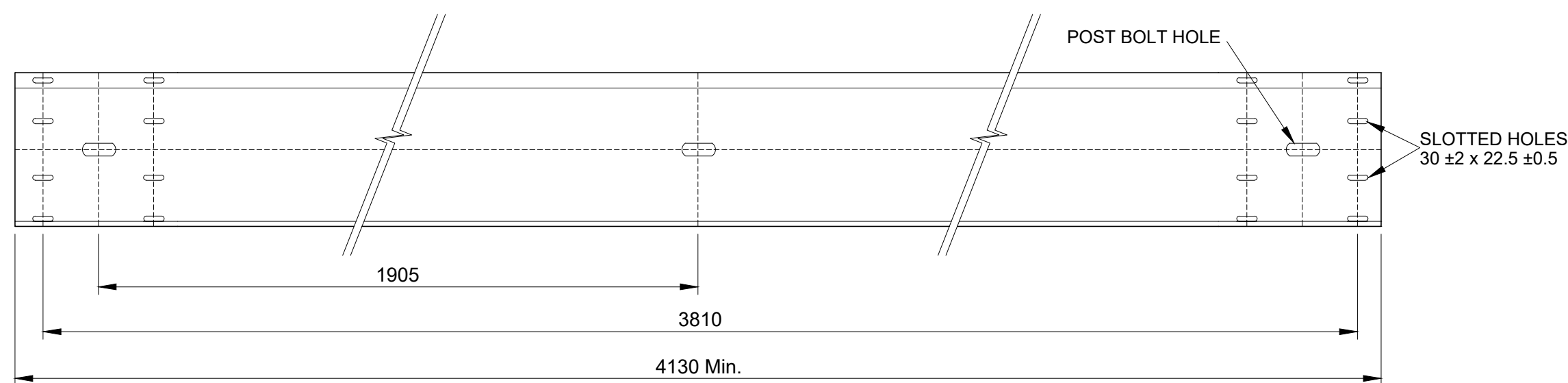
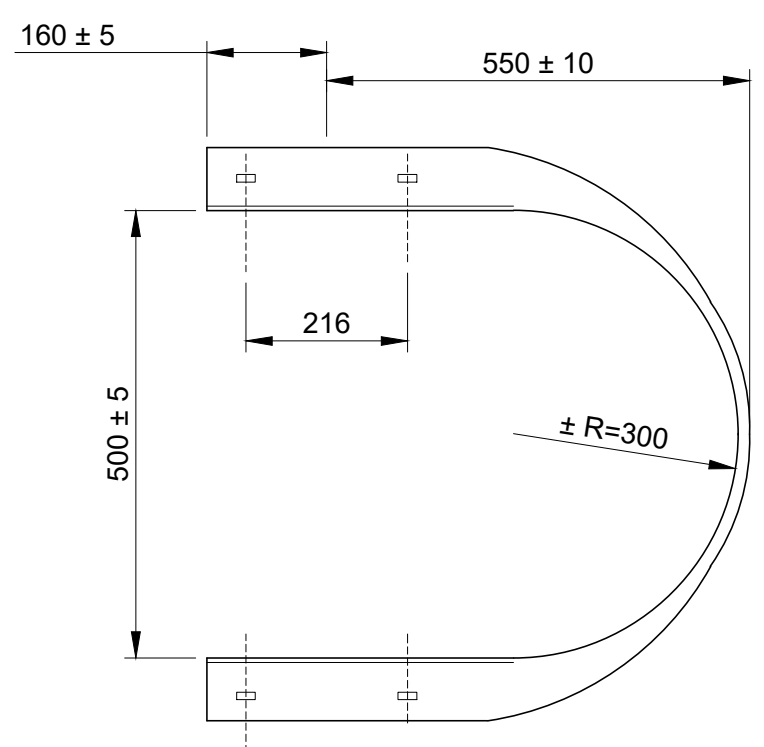


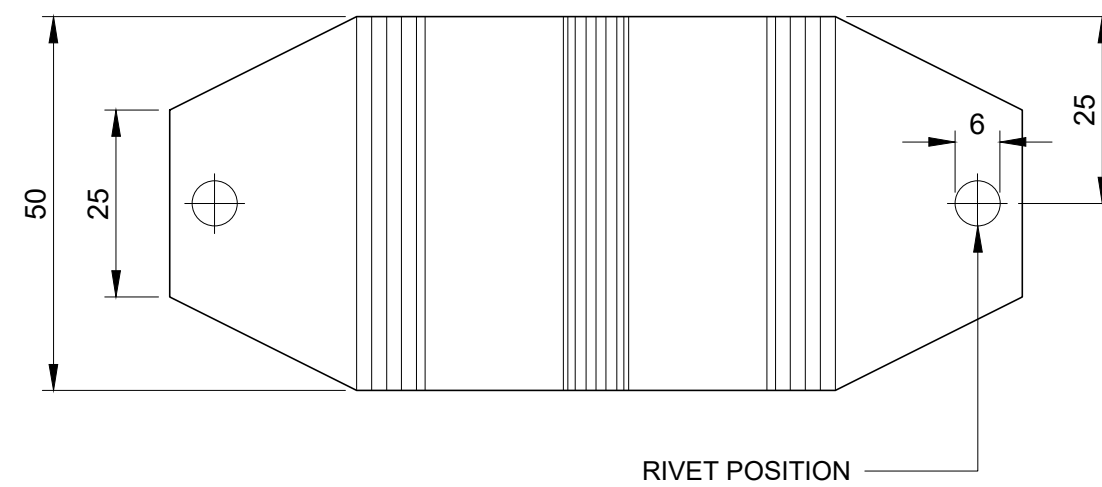
**CROSS-SECTION OF GUARDRAIL**  
SCALE 1:2



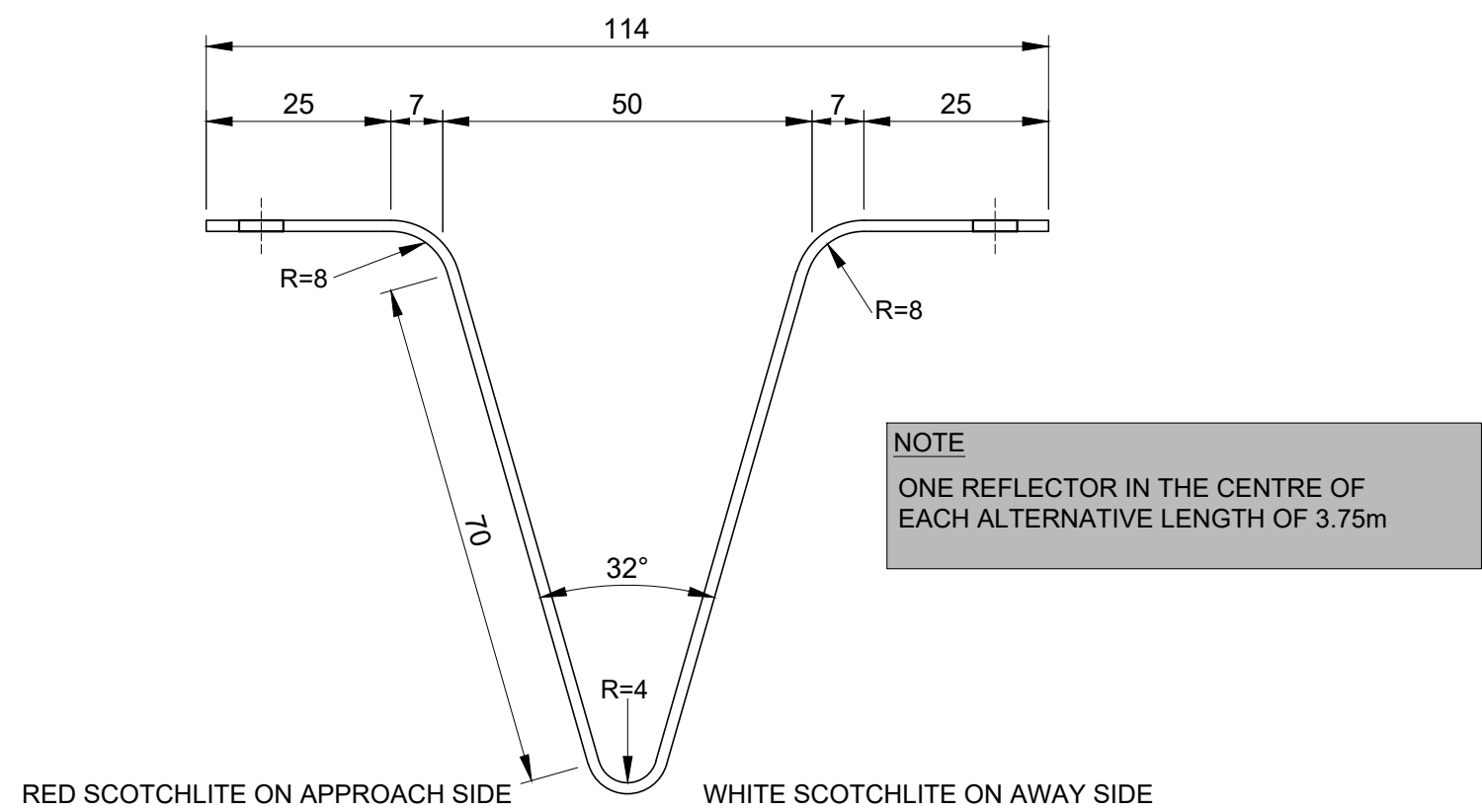
**GUARDRAIL**  
SCALE 1:10



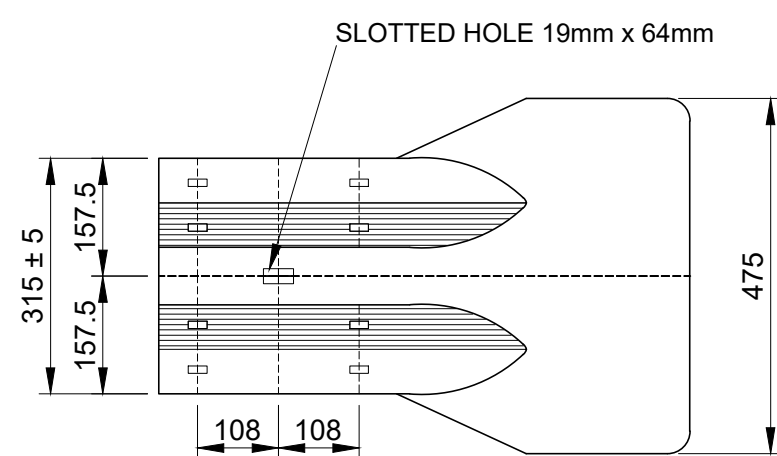
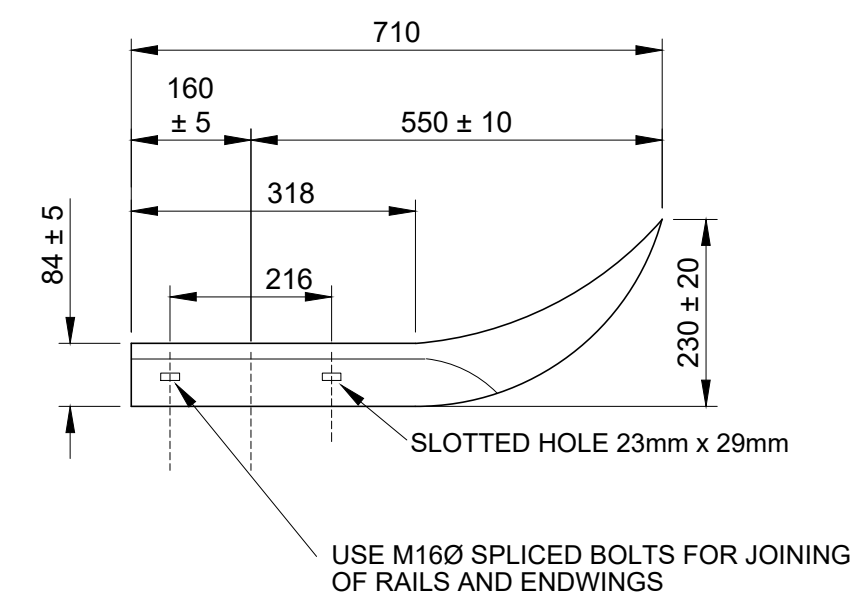
**BULLNOSE ENDWING - PLAN**  
SCALE 1:10



**FRONT ELEVATION**  
SCALE 1:25



**SECTIONAL PLAN : DETAIL OF REFLECTOR PLATE**  
SCALE 1:1




**STANDARD TYPICAL FLARED ENDWING**  
SCALE 1:10

## NOTES

- GUARDRAILS ARE REQUIRED IN THE FOLLOWING CASES:
  - WHERE THE FILL IS MORE THAN 4m WITH NO RECOVERY AREA.
  - WHERE WATER NEXT TO THE ROAD FORMATION IS DEEPER THAN 1.5m.
  - AT ALL BRIDGES.
  - ON THE OUTSIDE OF CURVES WITH RADII LESS THAN 300m WITHOUT RECOVERY AREAS.
  - WHERE OBSTRUCTIONS ARE LESS THAN 1m FROM THE SHOULDER BREAKPOINT.
  - WHERE AN OBSTRUCTIONS APPEARS TO BE MORE DANGEROUS THAN WHAT A GUARDRAIL WOULD BE.
- BEFORE GUARDRAILS ARE ERECTED APPROVAL MUST BE OBTAINED FROM THE GENERAL MANAGER: ROADS AND STORMWATER.
- SPECIFICATIONS:
  - BOLT : HIGH TENSILE STEEL 16mm
  - WASHER : STEEL SPRING 10mm THICK.
  - SPACERBLOCK : GUM OR PINE. TREATED WITH CREOSOTE ACCORDING TO ANY METHOD IN SANS 10005.
  - POLE : 150mm TO 230mm GUM OR PINE. TREATED WITH CREOSOTE ACCORDING TO ANY METHOD IN SANS 10005.
  - ALL GUARDRAILS SHALL BE GALVANIZED AS SPECIFIED (NOT PAINTED).
- ALSO REFER TO SECTION 611 OF THE STANDARD SPECIFICATION FOR MUNICIPAL CIVIL ENGINEERING WORKS, 3rd EDITION, 2005.

ISSUED FOR TENDER

A	FEB. 2020	DESIGN DEVELOPMENT		
00	FEB. 2023	TENDER		
No	DATE	REVISION	CONSULT	DIR

CLIENT				
CITY OF MBOMBELA				
				
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APPROVED	
MBOMBELA	DATE
CONSULTING ENGINEER	DATE

CONTRACT NUMBER : REG 55/2019
PROJECT
NKOMENI TO THEMBSISA ROAD
DESCRIPTION
GUARDRAILS: CROSS SECTION, REFLECTOR PLATES AND ENDWINGS

DESIGN PLAN (Full signature)	SCALE AS - SHOWN
For: MLM	REVISION No. 00
For: Consulting Engineer	SHEET 1 of 1
CONSULTANTS DRAWING NUMBER SH-920-21-06-TD	DATE FEBRUARY 2023