Dear Oliver

I agree completely with Michael De Freitas on this; but at the risk of complicating matters there is something else to think about as well.  How does one provide for the assessment of the probable level of damage to be reasonable in the first place?

In the 1970s Burland pioneered his brilliantly simple concept that, with an American contribution in 1989, gave a crude method of assessing damage risk for a *very limited* class of buildings.  The method has not changed since then. Meanwhile, research in the USA has proliferated with emphasis upon the response of real building configurations to ground movement and has resulted in developments of the Burland concept that can be applied to a greater range of situations. I mentioned this in my talk last year. The currently popular UK notion of a simple one size fits all method is quite wrong.

Earlier this year I looked at a BIA in which the author had checked damage risk in the one wall that did fit the Burland model and had quite rightly concluded that the risk was Category 1, very slight. No attempt had been made to check other walls. They did not fit the Burland model but using the American method on one that looked critical I found the risk to be approaching Category 3.

So there is a problem of education. And, let alone planning authorities, it seems to affect the great and the good of the engineering world too. The CIRIA C580 publication which among other things has been the “Bible” for ground movement around excavations is being revised. Unexpected circumstances found me standing in for someone when the committee was reviewing the final draft.  My concern that advice in the publication was still limited to the Burland method of risk assessment, and was thus below par, was received with no recognition of the fact or more than polite interest. I hope to be surprised when the document is eventually published but am not holding my breath.

I think this is an industry matter at present and unlikely to be something your group can influence, but I thought you should be aware of the other half of the problem.

Best wishes

Michael

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**From:** De Freitas, Michael H [<mailto:m.defreitas@imperial.ac.uk>]   
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**Cc:** Michael Eldred  
**Subject:** The Burland level 2

Dear Oliver,

Both Michael Eldred and I came to the same conclusion, quite independently, viz. that locking onto Burland Scale 2 is wrong. We have our different ways of putting the argument across but mine is like this;

No other branch of engineering that I can call to mind deliberately accepts that damage is a part of the solution when such damage is avoidable, and the reason for that is elementary – engineering is not just “building”, it is essentially about ***solving problems*** (Latin*ingenium* mother-wit; the power of invention).

The problem here is digging holes that do NOT cause damage to the neighbours and there are solutions for this; they are the theory called Soil Mechanics and the practice called Ground Engineering; these together provide the solution.

Why is the solution not used? Because it costs money. You heard that chap at Michael’s talk *“I could spend £3.5k to £4k and not get planning permission”*; there you have it. That is a personal commercial argument not an engineering argument – how is it that Camden decides on personal commercial arguments (and what’s more, those of the developer not the neighbour)? Camden should be considering the engineering and only the engineering.

This has all got lost and needs to be cleaned up.

So here are your bullet points;

1. Name another branch of engineering that deliberately accepts damage is a part of the solution when such damage is avoidable.  If that cannot be done then what basis do they have for foisting this sub-standard onto our branch of the profession?

2. The theory called Soil Mechanics and the practice called Ground Engineering together provide the solution to the problems Camden faces with applications and should be used to the full. To police this it is necessary for Planning Officers to be aware of what can be expected-and for this they should be trained. What other branch of the Camden administration permits its officers to operate unaware of the governing rules? Do the accountants and legal teams, who have relevant qualifications in these subjects to start with, not keep themselves up to date with the statutes that affect them?  I bet they do.

3. The personal financial gains of developers should not enter the debate on engineering as far as Camden is concerned. Theory and practice exist which should be used. If they cost too much then the developer should go away. What is happening is that the neighbours are paying for the difference between what was spent on engineering and what should have been spent on engineering. That should be challenged – there is no reason why Camden or any other Boro’ should accept that as a modus operandi.

All the best