

**OLIFANTSKOP PASS**  
EASTERN CAPE

**ROADS & RAILWAYS/ SLOPE PRETECTION**

**Product: Gabions**

**Problem**

Where there is a need for rockfall protection or stabilization and space constraints will not allow standard gabions with the usual wide base required for mass gravity type slope stabilization, this then would normally eliminate Gabions as a solution to rockfall protection or stabilization.

**Solution**

A combination of Rockbolts and Gabions can be used to good effect when space constraints will not allow standard gabions with the usual wide base required for mass gravity type slope stabilization.

A Rockbolted Gabion solution can be employed in steep unstable rock terrain within horizontally limited space zones where widening of the steep & high cut will be too costly if not impossible. This system can also used where conditions are unfavorable for cable mesh drapery due to potential large toppling type failure.

A single or double row of gabions is supported on the cutface side by densely packed rock cobbles and fragments similar to the rock in the gabions baskets but with the cutface providing the necessary formwork. Spacers are left during rock packing to allow installation of the rockbolts.

**Benefits**

Effective solution in solving the problem of Rockfall and Slope stability when space constraints will not allow standard gabions with the usual wide base required for gravity type slope stabilization

A Rockbolted Gabion solution can be employed in steep unstable rock terrain with horizontal space is limited and widening in steep and high cut improbable A good solution where safety and working space is limited

Client:

SOUTH AFRICAN NATIONAL ROADS AGENCY LIMITED

Main Contractor:

PENNYFARTHING ENGINEERING

Consultant:

TERRECO GEOTECHNICAL

Product used:

GABIONS

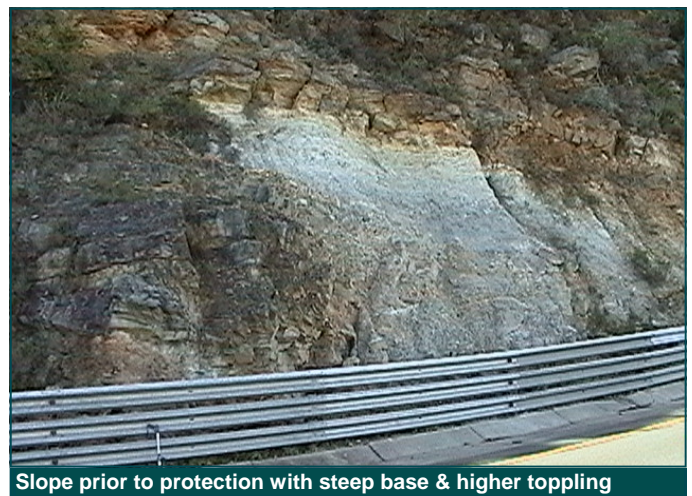
Construction Information:

Start date:	JULY 2005
-------------	-----------

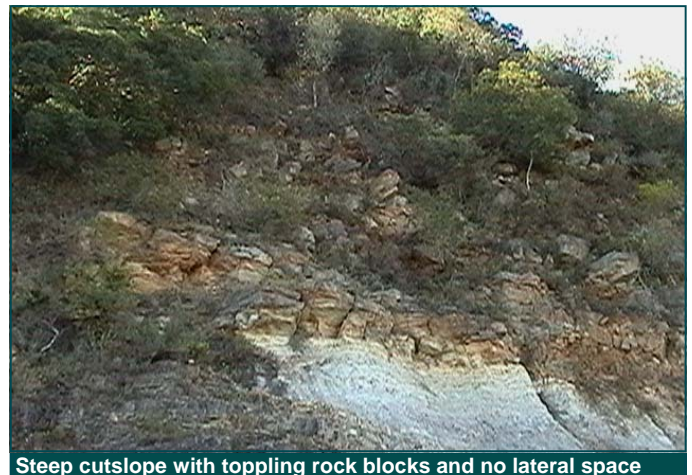
Completion date:	MARCH 2006
------------------	------------



Lack of space for rockfall protection Date:05/10/2005



Slope prior to protection with steep base & higher toppling



Steep cutslope with toppling rock blocks and no lateral space

**Main Design Features**

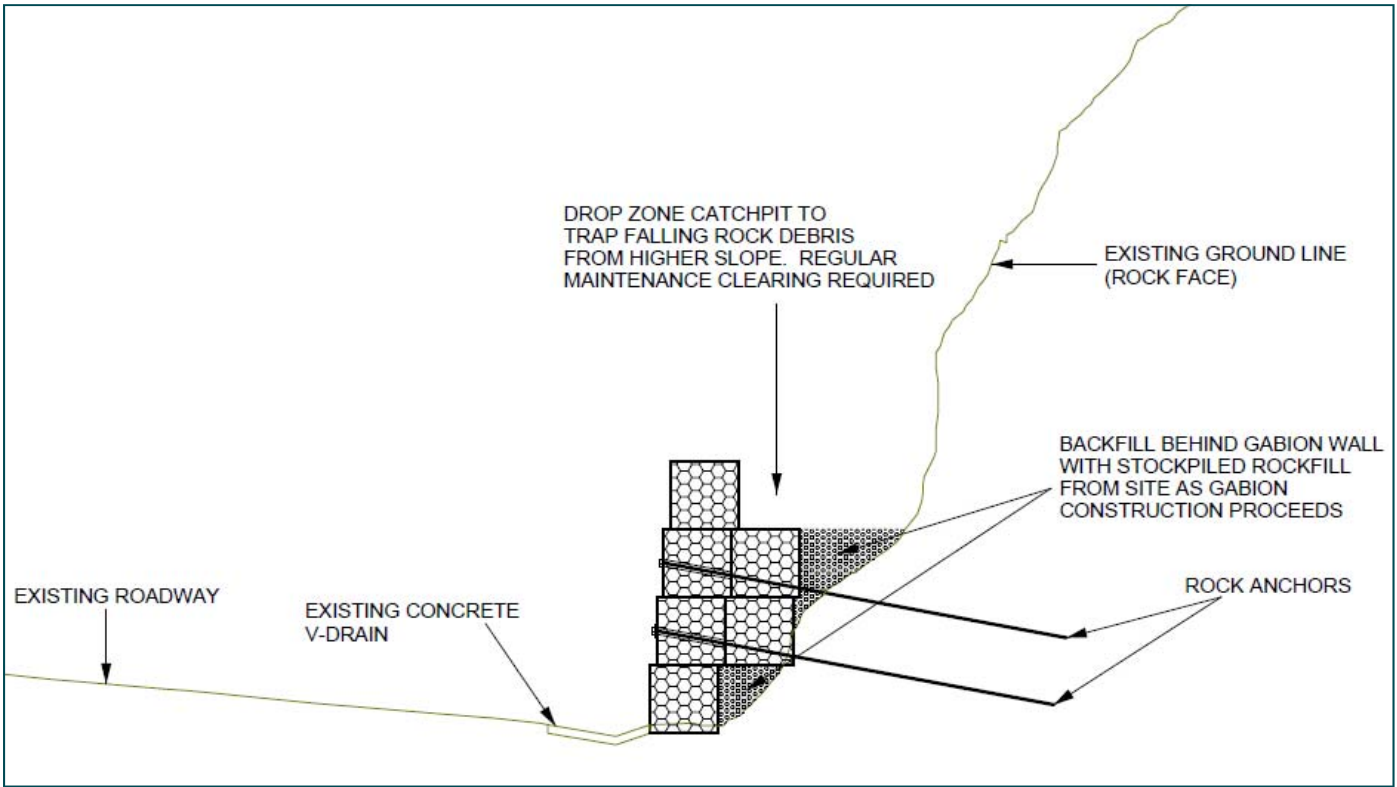
Applicable in steep cutslope areas which lack lateral space. Provides anchored support to the slope and a catchpit dropzone to protect the road from rocks and boulders cascading down from the cutface and mountain side above.



**Solution provides both slope stabilisation and rock debris trap**



**Rockbolt anchor support fixing gabions into the cutface rockmass**



**Rockbolted gabion support with drop zone catchpit. Rockbolt length and spacing to be designed for varying slope angle and rockmass**

**Maccaferri SA (Pty) Ltd**

**HEAD OFFICE—DURBAN**  
P O Box 815, New Germany, 3620  
Tel: +27 31 705 0500  
Fax: +27 31 705 0585  
e-mail: dbnsales@maccaferri.co.za

**JOHANNESBURG**  
P O Box 2285, North Riding, 2162  
Tel: +27 11 704 0160  
Fax: +27 11 704 0159  
e-mail: jhnsales@maccaferri.co.za

**CAPE TOWN**  
P O Box 22150, Fish Hoek, 7974  
Tel: +27 21 788 1210  
Fax: +27 21 788 1204  
e-mail: cptsales@maccaferri.co.za

**EAST LONDON**  
P O Box 5481, Greenfields, 5208  
Tel: +27 43 731 1580  
Fax: +27 43 731 1584  
e-mail: ecsales@maccaferri.co.za

**MADAGASCAR**  
BP 168 Antananarivo 101, Madagascar  
Tel: +261 20 22 231 02  
Fax: +261 20 22 553 90  
e-mail: maccaferri@moov.mg

