

# ADVICE TO HOMEOWNERS – MANAGING GROUND INSTABILITY ON THE ISLE OF WIGHT



*Part of the Undercliff, IW*

The Centre for the Coastal Environment within the Isle of Wight Council is continuing to develop policies to manage and mitigate ground movement problems around the Island's coastline. This leaflet is intended to assist homeowners by providing advice on property maintenance and related issues.

Detailed geotechnical studies commissioned by the Council have shown that it may be possible to reduce the likelihood and impact of future ground movements in certain situations if a co-ordinated approach to ground instability management is adopted. A range of management techniques are being promoted by the Isle of Wight Council as part of a Ground Instability Management Strategy. The aims of the strategy are to :

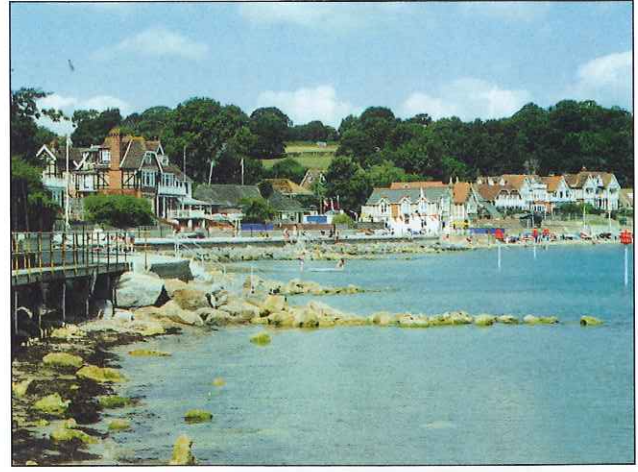
- **reduce the likelihood of future ground instability by seeking to reduce the impact of factors that cause ground movement;**
- **limit the impact of future movement through the adoption of appropriate planning and building controls**

The implementation of the strategy has required careful co-ordination, as it involves the whole community, including the Council, consultants, service industries, developers, insurers, lenders, property agents, builders, homeowners and the general public. A Management Committee of technical officers meets twice a year to enhance professional awareness of how the strategy is being implemented and to monitor its effectiveness.

The strategy involves a variety of approaches aimed at preventing or alleviating ground movements, preventing unsuitable development, monitoring ground movements and raising professional and public awareness. The Council has made special efforts to reduce the effects of erosion and water leakage (with Southern Water Services Ltd) in developed coastal areas through the upgrading or replacement of coastal defences and drainage works. Household development and service repairs do not always require planning permission but where they do the Council, as planning authority, now takes full account of ground instability matters. If you carry out work that does not require consent under Planning or Building Regulations please apply the advice contained in this leaflet. The Council has also made a significant investment in monitoring equipment at key coastal sites in order to measure the rates of ground movement and the relationship to rainfall.

The purpose of this leaflet is to advise homeowners of the ways in which you can help to try and minimise the likelihood and impact of potential ground movement problems on your property. Failure to do so may not only cause problems for yourself but may also affect your neighbours and contribute to a much wider problem in your area.

**For further information about this leaflet and fuller reports on ground behaviour and landslide management, please contact the Isle of Wight Centre for the Coastal Environment (tel: (01983) 855400), where a range of reports and maps may be viewed or purchased.**



The Council has undertaken technical studies as well as major coastal engineering projects aimed at reducing risks arising from coastal erosion and ground instability. *Cowes-Gurnard frontage (left), Southern part of Seagrove Bay, Seaview (right).*

## The Management of Slopes and Retaining Walls

One of the main attractions of the Isle of Wight is the varied relief of the coastal slopes which provide magnificent sea views from most areas. However, such locations are not without problems and steep slopes, by their very nature, can be unstable. Development over the last 150 years has exacerbated instability at some sites through the removal of vegetation, the excavation of slopes and to a lesser extent the placement of fill material. A number of slopes within built-up areas are supported by walls of varying age and condition. Many walls provide only a facing and were not built to a sufficient standard to adequately support the ground behind. A large number of past ground movement-related problems are known to have been caused by the localised instability of steep slopes and the failure of walls. Therefore, it is considered particularly important that slopes and walls are regularly inspected and maintained. You can help minimise the risk of slope instability and wall failure in the following ways :

- ❑ **If a wall within your property is leaning or cracked, seek professional advice from a Chartered Civil or Structural Engineer and carry out repairs. If you need further advice or are worried about a wall not within your property contact the Isle of Wight Council (tel : (01983) 823580). The collapse of walls can be very dangerous and you could be held responsible if you are the owner.**
- ❑ **Regularly inspect steep slopes and walls for signs of movement or damage and if you think there is a problem seek appropriate professional advice from a Chartered Civil Engineer or Consulting Geotechnical Engineer or contact the Isle of Wight Council (tel : (01983) 857220).**
- ❑ **Avoid excavating into steep slopes as this may lead to the failure of the slope and may affect any property situated above. If you are concerned about excavations on adjacent land seek professional advice (as above) or contact the Isle of Wight Council (tel : (01983) 823552).**
- ❑ **Avoid loading or tipping on and above steep slopes as this may lead to the failure of the slope and property below. If you are concerned about loading or tipping on adjacent land seek professional advice (as above) or contact the Isle of Wight Council (tel : (01983) 823552).**
- ❑ **Avoid the removal of trees and bushes from steep slopes, as in many cases vegetation acts to bind the soil and remove ground water through evapotranspiration, reducing the likelihood of shallow movements. If you are concerned about the removal of trees or vegetation from adjacent slopes seek professional advice or contact the Isle of Wight Council (tel : (01983) 823869).**

## The Control of Water

The control of water is considered one of the most important measures that can reduce the likelihood of ground instability. A number of water sources have been identified, which include natural water sources from :

- ❑ underground sources in the Chalk downs or from porous layers with clay formations
- ❑ rainwater falling directly onto the ground

and water originating from the mains supply through :

- leaking water pipes, sewers, swimming pools, etc
- water discharge from septic tank waste disposal units
- watering of gardens, etc

Natural water sources represent the volume of water that would have entered the area of ground instability even if development had not taken place. The public water supplies on the Island have traditionally been obtained from natural groundwater sources via a number of wells and springs. Increases in demand and the need to maintain continuity of supply has resulted in the requirement to supplement the local sources from the mainland.

### **Artificially raised groundwater levels increase the risk of ground movement.**

It is important to control all water entering into the ground. Southern Water Services Ltd has made special efforts to identify and prevent leakage from water supply mains and has undertaken improvements to the Island's sewerage network. You too can help minimise the effects of water leakage in the following ways :

- If you suspect a leak in a water main or main sewerage pipe let Southern Water Services Ltd know immediately (tel : 0845 2780845).**
- If you suspect a leak in a swimming pool or pond repair it at once or contact the Isle of Wight Council (tel : (01983) 857220). Take special care in the emptying of swimming pools ensuring drainage to proper outlets and not directly into the ground.**
- Make sure all surface water outlets from your property are properly connected to the drains and that all drains are watertight.**
- Make sure your gutters and downpipes are not overflowing or leaking and use rainwater collected in water butts for watering gardens rather than mains water.**
- If you are not connected to mains drainage be sure that your septic tank or cesspool is adequately maintained and emptied regularly.**
- Landscape your property to prevent the ponding of water and ensure that ditches are kept clear; any work on or adjacent to a watercourse requires Environment Agency approval (tel : 0800 807060).**

Rain will naturally enter the ground but stormwater run-off from buildings and roads can be controlled and it would be beneficial to do so. Presently stormwater run-off is largely routed to soakaways in many parts of the Island. The only satisfactory alternative to soakaway systems is the routing of stormwater into sealed drains or established streams or watercourses. It is recommended, therefore, that :

- Where possible, surface water soakaways should be connected to sealed drains or into an established watercourse (but permission must be obtained first from Southern Water Services Ltd and from the Environment Agency). If you are aware of a problem of uncontrolled run-off near your property contact the Isle of Wight Council (tel : (01983) 857220).**

## **Maintenance and development of property**

In areas affected by ground instability or poor soil conditions, damage to property may not necessarily be a result of serious ground movement problems as a number of older properties were built with foundations and building styles unsuited to the ground conditions. Some properties were poorly built or have not been maintained adequately over the years. As a consequence the ground movement-related problems may appear to be more serious and less manageable than they should. In some cases damage appears to have worsened with time, as the cumulative effects of ground movement and inadequate maintenance become more apparent.

**The maintenance of property is considered to be of great importance as neglect can often lead to instability problems. The owners of property have an important role to ensure that buildings are properly maintained.**

**If you are proposing to carry out any building work you are advised to contact the Building Control section of the Isle of Wight Council (01983 823580) to obtain advice on suitable construction methods taking account of the ground conditions in your particular location.**

Much can be done to reduce the effects of ground instability. Repairs and precautionary measures can reduce maintenance costs and will prolong the life of the property and its value.

**DON'Ts**

1. Don't block or alter ditches or drains.
2. Don't allow water to collect or pond.
3. Don't shift your water or soil problems downslope to your neighbours.
4. Don't landscape the slope without notifying the Local Authority.
5. Don't clear vegetation off slopes without replanting.

**DOs**

6. Check roof drains, gutters and downspouts to make sure they are clear.
7. Clear drainage ditches and check them frequently, before and during winter.
8. Make inspections during winter - this is when problems can occur.
9. Watch out for water back-up inside the house at sump drains and toilets, since this indicates drain or sewer blockages.
10. Watch for wet spots on the property.
11. Consult an expert if unusual cracks, settling or land slippage occurs. Inform Local Authority of any problems.
12. Regularly inspect scarp slopes for potential rockfalls or loose debris.
13. Regularly inspect swimming pools and ponds for leaks and repair if necessary.

*'Advice for homeowners in areas of instability.'*

## Property Insurance

A major objective of the various coastal and geotechnical studies undertaken by the Isle of Wight Council has been to establish confidence in the area through an improved understanding of ground conditions and ground instability potential. The range of both technical and non-technical reports and maps that have been produced by the Council provide a basis for informed decision-making by insurers. The Association of British Insurers has contributed to the scientific studies and has been working closely with the Council for the last twelve years. Planning Guidance maps, which are contained in the various reports (see details below) provides a basis for assessing insurance risk. If you have difficulty obtaining insurance ask your Insurance Company if they have seen these reports. Leading insurance companies now accept that information provided by customers which can demonstrate a reduced level of risk may assist in obtaining cover or reducing premiums. More detailed large scale maps can be inspected at the Isle of Wight Coastal Visitors' Centre at Salisbury Gardens, Dudley Road, Ventnor, (tel : (01983) 855400), Isle of Wight Council Planning Offices, Seaclose Park, Newport (tel : (01983) 823552) and Cowes Library, Beckford Road, Cowes (tel : (01983) 293341).

**For further information and advice or to obtain copies of the reports 'The Undercliff of the Isle of Wight : A review of ground behaviour' (price £17 including large colour map) or 'Managing ground instability in Urban Areas' (price £20) or Cowes Ground Stability Study Report (price £60). Tel : (01983) 855400. Visit our website at : [www.coastalwight.gov.uk](http://www.coastalwight.gov.uk)**



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