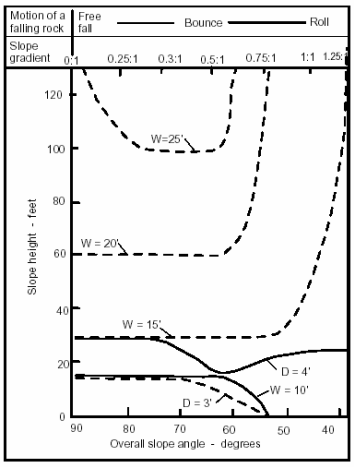
Rock fall remedial measures:

A to stabilize:

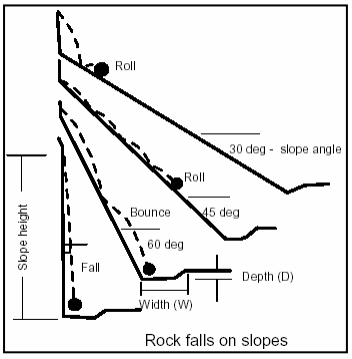
1) rock scaling
2) anchors, shotcrete, trim blasting
3) drainage
4) mesh

B to stop falling rocks

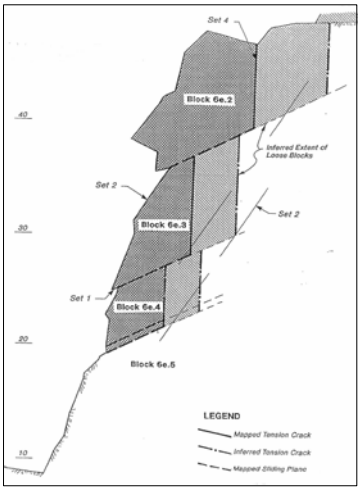
1) ditch
2) buttresses, retaining structures
3) rock fences and screens
4) galleries

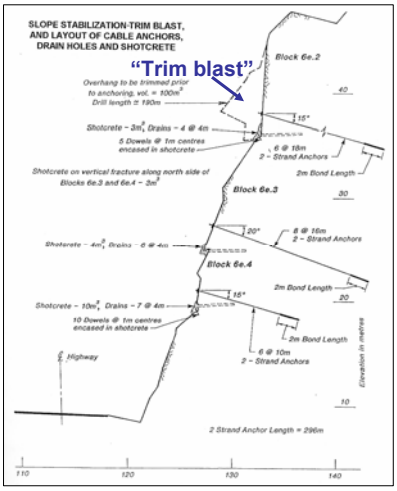


Protective ditch design (Ritchie, 1963)



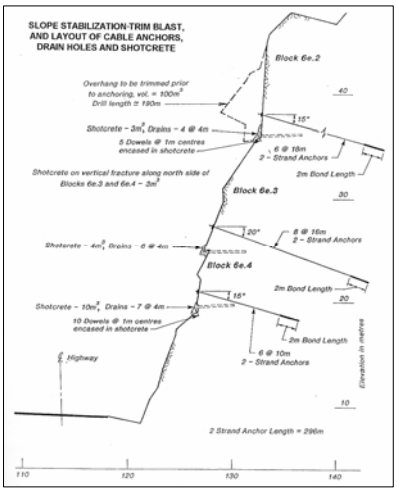
Anchors, shotcrete, drainage





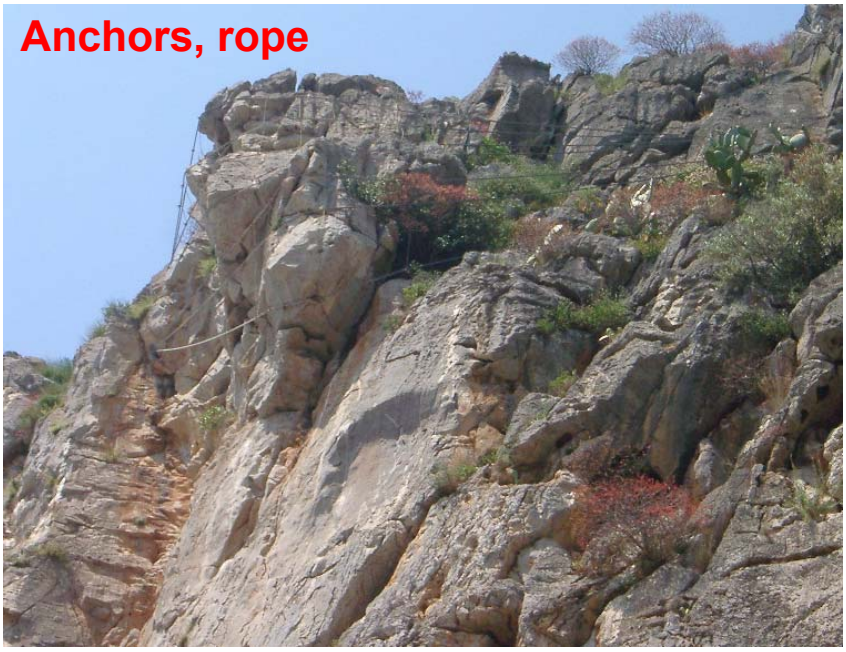
(D.Wyllie, unpub.)

Anchors, shotcrete, drainage



(D.Wyllie, unpub.)

Anchors, rope



(Sicily)

Mesh protection

(B.C. and Italy)

Berms and trenches

(Columbia Gorge, WA)

Rock Fences

BC

(Italy)

Rock Fences, Galeries

(Italy)

Japan

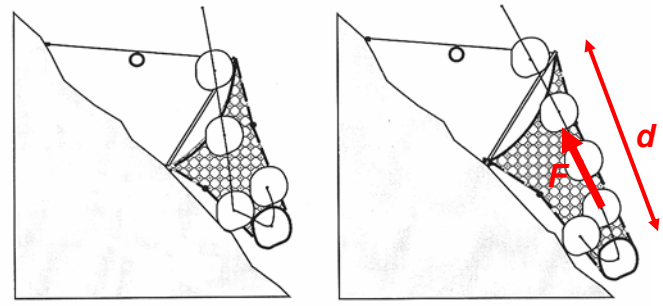
Rock Fence Design:

Work Energy Equation

$$Fd = \frac{mV^2}{2}$$

Energy absorption capacity: 250 to 750kJ

(Geobrugg)



Gallery Design:

$$Fd = \frac{mV^2}{2}$$

(Bundesamt fur Strassen, Switzerland, 1998)