

Impact Assessment for land

*at 5 Oval Road
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Client

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9965-KC-SP-YTREE-Impact Assessment-Rev0

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Document history

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1.0 Introduction

- 1.1 This assessment will consider the impact upon trees of implementing the proposals shown on the drawings listed below

Table 1 - List of drawings referred to in this assessment

Originator	Drg No	Title	Scale
Charles Doe Architects	TP-300	Proposed - Site Plan	1:100@A3
Keen Consultants	9965-KC-SP-YTREE-AP02Rev0	Arboricultural Plan	1:200@A3

- 1.2 Site proposals considered in this application include:

1.2.1 Extension to current dwelling

1.2.2 Parking and other access surfaces

1.2.3 Utilities and services

1.2.4 New and replacement tree planting

- 1.3 In overview, the proposals seek to provide a single-storey extension to the northern elevation of the building and remodel the internal layout of the current building.

- 1.4 This report is based on information about the trees that was collected during a tree survey on the 19th February 2018. Details of each tree are shown on the Arboricultural Plan listed in Table 1.

2.0 Assessment of impact upon trees

Impact of proposed extension

- 2.1 At the northern elevation of the building it is proposed to provide a single-storey extension at ground level.

- 2.2 The footprint of this extension coincides with the location of shrubs, small trees (number 5 of the tree survey) but has been set away from a larger sycamore (number 6) to keep the tree. The loss of the shrubs and small trees has no material impact on the tree cover in the area and I consider this loss to be acceptable to achieve the required scheme.
- 2.3 The retention of the sycamore has been considered even though the tree has internal decay. The tree is of such size that it makes a contribution to the tree cover when viewed from Oval Road. The applicant has therefore sought an extension that could retain the tree and the contribution it provides.
- 2.4 Due to the stepped level of the ground to the north of the existing building it is feasible to create an extension where the subterranean aspects are minimised to avoid root loss and retain the tree. Conventional mass-filled trench foundations would not be suitable in this close proximity to the tree – they would result in the loss of too much rooting area. Specialist foundations therefore need to be considered.
- 2.5 One of the least impactful forms of foundation is screw piles. Screw piles in conjunction with a non-intrusive ground beam can avoid root loss. This system is suitable in this case. The stepped levels provide space in which to accommodate the superstructure and the supporting ground beam. The ground is already covered by the paved terrace so the presence of the extension will result in no material change to the growing conditions of the tree.
- 2.6 Working in this close proximity to the tree will require extreme attention to be paid to the protection of the tree during the construction period. The following will need to be observed:
- 2.6.1 The existing terrace needs to be retained to provide a working platform on which the screw pile machine and other working activity can be housed. The terrace will protect the underlying rooting system.
 - 2.6.2 The existing wall that runs broadly north-south from the current dwelling to the boundary will need to be dismantled by hand to a level that accommodates the ground beam. Further sections may need to be removed to allow insertion of the screw pile.
 - 2.6.3 Pilot holes at each screw pile location will reveal if large roots are present. If they are they need to be retained and the screw pile relocated.

- 2.6.4 Each screw pile will be inserted by machine to a depth that achieves the necessary bearing strength. A screw pile is only of a diameter up to 100mm for a load such as this so represents a very low intrusion within the rooting area. By avoiding the larger roots (as per 2.6.3) the piles can be inserted without harm to the tree.
- 2.6.5 The ground beam needs to be of the non-intrusive type. It needs to be formed above the existing soil level (it can make use of the void formed by removal of hard surfacing and built structures). A typical detail of this is shown on the Arboricultural Plan. A non-intrusive ground beam avoids the need for linear, continuous excavation that can result in root loss. Of course, trial excavations may be made along the line of the foundations to ascertain if larger roots are present. If they are not then this will allow for some 'letting-in' of the ground beam but ample separation must be given to allow for future root expansion.
- 2.6.6 Whilst machinery can operate from the existing hard surfaces it will be necessary to protect the soil outside these surfaces and, if they are uplifted, the spaces formerly covered by the hard surface. This will ensure the soil is not compacted and contaminated during works.
- 2.6.7 It will be necessary to adopt the same technique to support the proposed pathway and steps along the northern boundary. It will be feasible to engineer a foundation system, with screw piles as support, which avoids further excavation within the soil for the formation of this element.
- 2.7 By observing these special techniques it is feasible to construct the extension whilst retaining the tree in as viable a growing condition as it is now. There will of course be some work necessary to the crown to alleviate the current risk of tree failure (due to the internal decay). The necessary pruning (for instance crown reduction) will result in a smaller crown to reduce the loading on the decayed stem and, as a consequence, provide further separation from the proposed extension.

Impact of hard surfaces

- 2.8 The proposed layout of hard surfaces, where near retained trees, coincides with the existing forecourt hence results in no material impact on those retained trees
- 2.9 As a result there is no need to construct the proposed forecourt using specialist measures.

Impact of drainage and services

- 2.10 The proposed drainage and services are not shown on the proposed layout plan but they can be located outside of root protection areas of retained trees. By so doing they do not require specialist measures for their installation.
- 2.11 If services do need to be installed within root protection areas then specialist techniques for their installation will be needed. Such specialist techniques include moling, thrust-boring, broken trench or excavation by AirSpade.
- 2.12 No other installations, including mechanical and electrical equipment, are proposed in an area that would be of detriment to trees.

New and replacement tree planting

- 2.13 This property enjoys generous tree cover. Along the western boundary, with the railway line, is a row of established trees. On the frontage with Oval Road there are several established trees with potential for significant growth. As a consequence most of the spaces that will accommodate a tree are already containing a tree.
- 2.14 The creation of the proposed extension will preclude tree planting between the dwellings but space may be sought in the remainder of the garden in which to plant new trees.
- 2.15 The species of new tree would need to be one that reached modest proportions given the available space. There are many suitable species including magnolia, snowy mespil, thorn, crab apple, mulberry and so on.
- 2.16 Retaining existing trees and introducing new trees ensures a resource of trees in places where residents and visitors alike will enjoy multiple benefits provided by the tree stock. In so doing the tree stock will be able to withstand climate change, protecting and enhancing the resources of soil, air, water, landscape, amenity value, culture and biodiversity, and increasing the contribution that trees make to the quality of life. In that respect the proposals are in line with the very latest guidance, in terms of integrating trees with built form, contained in *Trees in the townscape: A guide for decision makers* produced by the Trees and Design Action Group.

3.0 Summary of impact on trees

- 3.1 The proposed extension can be accommodated without a material change in growing conditions for the retained sycamore by the adoption of specialist foundation systems. The circumstances at this site are conducive to the use of a screw pile and non-intrusive ground beam system that avoids the loss of significant roots.
- 3.2 The footprint of the proposed extension merely replaces an area of the garden that is covered by hard surface so there is no material change to the rooting environment of the tree.
- 3.3 There is an essential need to prune the tree to reduce the high risk of its collapse from internal decay. That pruning will ensure further separation from the proposed extension.
- 3.4 Proposed hard surfaces are in locations remote from retained trees or are a replacement of existing hard surfaces. As a result no further harm is caused to trees through their creation.
- 3.5 Services and utility installation can be located remote from trees to avoid harm to them.
- 3.6 New and replacement tree planting can be provided as part of these proposals. Replacement will ensure long-term tree cover can be provided.