

RBKC Basements

**Basements in Gardens of Listed
Buildings**

Prepared for

RBKC

February 2014

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Basements in Gardens of Listed Buildings and their access

RBKC's current policy is not to permit basements under listed buildings. This means that if a basement is being considered, it will have to be located under the garden of the listed building.

Initially an engineering feasibility study should be undertaken, looking at the issues set out in the Alan Baxter Residential Basement Study Report dated March 2013. The most significant factor to consider is whether or not the listed building and its attached neighbours (in a terrace or as a semi-detached pair of houses) have a history of ongoing movement. If this is the case, a basement under the garden may not be possible because forming the link from the existing listed building to the basement under the garden is likely to create a hard spot locally in the foundations of the listed building, leading to differential settlement problems.

Assuming that a basement is feasible in engineering terms, there are two main issues that must be thought about when considering the design of the basement. These are:

1. The need to avoid, as far as possible, any disturbance to, or loss of fabric of the listed building
2. The way in which the access to the basement is arranged.

The two points are related.

1. Minimising disturbance and loss of fabric

This can be achieved by positioning the basement away from the adjacent wall(s) of the listed building. The distance of the separation will depend on the proposed form of construction. If a stiff propped contiguous or secant piled wall is used, a structural separation of 1.5 to 2.0m is likely to be sufficient. If the basement is to be built in an open excavation, a much greater separation (possibly up to 5.0m or more) may be needed.

2. Arranging the access from the house to the basement

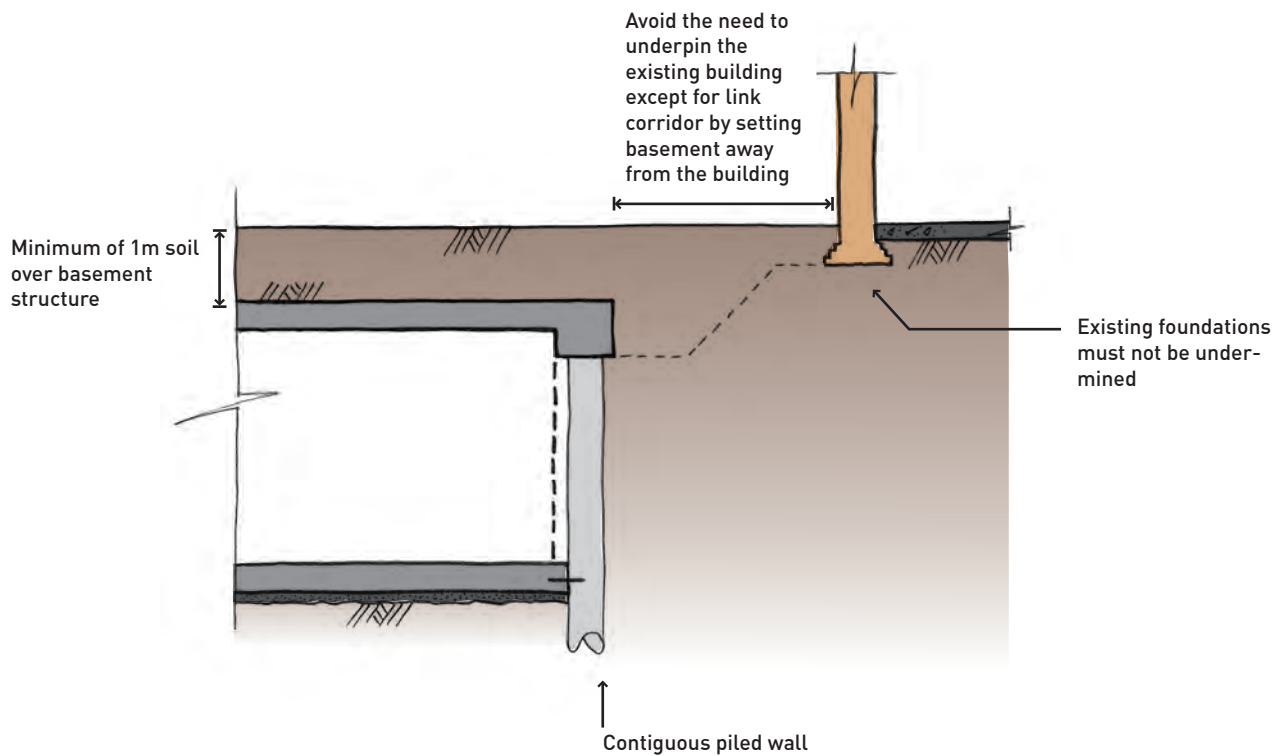
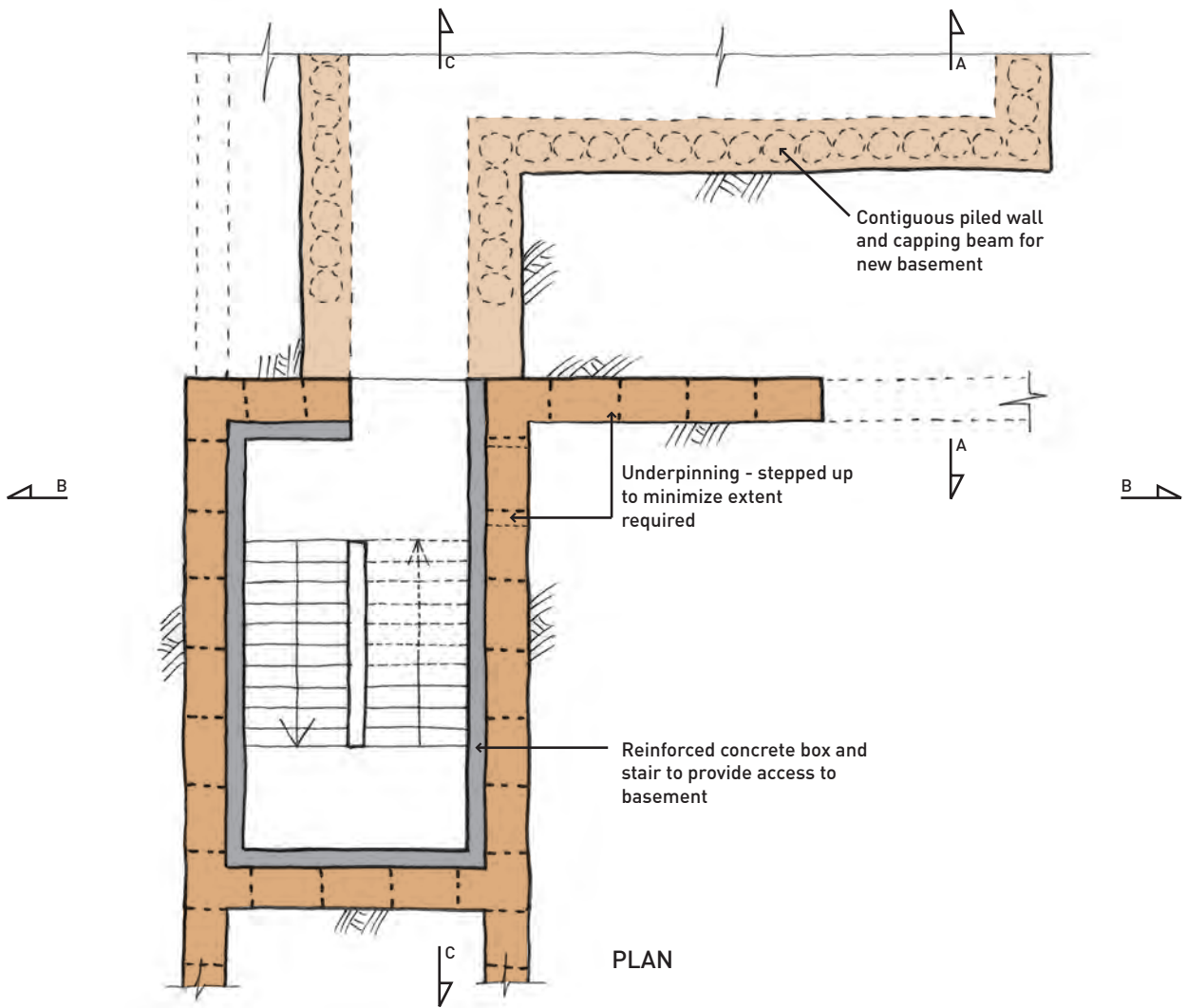
Forming a link from the lowest floor of the house to the new basement needs careful consideration. If the existing house has a basement or lower ground floor, the connection will be more straightforward in structural engineering terms.

A link will require an internal stair and possibly a lift to the level of the basement, and the construction of a below ground link corridor. It is likely that this will require part of the listed building to be underpinned. If a lift is proposed, a lift without a pit should be considered.

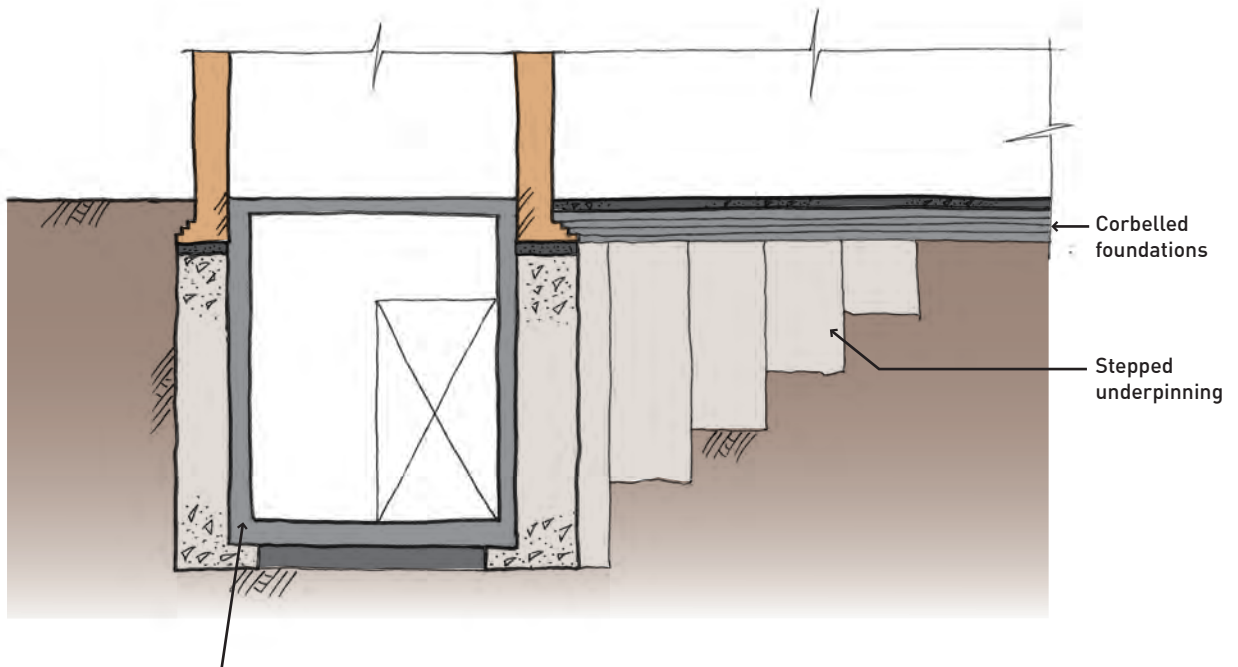
In this situation, the extent of underpinning and disruption to the existing fabric of the building should be limited to that reasonably required to form the connection. The underpinning should be

stepped in accordance with good engineering practice to minimise any large discontinuities in the level of the underpinning of the existing foundations.

The attached sketches show a possible arrangement of an access stair and link corridor to a piled basement in the garden. The basement is positioned several metres from the rear wall of the listed building. The actual details will depend on the spatial arrangement of the listed building. If the basement is beneath the rear garden and the house has a rear extension, the planners are likely to wish to see the link formed in the extension. In engineering terms, the access stair should be located to minimise the extent of underpinning required to the listed building, and the depths of the underpinning should be stepped to avoid sudden changes in founding levels where feasible.

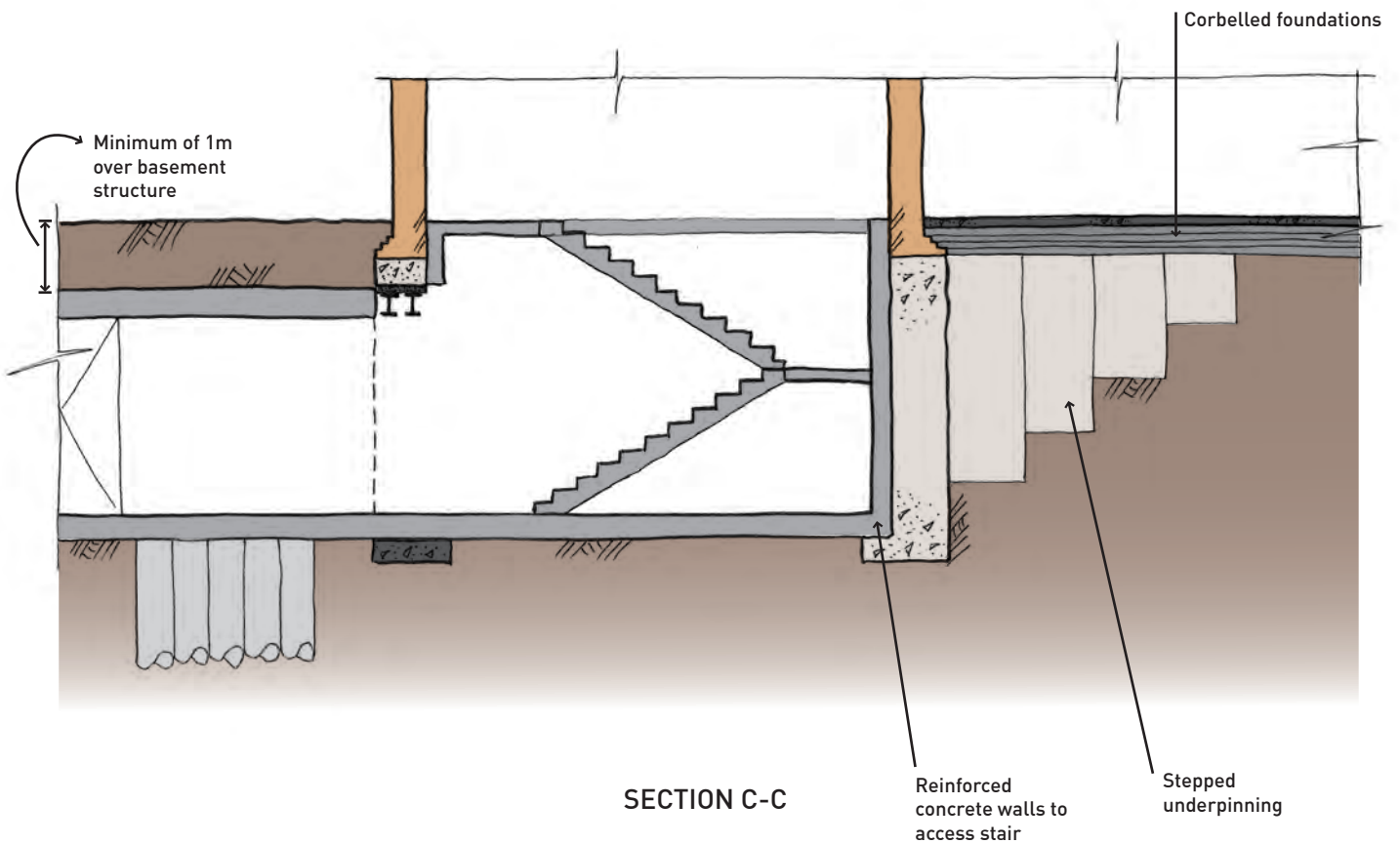


SECTION A-A



Reinforced concrete box

SECTION B-B



SECTION C-C

Reinforced concrete walls to access stair

Stepped underpinning