

Levelling the Playing Field

A re-evaluation of how we should approach subsidence

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The last 30 years have seen subsidence grow into a £400M per annum industry and yet, unlike any other area of Engineering or technical expertise, there is no Code of Practice and no recognised qualification or training. As a consequence, there is a distinct lack of objectivity, with each company investigating subsidence (or even individuals within the company) having their own ideas about what constitutes “subsidence” and when underpinning is an appropriate remedy.

We kid ourselves that the standard of investigation is high because the companies involved employ qualified professionals, who undertake “proper investigations” and “accurate monitoring”. The reality is somewhat different. In the vast majority of cases, the cause of the damage is identified on the basis of a visual inspection with the investigator relying heavily on his or her own experience. Subsequent investigations are then too often tailored to confirm the initial diagnosis. For example, an investigator expecting to find desiccation may rely on the soil moisture content being less than 0.4 times the liquid limit, despite publication of the fact that this test is unsafe. Even where more sophisticated tests, such as filter paper suction or oedometer swelling are used, the results are open to interpretation and conclusions will be coloured by what the investigator is expecting to find.

Monitoring too is open to interpretation. All properties founded on clay soil will move up and down over the course of the year as a result of normal seasonal changes in the surface soil. It stands to reason therefore that any cracks (however formed) will open and close to a degree. In many cases, these changes are very small, but plotted on a large enough scale the results can look dramatic.

What can be done to improve matters?

It would be possible to talk at length about the benefits of a Code of Practice setting out the best way of approaching subsidence investigations and deciding on appropriate remedies. One could also point out the advantages of training in soil mechanics or geotechnics to help investigators understand subsidence which, by definition, is something taking place in the soil under the property. However, the focus of the conference is on Technology and its impact on Service.

Taking a step back for a minute, the solution is an obvious one (and there is a strong clue in the title to the presentation). Subsidence is foundation movement. Is it not perverse therefore that the majority of claims are investigated and settled without any attempt to quantify the movements that are taking place? The technology for making these measurements – the precise level – has been around for the last 80 years and the method is elegantly described in BRE Digest 386 – “*Monitoring building and ground movement by precise levelling*” – first published in 1993.

We are all aware of the advantages of 'level monitoring' on complex claims, but it is curiously overlooked on routine claims. Yet even in the most straightforward of cases, level monitoring removes any uncertainty about the cause of the damage and the severity of the problem, often allowing repair decisions to be made six months into the claim. Customer Service is improved not compromised. For the homeowner, the claim can be dealt with fairly, quickly, with minimum inconvenience or risk of blight. While, for the insurer, there are cost benefits in eliminating protracted investigations and unnecessary remedial measures, especially underpinning.

However, the true benefits of level monitoring lie not in its application to an individual subsidence claim, but rather in a holistic approach to the management of a portfolio of claims. Seasonal shrinkage and swelling of clay soils, which is the commonest cause of subsidence, can produce a whole spectrum of movement from a fraction of a millimetre to four or five centimetres over the course of a single year. At the bottom end of the scale, the foundation movements are innocuously small and therefore unrelated to any cracking; at the other end of the scale, the movements are unacceptably large and constitute a serious subsidence problem that needs to be resolved quickly. The latter are the cases where underpinning is likely to be required, unless immediate action can be taken to eliminate the cause of the movement. In between these extremes, where the majority of claims lie, the movements are undesirable, possibly causing some minor damage and sensible steps are required to mitigate them. But, under normal circumstances, underpinning is not an appropriate remedy,

An experienced investigator will have a pretty good idea of which category a particular claim is going to fall into. However, level monitoring offers the only fair and objective means of confirming the initial diagnosis. In many cases, no further investigations will be required and the straightforward claims can be processed by a technician with minimal further intervention from the Engineer.

Based on this approach, Geo-Serv has developed a business process known as SURGE (Subsidence – Utilisation of Resources by Good Engineering) which maximises the number of claims a single Engineer can handle with appropriate technical support. Although SURGE is of maximum benefit in an event year, in principle it can be applied to all types of subsidence claims at all times. One obvious advantage of SURGE is the elimination of unnecessary underpinning; this alone could reduce claim costs by about £2M per thousand claims.

For further details see www.geo-serv.com