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Project title	Berkeley Homes (North East London) Ltd	Job number	238826-11
cc		File reference	
Prepared by	Dorothy Tang	Date	10 March 2020
Subject	Independent ecological and environmental desktop review: removal of an existing London Plane tree, Woodberry Down, Hackney.		

1 Introduction

This note has been prepared by Arup's ecologists Austin Brown and Dorothy Tang. Austin leads Arup's London ecology team and has over 18 years of experience in ecology and conservation. He is a Chartered Biologist (CBiol) (Royal Society of Biology) and a Full Member of the Chartered Institute Ecology and Environmental Management (CIEEM). Dorothy is a Consultant Ecologist and is a Qualifying Member of CIEEM.

It is understood that a London Plane Tree by the Happy Man public house is to be removed as part of the planned project works. This is due to its proximity to an adjacent building and the high risk of root severance due to the nearby underground pipe network and a new energy centre. Landscaping plans indicate that it would be replaced by five new lime trees as well extensive landscaping and green roofs.

The purpose of this file note is to establish if the proposed additional planting in the Woodberry Down Project Phase 3 (hereafter "the proposed development") mitigates the loss of the existing London Plane tree and to provide any further mitigation recommendations where necessary. To undertake this review the following documents have been considered:

- Woodberry Down, Phase 3 – Bat Assessment, September 2018.
- Woodberry Down, Phase 3 – Preliminary Ecological Appraisal, September 2018.
- Woodberry Down, Phase 3 – Arboricultural Report, May 2019.
- Woodberry Down, Phase 3 – Environmental Statement, Volume 1: Chapter 16 – Ecology and Nature Conservation, May 2019.
- Woodberry Down, Phase 3 – Tree Planting Strategy, 1519/029, Rev E, December 2019.
- Woodberry Down, Phase 3 – Landscape Masterplan with Enhancements, 1519/030, December 2019.

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- Woodberry Down, Phase 3 - Landscape Sections with Enhancements, 1519/031, December 2019.
- Woodberry Down, Phase 3 – Tree Canopies at 20 Years, 1519/034, December 2019.
- Woodberry Down, Phase 3 – The Park Hard & Soft Landscape Areas, 1519/036 Rev A, January 2020.

It is understood that the proposed additional planting for the London Plane Tree is an addition to the scheme design submitted to the Local Planning Authority in July 2019. The submitted scheme includes 110 trees as the mitigation measure. Table 1 lists out the enhancement measures in addition to the submitted scheme as a result of the removal of the London Plane Tree. The figures given in Table 1 are based on those stated within the Woodberry Down, Phase 3 Landscape Masterplan with Enhancements plan (1519/030 Rev A).

Table 1: Enhancement measures in addition to submitted scheme in response to removal of the London Plane tree.

Enhancement measures	Quantity/area size
Additional shrub planting	215 m ²
Additional tree planting	65 trees (This includes the five lime trees replacing the London Plane Tree.)
Inclusion of rain garden	185 m ²
Identification of large feature trees	8 trees

1.1 Characteristics of the London Plane tree

As stated in the Arboricultural Report, the London Plane tree is a well-established, broad-crowned and mature tree in a good condition. It is 22 m tall, with a trunk diameter of 80 cm and a root protection area of 290 m². It does not have a Tree Preservation Order.

1.2 Biodiversity and ecological habitat

Generally, London Plane trees provide limited opportunities for wildlife including nesting birds¹. This is because this species of tree generally has thick and large branches and an open canopy and thus provides little potential for nesting birds. This is especially true of the small-size bird species that have been identified in the Environmental Statement as using the site including swift *Apus apus*, house sparrow *Passer domesticus*, starling *Sturnus vulgaris*, song thrush *Turdus philomelos* and mistle thrush *Turdus viscivorus*. Additionally, swifts² and house sparrows³ generally do not nest on trees, and the remaining three species typically build nests on smaller trees or bushes. London Plane trees are a hybrid of the American sycamore and Oriental meaning that many species, especially invertebrates, have not evolved to be associated with them. Street photos of the London Plane Tree also indicate that there are no associated habitats of importance surrounding the base of the tree.

¹ <https://www.woodlandtrust.org.uk/trees-woods-and-wildlife/british-trees/a-z-of-british-trees/london-plane/>

² <https://www.rspb.org.uk/birds-and-wildlife/wildlife-guides/bird-a-z/swift/breeding-nesting-habits/>

³ <https://www.rspb.org.uk/birds-and-wildlife/wildlife-guides/bird-a-z/house-sparrow/breeding/>

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The London Plane tree also provides only limited potential for bats. Ecological surveys undertaken by AECOM in 2006, 2014 and 2015 and also bat surveys by London Wildlife Trust all concluded that no trees on the site support features of value as bat roosts. Furthermore, only a small number of common bat species, including common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus* and noctule *Nyctalus noctula*, have been recorded on the Site. The Environmental Statement thus reported the site to have a low value to commuting and foraging bats.

The proposed landscaping will include five lime trees at broadly the same location as the London Plane tree to be removed. Lime trees are known to provide good invertebrate habitat⁴ which in turn benefits many bat and bird species. Hence it is highly likely that the lime trees will provide a higher level of ecological habitat to benefit biodiversity than the current London Plane tree. In addition to the lime trees, the wider proposed landscaping will be more valuable to biodiversity than the current landscape as it will provide a wider range and typologies of habitats than before.

In summary, the London Plane tree provides limited benefits from the perspective of biodiversity and this would be adequately mitigated for by the five lime trees at that location.

1.3 Air quality and urban heat island performance

From an air quality perspective, the London Plane tree will have only a limited effect on the overall air quality of the Site as the ability of vegetation to remediate air pollution is often overstated⁵. Hence, the air quality of the Site is highly unlikely to change significantly upon the removal of the London Plane tree.

Although the removal of the London Plane tree may intensify urban heat island effect, it would be adequately mitigated for by the replacement trees and wider landscaping plans. Urban heat island effect is a phenomenon whereby urban areas experience elevated temperatures relative to the surrounding rural areas, which can be effectively mitigated by the presence of individual urban trees and also urban greenspaces⁶. Given that the London Plane tree would be replaced by five new semi-mature lime trees (30-35 cm girth) as well as the wider landscaping plans that include green roofs and significant provision of additional shrub planting and rain gardens, the urban heat island effect would more than be mitigated for.

2 Conclusions

To summarise, the London Plane tree is of limited value for biodiversity. The approved landscaping together with the enhanced tree planting (Table 1) would improve biodiversity conditions. With an overall total of 175 new tree plantings, extensive shrub and hedge plantings, and also 3,698 m² of green roofs, resulting effects on biodiversity are anticipated to be beneficial.

There would be no material change to air quality.

On this basis, Arup conclude that no further biodiversity measures are necessary in response to the loss of the London Plane tree.

⁴ <https://www.woodlandtrust.org.uk/trees-woods-and-wildlife/british-trees/a-z-of-british-trees/common-lime/>

⁵ DEFRA – Air quality expert group. Impacts of Vegetation on Urban Air Pollution: <https://laqm.defra.gov.uk/laqm-faqs/faq105.html>

⁶ <https://www.forestresearch.gov.uk/research/role-urban-trees-and-greenspaces-reducing-urban-air-temperatures/>

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