

Structural Defects Report,
Building A, Berkley Works,
Primrose Hill, London NW1 8XY

**STRUCTURAL DEFECTS REPORT,
BUILDING A, BERKLEY WORKS,
PRIMROSE HILL, LONDON NW1 8XY.**

RPH Engineering
Consulting Civil and Structural Engineers
Manor House
Westdown EX34 8NH

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The Brief

We have been commissioned to ascertain the reasons for the damage to the boundary wall at Building A, Berkley Works, Primrose Hill and assess the current status.

Existing Structure and Defects

The building in question is a two storey 19th century mews building under a pitched tiled roof. The walls are solid 9" masonry and are likely founded on relatively shallow stepped masonry footings. The external wall forms the boundary to the next door property No.3 Berkley Road. According to a 1996 report the ground level at the neighbouring garden is one metre higher, thus this boundary wall retains the soil at number 3 Berkley Road. As there was no access to the neighbouring property at the time of the survey we were unable to assess the damage at this lower section of wall that retains the boundary. The section of the wall visible from inside is showing signs of substantial cracking and damage. As can be seen from the attached photos and plan there is a large tree adjacent with the trunk of the tree approximately 300mm from the wall. The base of the trunk and the roots are now pushing on and dislodging the foundations which is causing the wall to crack and be out of plumb at this location[photo attached].

Discussion

We attach a page from the report on the tree that was commissioned in 1996. The tree was identified as Tree of Heaven and at the time was 18 metres high. At that time the wall was not damaged. The report stresses the probability of damage to the adjacent wall in the future which has now occurred. As may be seen from the photographs attached the wall in question is severely cracked at the base, due to pressure from the tree trunk and roots. We understand that this tree is the subject of a tree preservation order, however although we cannot say that the stability of the wall is currently in question, this wall is severely damaged and if the cracks continue to widen the wall will be in danger, and the stability of the structure will be compromised. Discussion should be entered in to with the appropriate Council department to remove the preservation order.

Recommendations and Repair Works

The first and best option will be to employ a tree surgeon to remove the tree and the roots and make good afterwards. The footings will be rebuilt in reinforced concrete to allow for the collapse of soil once the roots are removed. We recommend a builder should be in attendance when the tree is removed to deal with any issues arising.

The second option would be to reconstruct the wall in reinforced concrete with similar foundations of sufficient depth. I would only recommend this if all other avenues are exhausted.

In the meantime while these issues are being resolved, the cracks should be monitored for spread on a regular basis to ensure the condition of wall is not worsening.

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Damage to the external boundary wall

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side view on damage to external boundary wall

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The Building

The property is a Victorian mews type works, which was probably constructed during the 19th Century. The tree in question is numbered T1 and is located on the attached sketch plan, and is situated to the rear of the above structure in the rear garden of 3 Berkeley Road, NW1. The structure in Berkeley Mews is approximately 2 metres lower than the soil level of the garden of 3 Berkeley Road due to a decline from the road level falling away to the Mews at the rear.

The Soils

The soil on site was assessed in two locations using a manually operated auger to attain a soil profile to ascertain the likelihood of future possible tree related damage via indirect root damage, i.e. damage caused by water uptake. Trial Hole 1 (TH1) on the sketch plan encountered brick detritus at approximately 300 mm thus making a full assumption of a profile impossible.

Trial Hole 2 (TH2) on the sketch plan assumed a full profile to 1200 mm to 800 mm top soil and building detritus was encountered below a fairly sandy clay was found, whilst this profile would lead one to assume soil moisture deficits could become a possibility during extremities of climatic conditions, none were visible at present.

The Specimen

The tree has been assessed at ground level and the information on it is as follows:

T1 - Tree of Heaven (*Ailanthus altissima*)

Height:	18m (estimated)
Crown spread:	9m
Diameter:	0.82m
Condition:	Good
Age range:	60 + years
Distance to property:	28 cm from structure to rear
Future growth potential:	High

Extract from 1996 report

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Recent view from the neighbours property

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