Arboricultural Report

Flat 1
51 Belsize Park Gardens
Belsize Park
NW3 4JL

A mature birch tree causing damage to built structures

Compiled by
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Instruction

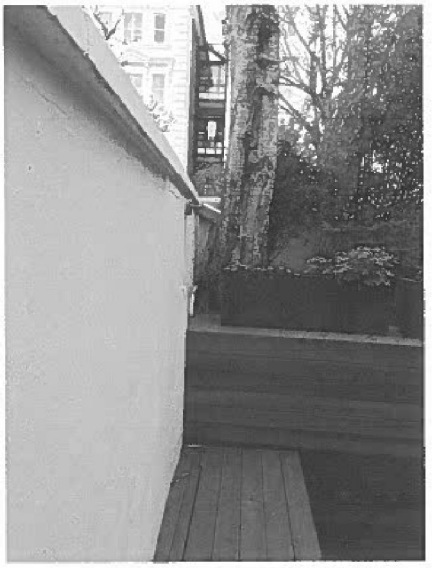
I have been instructed to report on a mature birch tree in the front garden of Flat One, 51 Belsize Park Gardens, NW3 4JL. There is damage occurring to built structures close to the tree and my opinion of the situation and possible solutions has been requested.

The tree and it's location.

The tree in question is a birch tree of an estimated 25 to 45 yrs old and situated within the front flower bed adjacent to the path and close to the party wall. There is a sunken garden seating area between the tree and the house meaning that the tree exists in essence in a large container bordered on one side by the highway and path, the other by the sunken garden, and the wall and steps at either end.

Due to it's proximity to the building the canopy has been subject to extensive pruning to alleviate encroachment towards the house.

The left photograph is taken from the front garden with the house roof in view to the left.



Here is a view from the house towards the road, showing the height of the root ball above the sunken garden. Also evident if the distorted wall.

The Damage Created

There is sign of extensive movement of the party wall and visual signs of cracking. This is both historic and recent. The wall has had cracks repaired in the past on more than one occasion as can be seen by the new plaster and painted areas. Many of these cracks are right through the brickwork and evident on the opposite side.

The tree is just out of shot to the right of this photograph with the root at the level of the bench top visible.

The tree root is close enough to the party wall for natural root expansion to have moved the wall by a number of inches. Where roots contact with lightly built structures such as garden walls they are able to inflict sufficient pressure to cause damage and movement.

It is my opinion that this tree has caused the damage to the walls as shown and will continue to cause damage unless action is taken. It is possible that future damage could be extensive as it is likely that the wall to the sunken garden will be the next to move. Roots require compacted soil to create stability and in the process of creating that compaction within such a small area as here are very likely to damage any built structure that is unable to resist that pressure.

Possible solutions

As there is a correlation between canopy size and root activity there can be times when a tree can be pruned to remain small and this in turn slows root growth to a point where the tree can remain in a position that is too small for unfettered growth. The canopy and root growth already achieved by this plant are too great for the above to be an option.

My opinion is that this plant should be felled to ground level to alleviate the risk of future damage. If the stump is ground out (subject to underground services and proximity to the wall) the area could then be planted with a more suitable species. There is no doubt that a tree as replacement would enhance the area as well as giving shade to the garden though there is always going to be a problem of root size and activity. Whatever replaces the existing tree will have a limited life as this too will eventually become too big for the space available. There is no reason why a plant should not be grown with a view to enjoying it until it reaches the point of being to large and then take it out and start again.

The replacement tree should be situated further away from the wall then the present and I suggest that close to the centre of the bed would be the best.

Species as replacement

Whilst the list of possible replacement species is quite large I will offer a few for consideration.

Amelanchier (Snowy Mespilus) - a small colourful tree with interesting leaves, flowers and bark. It is a small tree so would have a long useful life and creates a dappled shade as the canopy is not dense.

Betula (Birch) - whilst the existing tree is a birch there are various cultivars with interesting bark, leaves and growth habits which again give a dappled shade.

Crateagus (Hawthorn)- Small, hardy species, some of which have no spines though others do! Featuring a domed crown, slow growth and decorative flowers.

Malus (apple) - crab or domesticated species available. Slow growing, small crowned with decorative flowers and fruit, though these may be a problem with the path.

Acer (Japanese Maple) - small crowned, decorative leaves, slow growing but can be fragile.

Sorbus (Mountain Ash) - Another small tree with open canopy giving dappled shade. Decorative leaves, flowers and bark. The berries could be a slight problem with the path though they are quite small.

I have not defined specific cultivars for the above species as this will depend on what the rest of the planting scheme for this area is going to include. Once colour schemes, leaf textures, flowering and required shade are considered it will become more apparent what to choose. I will be happy to discuss this at a later stage.

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