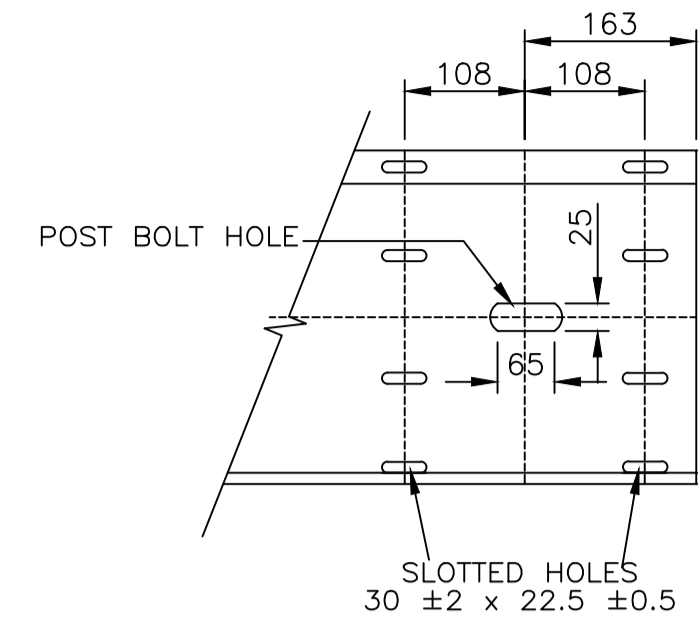
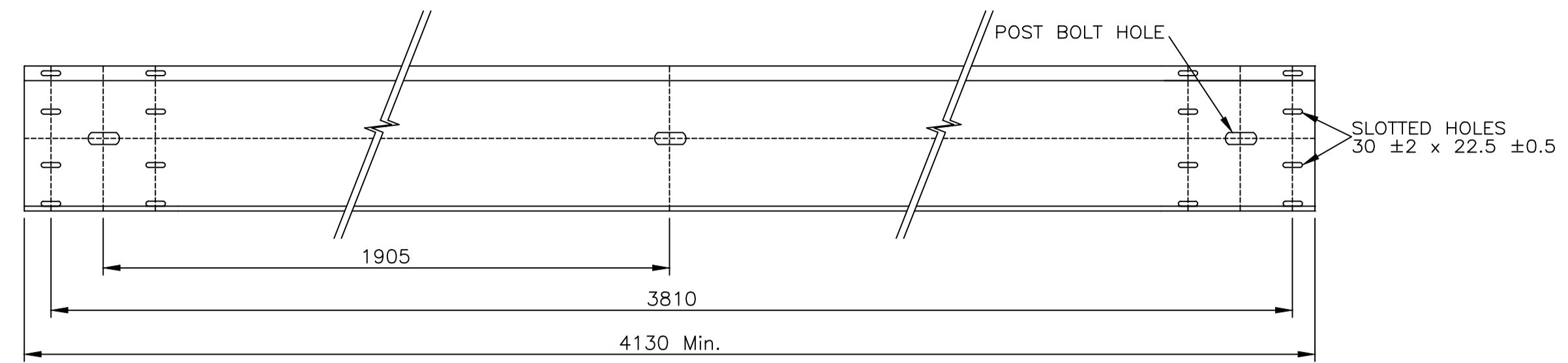


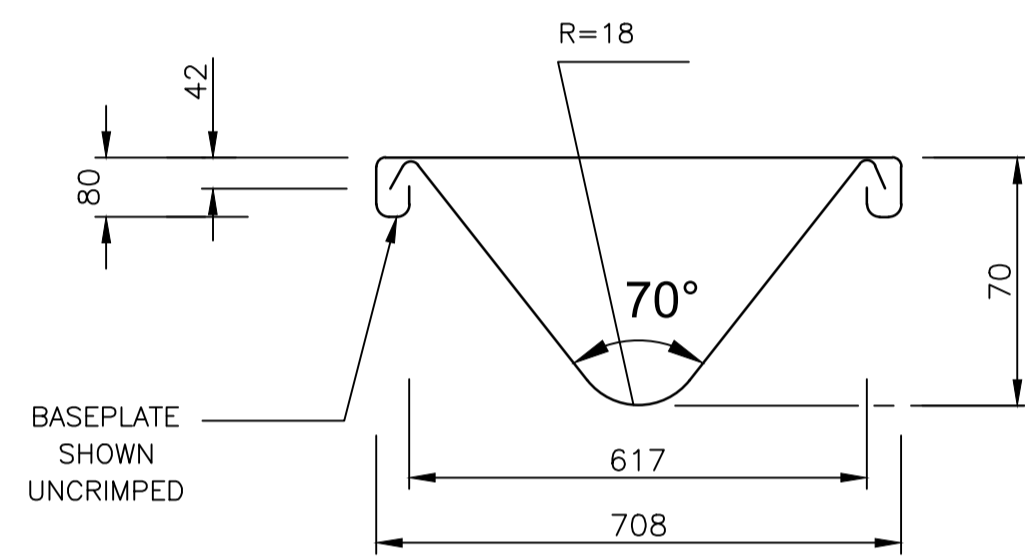
CROSS-SECTION OF GUARDRAIL



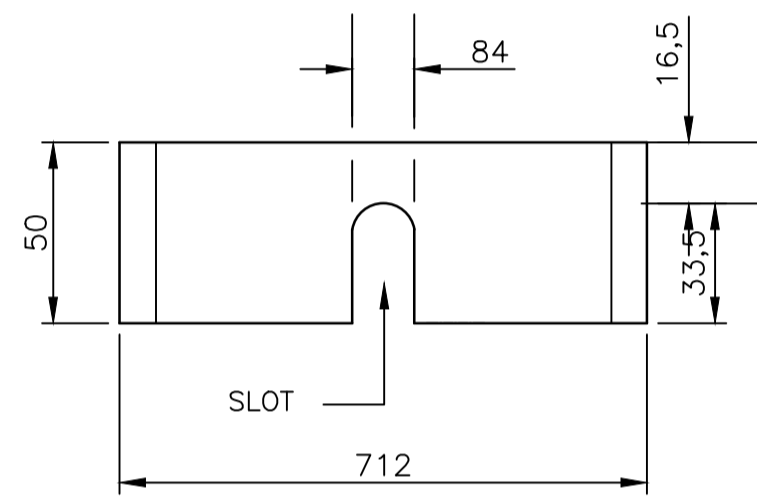
DETAIL OF BASEPLATE



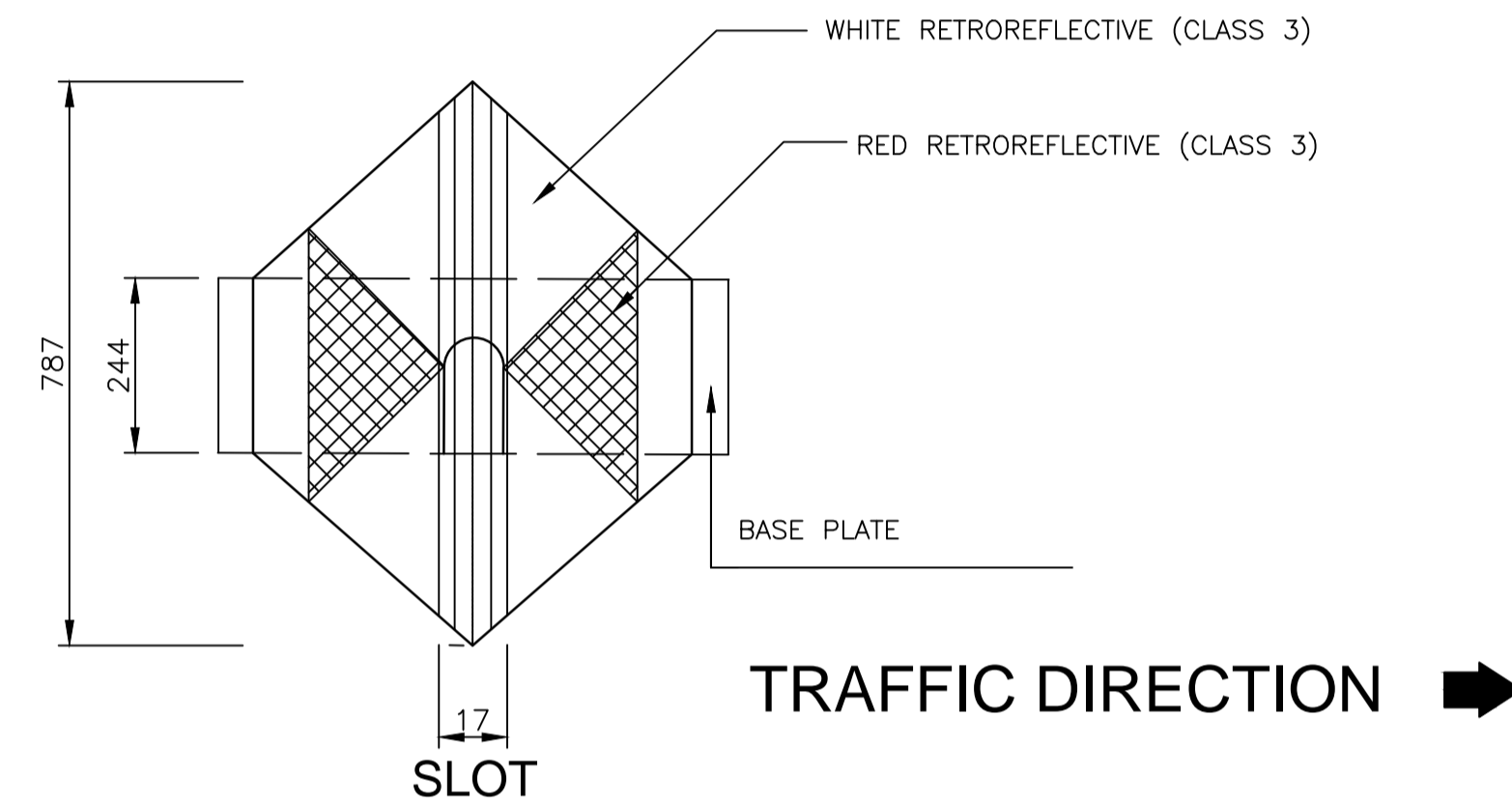
GUARDRAIL



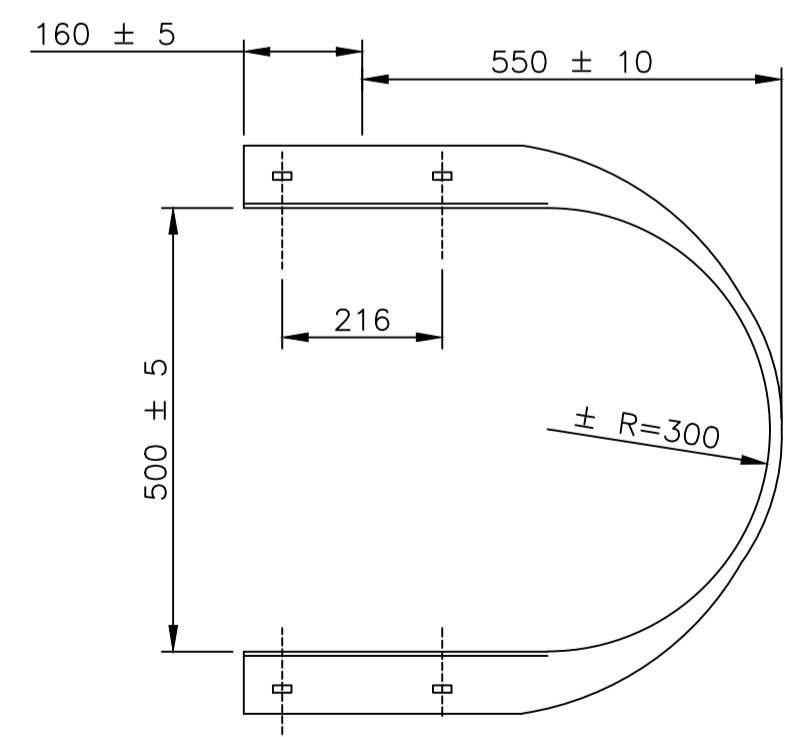
SECTION PLAN



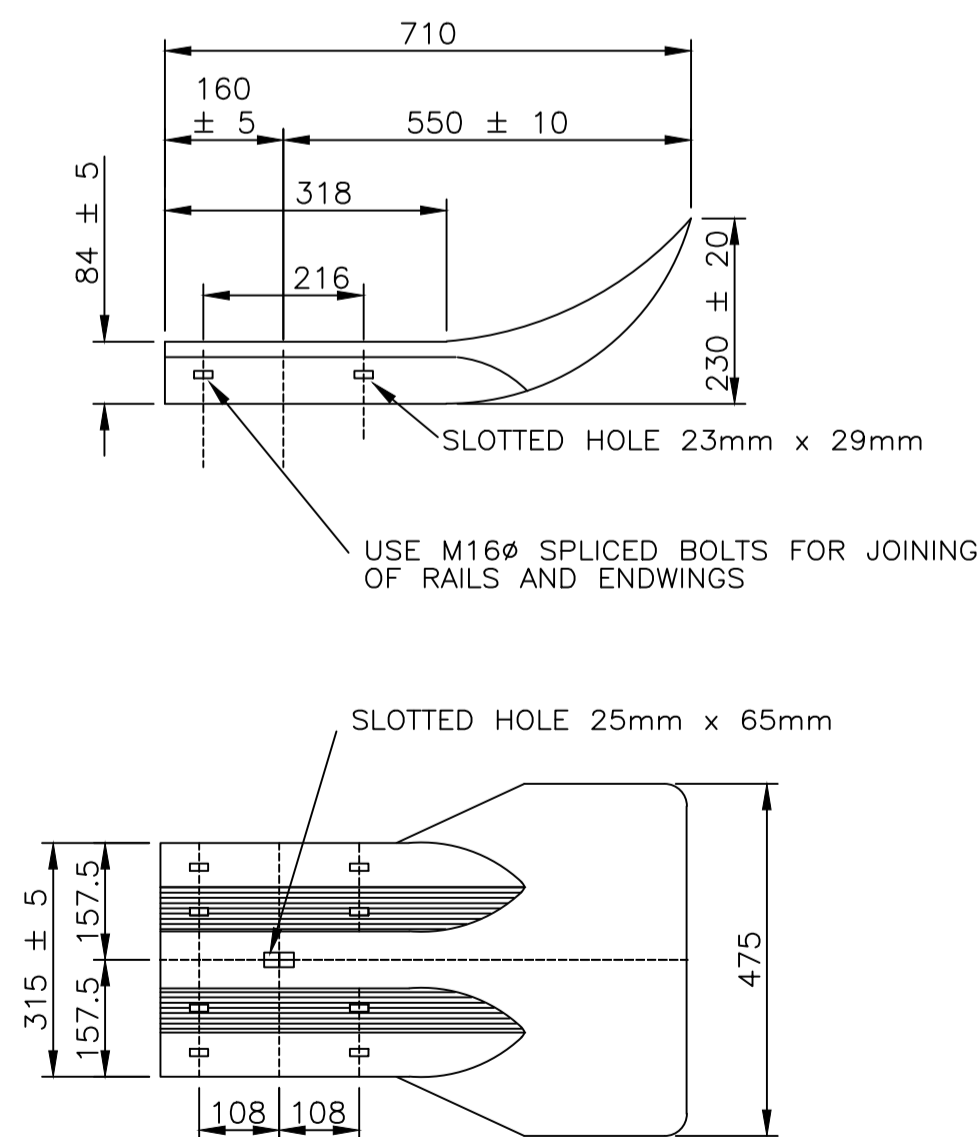
DETAIL OF GUARDRAIL REFLECTIVE PLATES



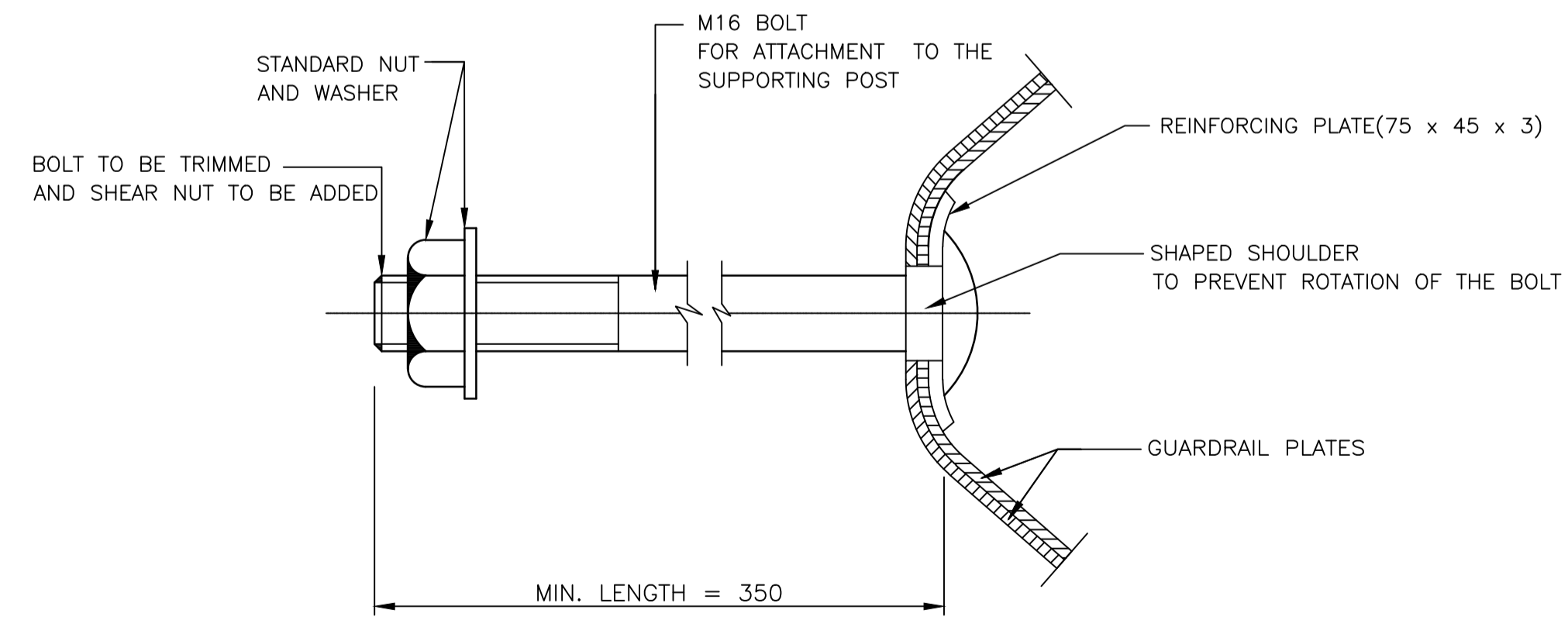
FRONT ELEVATION



BULLNOSE ENDWING - PLAN



STANDARD TYPICAL FLARED ENDWING



STANDARD POST BOLT DETAIL

NOTES AND SPECIFICATIONS

1. GUARDRAILS ARE REQUIRED IN THE FOLLOWING CASES:
 - 1.1 WHERE WATER NEXT TO THE ROAD FORMATION IS DEEPER THAN 1.5m.
 - 1.2 AT ALL BRIDGES ON SIDE OF ROAD.
 - 1.3 ON THE OUTSIDE OF CURVES WITH RADII LESS THAN 300m WITHOUT RECOVERY AREAS.
 - 1.4 WHERE OBSTRUCTIONS ARE LESS THAN 1m FROM THE SHOULDER BREAKPOINT.
 - 1.5 WHERE AN OBSTRUCTIONS APPEARS TO BE MORE DANGEROUS THAN WHAT A GUARDRAIL WOULD BE.
 - 1.6 IN THE CASE OF EMBANKMENTS / FILLS, THE WARRANTS DIAGRAM WILL APPLY.
2. NO GAURDRAILS WILL BE ACCEPTED THAT SHOW SIGNS OF RUST OR OXIDATION
3. SPECIFICATIONS:
 - 3.1 BOLT : HIGH TENSILE STEEL M16.
 - 3.2 WASHER : STEEL WASHER.
 - 3.3 SPACERBLOCK : GUM OR PINE, TREATED WITH CREOSOTE ACCORDING TO ANY METHOD IN SANS 10005.
 - 3.4 POLE : 150mm TO 180mm GUM OR PINE TREATED WITH CREOSOTE ACCORDING TO ANY METHOD IN SANS 10005.
 - 3.5 ALL GUARDRAILS SHALL BE GALVANIZED AS SPECIFIED (NOT PAINTED).
 - 3.6 ALL STRUCTURAL STEEL, INCLUDING TUBES, SHALL BE GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF SABS 763 FOR TYPE A1 OR B1 ARTICLES AS APPLICABLE (OR LATEST).
 - 3.7 ALL WELDING WILL BE DONE PRIOR TO GALVANIZING.
 - 3.8 ALL EXISTING GUARDRAILS TO BE MAINTAINED AT EXISTING HEIGHT UNLESS SPECIFIED BY ENGINEER.
4. ALSO REFER TO SECTION 611 OF THE STANDARD SPECIFICATION FOR MUNICIPAL CIVIL ENGINEERING WORKS, 3rd EDITION, 2005.

AMENDMENTS

NR.	DATE	APPROVED	DESCRIPTION	PAR.

DESIGNED J.M. CRONJE Pr. Tech. Eng.	DRAWN S. AUDIE
DESIGN CHECKED BY S. NAIDOO Pr. Tech. Eng.	INFRASTRUCTURE TECHNICAL INFORMATION MANAGEMENT D.J. CHALMERS

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TRANSPORT INFRASTRUCTURE DESIGN AND CONSTRUCTION DIVISIONAL HEAD
Mr K Thagale (Marven)

TRANSPORTATION PLANNING DIVISIONAL HEAD
Mr L. Swanepoel (Lourens)

SIGNATURE: _____ DATE: _____

SIGNATURE: _____ DATE: _____

DRAWING APPROVED BY GROUP HEAD
Mr Letlotkane P. (Pheko)

LOCATION OF PROJECT:
TYPICAL STANDARD DETAILS

DESCRIPTION OF PROJECT:
GUARDRAILS
CROSS SECTION, REFLECTOR PLATES AND ENDWINGS

CONTRACT No.:	PROJECT No.:	
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