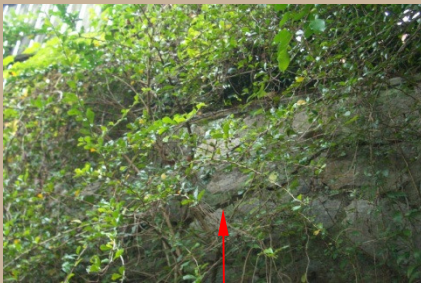




Damaged slope surface protection (turving/shotcrete/stone pitching) leads to soil erosion



Cracks/eroded cement mortar/growing vegetation

Crack on earth retaining wall (rc/rubble/brick)

Up-heaving of ground near to the toe of slope

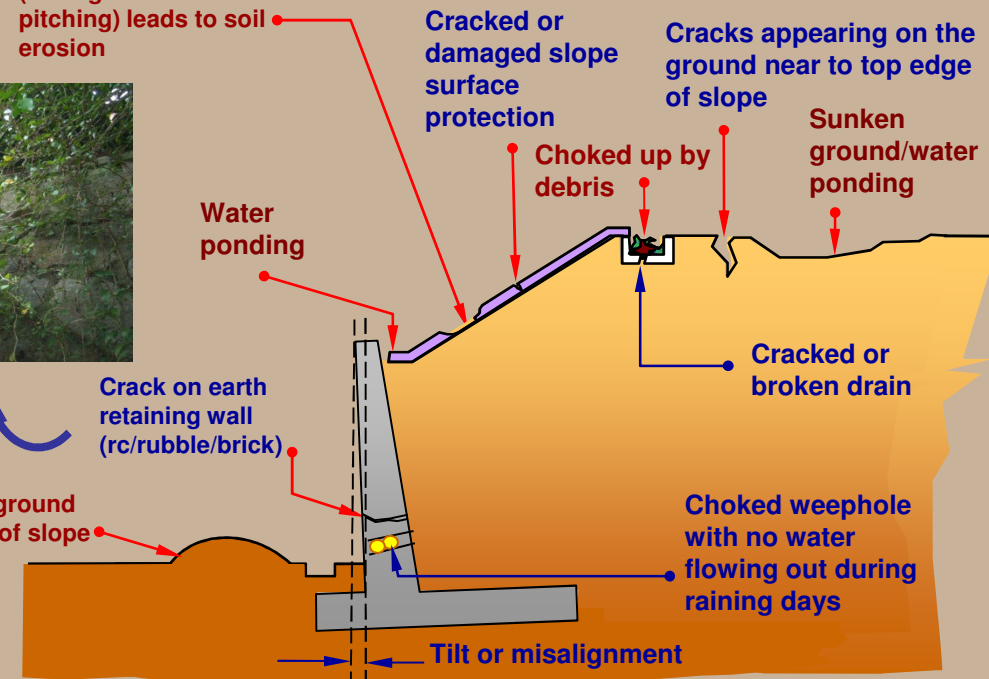


Figure 3: Cross Section Showing Various Tell-Tale Signs

Tell-Tale Signs and Rectification

If there are tell-tale signs (Figure 3), owners and management corporations should:

- Engage a Professional Engineer (PE) in Civil/ Structural/ Geotechnical discipline to inspect, assess and recommend rectification measures.

The list of PE can be found at the Professional Engineers Board website www.peb.gov.sg

- Rectify the defects as recommended by the PE

Safe Slope and Slope Protection Structures

(Regular Inspection and Maintenance)



For Building / Land Owners & Management Corporations

Slope Protection Structures

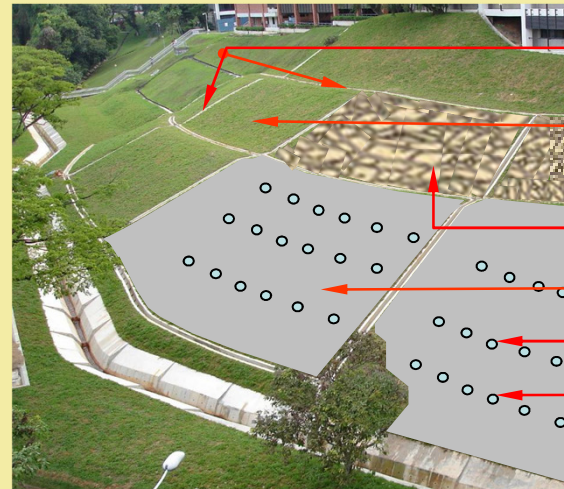
Slope protection structures help to stabilise the slope and can last a lifetime in protecting surrounding properties from damage and people from injury if they are maintained in a good and functional condition at all times.

Slope protection system may comprise one or a combination of the following:

- Slope surface protection
- Slope protection structure (including reinforced concrete (RC) earth retaining wall, rubble / brick wall, bored-pile wall, diaphragm wall, tie-back wall made of RC or steel sheet pile, etc)

Figures 1 and 2 show the functions of various slope surface protection and a typical reinforced concrete (RC) earth retaining wall respectively.

Functions of Slope Surface Protection and Earth Retaining Wall



- Surface drains to channel surface run-off water away from slope
 - Turfing to protect the slope surface from soil erosion
 - Stone Pitching
 - Shotcrete
 - Weepholes to drain out water so as not to weaken the soil strength
- To prevent inflow of water and protect slope surface from soil erosion

Figure 1. Various Types of Slope Surface Protection

Safeguarding your property from slope erosion or sliding

To ensure that slope protection system functions properly, owners and management corporations should:

- Be vigilant to look out for defects or damages
- be proactive in regular inspection and maintenance
- Rectify defects to prevent soil erosion and water inflow during heavy rainfall that may trigger slope and slope protection structures, which have stood for many years, to fail due to poor maintenance and deterioration over time

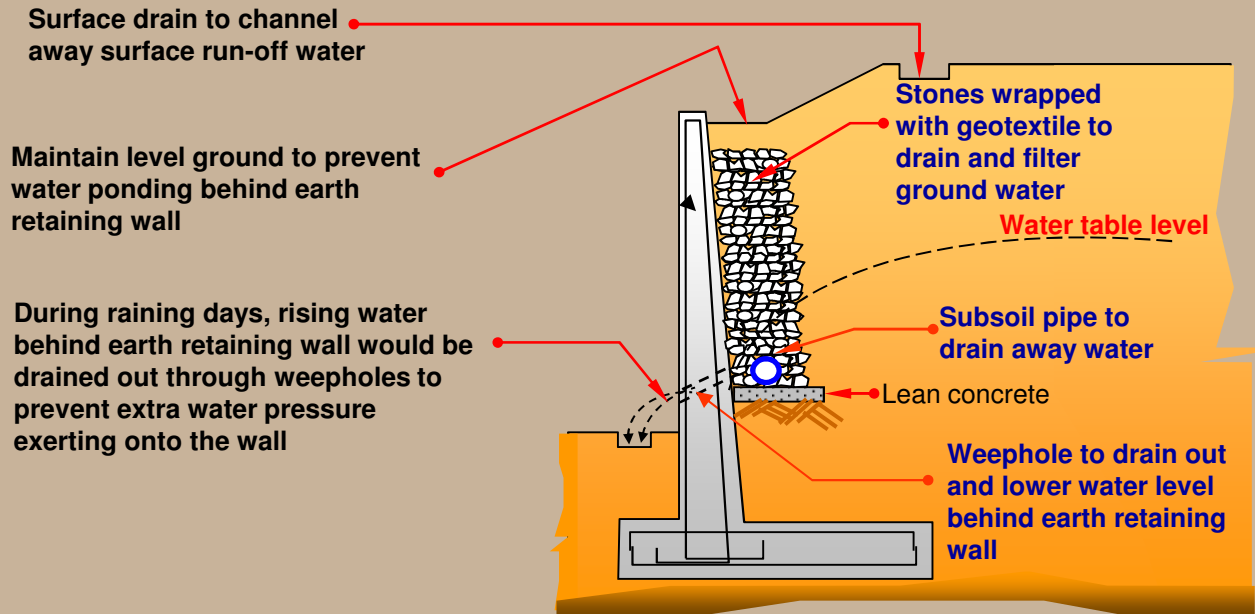


Figure 2. Typical Cross Section of RC Earth Retaining Wall