NOTES:

BEFORE GUARDRAILS MY BE ERECTED APPROVAL MUST BE OBTAINED FROM THE HEAD OF DEPARTMENT.

1. ERECTION OF GUARDRAIL TO BE CONSIDERED IN THE FOLLOWING CASES

1.1. WHERE THE FILL IS MORE THAN 4m FOR ASPHALT CARRIAGEWAYS AND 6m FOR GRAVEL CARRIAGEWAYS, AND WITH NO RECOVERY AREA.
1.2. WHERE WATER NEXT TO THE CARRIAGEWAY FORMATION IS DEEPER THAN 1.5m.
1.3. AT ALL BRIDGES.
1.4. ON THE OUTSIDE OF CURVES WITH RADII LESS THAN 300m WITHOUT RECOVERY AREAS.
1.5. WHERE OBSTRUCTIONS ARE LESS THAN 1m FROM THE SHOULDER BREAKPOINT.
1.6. WHERE AN OBSTRUCTION APPEARS TO BE MORE DANGEROUS THAN A GUARDRAIL WOULD BE.

2. SPECIFICATIONS

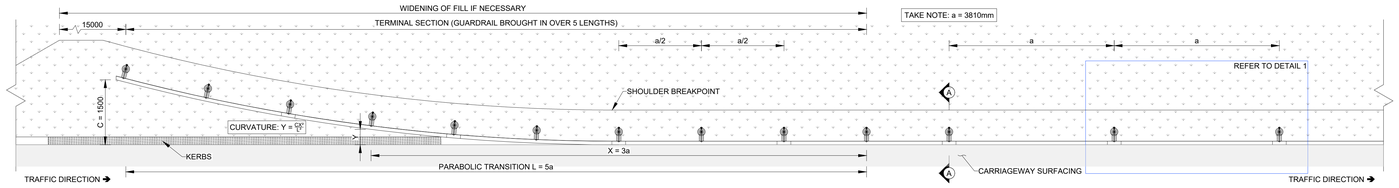
2.1. BOLT: HIGH TENSILE STEEL 16mm.
2.2. WASHER: STEEL SPRING 10mm THICK.
2.3. SPACER BLOCK: GUM OR PINE, TREATED WITH CREOSOTE ACCORDING TO ANY METHOD IN SABS 05.
2.4. POLES: 150mm - 230mm GUM OR PINE TREATED WITH CREOSOTE ACCORDING TO ANY METHOD IN SABS 05.
2.5. ALL GUARDRAILS SHALL BE GALVANIZED AS SPECIFIED.
(NOT TO BE PAINTED)

3. TYPE D1(A) REFLECTOR PLATES|

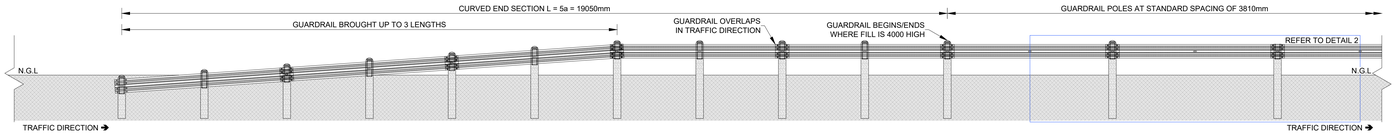
3.1. V-SHAPED REFLECTOR PLATES ATTACHED TO EACH ALTERNATIVE POST 7,62m c/c.

## MIN LENGTH OF GUARDRAIL
(EXCLUDING THE END SECTION)

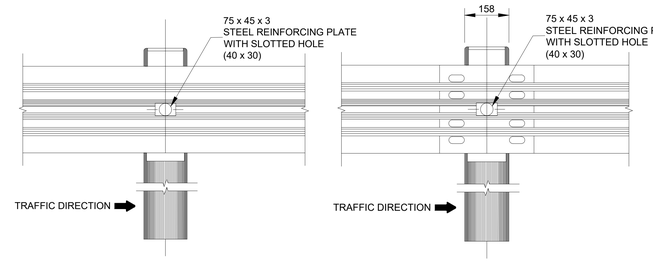
| DESIGN SPEED (km/h) | MIN LENGTH (m) |
|---|---|
| 60 | 45 |
| 70 | 52 |
| 80 | 60 |
| 90 | 73 |
| 100 | 85 |
| 110 | 100 |
| 120 | 110 |
| 130 | 120 |
| 140 | 130 |




GUARDRAIL PLAN VIEW
SCALE 1:50




GUARDRAIL FRONT ELEVATION
SCALE 1:50



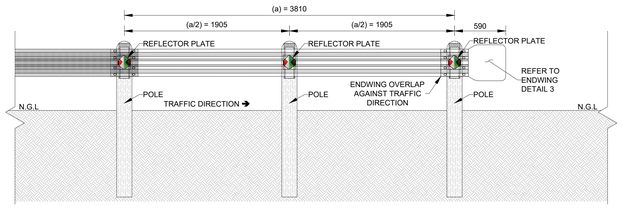

DETAIL B: FRONT ELEVATION
HALF SPACING OF POST

SCALE 1:10

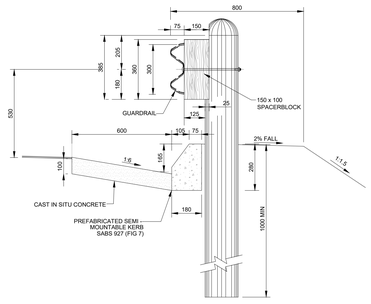



DETAIL A: FRONT ELEVATION
NORMAL SPACING OF POST

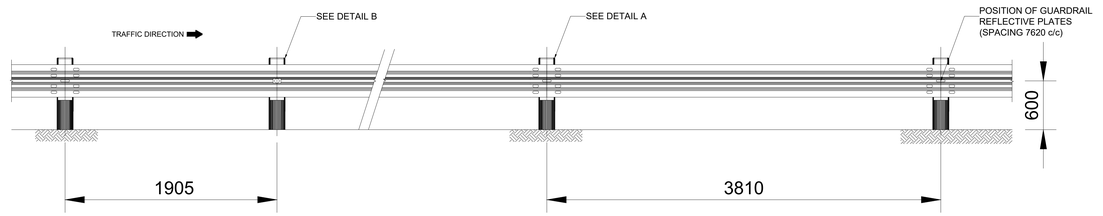
SCALE 1:10



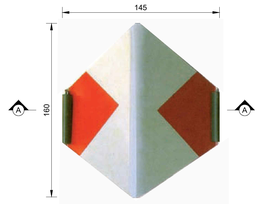

ENDWING OF GUARDRAIL
SCALE 1:25



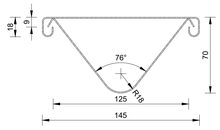

GUARDRAIL ELEVATION WITH CONCRETE CHANNEL
SCALE 1:10



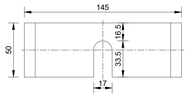

SPACING OF POSTS AND POSITION OF REFELCTIVE PLATES
SCALE 1:50



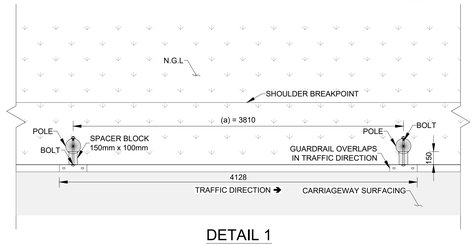

TYPE D1(A) REFLECTOR
SCALE 1:2



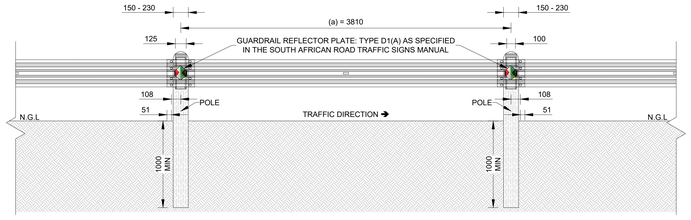

TYPE D1(A) REFLECTOR: SECTION A-A
SCALE 1:2



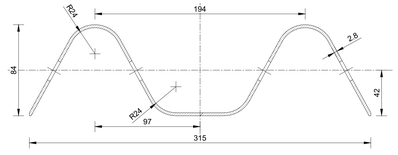

TYPE D1(A) REFLECTOR: BASEPLATE
SCALE 1:2



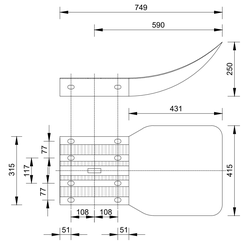

DETAIL 1
SCALE 1:25



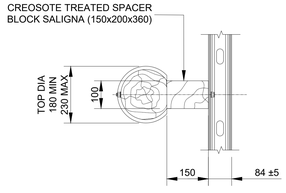

DETAIL 2
SCALE 1:25



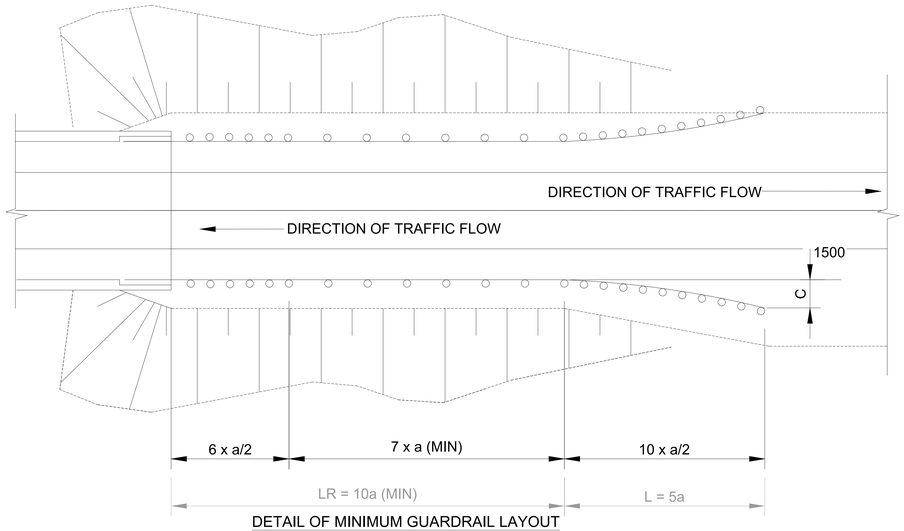

CROSS-SECTION OF GUARDRAIL
SCALE 1:2



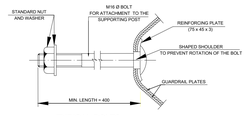

ENDWING DETAIL 3
SCALE 1:10



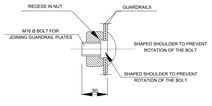

PLAN
SCALE 1:10




DETAIL OF MINIMUM GUARDRAIL LAYOUT
FOR BRIDGE APPROACH AT SINGLE CARRIAGE ROAD
SCALE 1:200




TYPICAL BOLTS
SCALE 1:1




TYPICAL BOLTS
SCALE 1:1

(REF FOLDER: X:\02 PROJECTS\3000\3500 - 3599\N3587EN - SHANGONI ROAD KNP\1 DESIGN PHASE\F DRAWINGS\TENDER\ROADS\EN3587R6003 - 4.DWG)

| Rev | Date | By | Description |
|---|---|---|---|
| | | | AMENDMENTS |

South African National Parks

TECHNICAL SERVICES DEPARTMENT
KRUGER NATIONAL PARK
DRAWING OFFICE (KNP)
Tel:(013) 735 3448

| | |
|---|---|
| DESIGNED BY | - |
| CHECKED BY | - |
| DRAWN BY | M.BIELDT |
| CHECKED BY | C.F. SMIT |

APPROVED BY

| HOD TECH SERVICES | SEN. MAN. CIVIL & BUILDING | SEN. MAN. ELECTRO & MECHANICAL | SEN. MAN. ROADS & MAINTENANCE | MAN. PLANNING & DESIGN | CLIENT |
|---|---|---|---|---|---|
| DATE: | DATE: | DATE: | DATE: | DATE: | DATE: |

SERVICE: ROADS
FOR TENDER PURPOSES

PROJECT: SHANGONI ROAD PHASE 1

TITLE: ROADS - TYPICAL DETAILS: GUARDSRAILS

| DATE | SCALE | CAD FILE NAME | CONSULTANT DWG. NO. |
|---|---|---|---|
| MAY 2024 | 1:50 | 2019/P09 | EN/3587/R/6/004 |
| | | PAPER SIZE | CLIENT DWG. NO. |
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SCALE REF. METER