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The Royal Borough of Kensington and Chelsea

Basements Publication Planning Policy Published February 2014

Representation and Comment by MMP
Design Limited, Consulting Civil and
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March 2014

This report has been prepared by Steven Masters of MMP Design Limited and forms this company's representation and comments relating to the planning policy changes proposed by the Royal Borough of Kensington & Chelsea in relation to retro-fit basement construction within the Borough. This reports expresses the views only of MMP Design Limited.

MMP Design are consulting civil and structural engineers and this report will refer only to the structural aspects of the proposed planning changes.

Comments relating directly to Policy CL7

All basements must be designed, constructed and completed to the highest standard and quality.

Basements have been designed and constructed successfully throughout London for decades and the principle of retrofit basements is not new. A previous Scoping Study prepared by Arup Geotechnics in 2008 (Page 30 Paragraph 7, Conclusion 4) "*subterranean developments have been successfully achieved in London and elsewhere over many years. In general these successful projects have been undertaken by experienced competent teams who recognised the potential hazards and mitigated against them.*"

Added to this, basement construction is subject to strict control under The Party Wall Act and schemes are comprehensively reviewed by an independent Chartered Engineer acting on behalf of an adjoining owner. Party Wall agreements are not be signed until such time as both sets of Engineers have reached an agreement thereby minimising yet further the potential for any structural design related issues.

It is normal to design basements to CIRIA C580 Damage Category 1 (fine cracks than can easily be treated during normal decoration) and that in layman's terms this is the similar to the type of damage that can occur regularly as a result of seasonal ground movements. These fine cracks may have some structural significance but are not deemed serious.

Basement development should not exceed a maximum of 50% of each garden. 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 comprehensively planned sites.

There are no structural engineering reasons why a basement should be restricted to 50% of the garden area.

Basement development should not comprise more than one storey nor be built under an existing basement; Exceptions may be made on large comprehensively planned sites.

It is entirely unnecessary for RBKC to adopt a precautionary approach in effectively banning basements of more than one storey based upon unfounded structural concerns. As stated in the Alan Baxter report there are a number of structural solutions available for basements which would facilitate construction to a greater depth than a single storey and each project should be individually assessed and designed to suit unique site circumstances.

It is a fact that constructing a second storey beneath a single storey basement scheme is normally more straightforward than constructing the initial single level because all of the temporary works will be in place along with the structural floor slab to basement level one. Our own experience has proved that deeper level basement construction is relatively straightforward once the initial reinforced concrete box and temporary works have been established (subject to soil conditions).

Basement development should not cause harm to the significance of heritage assets; not involve excavation underneath a listed building (including pavement vaults); demonstrate there is no harm to the special architectural and historic interest of the listed building when proposed in the garden.

It is not necessary to extensively modify the existing foundation of a listed building when a basement is constructed within the garden and the original listed building is not underpinned, irrespective of the garden size; it is also perfectly feasible to design a basement within the garden of a listed building such that any damage is restricted to classification zero of CIRIA report 580 – hairline cracks having negligible structural implications.

Basement development should be designed to minimise damage to and safeguard the structural stability of the application building, nearby buildings and other infrastructure including London Underground tunnels and the highway.

The construction techniques associated with retrofit basements are well established and have been refined based upon almost twenty years of construction experience amongst the leading contractors and designers.

The detailed technical modelling together with soil reports, foundation trial pits and laboratory analysis enable highly accurate designs that are compliant with British Standard codes of practices and Building Regulations etc.

To comply with the requirements of Health and Safety at Work Act it is a legal requirement that basements are safely propped with a scheme of temporary works designed by suitably qualified individual, ideally a Chartered Structural or Civil Engineer.

If all of these factors are considered and embraced by suitably qualified and experienced professional team, the construction of a retro-fit basement should pose no structural threat to the stability of the host property, nor any adjoining or adjacent buildings.

The Residential Basement Study Report of March 2013, Page 85, Question 10 asked;

Are there particular risks associated to listed buildings, many of which are properties which have shallow foundations? If there is a greater risk to such buildings should this be mitigated by “exclusion zones” of basement development from listed structures?

.....and responded;

From a structural engineering viewpoint there is little difference in risk between a listed and unlisted building. However one difference is that some listed buildings may be more likely to have delicate or special finishes which might be more susceptible to cracking as a result of ground movements and be more difficult to repair. Structurally older buildings tend to be more able to accommodate ground movements than more modern brittle structures. The objection to basements under listed buildings primarily relates to how a building is used rather than any particular structural risk.”

We concur with this view.

Further Comments

When engaged to prepare a structural design for a retro-fit basement, MMP Design accept total responsibility for the permanent design which is tailored to suit each individual project. The design is prepared and checked by a Chartered Structural Engineer.

As stated in the report author's CV, MMP Design have been directly involved in the structural design and upon occasion supervision of more than 700 retro-fit basement schemes in central London, a large proportion of which are quite straight forward but with many much larger and more intricate. The company's record with regard to damage to adjoining properties, differential settlements etc, is exemplary and it is a record which our Clients and ourselves are rightly proud.

We are unaware of any list, schedule or study that details cases where basements within RBKC which have been designed by Chartered Engineers and constructed by experienced basement specialist Contractors have lead to damage to either of the host building or adjacent buildings greater than the levels previously referred to in this report.

For and on behalf of **MMP Design Limited**

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Chartered Structural Engineer

CV OF STEVEN MASTERS – STRUCTURAL ENGINEER AND BUILDING SURVEYOR

Business	MMP Design Limited
Address	First Floor, Unit 6 Union Park Packet Boat Lane Uxbridge UB8 2GH
Position	Director
Qualifications	Honours Degree in Civil Engineering Chartered Engineer Member of Institution of Structural Engineers Member of Association of Building Engineers
Background Experience	<p>From 1974-1978 I was employed by Taylor Woodrow Construction Limited in the structural design division, preparing structural designs and details for one of the largest civil engineering contractors in the UK.</p> <p>From 1978-1986 I was employed by London Underground Limited in the civil design division. I was part of a large team responsible for the structural maintenance and development of the largest underground railway system in the world. I developed my structural design and site experience on a wide range of projects from modest platform switch rooms to major station refurbishments.</p> <p>From 1986–1990 I was employed by the London Borough of Hillingdon in the structural design office. Here my on-site and practical experience was further developed by various supervisory positions on major construction projects throughout the Borough. Principal projects included the Stockley Park land fill site development, the Heathrow Hilton Hotel and the Heathrow Boulevard office park.</p> <p>In 1990 I helped set up MMP Design Limited and since that time I have been a Director of the company with responsibility for all aspects of structural engineering, overseeing the design and development of projects from inception to completion. My designs have encompassed an extensive range of structural materials.</p> <p>I continue to maintain my ‘hands on’ design experience and supplement my continuing professional development by attending regular courses and seminars.</p>
Basement Experience	Since 1999 I have been working in the field of retro-fit basements. The company has been directly involved in the structural design and upon occasion supervision of more than 700 such schemes in central London and of those I have personally been directly involved in more than 660; more than 80 of these projects have been within the Royal Borough of Kensington & Chelsea.