

Arboricultural Impact Assessment (AIA)

Rear of 20 Oakley Close, Holbury, Southampton SO45 2PJ

Report reference number 525/AIA/1

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Date 20 November 2023

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1 Summary

The impacts are going to be:

1. protection of Oak T001 during construction; and
2. the installation of the new access, and hard surfacing for plots 1 and 2.

2 Introduction

Purpose

This Arboricultural Impact Assessment has been written in order for the LPA to grant planning permission	1	This Arboricultural Impact Assessment (AIA) identifies and assesses the significance of the effect of direct and indirect impacts on trees, provides a certainty of outcome and where necessary recommends mitigation. The AIA and accompanying Tree Survey Schedule (Appendix A), Arboricultural Method Statement (AMS/525/1) which sets out the construction parameters based on the physiological needs of the trees, Tree Constraints Plan RNapc/525/TCP/1, and Tree Protection Plan RNapc/525/TPP/3, support the planning application for development of this site.
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Context

Local Plan Policy requirements are met by the retention of the trees on and adjacent the site	2	<p>New Forest District Local Plan 2016-2036 Part 1: Planning Strategy</p> <p>Policy ENV4: Landscape character and quality</p> <p>Where development is proposed there is a requirement to retain and/or enhance the following landscape features and characteristics through sensitive design, mitigation and enhancement measures, to successfully integrate new development into the local landscape context:</p> <ol style="list-style-type: none">Features that contribute to a green infrastructure and distinctive character within settlements including the locally distinctive pattern and species composition of natural and historic features such as trees, hedgerows, woodlands, meadows, field boundaries, coastal margins, water courses and water bodies;Features that screen existing development that would otherwise have an unacceptable visual impact; <p><i>T001 Oak is an important tree that makes a significant contribution to the character and appearance of the local area. It is to be retained and the design of the layout has been adjusted to accommodate it.</i></p>
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The proposals comply with the National Planning Policy Framework	3	<p>These proposals comply with the NPPF in terms of achieving sustainable development, good design and conserving the natural environment by retaining all of the trees on and adjacent the site.</p> <p>Paragraphs 55 and 56 of the NPPF deal with planning conditions. Where an otherwise unacceptable situation can be made acceptable by the use of planning conditions, the referenced mitigation is set out in the accompanying AMS and the tree protection plan. Sufficient detail has been provided so an enforceable planning condition requiring the trees to be protected can be based on the accompanying Tree Protection Plan and AMS.</p>
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Site description

The significant trees are being retained	4	<p>Oak T001 is a mature specimen which has been classified as category 'A' using the recommendations in Table 1 of BS5837:2012 <i>Trees in relation to design, demolition and construction – Recommendations</i> (BS5837:2012). The Oak makes a significant contribution to the character and appearance of the area and its retention and protection is highly desirable.</p> <p>In the rear garden of a neighbouring property are two trees, T001 and T002 which are included for completeness but which, with some ground protection, will be unaffected by the proposals. These two trees are not as significant in the landscape.</p> <p>There are some sections of hedge around the boundary of the site, mainly mixed native species, including some Ash which has escaped the flail on the southern boundary and conifer and evergreen on the east and north. The proposals indicate that the hedging will be retained and reinforced where necessary. The native mix hedge at the front is shown to be protected during development because of the proximity of construction.</p>
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Soils allow normal rooting strategies to develop.	5	<p>The Cranfield Soil and Agrifood Institute (from Cranfield University) website records naturally wet very acid sandy and loamy soils. There is nothing on site that indicates the development of soil structures that might be an impediment to tree root development.</p>
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Site factors will have affected the root protection area (RPA)	6	<p>A notional circular root protection area (RPA) has been plotted for all the trees. This is because there are no structures within the root protection area (RPA) that might affect radial root development, although the soil mix might produce slight variations.</p> <p>Oak T001 has some tarmac and a gully at the cul-de-sac end of Ruxley Close which allows vehicular access to the houses and the garage block. This appears not to have been laid to a full highway specification and consists of different surfaces. Given the age of the tree, my assessment is that the hard surfaced area functions to prevent compaction of the soil volume and the presence of the gully and condition of the surface allows water penetration so there will be some active rooting by the Oak in this area. Similarly with the concrete slab for the shed in the field.</p> <p>The RPA have been drawn in accordance with the recommendation in paragraphs 4.6.2 and 4.6.3 of BS5837:2012.</p>
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3 The Development

Extent of changes proposed

- There are changes around Oak T001 7 The only trees that are being retained and where there are works within the root protection area is T001. For the significance of the impact of the changes, see 13 below.
- The RPA of the trees includes third party land 8 The client has no control over most of the RPA of T001, T002 and T003 as the RPA of all these trees includes neighbouring properties. For the purposes of this application, the RPA beyond the control of the client will remain undisturbed. The impact of the proposals therefore only affects a small area of RPA on the property itself. Retaining additional root area will mitigate otherwise unacceptable impacts, because the root area available is significantly larger than the original RPA, reducing the impacts to a neutral level (no harm caused).

Effect of proposals

- Consideration of the effect of the proposals on the existing trees 9 A 'Significant impact' is one which is sufficiently important to be given weight in the planning balance or to warrant the imposition of a planning condition (eg to secure necessary mitigation measures). Individual tree impacts are listed in 12 below. Overall, the proposals have been designed to mitigate the impacts to a reasonable level and should have no long-term deleterious effect on the growth of the trees.
- No direct or indirect impacts on T002 and T003 10 These trees can be protected by ground protection to the outer edge of the identified RPA.

Tree number	BS 5837 category	Significance of impact by proposed development	Magnitude of that impact (low/moderate/high)	Sensitivity and proposed mitigation
T001	A1	Significant enough to require adherence to an arboricultural method statement for construction	Potentially high impact can be mitigated to moderate/low, partly to the re-design of the layout and to adherence to AMS	Large area of RPA protected by surface or outside the plot. Mitigation required for proposed hard surfacing and tree protection during the build process.

<p>Sensitivity: maintaining/improving the neutral position (Not site-specific text)</p>	<p>12 The assumption is that a normally vigorous tree will have its physiological needs met by the site conditions (neutral-beneficial). The area meeting these needs is plotted as the RPA.</p> <p>The detail behind the RPA is explained in 14. A tree occupies an ecological niche which helps identify its requirements and its contribution to the shared resource with neighbouring trees. Different species deal with damage or disruption to the roots and root area in different ways.</p>
<p>Magnitude of impact is specific to the tree and the proposals (Not site-specific text)</p>	<p>13 The RPA does not contain all the root system of the tree. It is an area where the tree has invested to access resources using a fine root network. A tree will not invest in poor soil. Beyond the major roots in an area 2-3m from the stem, it also contains woody roots 1-2cm diameter that have developed a transport function and that extend through the RPA to resource areas beyond.</p> <p>Protection of roots and soil structure takes priority, but it is possible to build in the RPA, with adequate mitigation. There is a sliding scale of harm depending on distance, depth, number of chords (sides of the RPA). In general terms, the greater the removal of roots and disturbance of the rooting volume, the higher the magnitude.</p>
<p>Mitigation: tree physiology and construction methods</p>	<p>14 Oak as a species can tolerate some disturbance of the soil volume, according to the literature. T001 is a mature tree and the ability of trees to accommodate disturbance generally decreases with age. On this site the RPA of the Oak is protected either by the existing hard surface to the south, that still allows rooting beneath, or by virtue of the RPA extending into the garden (soft surface) of the adjacent property to the east.</p> <p>The footprint of plot 1 has been moved outside the RPA of the Oak. As plotted, there are no excavations for foundations within the RPA. The only structure is a new vehicular access to plots 1 and 2. Some of this is within the footprint of the existing shed which has a concrete slab. The proposal is to remove the slab and install a cellular confinement system load suspension layer as a no-dig foundation for the new hard surfacing and extend it to the boundary for the proposed bin store.</p> <p>For the new services, both the foul connection to the sewer and the new service ducts in the track, the recommendations in BS5837:2012 sections 7.2 and 7.7 should be adhered to. The wording of paragraph 7.2 is attached to the arboricultural method statement.</p>
<p>The liveability issues have been reduced by design to a level of reasonableness</p>	<p>15 The Tree Constraints Plan shows a solar arc representing the shadow cast by the canopy of the tree between April and October 11.00am to 18.00pm. The shadow caused by the tree will pass over the front garden and front elevation of plot 1 during the day but does not extend to the rear garden. Rooms requiring light to the rear of the property will receive adequate levels of skylight. Liveability has been assessed on site with reference to BS5837:2012 Section 5 <i>Proposals: conception and design</i>.</p> <p>Parking has been moved from the front of the house under the canopy of the tree, to the side of the house outside the canopy.</p>

4 Recommendation and conclusion:

Tree Protection Plans RNapc/525/TPP/3; Tree Constraints Plan RNapc/525/TCP/1; Arboricultural Method Statement 525/AMS/1

There are no supportable or reasonable grounds for refusing permission in terms of trees	16 The design of the proposals in terms of levels and layout has been based the data gathered on site. The mitigation, set out in the AMS and the tree protection plan is based on the findings of this impact assessment. My view, having been involved in the development of the layout is that the mitigation of impacts has been managed to reasonable levels during the design stage. The AMS deals with the mitigating short term impacts on the physiological demands of the retained trees. The scheme is compliant Local Plan Policy ENV4. It accords with the principles set out in the National Planning Policy Framework. It is technically compliant with BS5837:2012 and the way in which that Standard has been applied. It meets the BRE requirements as set out in BR 209
Planning conditions in accordance with the NPPF paragraphs 55 and 56	17 Where an otherwise unacceptable situation can be made acceptable by the use of planning conditions, the referenced mitigation is set out in the accompanying AMS and the tree protection plan.

A Appendix A Tree Survey Schedule

Reference	Common Name	Retention Category	Stem Diameter (mm)	RPA: Radius (m), Area (m ²)	Comments	Height (m)	Crown spread North	Crown spread East	Crown spread South	Crown spread West	Crown Clearance (m)	Lowest Branch (m)	Lowest Branch Direction	Life Stage	Physiological Condition	Structural Condition	Remaining Contribution
T001	English Oak	A1	1000	Radius: 12.0 Area: 452		18	10	10	10	10	3	5	E	Mature	Good	Good	40+ Years
T002	Oak	C1	480	Radius: 5.8 Area: 106	No access to the garden. Surveyed from footpath. All measurements estimated. Crown spread as per topographic survey.	9											10+ Years
T003	Not identified	C1	520	Radius: 6.2 Area: 121	Possibly Cherry or Sweet Chestnut? No access to the garden. Surveyed from footpath. All measurements estimated. Crown spread as per topographic survey	9											10+ Years