

Principal Consultant:

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## ADVICE

**To** Robert Walker, Senior Architectural Designer

**Date** 24.03.14

**Instruction** RBKC Policy Review

**FLAC Instruction ref** CC34-1006

**Client** Cranbrook Basements

**Subject** RBKC draft CS Policy CL7 – Review of relevant documentation

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I am instructed to undertake a review of relevant documentation (as listed below) and to provide advice in connection with those matters set out therein.

The documentation before me comprises:

- The National Planning Policy Framework, March 2012 (“the Framework”)
- BS5837:2012 *Trees in Relation to Design, Demolition & Construction – Recommendations* (“BS5837”)
- Alan Baxter Associates *Residential Basement Study Report*, March 2013 (“the ABA Report”)
- RBKC supporting document *Trees and Basements*, February 2014
- RBKC Draft Core Strategy Policy CL7, including Reasoned Justification, February 2014
- Representations on the draft Core Strategy Policy, Barrell Treecare, March 2014

I have reviewed these documents and provide the following advice and opinion:

### *The Framework*

1. At its paragraph 14, the Framework sets out a presumption in favour of sustainable development, which it identifies as a golden thread running through both plan-making and decision-taking. The impact of this presumption on plan-making is explained in the following terms:

*Local planning authorities should positively seek opportunities to meet the development needs of their area;*

*Local Plans should meet objectively assessed needs, with sufficient flexibility to adapt to rapid change, unless:*

—any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole;  
or

—specific policies in this Framework indicate development should be restricted

2. A footnote (Footnote 9) to the last bullet provides examples of *restrictive policies*:

*For example, those policies relating to sites protected under the Birds and Habitats Directives (see paragraph 119) and/or designated as Sites of Special Scientific Interest; land designated as Green Belt, Local Green Space, an Area of Outstanding Natural Beauty, Heritage Coast or within a National Park (or the Broads Authority); designated heritage assets; and locations at risk of flooding or coastal erosion*

3. The foregoing are specifically labelled as examples, and it is the case that other restrictive policies could have been cited. However, it is apparent from the examples given that the Framework's restrictive policies are all at the high end of the scale in terms of that which should be protected from adverse development impact. As such, it is fair to say that the distillate from Framework paragraph 14 is that the golden thread presumption is only countervailed by matters of very significant weight

4. At its paragraph 60, the Framework states:

*Planning policies and decisions should not attempt to impose architectural styles or particular tastes and they should not stifle innovation, originality or initiative through unsubstantiated requirements to conform to certain development forms or styles. It is, however, proper to seek to promote or reinforce local distinctiveness*

5. At its paragraph 151, the Framework states:

*Local Plans must be prepared with the objective of contributing to the achievement of sustainable development. To this end, they should be consistent with the principles and policies set out in this Framework, including the presumption in favour of sustainable development*

#### **BS5837**

6. I was a technical editor for this British Standard, taking the lead on drafting clauses 4 and 7. At its section 7.6, BS5837:2012 provides specific guidance and recommendations concerning subterranean construction within what would otherwise be the precautionary area (*root protection area; RPA*) of pre-existing trees. To summarize:

7.6.1 Downward excavation through the soil of the RPA is not acceptable

7.6.2 Basement formation below a tree by undermining might be possible, with the feasibility of this subject to site-specific and specialist arboricultural, engineering and geotechnical advice

Concerning the latter, six factors are listed that should be considered by relevant specialists, one of which is the minimum necessary depth of retained overburden (i.e. soil depth left in situ above the mined-out void)

#### *The ABA Report*

7. The ABA Report appears to have been prepared without any or any significant input from an arboriculturist. As such, it has the status in relation to trees of lay opinion. Accordingly, no material weight should attach to any tree-related opinion within it. In particular, the comments at ABA Report 9.7.6 and 9.8.6 should be disregarded

#### *RBKC supporting document Trees and Basements*

8. In its Introduction, the *Trees and Basements* document explains its purpose as being to consider whether 1m depth of soil can sustain large trees and whether basement formation by tunneling beneath trees is acceptable. The question of soil depth is discussed in section 2 of the document, in which it states (at 2.1):

*The Arboricultural Advisory and Information Service research note 'Tree Root Systems' (Dobson 1995) states that "All trees can develop a deep root system (2-3 metres deep) if soil conditions allow". However, this ability will be influenced by the capacity of different species to tolerate varying soil conditions*

9. The final sentence of the extract acknowledges that the interaction between a particular tree and its host geology is a variable matter. The document continues with confirmatory examples (which are further referenced in the appendix) arising from site investigation. The effective conclusion of the *Trees and Basements* document on soil depth in relation to tree rooting habit does not logically extrapolate into a fixed parameter. I agree with this position which, further, agrees with the recommendation in BS5837 towards case-specific advice from relevant specialists
10. I turn now to the question of tunneling beneath existing trees. After noting (at 3.1) that RBKC does not support this method of basement formation, the document continues by setting out the questions raised by proposed undermining:
  - i) *At what depth would it, if at all, be acceptable to tunnel and build beneath existing trees?*
  - ii) *What happens to the soil structure and therefore the stability of the tree during the tunnelling/construction process?*
  - iii) *How does the construction of a basement beneath a tree affect the soil drainage?*

These are good, relevant questions, all of which are anticipated in the list of factors to consider set out at BS5837:2012 7.6.2. In essence, therefore, the *Trees and Basements* document does not contradict BS5837: the question of feasibility rests – must rest – on case-specific specialist advice

11. Above this sits the simple fact that the very detailed drafting process of BS5837 accepted the principle of undermining, subject (as noted) to specialist advice: for RBKC to resile from this would require evidence, which to date it has not produced. As such, in lacking an evidential base, the prior conclusion in the text against formation of basement voids by undermining is unsound, both in and of itself, and as a basis for policy-making
12. In its sections 4 and 5, the *Trees and Basements* document discusses soil depth for new tree planting; in summary, the document seeks to show that a 1m soil depth provision for new tree planting is inadequate. In section 4, the document discusses constraint factors imposed on root development by boundary walls and building foundations, and links this to the depth of soil for new planting that should be provided above a basement in terms of total available soil volume. Section 4 identifies droughting and water-logging as problems that can affect growth and performance of newly planted trees (a matter of fact with which I take no issue)
13. In section 5, the document links concerns over these constraint and performance factors to a new upper limit on basements under gardens of 50% of the garden area
14. Several points arise:
  - i) The significance of the constraints described section 4 is contradicted by the evidence set out in section 2 and the appendix, which clearly demonstrates that tree roots can overcome substantial obstacles to their spread
  - ii) As section 4 acknowledges, the constraint posed by walls and foundations and the effect of this on the performance of the new tree, is related to the tree species in question (plus also soil type and condition)
  - iii) Droughting and waterlogging can be designed out (respectively by automatic irrigation and suitable drainage)
  - iv) No evidence is advanced to support application of a percentage area threshold; in the absence of such evidence, the question of acceptability should simply vest with design details in light of material circumstances
15. The thrust of section 4 is that the success of planting schemes in relation to basements rests on design details. Of course, in most cases these details can be adequately addressed by landscaping conditions attached to a planning permission. In my view, there are no grounds for elevating the straightforward need for considered design into a fixed parameter, to wit refusal to accept 1m soil provision for new planting in all cases. This is another unsound aspect of the draft Policy

16. Section 5 of the document seeks to impose an apparently arbitrary limit on basement development, and again RBKC has departed from the evidence base. This aspect of the draft Policy, in particular, fails the test of Framework paragraph 60, which can be simplified to read:

*Planning policies... should not... stifle innovation, originality or initiative through unsubstantiated requirements*

17. To conclude my review of the *Trees and Basements* document, although it purports to set out an evidential case against those matters relating to basements with which RBKC takes issue, in fact it does no such thing. Instead, it is effectively an opinion piece which deserves to be afforded very little weight. In truth, the broad conclusions of sections 2, 3 and 4 effectively endorse case by case assessment as the correct approach, and on this principle I concur

*RBKC Draft Core Strategy Policy CL7*

18. Draft Policy CL7 is supported by a *Reasoned Justification*. The text of this relies in part on the *Trees and Basements* document referred to already, which it cites as though it were some form of authority. Clearly, one internally produced document praying in aid a second such document (with in all probability common authorship), entirely lacks credibility. Colloquially, this appears to be nothing short of a stitch-up

19. However, the *Reasoned Justification* is not wholly without merit. At 34.3.59 it states (relevant text included only):

*Works to, and in the vicinity of, trees, need to be planned and executed with very close attention to detail. All applications for basements likely to affect trees either on-site or nearby must be accompanied by a full tree survey and tree protection proposal for the construction phase*

This is reasonable and sits comfortably with the direction of travel of the more balanced elements of the *Trees and Basements* document. Indeed, as a Core Strategy Policy, the extract above would actually work rather well, albeit it supplemented by a requirement for evidence-based design justification (in line with the factors to be considered at BS5837:2012 7.6.2)

20. Turning now to what draft Policy CL7 currently says (relevant text included only):

*Basement development should*

*CL7(a) not exceed a maximum of 50% of each garden or open part of the site. The unaffected garden must be in a single area and where relevant should form a continuous area with other neighbouring gardens. Exceptions may be made on large sites*

*CL7(d) not cause loss, damage or long term threat to trees of townscape or amenity value*

*CL7(j) include a sustainable urban drainage scheme (SUDs), including a minimum of one metre of permeable soil above any part of the basement beneath a garden. Where the character of the gardens in the locality is small paved courtyards SUDs may be provided in other ways*

21. The restriction of basements to 50% of garden area having been discussed already, I shall move on to consider the other stipulations in turn:
- i) The attempt at an absolute prohibition on adverse impacts on *trees of townscape or amenity value* is not consistent with the Framework, which has no restrictive policies in this regard. This prohibition would, therefore, fail the requirement for local Policy to be consistent with national Policy; it is therefore unsound and requires amendment
  - ii) Although here expressed in relation to drainage, the requirement for 1m minimum soil cover within CL7 should enable provision of good quality landscaping. Further, 1m being cited as a *minimum* depth, it would remain open to RBKC to require an increase, where justified

*Barrell Treecare* Representations on the draft Core Strategy Policy

22. I turn finally to the Representations document prepared by Barrell Treecare. I consider this to provide a good exposition of the technical aspects of the matter and for this reason I have not revisited much of the same material

This completes my advice on those matters I am asked to address.

*Julian Forbes-Laird*

Director

## CURRICULUM VITAE

Name	Julian Forbes-Laird (JFL) BA(Hons), MICFor, MEWI, MRICS, M.Arbor.A, Dip.(Arb.)RFS
Gender	Male
Date of birth	19 <sup>th</sup> February 1966
Secondary education 1979-1984	Shrewsbury School
Undergraduate education 1985-1988	University of Exeter, <i>BA(Hons)</i>
Post-graduate education 1989-1990	King's College London, <i>Masters</i> (Uncompleted due to family bereavement)
Work history (trade) 1990-2000	Freelance / self-employed arborist
Work history (professional) 2000-2001 2002-2004 2004-	Self-employed arboricultural consultant Senior Consultant, Colin Bashford Associates Ltd Managing Director, Forbes-Laird Arboricultural Consultancy Ltd (FLAC) <a href="http://www.flac.uk.com">www.flac.uk.com</a>
Professional Qualification Designation Memberships <i>Inc. dates attained</i>	Royal Forestry Society <i>Professional Diploma in Arboriculture</i> , 2001 Arboricultural Association <i>Registered Consultant</i> , 2004 Member Institute of Chartered Foresters, <i>Chartered Arboriculturist</i> , 2003 Member Expert Witness Institute, 2007 Professional Member of the Royal Institution of Chartered Surveyors, 2013
Key roles	Principal Consultant, FLAC RICS Dispute Resolution panel <i>Expert Advisors in Planning Services</i> British Standards Institution <i>Committee B/213</i> A Technical Editor for BS5837 (2005, 2012) Network Rail <i>Special Advisor on Tree Risk</i>
Research	Investigation into the stability of trees on slopes to derive upper safety thresholds for vegetation height against degrees of slope The use of infra-red airborne imaging as an indicator of tree health Estimating tree stem diameter at varying heights above ground based on LiDAR measurement of tree height A method for fragmenting vegetation blocks mapped by LiDAR into individual crown-representing polygons

## Narrative

Having developed and lectured extensively on a respected and peer-reviewed method designed to quantify the risk posed by defective trees (THREATS), JFL is a recognised authority on tree risk assessment.

THREATS is now in widespread international use.

JFL has undertaken over 50 forensic accident investigations, including in relation to fatalities caused by trees, and has appeared in this regard as an Expert Witness in the High Court.

JFL is regularly instructed in the area of tree root damage to buildings, frequently acting as an expert witness in this area of arboriculture.

JFL has been instructed as an expert witness on several occasions to assist local authorities with prosecutions for offences under the relevant legislation, and has appeared for the prosecution in the Crown Court.

Additionally, he is author of the TEMPO system for assessing whether trees merit TPO protection; TEMPO is used by over 60 UK local authorities and dozens of consultants.

JFL regularly appears as an expert witness at planning-related Public Inquiries, and also undertakes advocacy at Inquiries on behalf of Rule 6 parties.

JFL is a technical editor of BS5837, for both the 2005 and 2012 editions (the latter being current). BS5837 is the benchmark standard for trees in the planning process, being used for this purpose by applicants, local authorities & the Planning Inspectorate.

JFL has published a number of articles in the arboricultural and landscape press, variously covering tree risk assessment, legal aspects of liability for hazard trees, subsidence, and the arboricultural significance of certain wood decay fungi on trees. In addition, he is a well-known figure on the arboricultural lecture circuit.

## A selection of Expert Witness testimonials

“A highly intelligent and articulate witness” (Opposition QC)

“JFL’s report was excellent: helpful, informative, superbly presented and exactly the right length” (High Court Judge)

“Simply masterful under cross-examination” (Planning Counsel)

“The excellence of JFL’s evidence goes without saying. I was hugely impressed” (Planning Counsel)

“Probably the best prepared expert I’ve ever worked with” (Client’s QC)