

KEEP YOUR SLOPES SAFE

SAFE SLOPES SAVE LIVES



MAINTAIN YOUR SLOPES !

Why is slope maintenance important ?

The lack of maintenance of slopes and retaining walls is the major contributory factor to many landslips in Hong Kong.

Many landslips are triggered by water ingress into slopes and by soil erosion during heavy rain. Man-made slopes normally have drainage provisions and protective surfacing to prevent water ingress and soil erosion. These measures need regular maintenance to ensure their proper performance. Buried water-carrying services, if they leak, could increase the water pressure inside the slope and trigger landslips, and these should therefore also be maintained.

Routine maintenance inspections

The prime purpose of Routine Maintenance Inspections is to establish the need for basic maintenance works. Such inspections can be carried out by a layman, including property management or maintenance staff.

In typical routine maintenance, you should (see the figure):

- 1 clear accumulated debris from drainage channels and slope surface
- 2 repair cracked or damaged drainage channels or pavement
- 3 repair or replace cracked or damaged slope surfacing
- 4 unblock weepholes and outlet drain pipes
- 5 repair missing or deteriorated pointing in masonry walls
- 6 remove any vegetation causing severe cracking of slope surface cover and drainage channels
- 7 re-grass bare slope surface areas
- 8 remove loose rock debris and undesirable vegetation from rock slopes or around boulders
- 9 investigate and repair buried water-carrying services where signs of possible leakage are observed

Routine Maintenance Inspections should be carried out at least once a year. Any required maintenance works should be completed before the onset of the wet season in April. In addition, owners should arrange to inspect the drainage channels and clear any blockages after a heavy rainstorm or a typhoon.

Routine slope maintenance works can be carried out by a building contractor. A list of contractors is available for inspection at District Offices and the Buildings Department.

Routine checks on buried water-carrying services

Leakage from buried water-carrying services may not result in visible signs on the surface. Therefore, a check on their condition and a check for leakage should be carried out regularly. The leaflet "Advisory Note on Inspection & Maintenance of Private Drainage & Water Services Affecting Slopes" is available free of charge from District Offices.

Engineer inspections for maintenance

Although proper routine maintenance of a slope or retaining wall can greatly reduce the probability of a landslip, the slope may still not be sufficiently safe for various reasons, such as inherent design or construction deficiencies, or changes that have taken place in the vicinity. Therefore, an Engineer Inspection for maintenance should be carried out on the slope by a qualified Geotechnical Engineer at least once every 5 years to look for all slope safety

problems. The Geotechnical Engineer will advise on the maintenance of the slope and any required improvement works. He will also advise on the need for a Stability Assessment to check the slope's overall safety.

A list of Registered Professional Engineers (Geotechnical) can be obtained from the Hong Kong Institution of Engineers, Island Centre, Causeway Bay.

When is a slope safe ?

Routine maintenance and Engineer Inspections are essential to ensure the safety of slopes and retaining walls. Only when a slope or retaining wall is maintained in the way specified by the maintenance staff and the Geotechnical Engineer, and all their recommendations, including routine maintenance, Stability Assessment and improvement works have been implemented, can the slope be considered to be in a safe condition.

Who is responsible ?

Private owners are responsible for slopes and retaining walls within their private lots. Government departments are responsible for maintenance of government slopes, e.g. Highways Department for maintenance of road-side slopes, Water Supplies Department for slopes along catchwaters and adjacent to water supplies installations and Housing Department for slopes in public housing estates, etc..

Private owners may also be liable under specific lease conditions for the maintenance of slopes and retaining walls adjoining their lot. If you are in doubt, you may wish to seek advice from a lawyer.

Check slope maintenance liability before you buy a property.

If your building is held in multiple ownership, it is advantageous for the Owners' Corporation to coordinate the maintenance of the slopes for which you are collectively responsible. If you need further advice on how an Owners' Corporation can be set up, or how it can initiate maintenance works, please consult your nearest District Office.

What will happen if I neglect to maintain my slopes ?

If a slope or retaining wall is not maintained, it will deteriorate and a landslip may occur. This could result in injury to persons or damage to your property. If this happens, you may have to incur great expense to render the slope safe, to repair your property and to compensate those injured.

Standard of good practice on slope maintenance

General guidance on good practice related to slope maintenance is given in the "Layman's Guide to Slope Maintenance", which is available free of charge from District Offices.

A comprehensive technical guide - "Guide to Slope Maintenance (Geoguide 5)" can be purchased from the Government Publication Sales Centre.

For further information about slope maintenance :

Slope Safety Hotline: 2885 5888

CED Homepage <http://www.info.gov.hk/ced>

Hong Kong Slope Safety Website <http://hkss.ced.gov.hk>

