL REINFORCEMENT = 35mm; MIN. SOIL BEARING CAPACITY = 75 kPa; YIELD STRENGTH OF GALVANISED IRON PIPES > 210MPa
2. FABRICATION AND ERECTION OF STEEL STRUCTURE SHALL BE IN ACCORDANCE WITH B.S. 5950 PART 1: 2000
3. ALL STRUCTURAL STEEL SECTIONS SHALL BE IN ACCORDANCE WITH B.S. 7613, BS 7668, BS EN 10029, BS EN 10113(pt 1-3), BS EN 10155, B.S. EN 10210-1

4. ALL STEEL MEMBERS ARE TO BE CLEANED IN FACTORY BEFORE ONE COAT EPOXY BASED PRIMER AND TWO COATS OF EPOXY PAINT OF APPROVED COLOR (INTERNATIONAL PAINT INTERGARD EAA001/EAA002 OR EQUIVALENT) ARE APPLIED.
5. ALL BOLTS STRENGTH GRADE USED ARE AS SPECIFIED IN BS 4190 GRADE 8.8 UNLESS NOTED OTHERWISE.
6. ALL WELDING SHALL BE 6mm CONTINUOUS FILLET WELD.

REVISIONS

A	JUN 2003
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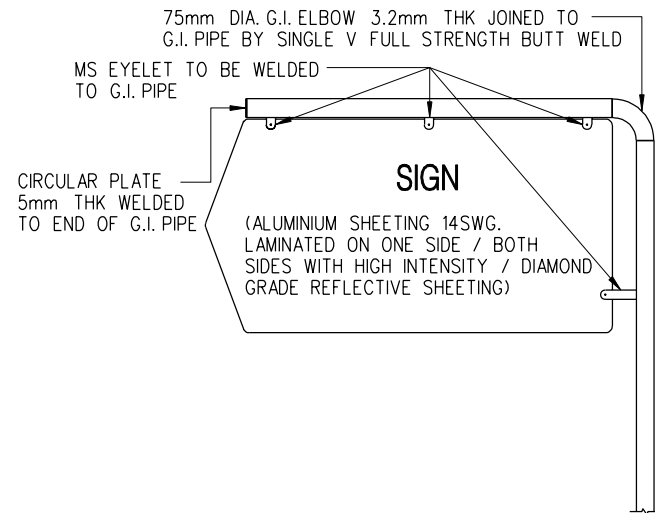
STANDARD DETAIL

SUPPORT FOR DIRECTIONAL AND INFORMATION SIGNS

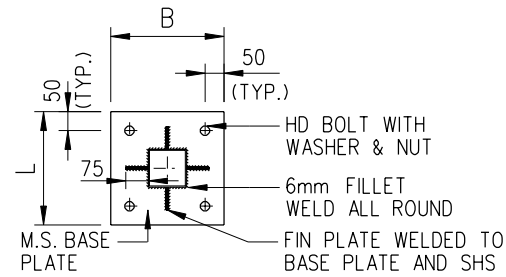
Land Transport Authority

DRAWING NO. LTA/RD/SD99/SUP/1A

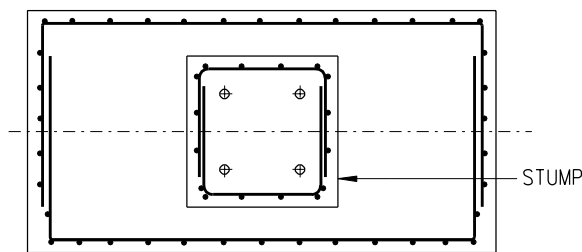
DATE OF ISSUE APR 2000	SCALE AS SHOWN	SHEET NO. 1 OF 3
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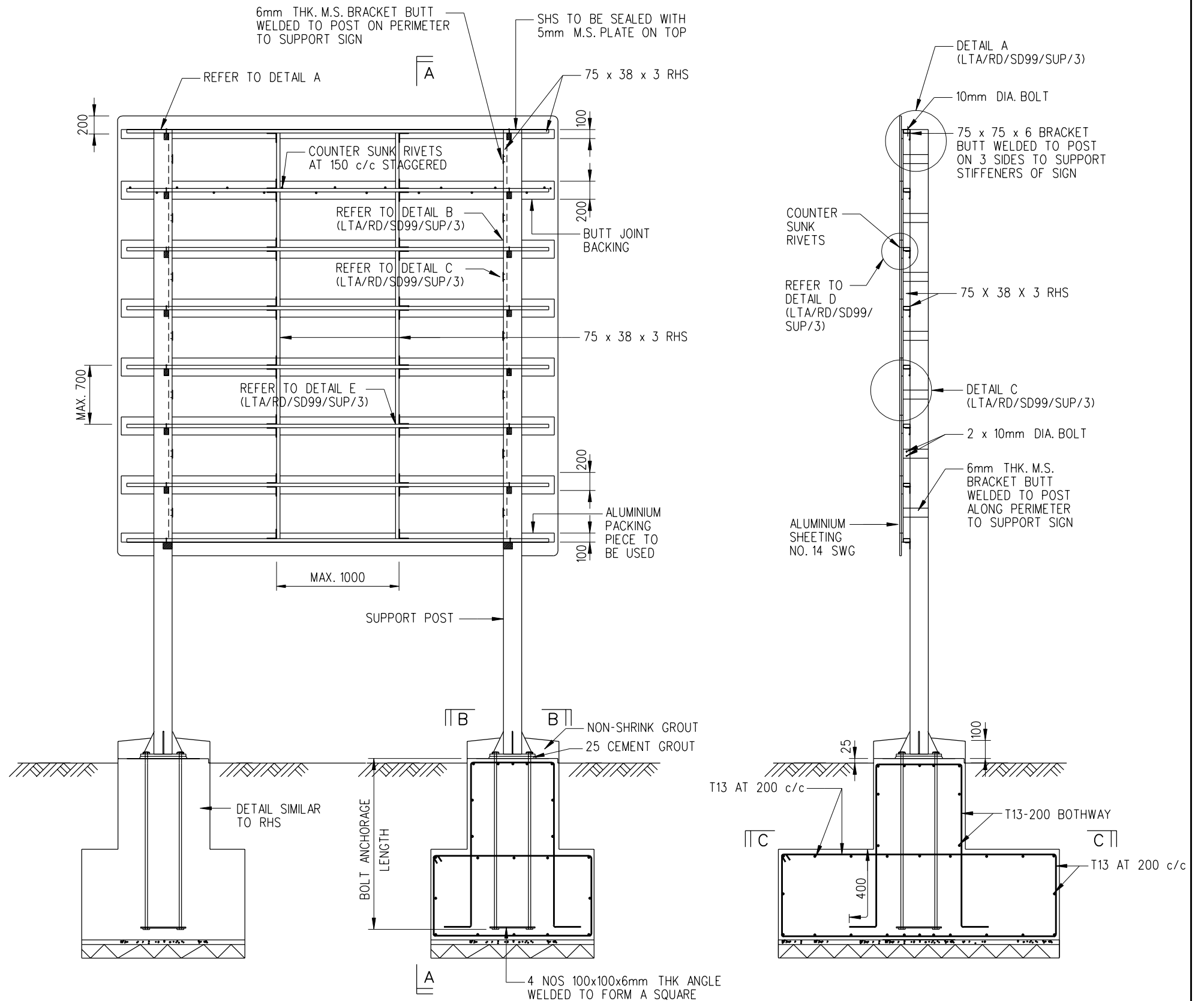
SIGNBOARD TYPE A



SECTION B - B



SECTION C - C



REAR VIEW OF SIGNBOARD TYPE B, C & D

SECTION A - A

NOTES : (CONTINUED)

- 7. THE RIGIDITY OF A SIGN PLATE MAY BE IMPROVED BY FORMING A FLANGE AROUND ITS PERIMETER. THE FLANGE MUST BE PROVIDED ALONG ALL EDGES AND BE FOLDED AT RIGHT ANGLES TO THE SIGN FACE AND TO A DEPTH NOT LESS THAN 25mm.
- 8. BACKING IS REQUIRED WHEN THE SIGN IS MADE UP OF SEPARATE SHEETS.
- 9. FURTHER STIFFENING CAN BE EFFECTED BY REINFORCING THE FLANGE WITH 25 x 25 x 3 THICK ANGLES.

- 10. THE POSITION OF SIGNBOARD SHALL NOT BE OBSTRUCTED AND SHALL BE DETERMINED ON SITE.
- 11. ALL CHS PIPE SIZES SHOWN ARE NOMINAL.
- 12. ALL RHS AND SHS SIZES SHOWN ARE EXTERNAL DIMENSIONS.

REVISIONS

NO.	DATE	DESCRIPTION
A	JUN 2003	

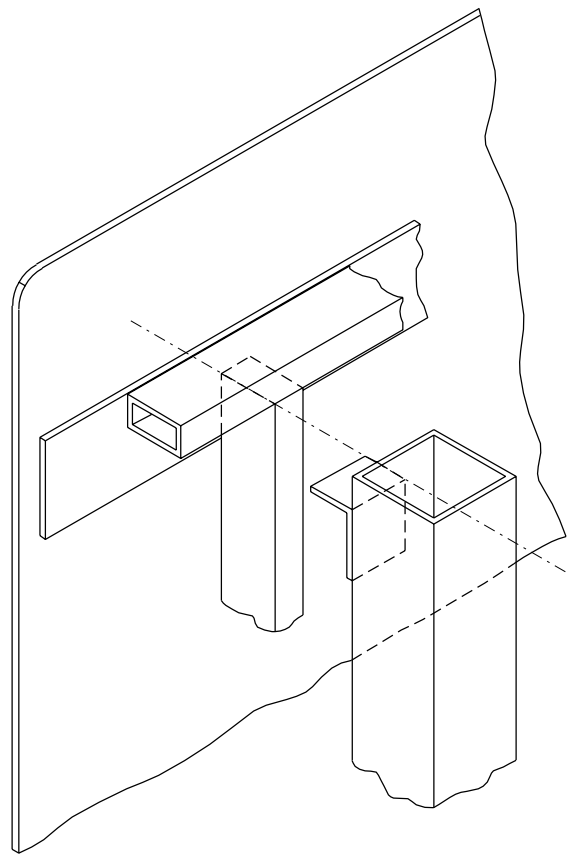
STANDARD DETAIL

SUPPORT FOR DIRECTIONAL AND INFORMATION SIGNS

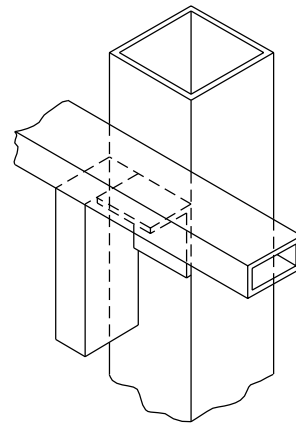


DRAWING NO. LTA/RD/SD99/SUP/2A

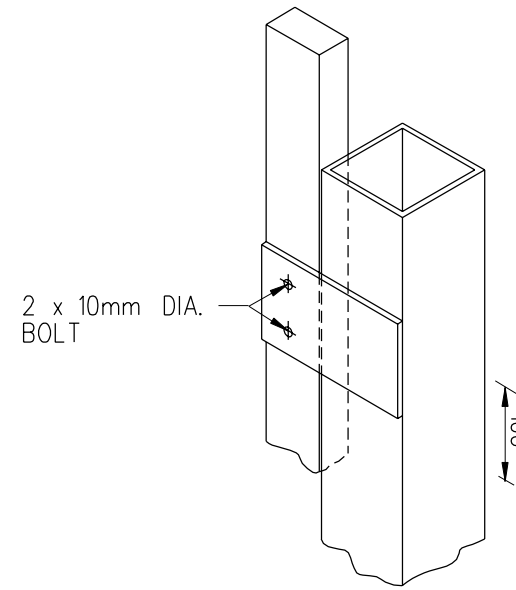
DATE OF ISSUE APR 2000	SCALE N.T.S.	SHEET NO. 2 OF 3
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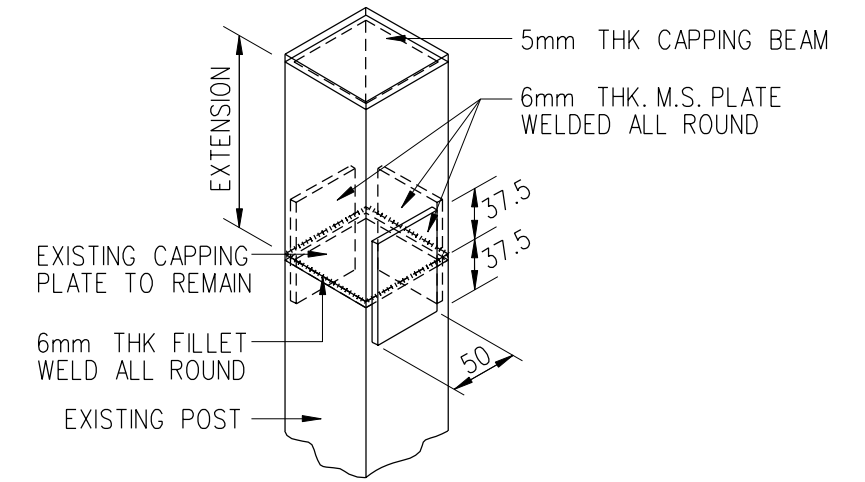
ISOMETRIC VIEW OF DETAIL A



DETAIL B



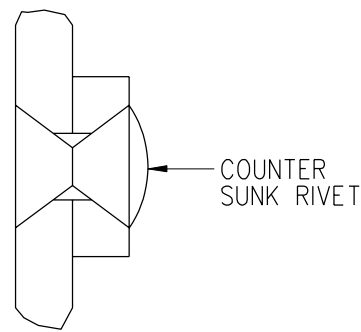
DETAIL C



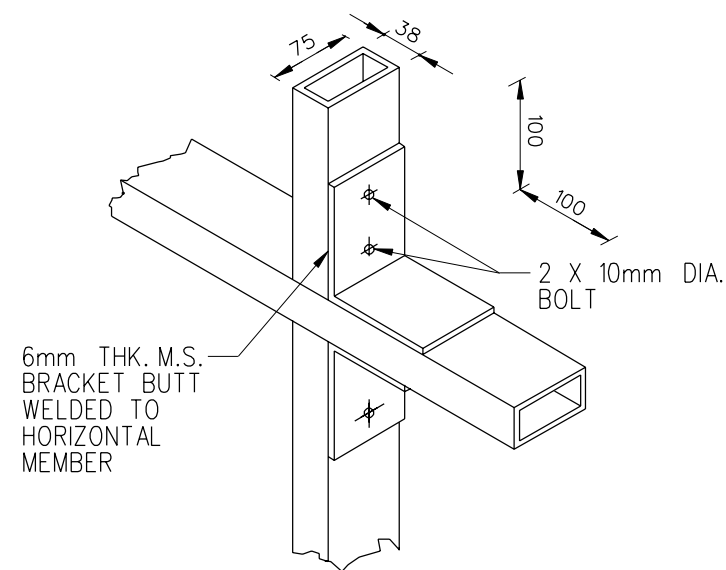
TYPICAL SPLICING DETAIL FOR EXTENSION OF POSTS FOR ADDITIONAL SIGNBOARDS (FOR SUPPORT TYPES B, C, & D ONLY)

NOTES:

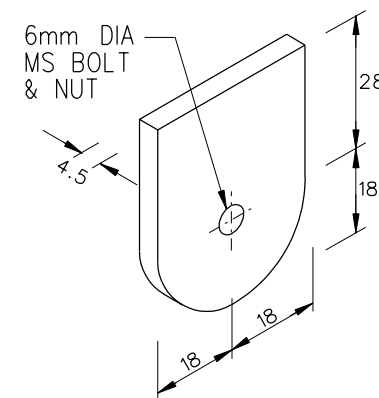
1. THE TOTAL AREA OF THE SIGNBOARDS SHALL NOT EXCEED THE MAXIMUM FOR THE SUPPORT. (SEE TABLE IN DRG NO.LTA/RD/SD99/SUP/1)
2. THE TOTAL HEIGHT (H/2 + 2.2)m SHALL NOT EXCEED 4.95m.



DETAIL D



DETAIL E



DETAIL DRAWING OF EYELET FOR SUPPORT TYPE A

REVISIONS		STANDARD DETAIL			
A	JUN 2003				
		SUPPORT FOR DIRECTIONAL AND INFORMATION SIGNS	DRAWING NO. LTA/RD/SD99/SUP/3A		
			DATE OF ISSUE	SCALE	SHEET NO.
			APR 2000	AS SHOWN	3 OF 3

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