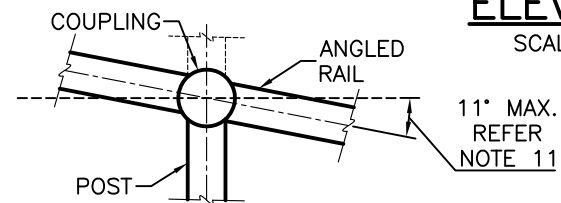


ELEVATION

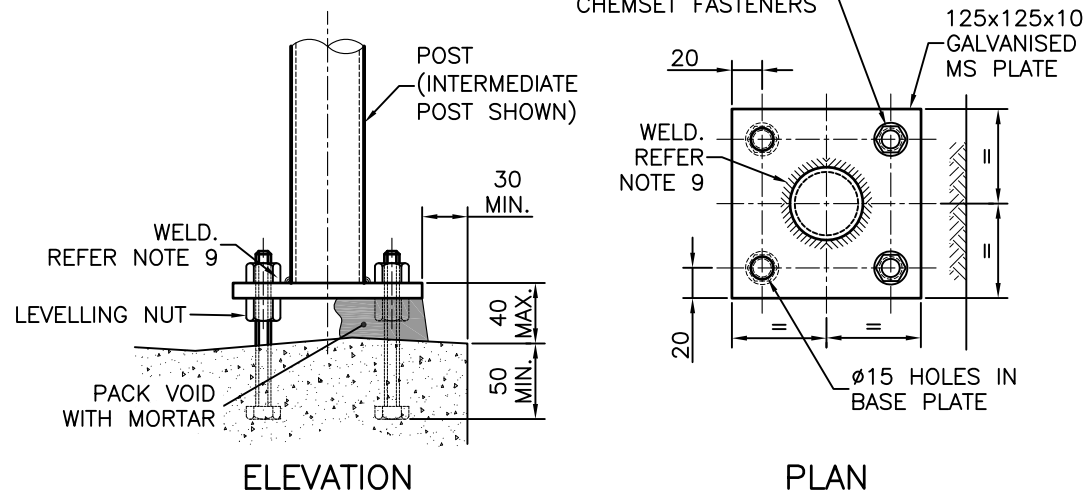
SCALE: 1:20



MAX. DEFLECTION ANGLE FOR RAILS USING COUPLINGS

SCALE: 1:10

4/M12x110 CAST IN-SITU GALVANISED BOLTS OR 4/M10x60 MIN. GALVANISED CHEMSET FASTENERS

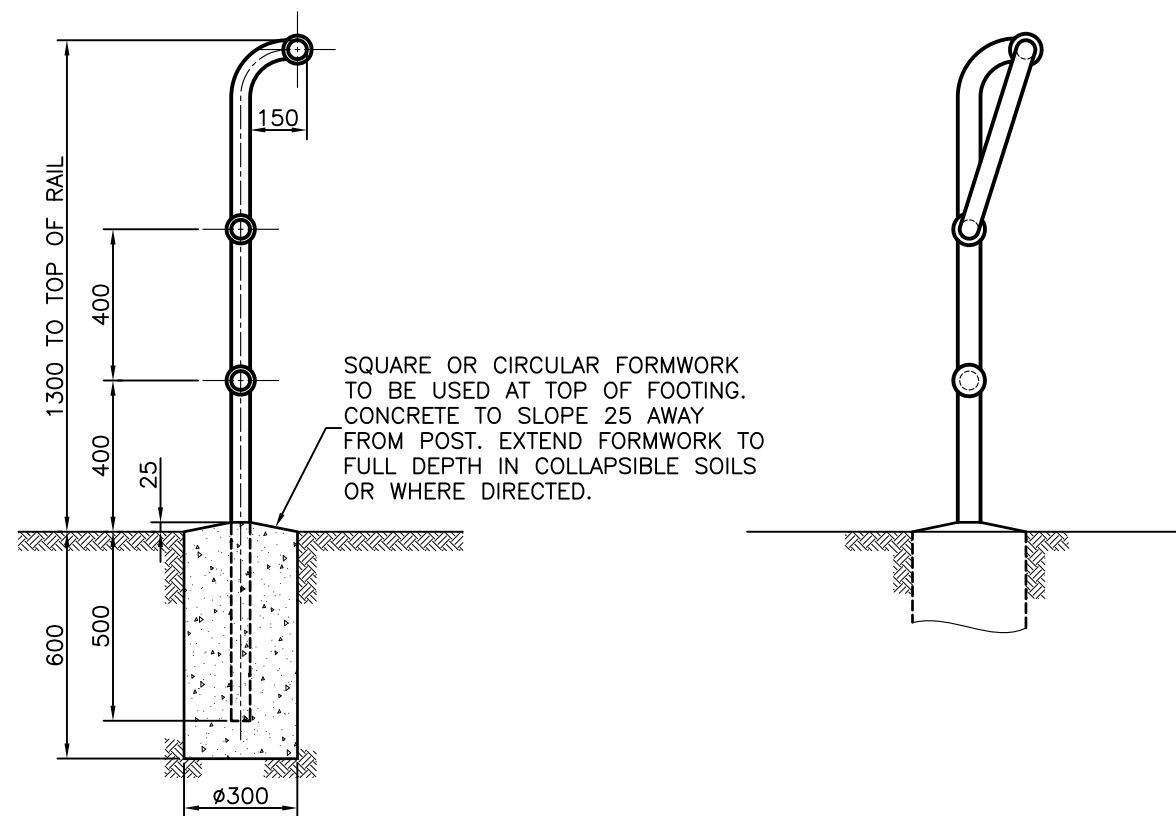


ELEVATION

PLAN

BASE PLATE DETAIL

SCALE: 1:5



SECTION A

SCALE: 1:20

END ELEVATION

SCALE: 1:20

NOTES:

- WHERE STANDARD IS FOR USE IN A NON-MARINE ENVIRONMENT (UP TO 1 km FROM THE FORESHORE), THE FOLLOWING PROTECTION TREATMENT IS REQUIRED:
 - HOT DIP GALVANISING: FERROUS OPEN SECTIONS TO AS4791,
 - FERROUS HOLLOW SECTIONS TO AS4792
 - STEEL WORK MAY BE POWDER COATED TO AS4506 TO MATCH COLOUR COORDINATION IN THE AREA (IN ACCORDANCE WITH BCC CORPORATE COLOUR PALETTE - REFER UMS 113).
- WHERE STANDARD IS REQUIRED FOR USE WITH MARINE ENVIRONMENT, THE FOLLOWING PROTECTION TREATMENT IS REQUIRED:
 - STEELWORK HOT DIP GALVANISING: 85 MICRONS (600g/m²) MIN;
 - SWEEP ABRASIVE BLAST;
 - STEELWORK FIRST COAT: EPOXY PRIMER 75 MICRONS MIN;
 - STEELWORK SECOND COAT: TWO PACK ACRYLIC OR POLYURETHANE GLOSS 75 MICRONS MIN;
 - WIRE MESH AND WIRE TIES TO BE PVC COATED.
- PAINT SYSTEMS TO BE IN ACCORDANCE WITH AS2312 AND IS DESIGNATED HDG600P6 AND HDG600P
- END POSTS TO BE 50 NB (60.3 OD, 3.6 THICK) GALVANISED STEEL TUBE TO AS/NZS1163.
- INTERMEDIATE POSTS TO BE 40 NB (48.3 OD, 3.2 THICK) GALVANISED STEEL TUBE TO AS/NZS1163.
- RAILS TO BE 40 NB (48.3 OD, 3.2 THICK) GALVANISED STEEL TUBE TO AS/NZS1163.
- ALL HORIZONTAL RAILS TO BE ROLLED TO MATCH SHAPE OF PATH/WALL IF RADIUS IS LESS THAN 20m.
- MINIMUM LENGTH OF RAILS TO BE 2 SPANS LONG TO MINIMISE NEED FOR JOINTS AT EVERY POST.
- ALL WELDS TO BE 5 THICK C.F.W. (CONTINUOUS FILLET WELDS) TO AS1554.1 WITH COLD GALVANISING TREATMENT TO COMPLETED WELDS, EXCEPT FOR POST/BASE PLATE WHICH SHALL BE HOT-DIP GALVANISED. GALVANISING TO AS/NZS4680.
- PREFERRED COLD GALVANISING TREATMENT FOR IN-SITU WELDS, CUT ENDS OR OTHER BARE STEEL IS TO APPLY 2 COATS OF INORGANIC ZINC PRIMER APPLIED BY BRUSH.
- STANDARD COUPLINGS (MONOWILLS, SENTAUR JOINTS, KEE-KLAMP, SWAGED JOINTS OR SIMILAR) FOR POST TO RAIL CONNECTIONS MAY BE USED AS AN ALTERNATIVE TO WELDS. 11° MAX. DEFLECTION FROM HORIZONTAL FOR STANDARD COUPLINGS. FOR ANGLES GREATER THAN 11°, SPECIALIST COUPLINGS MAY BE USED UPON APPROVAL FROM COUNCIL.
- ALL CONCRETE TO BE GRADE N25.
- POSTS INSTALLED IN EXISTING BRIDGE/CULVERT CONCRETE HEADWALL TO BE GROUTED INTO 90 DIAMETER HOLE WITH 1:3 CEMENT MORTAR BY VOLUME AFTER THEY HAVE BEEN CAREFULLY ALIGNED.
- ANY GALVANISED TUBULAR HANDRAILS TO BE USED ONLY IN SITUATIONS CLEAR OF LONGITUDINAL VEHICLE IMPACT SO AS NOT TO BE A POTENTIAL SPEARING HAZARD TO MOTORISTS.
- THESE FENCES ARE INTENDED AS A PEDESTRIAN BARRIER AND ARE NOT TO BE USED IN SITUATIONS WHERE MOTOR VEHICLES REQUIRE RESTRAINT.
- DIMENSIONS IN MILLIMETRES (U.N.O.).

ISSUE	AMENDMENT	DRAWN DATE	CHK'D DATE	APPR'D DATE
C	Base Plate Req. and Detail & Notes Modified.	DL 04/12	IC 1/5/12	GB 31/5/12
B	Note 7 Amended	DL 05/10	IC 06/10	PC 06/10
A	ORIGINAL ISSUE	Feb '09	Sept '09	Sept '09

DESIGN AUTHORISED FOR ISSUE			
P COTTON SIGNATURE ON ORIGINAL DATED 24/09/09			
DESIGN	City Design	DATE	2005
DRAWN	City Assets (DL)	DATE	Feb '09
CHECKED	City Assets	DATE	Sept '09
DRAWING FILENAME	/UMS 249.dwg		
ASSOCIATED PLANS			
DESIGN APPROVED			
I CONDRIE (RPEQ 8951) SIGNATURE ON ORIGINAL DATED 18/09/09			
PRINCIPAL ENGINEER STRATEGIC ASSET MANAGEMENT			



BRISBANE CITY COUNCIL STANDARD DRAWING

BICYCLE FRIENDLY GALVANISED TUBULAR HANDRAIL

SCALE AS SHOWN

DWG No. **UMS 249**

ORIGINAL SIZE A3 REVISION C