Arboricultural Implications Report

Proposed re-development at

46 Goffs Park Road
Crawley
West Sussex

May 2016

Ref. SJA air 15245-01

* SJAtrees is the trading name of Simon Jones Associates Ltd.
SUMMARY

S1. SJAtrees has undertaken a tree survey and made an assessment of the impacts of the proposed development on 27 individuals trees growing on or immediately adjacent to this site, in accordance with British Standard BS 5837: 2012, Trees in relation to design, demolition and construction – Recommendations.

S2. Our assessment of the impacts on trees concludes that no. category ‘A’ or ‘B’ and no mature trees of high landscape or biodiversity value are to be removed. None of the main arboricultural features of the site are to be removed or diminished. The proposed felling of the trees that are identified for removal will result in no alteration to the main arboricultural features of the site.

S3. The proposed pruning is minor in extent, and accordingly will not detract from the character or appearance of the site or local landscape.

S4. The incursions into the RPAs of trees to be retained are minor. Subject to implementation of the measures recommended on the TPP and set out at Appendix 1, no significant or long-term damage to their root systems or environments will occur.

S5. None of the proposed flats are likely to be shaded to the extent that this will interfere with incoming new owners’ reasonable use or enjoyment of their properties, which might otherwise lead to pressure on the LPA to allow retained trees to be felled or severely pruned.

S6. The size and disposition of the proposed amenity space is such that it will not be unduly shaded, and will receive a reasonable degree of sunlight and daylight. Its use is unlikely to lead to future demands for felling or severe pruning of trees.

S7. Therefore, we conclude that the arboricultural impact of this scheme is of low magnitude, and that the proposed development would not have a significant adverse impact on the arboricultural character and appearance of the local landscape, or on the amenity or biodiversity that the existing trees provide. Accordingly, the proposed development complies with local and national planning policy guidance.
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1. INTRODUCTION AND BACKGROUND INFORMATION

1.1. Instructions

1.1.1. SJAtrees was instructed by Mr B. Lukka to visit 46 Goffs Park Road, Crawley and to re-survey the trees growing on or adjacent to this site.

1.1.2. We were further asked to identify which trees are worthy of retention within a proposed re-development of the site; to assess the implications of the development proposals on these specimens, and to advise how they should be protected from unacceptable damage during demolition and construction.

1.2. Scope of report

1.2.1. This report and its appendices reflect the scope of our instructions, as set out above. It is intended to accompany a planning application to be submitted to Crawley Borough Council, and complies with local validation requirements, and with the recommendations of British Standard BS 5837: 2012, Trees in relation to design, demolition and construction – Recommendations (‘BS 5837’).

1.2.2. The proposed development comprises a block of nine, two bedroom flats with associated parking spaces equalling to one and a half spaces per property.

1.2.3. This report summarises and sets out the main conclusions of the baseline data collected during the re-survey, and identifies those trees or groups of trees whose removal would result in a significant adverse impact on the character or appearance of the local environment (Section 3). It then details and assesses the impacts of the proposals on trees, including which are to be removed (Section 4) or pruned (Section 5), which might incur root damage that might threaten their viability (Section 6); and which, if retained, could cause unreasonable apprehension or shading, thereby leading to pressure for their removal in the future (Section 7). These assessments are then summarised in Section 8, considered in relation to national and local planning policy, and our conclusions are presented.
1.3. Site inspection

1.3.1. A site visit and tree inspection was undertaken by Abi St. Aubyn of Simon Jones Associates Ltd., on Thursday the 30th May 2013. The site was then re-surveyed by Michael Roberts of Simon Jones Associates Ltd., on Thursday the 12th November 2015. Weather conditions at the time of the re-survey were dry with scattered cloud. Deciduous trees were in partial leaf.

1.4. Site description

1.4.1. The site is located on the north-east side of Goffs Park Road. The north-west boundary adjoins The Tower (Hunt and Palmer Bespoke Air Charter) and south-east boundary adjoins what was previously Oakhurst Grange nursing home, now vacant. The north boundary adjoins Brecon Heights, a residential property that comprises a four storey block of flats and the south-west boundary opens up into Goffs Park Road.

1.4.2. The site slopes gently down from south-west to north-east, with a difference in levels of 1.1 metres. The site currently comprises a family dwelling with associated driveway, garage, summer house and large shed.

1.5. Statutory controls

1.5.1. We understand that nine off-site trees (nos. 1, 8, 9, 13, 14, 22, 25, 26 and 28) are covered by tree preservation orders (TPOs). These are TPO no. 6 of 1993 and TPO No. 3 of 1976 made by Crawley Borough Council. Collectively the TPOs protect 38 individual trees and three groups of trees. The trees that are protected by these TPOs are identified within our tree survey schedule at Appendix 2 and on the accompanying tree locations and tree protection plans.

1.5.2. The site is not within a conservation area.

1.6. Non-statutory designations

1.6.1. There are no woodlands within or abutting the site that are classified as ‘Ancient’. Ancient woodland, which is considered to be an important and irreplaceable habitat, is defined by Natural England as “land that has had continuous woodland cover since at least 1600 AD”.

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2. METHODOLOGY

2.1. National policy context

2.1.1. Under Section 197 of the Town and Country Planning Act 1990, local authorities have a statutory duty to consider the protection and planting of trees when granting planning permission for proposed development. The effects of proposed development on trees are therefore a material consideration in dealing with planning applications, and this is normally reflected in local development planning policies.

2.1.2. Paragraph 14 of the National Planning Policy Framework (NPPF), (March 2012), states that there is a presumption in favour of sustainable development:

2.1.3. “At the heart of the National Planning Policy Framework is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking.”

2.1.4. At paragraph 17 the NPPF provides a set of 12 core planning principles which are to underpin plan-making and decision-taking. Three of these (bullet points 4, 5 and 7) can be applied to trees and their role in the planning system. They state that planning should:

“(4) seek to secure … a good standard of amenity for all existing and future occupants of land and buildings

(5) take account of the different roles and character of different areas, ….. recognise the intrinsic character and beauty of the countryside

(7) contribute to conserving and enhancing the natural environment”

2.1.5. The NPPF makes it clear that planning permission for development should be granted unless the proposal is inconsistent with the above principles or with the policies within the local development plan, unless the benefits of the proposal significantly and demonstrably outweigh its adverse effects, or unless the NPPF itself indicates that the proposal should be restricted.

2.1.6. Trees are mentioned specifically at paragraph 118 of the NPPF, which states: “planning permission should be refused for development resulting in the loss or
deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss."

2.2. **Local policy context**

2.2.1. Relevant local planning policies are contained within the Local Crawley Borough Plan 2015-2030.

2.2.2. CH3 of the Local Crawley Borough Plan 2015-2030 states to; “Retain existing individual or groups of trees that contribute positively to the area and allow sufficient space for trees to reach maturity. Sufficient space should also be provided in private gardens that would not be overshadowed by tree canopies; and proposals should ensure that rooms within buildings would receive adequate daylight.”

2.2.3. The Council has prepared a Supplementary Planning Guidance Note: 13 (SPGN) dealing with the protection of trees on development sites. The guidance presented in this document has been closely followed in the preparation of this report.

2.3. **Tree survey and baseline information**

2.3.1. We surveyed the individual trees with trunk diameters of 75mm and above\(^2\) growing within or adjacent to the site; and recorded their locations, species, dimensions, ages, condition, and visual importance in accordance with BS 5837 recommendations. The baseline information collected during our site survey was recorded on site using a hand-held digital device. This information was then imported into an Excel spreadsheet and used to produce the tree survey schedule at Appendix 2. The numbers assigned to the trees in the tree survey schedule correspond with those shown on the appended tree locations and protection plan.

2.3.2. We inspected the trees from the ground only, aided by binoculars as appropriate, but did not climb them. We took no samples of wood, roots or fungi. We did not undertake a full hazard or risk assessment of the trees, and therefore can give no guarantee, either expressed or implied, of their safety or stability.

\(^2\) BS 5837, paragraph 4.2.4 b), recommends that all trees over 75mm stem diameter should be included in a pre-planning land and tree survey.
2.3.3. We have categorised the trees in accordance with BS 5837, and details of the criteria used for this process can be found in the notes that accompany the tree survey schedule (Appendix 2).

2.3.4. We have applied this methodology in line with the thrust of the NPPF’s presumption in favour of sustainable development, giving greater weighting to the contribution of a tree to the character and appearance of the local landscape, to amenity, or to biodiversity, where its removal might have a significant adverse impact on these factors.

2.4. Tree locations plan

2.4.1. The information in the tree survey schedule has been used to produce the tree locations plan at Appendix 3, which is based on the topographical survey plan provided.

2.5. Tree constraints

2.5.1. In line with the NPPF’s presumption in favour of sustainable development, we assessed which trees should be retained in the context of a proposed re-development. To do this, we identified the main arboricultural features within or immediately adjacent to the site, whose removal we considered would have an adverse impact on the character and appearance of the local landscape, on amenity or on biodiversity.

2.5.2. Whilst BS 5837 states that trees in categories ‘A’, ‘B’ and ‘C’ are all a material consideration in the development process, the retention of category ‘C’ trees, being of low quality or of only limited or short-term potential, will not normally be considered necessary where they impose a significant constraint on development.

2.5.3. Furthermore, BS 5837 makes it clear that young trees, even those of good form and vitality, which have the potential to develop into quality specimens when mature “need not necessarily be a significant constraint on the site’s potential”\(^3\).

2.5.4. Moreover, BS 5837 states that “...care should be taken to avoid misplaced tree retention; attempts to retain too many or unsuitable trees on a site can result in

\(^3\) Ibid. 4.5.10.
excessive pressure on the trees during demolition or construction work, or post-completion demands for their removal”

2.5.5. The ‘Root Protection Areas’ (RPAs)\(^5\) of the trees identified for retention were calculated in accordance with Section 4.6 of BS 5837; and were assessed taking account of factors such as the likely tolerance of a tree to root disturbance or damage, the morphology and disposition of roots as influenced by existing site conditions (including the presence of existing roads or structures), as well as soil type, topography and drainage. Where considered appropriate, the shapes of the RPAs (although not their areas) were modified as a result of these considerations, so that they reflect more accurately the likely root distribution of the relevant trees.

2.5.6. In order to assess whether the trees identified for retention retained would be in harmony with the proposed layout (without casting excessive shade or otherwise unreasonably interfering with incoming residents’ prospects of enjoying their properties, and thereby leading inevitably to requests for consents to fell), we plotted a segment or “shading arc” from each trunk, with a radius equal to the current height of the tree concerned, from due north-west to due east. This gave an indication of potential direct obstruction of sunlight and the shadow pattern cast through the main part of the day\(^6\).

2.5.7. Based on these principles and recommendations, the tree survey and our assessment of suitability for retention informed the production of a tree constraints plan (TCP) which showed the most suitable trees for retention, and their associated below-ground and above-ground constraints.

2.5.8. As a design tool, the TCP showed how close to those trees selected for retention the proposed development could be located, in terms of three key criteria:

a). avoidance of unacceptable root damage;

\(^4\) Ibid. 5.1.1.
\(^5\) The minimum area around a retained tree “deemed to contain sufficient roots and rooting volume to maintain the tree’s viability, and where the protection of the roots and soil structure is treated as a priority.” BS 5837, paragraph 3.7.
\(^6\) BS 5837, paragraph 5.2.2 Note 1.
b). avoidance of the necessity for unacceptable pruning works; and

c). avoidance of future felling or pruning works to prevent unacceptable shading or apprehension on behalf of the occupants.

The TCP was then used to inform the siting of the proposed areas of hard surfacing, of which we were consulted on several occasions during the design process. In this way it has been ensured that the existing trees have made a significant contribution to the location of these proposed structures, rather than the proposals dictating which trees are to be removed.

2.6. Arboricultural impact assessment and tree protection plan

2.6.1. Once the scheme had been finalised, we assessed the arboricultural impacts of the proposed layout, by overlaying it onto our TCP, and produced the tree protection plan (TPP) presented at Appendix 4. This is based on the proposed site layout plan by Fulcrum Design, drawing no. 20-04-16 Site Plan.

2.6.2. The TPP identifies the trees which will be removed as a result of the scheme proposals, either because they are situated within the footprint of the proposed development, or because in our judgment they are too close to proposed structures or surfaces to enable them to be retained. These are shown by means of red crosses on the plan.

2.6.3. The TPP also shows how trees to be retained will be protected from damage during demolition and construction, and the measures identified are set out and described at Appendix 1 to this report. The implementation of, and adherence to, these measures can readily be secured by the use of appropriate planning conditions.

2.6.4. For the trees shown to be retained, all measurements for pruning specifications, percentage estimates of RPA incursions and shading issues have been calculated using AutoCAD software.

2.6.5. Details of the impacts identified within these categories, and our assessment of their respective significance, are analysed in Sections 4 to 8 below.
2.6.6. On the basis of these findings, we have assessed the magnitude of the overall arboricultural impact of the proposals according to the categories defined in Table 1 below:

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Total loss of or major alteration to main elements/features/characteristics of the baseline, post-development situation fundamentally different</td>
</tr>
<tr>
<td>Medium</td>
<td>Partial loss of or alteration to main elements/features/characteristics of the baseline, post-development situation will be partially changed</td>
</tr>
<tr>
<td>Low</td>
<td>Minor loss of or alteration to main elements/features/characteristics of the baseline, post-development changes will be discernible but the underlying situation will remain similar to the baseline</td>
</tr>
<tr>
<td>Negligible</td>
<td>Very minor loss of or alteration to main elements/features/characteristics of the baseline, post-development changes will be barely discernible, approximating to the ‘no change’ situation</td>
</tr>
</tbody>
</table>

Table 1: Magnitude of impacts

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7 Determination of magnitude based on DETR (2000) Guidance on the Methodology for Multi-Modal Studies, as modified and extended.
3. THE TREES

3.1. Survey findings

3.1.1. We surveyed a total of 27 individual trees, growing within or adjacent to the site.

3.1.2. The trees growing within and adjacent to the site comprise of mainly broadleaf specimens, a mixed contribution to the local landscape. These include English oak being the most common with ash, laurel, field maple, flowering cherry, apple, Norway maple and blackthorn also present. Western red cedar was the only coniferous tree present, but this is off site. The most prominent features of the site include the common lime abutting the south-west boundary which is readily visible in views from the junction of Horsham road and Goff Park road and a long stretch of Goffs Park Road. The row of English oak spanning from the south-east to north-east boundary. The mature English oak situated to the rear of the property on the north boundary within the curtilage of Brecon Heights. These English oaks are of a significant importance, not only for their acknowledgement from the local authority through TPO but for immediate residents that border or have views of No. 46 Goffs Park Road, making them a good focal point and particularly in keeping with the local surroundings. Along the frontage of the property there are a number of smaller specimens poor in structure and form and situated in the rear of the property on the north-west boundary there is a collection of small domestic fruit trees, these trees within the site do not have a large contribution to the local landscape as these are mainly small domestic species of either low quality or size that they are readily replaceable.

3.2. Assessment of suitability for retention

3.2.1. The main arboricultural features within or immediately adjacent to the site, whose removal we consider would have an adverse impact on the character and appearance of the local landscape, on amenity or on biodiversity, are as follows:

- The off-site common lime no. 1 which is growing adjacent to Goffs Park Road but within the property of Hunt and Palmer, it is fully visible from Goffs Park.
Road, and visible from the junction with Goffs Park Road and the Horsham Road from some distance;

- the off-site mature English oak no. 14 situated to the rear of No. 46 Goffs Park Road, readily visible in views from Horsham Road and junction with Goff Park Road.

- the row of trees (nos. 9, 8, 13, 22-28) dividing 46 Goffs park road from Oakhurst Grange Nursing Home growing on the south-east to north-east boundary, readily visible in views from Horsham Road and Goffs Park Road.

3.2.2. Six individual trees (nos. 5, 6, 15, 17, 19, 27) have been assessed as category 'U'. These are trees that are unsuitable for retention, on the basis of them being in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. On site trees that need removing solely to accommodate a proposed development are not placed in this category. Category 'U' trees are indicated on the accompanying tree locations and protection plans by bracketed red numbers.

3.2.3. There no category ‘A’ trees and there are seven off-site category 'B' specimens, all of which are off-site including, common lime no. 1, English oaks nos. 8 and 9, field maple no. 13, English oak no. 14, English oaks nos. 22, 25, Norway maple no. 26 and English oak no. 28. The remaining 14 trees are assessed as category 'C' trees, being either of low quality, very limited merit, only low landscape benefits, no material cultural or conservation value, or only limited or short-term potential; or young trees with trunk diameters below 150mm; or a combination of these.
4. TREES TO BE REMOVED

4.1. Details

4.1.1. The development proposals, as shown on the proposed layout drawing, indicate that 13 individual trees (nos. 4-7, 10-12, 15, 17, 19, 20, 21 & 27) are to be removed either because they are situated within the footprint of the proposed development, or because they have been assessed as a category ‘U’ and therefore should be removed in the interests of good arboricultural practice.

4.1.2. None of the individual trees that are main arboricultural features of the site, (as identified at paragraph 3.2.1), will be removed.

4.1.3. Of the trees to be removed, none are category ‘B’. seven are category ‘C’ and six are category ‘U’. The category ‘C’ trees to be removed are shown and on the TPP and at Table 3 below.

<table>
<thead>
<tr>
<th>Tree no.</th>
<th>Species</th>
<th>Height</th>
<th>Trunk diameter</th>
<th>Age class</th>
<th>BS category</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Horse chestnut</td>
<td>4.5m</td>
<td>235mm</td>
<td>Semi-mature</td>
<td>C (2)</td>
</tr>
<tr>
<td>7</td>
<td>Field maple</td>
<td>4.5m</td>
<td>215mm (over ivy) 205mm (over ivy)</td>
<td>Semi-mature</td>
<td>C (12)</td>
</tr>
<tr>
<td>10</td>
<td>Laurel</td>
<td>4m</td>
<td>160mm</td>
<td>Mature</td>
<td>C (2)</td>
</tr>
<tr>
<td>11</td>
<td>Laurel</td>
<td>4.5m</td>
<td>x6 stems av. 90mm</td>
<td>Mature</td>
<td>C (12)</td>
</tr>
<tr>
<td>12</td>
<td>Field maple</td>
<td>11.5m</td>
<td>340mm</td>
<td>Semi-mature</td>
<td>C (12)</td>
</tr>
<tr>
<td>20</td>
<td>Flowering cherry</td>
<td>5m</td>
<td>100mm 160mm</td>
<td>Semi-mature</td>
<td>C (12)</td>
</tr>
<tr>
<td>21</td>
<td>Apple</td>
<td>6m</td>
<td>120mm 90mm</td>
<td>Semi-mature</td>
<td>C (12)</td>
</tr>
</tbody>
</table>

**Table 2: Category “C” Trees to be removed**

4.1.4. None of the individual trees to be removed are covered by a TPO (see 2.2.1 above);
4.2. Assessment

4.2.1. All the trees that constitute the main arboricultural features of the site, and which make the greatest contribution to the character and appearance of the local landscape, to amenity or to biodiversity (see paragraph 3.2.1), will be retained.

4.2.2. Seven category 'C' trees (nos. 4, 7, 10, 11, 12, 20 and 21) are to be removed: Nos. 4 and 7, whilst visible from the road have been topped at 4.5m with limited regrowth and dense ivy coverage. Due to the historic topping they are of low quality and of limited potential. Nos. 10, 11, 12, 20 and 21 at the rear of the site are barely visible from the road and hence they have a low landscape value. For these reasons, their removal will have no significant impact on the character or appearance of the area.

4.2.3. The Six category 'U' trees to be removed are unsuitable for retention, irrespective of the proposed development, in that they cannot realistically be retained for longer than 10 years.

4.2.4. Four of the trees to be removed are young specimens, which BS 5837 states “need not necessarily be a significant constraint on the site’s potential”\(^8\).

4.2.5. The scope for proposed replacement planting within the proposed development will progressively reduce the magnitude of the impact of the proposed removals on the character and appearance of the site.

4.2.6. In the light of these considerations, and taking account of the numbers, sizes and locations of the trees to be retained, including those that are off-site, the removals will represent no alteration to the main arboricultural features of the site.

\(^8\) Ibid. 4.5.10.
5. TREES TO BE PRUNED

5.1. Details.

5.1.1. Two trees are to be pruned to facilitate implementation of the proposals. These are shown at Table 3 below.

<table>
<thead>
<tr>
<th>Tree no.</th>
<th>Species</th>
<th>Proposed Works</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>English oak</td>
<td>Reduce crown on the western side back to 6m from the trunk, blending the pruned into the remainder of untouched crown. Pruning must cohere with BS 3998.</td>
</tr>
<tr>
<td>22</td>
<td>English oak</td>
<td>Reduce crown on the north-western side, back to 6m from the trunk, blending the pruned into the remainder of untouched crown. Pruning must cohere with BS 3998.</td>
</tr>
</tbody>
</table>

*Table 3: Proposed pruning works*

5.2. Assessment

5.2.1. The extent of pruning proposed to the trees listed in Table 3 is minor. Branches to be removed are mostly small in size, and will result in a maximum wound size no greater than 100mm in diameter; this will have an insignificant effect on the health and physiological condition of these trees, and complies with the recommendations of British Standard BS 3998: 2010, *Tree work – Recommendations*.

5.2.2. In terms of impact upon the landscape, the proposed pruning is minor in extent, and will be largely screened in views by either the remainder of the trees’ canopies, or by other trees growing within or adjacent to the site. It will have little effect on the appearance of the trees when viewed from outside the site itself, and accordingly will not detract from the character or appearance of the site.

5.2.3. Following the pruning specified, none of the proposed dwellings will lie within 2m of the extents of the canopies of trees to be retained, thereby providing adequate working space for construction, and a reasonable margin of clearance for future growth.
6. ROOT PROTECTION AREA INCURSIONS

6.1. Details

6.1.1. Parts of the proposed buildings and hard surfacing will encroach within the RPAs of nine of the trees to be retained. These are shown in Table 5 below.

<table>
<thead>
<tr>
<th>Tree no.</th>
<th>Species</th>
<th>Description</th>
<th>% of currently unsurfaced RPA</th>
<th>% of Combined Incursion into RPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Common lime</td>
<td>Proposed driveway (Manual excavation)</td>
<td>13.4%</td>
<td>18.9%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Proposed bin store (Above soil surfacing)</td>
<td>3.4%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Proposed pathway (Above soil surfacing)</td>
<td>2.1%</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Ash</td>
<td>Proposed bin store (Above soil surfacing)</td>
<td>18.3%</td>
<td>22.1%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Proposed pathway (Above soil surfacing)</td>
<td>3.8%</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>English oak</td>
<td>Proposed driveway (Above soil surfacing)</td>
<td>9.9%</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>English oak</td>
<td>Proposed driveway/parking bay (Above soil surfacing)</td>
<td>17.5%</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Field maple</td>
<td>Proposed parking bay (Above soil surfacing)</td>
<td>8.2%</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>English oak</td>
<td>Proposed parking bays (Above soil surfacing)</td>
<td>1.8%</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>English oak</td>
<td>Proposed foundations (Manual excavation)</td>
<td>1.6%</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>English oak</td>
<td>Proposed foundations (Manual excavation)</td>
<td>1.6%</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Blackthorn</td>
<td>Proposed bin store (Above soil surfacing)</td>
<td>9.6%</td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Proposed excavation or disturbance of soil within RPAs

6.2. Assessment

6.2.1. The incursions by parts of the proposed building and hard surfaces to which excavation cannot be avoided within RPAs. Of the three trees (nos. 1, 22 and 25) listed at Table 4 this equates to no more than 13.4% of individual RPAs; and potential adverse impacts can be satisfactorily mitigated by excavation within these areas being undertaken manually, under the direct control and supervision of an appointed arboricultural consultant, so that any over dig into the RPAs is avoided, and any roots encountered can be treated appropriately.
6.2.2. As the species common lime good at tolerating root pruning and disturbance\(^9\) and English oak (although a mature English oak in can be sensitive to development in our experience), the incursions into the English oaks (nos. 22 and 25) are very small and the physiology of the common lime is average, therefore there is no reason to suggest that they will not be able to tolerate the cutting of roots within these small sections of their RPAs.

6.2.3. As the areas of proposed hard surfacing within the RPAs of the 9 individual trees listed at Table 4 extend to no more than 22% of individual RPAs, one incursion does exceed the 20% maximum incursion into currently unsurfaced ground recommended in BS 5837\(^10\). But taking account of the existing topography, and the likely proposed finished levels of these areas, we consider that subject to detailed engineering design, proposed levels will allow for construction of the new and replacement surfaces to be entirely above existing soil level, and accordingly no excavation will be required.

6.2.4. Furthermore, new and replacement surfaces will incorporate an appropriate cellular confinement system, filled and finished with suitable porous materials, to minimise soil compaction. To ensure no damage occurs to the roots or rooting environments of the relevant trees, installation will be undertaken under the control and supervision of the arboricultural consultant.

6.2.5. The necessary precautions to prevent other incursions into the RPAs of retained trees and to protect them during demolition and construction can be assured by the erection of appropriate protective fencing and the installation of ground protection, as shown on the TPP at Appendix 4.

6.2.6. Accordingly, subject to implementation of the above measures, and taking into account the ages, current physiological condition and tolerance of disturbance of these specimens, no significant or long-term damage to their root systems or environments will occur as a result of these incursions.

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\(^10\) BS 5837, paragraph 7.4.2.3.
7. RELATIONSHIP OF RETAINED TREES TO NEW DWELLINGS

7.1. Details

7.1.1. The block of apartments is situated within the shadow patterns of trees to be retained (nos.1, 22, 23 and 25).

7.2. Assessment

As the proposals involves a block of flats rather than a new house, or houses, there is less of an expectation for un-interrupted into the dwellings. An area of communal amenity space outside of retained trees' shade patterns is provided within the proposals and incoming occupiers will not be restricted in finding areas of sunlight or shade when they require them. The presence of the retained trees will not interfere with the reasonable use or enjoyment of the proposed properties which might otherwise lead to demands for felling or severe pruning of trees that the Local Planning Authority (LPA) would find difficult to resist.

7.2.1. Furthermore, these trees they are deciduous, and therefore will not cause significant shading during the winter months when out of leaf. Nevertheless, some thought has gone into the layout these proposed flats. Wherever possible, living areas have been designed to include duel aspect fenestration to be as open plan as possible, and to have the largest possible window apertures. In these ways light ingress has been maximised.
8. CONCLUSIONS

8.1. Summary

8.1.1. Our assessment of the impacts on trees, as discussed above, concludes that no category ‘A’ or ‘B’ and no mature trees of high landscape or biodiversity value are to be removed. None of the main arboricultural features of the site are to be removed or diminished. The proposed felling of the trees that are identified for removal will therefore represent no alteration to the main arboricultural features of the site, and would not have a significant adverse impact on the arboricultural character and appearance of the local landscape.

8.1.2. The proposed pruning is minor in extent, and accordingly will not detract from the character or appearance of the local landscape.

8.1.3. The incursions into the RPAs of trees to be retained are minor. Subject to implementation of the measures recommended on the TPP and set out at Appendix 4, no significant or long-term damage to their root systems or environments will occur.

S8. None of the proposed flats are likely to be shaded to the extent that this will interfere with incoming new owners’ reasonable use or enjoyment of these properties, which might otherwise lead to pressure on the LPA to allow retained trees to be felled or severely pruned.

S9. The size and disposition of the proposed amenity space is such that it will not be unduly shaded, and will receive a reasonable degree of sunlight and daylight. Its use is unlikely to lead to future demands for felling or severe pruning of trees.

8.2. Compliance with national planning policy

8.2.1. As the proposals will not involve the removal of any ancient, veteran or “aged” trees, they comply with paragraph 118 of the NPPF.

8.2.2. As the proposed development will maintain all of the main arboricultural features of the site, and thereby will not have a significant adverse impact on the arboricultural character and appearance of the local landscape, or on trees of
significant amenity or biodiversity value, it complies with national planning policy guidance.

8.3. **Compliance with local planning policies**

8.3.1. As the proposals will not result in the removal of trees which are of significant local amenity or landscape value, allows sufficient communal space outside of tree shade and provides scope for new planting that will not shade the amenity space. They comply with Policy CH3 of the Local Crawley Borough Plan 2015-2030.

8.3.2. CH3 of the Local Crawley Borough Plan 2015-2030 states to; “**R**etain existing individual or groups of trees that contribute positively to the area and allow sufficient space for trees to reach maturity. Sufficient space should also be provided in private gardens that would not be overshadowed by tree canopies; and proposals should ensure that rooms within buildings would receive adequate daylight.”

8.4. **Conclusion**

8.4.1. On the basis of our assessment, we conclude that the arboricultural impact of this scheme is of low magnitude, as defined according to the categories set out in **Table 1** of this report; and that it complies with national planning policy guidance.

May 2016
APPENDIX 1
Protection of retained trees

A1.1. Tree Protection Plan

A1.1.1. The TPP at Appendix 4 shows the general and specific provisions to be taken during construction of the proposed development, to ensure that no unacceptable damage is caused to the root systems, trunks or crowns of the trees identified for retention. These measures are indicated by coloured notations in areas where construction activities are to occur either within, or in close proximity to, retained trees, as described in the relevant panels on the drawing.

A1.2. Protective fencing

A1.2.1. Construction exclusion zones (CEZs) will be formed by erecting protective fencing around the RPAs of all on-site trees to the specification recommended in BS 5837, Section 6.2, prior to the commencement of construction. This will consist of a scaffold framework comprising a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at maximum intervals of 3.5m. Onto this, welded mesh panels should be securely fixed with wire or scaffold clamps, as shown in Figure 2 of that document. "TREE PROTECTION ZONE - KEEP OUT" or similar notices will be attached with cable ties to every third panel.

A1.2.2. The RPAs of the off-site trees will also be enforced by the erection of protective fencing to the same specification, prior to the commencement of construction, thereby safeguarding them from incursions by plant or machinery, storage and mixing of materials, or other construction-related activities which could have a detrimental effect on their root systems.

A1.2.3. The recommended positions of the protective fencing are shown by bold blue lines on the TPP. The precise positioning of the fencing around the trees will be considered in conjunction with any other protective hoarding/fencing which may be required around the site boundary.

A1.2.4. Within the CEZs safeguarded by the protective fencing, there will be no changes in ground levels, no soil stripping, and no plant, equipment, or materials will
be stored. Oil, bitumen, diesel, and cement will not be stored or discharged within 10m of any trees. Areas for the storage or mixing of such materials will be agreed in advance and be clearly marked. No notice boards, or power or telephone cables, will be attached to any of the trees. No fires will be lit within 10m of any part of any tree.

A1.3. Ground protection

A1.3.1. To allow space for construction and protection from soil compaction where proposed structures are in close proximity to RPAs of trees to be retained, the ground between the protective fencing and the footprints of the proposed structures will be covered by appropriate ground boarding, in accordance with the guidelines of Section 6.2.3.3 of BS 5837. The locations where these measures will be required are marked by pink hatching on the TPP.

A1.3.2. For purely pedestrian traffic, scaffold boards (or similar) will be used. Scaffold boards will comply with British Standard BS 2482: 2009 Specification for timber scaffold boards and be at least 225mm in width and 38mm thickness; they will be butted up and attached to each other with wooden battens or metal tie straps, and laid either on an above-ground scaffold framework, or secured to the ground with steel pins above a compressible material (a 75mm deep layer of woodchips may be appropriate) laid on top of a geotextile membrane of an appropriate specification.

A1.3.3. For wheeled or tracked traffic, ground boarding will be designed by a structural engineer, to take account of the type of soil and the likely loadings. Temporary aluminium roadway (‘Trakway’ or similar), interlocking plastic tread boards (“Ground-Guards” or similar), or reinforced concrete slabs may be appropriate. These will also be laid on top of a compressible material above a geotextile membrane.

A1.4. Manual excavation within RPAs

A1.4.1. The first 750mm depth of excavations required within the RPAs of the trees to be retained (as shown by bold orange lines on the TPP) will be dug by hand, using a compressed air soil pick if appropriate, and under on-site arboricultural supervision, in order to safeguard against the possibility of unacceptable root damage being caused to these specimens. Any roots encountered of over 25mm diameter will be cut
back cleanly to the face of the dig nearest to the tree, using a sharp hand saw or secateurs, and their cut ends covered with hessian to prevent desiccation.

**A1.5. Proposed hard surfaces within RPAs**

A1.5.1. Unacceptable damage to the roots and rooting environments of the trees to be retained during the construction of proposed hard surfaces that encroach within RPAs will be avoided by building them above existing soil level, to avoid digging and thus severing of roots; and an appropriate ground covering will be used beneath the sub-base, to prevent or minimise compaction of the soil. This will be done in accordance with Section 7.4 of BS 5837. The locations where these measures will be required are marked by Cian honeycomb on the TPP.

**A1.6. Demolition**

A1.6.1. Demolition of existing buildings and removal of existing areas of hard surfacing that abut or overlie RPAs will be undertaken with care, under the control and supervision of an appointed arboricultural consultant, to ensure that the adjacent soil is not unacceptably excavated, disturbed or compacted.
APPENDIX 2
Tree Survey Schedule
Tree Survey Schedule

46 Goffs Park Road, Crawley

November 2015
This schedule is based on a tree inspection undertaken undertaken by Abi St.Aubyn of Simon Jones Associates Ltd., on Thursday the 30th May 2013. Re-surveyed by Michael Roberts of Simon Jones Associates Ltd., on Thursday the 12th November 2015. Weather conditions at the time were dry with scattered cloud. Deciduous trees were in partial leaf.

The information contained in this schedule covers only those trees that were examined, and reflects the condition of these specimens at the time of inspection. We did access to the trees from adjacent property; Premier Aviation UK Ltd. observations are thus confined to what was visible from within the both sites and from surrounding public areas.

The trees were inspected from the ground only and were not climbed, and no samples of wood, roots or fungi were taken. A full hazard or risk assessment of the trees was not undertaken, and therefore no guarantee, either expressed or implied, of their safety or stability can be given.

Trees are dynamic organisms and are subject to continual growth and change; therefore the dimensions and assessments presented in this schedule should not be relied upon in relation to any development of the site for more than twelve months from the survey date.

1. Tree no. Given in sequential order, commencing at “1”. Numbers.

2. T.P.O. no. Number assigned to tree in the Crawley Borough Council Tree Preservation Orders nos. 03/1976 & 06/1993, as shown in the T.P.O. schedule and plan.


4. Height. Estimated with the aid of a hypsometer, given in metres.

5. Trunk diameter. Trunk diameter measured at approx. 1.5m above ground level; or where the trunk forks into separate stems between ground level and 1.5m, measured at the narrowest point below the fork. Given in millimetres.

6. Radial crown spread. The linear extent of branches from the base of the trunk to the main cardinal points, rounded up to the closest half metre, unless shown otherwise. For small trees with reasonably symmetrical crowns, a single averaged figure is quoted.

7. Crown break. Height above ground and direction of growth of first significant live branch.

8. Crown clearance. Distance from adjacent ground level to lowest part of lowest branch, in metres.


10. Physiology. Health, condition and function of the tree, in comparison to a normal specimen of its species and age.

11. Structure. Structural condition of the tree – based on both the structure of its roots, trunk and major stems and branches, and on the presence of any structural defects or decay. Very good: No significant physiological or structural defects, an upright and reasonably symmetrical structure; a particularly good example of its species. Good: No significant physiological or structural defects, and an upright and reasonably symmetrical structure. Moderate: No significant pathological defects, but a slightly impaired physiological structure; however, not to the extent that the tree is at immediate or early risk of collapse. Indifferent: Significant physiological or pathological defects; but these are either remediable or do not put the tree at immediate or early risk of collapse. Poor: Significant and irremediable physiological or pathological defects, such that there may be a risk of early or premature collapse. Hazardous: Significant and irremediable physiological or pathological defects, with a risk of imminent collapse.

12. Comments. Where appropriate comments have been made relating to:
- Health and condition
- Safety, particularly close to areas of public access
- Structure and form
- Estimated life expectancy or potential

13. Category. Based on the British Standard “Trees in relation to design, demolition and construction - Recommendations”, BS 5837: 2012, Table 1, adjusted to give a greater weighting to trees that contribute to the character and appearance of the local landscape, to amenity, or to biodiversity.

Category A: Trees of high quality with an estimated remaining life expectancy of at least 40 years.
(1) Trees that are particularly good examples of their species, especially if rare or unusual.
(2) Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features.
(3) Trees, groups or woodlands of significant conservation, historical, commemorative or other value.

Category B: Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
(1) Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects including unsympathetic past management and minor storm damage) such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation.
(2) Trees present in numbers, usually growing as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals; or trees present in numbers but situated so as to make little visual contribution to the wider locality.
(3) Trees with material conservation or other cultural value.

Category C: Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.
(1) Unremarkable trees of very limited merit or of such impaired condition that they do not qualify in higher categories.
(2) Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value, and/or trees offering low or only temporary landscape benefits.
(3) Trees with no material limited conservation or other cultural value.
<table>
<thead>
<tr>
<th>No.</th>
<th>TPO no.</th>
<th>Species</th>
<th>Height</th>
<th>Trunk diameter</th>
<th>Radial crown spread</th>
<th>Crown break</th>
<th>Crown clearance</th>
<th>Age class</th>
<th>Physiology</th>
<th>Structure</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TPO T2 No.3/1976</td>
<td>Common lime</td>
<td>19m</td>
<td>900mm</td>
<td>6.5m N 7.5m E 7m S 7.5m W</td>
<td>4m 2.5m</td>
<td>Mature</td>
<td>Average</td>
<td>Moderate</td>
<td></td>
<td>Off site tree; many basal suckers; 3 stemmed from 2m; much epicormic growth on trunk; tight compression forks with evidence of included bark; small cavities forming at sites of previous pruning wounds; crown has been heavily reduced or &quot;topped&quot; in past; of moderate quality and high landscape value; of medium-term potential.</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Ash</td>
<td>17.5m</td>
<td>290mm 205mm</td>
<td>5m N 5m E 2.5m S 3.5m W</td>
<td>4m 6m</td>
<td>Semi-mature</td>
<td>Average</td>
<td>Poor</td>
<td></td>
<td>Off site tree; prominent buttress roots; twin stemmed from base; cavity at base; suppressed crown as overtopped by adjacent specimens; of low quality; of moderate landscape value and of short-term potential only.</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Western red cedar</td>
<td>19.5m</td>
<td>715mm</td>
<td>3m N 3m E 3m S 3m W</td>
<td>5m 3m</td>
<td>Mature</td>
<td>Below average</td>
<td>Good</td>
<td></td>
<td>Off site tree; many surface roots, damaged on upper sides, probably by mowers; decay of buttress roots; single vertical stem; slightly sparsely foliated; of moderate quality and high landscape value; but of short-term potential only.</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Horse chestnut</td>
<td>4.5m</td>
<td>235mm</td>
<td>3m</td>
<td>2m 1.5m</td>
<td>Semi-mature</td>
<td>Average</td>
<td>Poor</td>
<td></td>
<td>Growing in a shrub bed to the front of property; fluted trunk from base; main stem has been lopped at a height of 4.5m presumably to provide clearance to overhead service lines; this has left three pruning wounds in excess of 100mm; remaining crown has good density; two limbs have grown to NE to a height of approx. 8.5m away from the overhead services; of low quality; of moderate landscape value and of short-term potential only.</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>Flowering cherry</td>
<td>4.5m</td>
<td>150mm</td>
<td>0m</td>
<td>0m 0m</td>
<td></td>
<td>Dead</td>
<td>Hazardous</td>
<td></td>
<td>Dead tree.</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>Flowering cherry</td>
<td>4.5m</td>
<td>150mm (over ivy)</td>
<td>150mm (over ivy)</td>
<td>0.5m N 0.5m E 0.5m S 2.5m SW 0.5m W</td>
<td>1.5m SW 3m SW</td>
<td>Over-mature</td>
<td>Low</td>
<td>Poor</td>
<td>Suppressed specimen; previously topped at 4.5m below overhead service cables; covered in ivy from base; very little live growth; of low quality, of low landscape value, and of little potential.</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Field maple</td>
<td>4.5m</td>
<td>215mm (over ivy)</td>
<td>205mm (over ivy)</td>
<td>4m N 3m E 3m S 3.5m W</td>
<td>2m N 1.5m N 2m S</td>
<td>Semi-mature</td>
<td>Average</td>
<td>Poor</td>
<td>Topped at a height of 4.5m; there are two stems to NE of the overhead service cables which have grown to 8m; of low quality, of low landscape value, but of long-term potential.</td>
</tr>
<tr>
<td>No.</td>
<td>TPO no.</td>
<td>Species</td>
<td>Height</td>
<td>Trunk diameter</td>
<td>Radial crown spread</td>
<td>Crown break</td>
<td>Crown clearance</td>
<td>Age class</td>
<td>Physiological Structure</td>
<td>Comments</td>
<td>Category</td>
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<tr>
<td>8</td>
<td>TPO. T27 No.6/1993</td>
<td>English oak</td>
<td>24m</td>
<td>est. 600mm</td>
<td>5m N 5m E 5m S 8.5m W</td>
<td>5m</td>
<td>4m</td>
<td>Mature</td>
<td>Average</td>
<td>Indifferent; Off-site tree; growing adjacent to iron railings; raised up by 0.75m from level of lawn; suppressed by adjacent oak tree; evidence of storm damage within canopy; a large break out of approx. 200mm diameter at 12m from ground level; crown biased to W due to suppression; average amount of deadwood within crown; spreading crown; intermeshed with adjacent tree; significant component of tree belt along SE boundary; of low quality, of moderate landscape value, but of long-term potential.</td>
<td>C (1)</td>
</tr>
<tr>
<td>9</td>
<td>TPO. T28 No.6/1993</td>
<td>English oak</td>
<td>27m</td>
<td>est. 800mm (over ivy)</td>
<td>10m N 7m E 9m S 9m W</td>
<td>12m</td>
<td>2.5m</td>
<td>Mature</td>
<td>Average</td>
<td>Indifferent; Off-site tree; mature oak; single stemmed specimen; growing in adjacent garden close to iron railings adjacent to boundary; stem covered with ivy from base to a height of approx. 15m; canopy of this tree and tree no.8 intermesh forming an aerodynamic and visual group; on NE side appears canopy has recently been released from suppression; upper canopy appears to be less dense in foliage than lower canopy; average amount of deadwood throughout crown; tallest tree in area; potentially visible from surrounding roads; upper canopy appears to have lost its fine branch tracery and appears to be going back in the crown to some degree; essential component of tree belt along SE boundary; of moderate quality and high landscape value; of long-term potential.</td>
<td>B (12)</td>
</tr>
<tr>
<td>10</td>
<td>Laurel</td>
<td>4m</td>
<td>160mm</td>
<td>1m N 2m E 3m S 3m W</td>
<td>2m NW 2m</td>
<td>2m</td>
<td>Mature</td>
<td>Below average</td>
<td>Indifferent</td>
<td>Of only low-level screening value; of low quality, of low landscape value, but of medium-term potential.</td>
<td>C (12)</td>
</tr>
<tr>
<td>11</td>
<td>Laurel</td>
<td>4.5m</td>
<td>x6 stems av. 90mm</td>
<td>1.5m 0.1m</td>
<td>2m</td>
<td>Mature</td>
<td>Average</td>
<td>Poor</td>
<td>Of only low-level screening value; of low quality, of low landscape value, but of medium-term potential.</td>
<td>C (12)</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Field maple</td>
<td>11.5m</td>
<td>340mm</td>
<td>5m N 2m E 5m S 5m W</td>
<td>3m NW 4m N 4m E 4m S 2m W</td>
<td>Semi-mature</td>
<td>Average</td>
<td>Poor</td>
<td>Single stemmed specimen; on S side of trunk from base to approx. 2m helical ribbing which potentially indicates an internal crack; on SW side of stem from base to approx. 1m height there is a strip where outer bark is peeling off; on E side at base an area of approx. 100mm where outer bark dropped off; this could be adaptive growth because of internal crack; at approx. 1.75m kink in trunk to NE; four stubs along trunk of approx. 150-200mm diameter all on NW side from a height of approx. 2m to 4.5m; these stubs show some evidence of occlusion but also deadwood and bark die back around them; evidence of a cavity at 2.5m on W side; tree suppressed by adjacent off-site Field maple no. 13; these two trees growing as a visual and aerodynamic group; average amount of deadwood within crown; crown density appears normal for species; of low quality, of low landscape value, but of medium-term potential.</td>
<td>C (12)</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>TPO. T29 No.6/1993</td>
<td>Field maple</td>
<td>12m</td>
<td>470mm (over ivy)</td>
<td>4m N 3.5m E 6m S 4m W</td>
<td>5m S 2m</td>
<td>Mature</td>
<td>Average</td>
<td>Indifferent</td>
<td>Off-site tree; crown intermeshed with adjacent tree no. 11; not possible to inspect crown due to presence of ivy; trunk appears to bifurcate at height of approx. 3m; average amount of deadwood within crown; average crown density; of low quality, of low landscape value, but of long-term potential.</td>
<td>B (12)</td>
</tr>
<tr>
<td>No.</td>
<td>TPO no.</td>
<td>Species</td>
<td>Height</td>
<td>Trunk diameter</td>
<td>Radial crown spread</td>
<td>Crown break</td>
<td>Crown clearance</td>
<td>Age class</td>
<td>Physiology</td>
<td>Structure</td>
<td>Comments</td>
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</tr>
<tr>
<td>14</td>
<td>TPO T31 No.6/1993</td>
<td>English oak</td>
<td>23m</td>
<td>1100mm (over ivy)</td>
<td>14m N 14m E 14m S 12m W</td>
<td>5m</td>
<td>7m</td>
<td>Over-mature</td>
<td>Average</td>
<td>Moderate</td>
<td>Off site tree; outstanding example of species although has ivy ¾ of the way up stem; of moderate quality and landscape value; of long-term potential.</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>Flowering cherry</td>
<td>6.5m</td>
<td>x4 stems 120mm</td>
<td>0m N 1m E 2m S 3.5m W</td>
<td>0.5m</td>
<td>2m</td>
<td>Mature</td>
<td>Below average</td>
<td>Poor</td>
<td>Small ornamental tree of low level screening value only; single stemmed to a height of 0.5m where it bifurcates; tree suppressed by adjacent specimens and trunk leans towards NW; at height of approx. 1.2m the two stems divide further into two each; one stem has a crack with die back and is dead and hazardous; it is leaning over adjacent car park and should be removed for reasons of sound arboricultural management; above average deadwood within crown; poor/hazardous structure; of low quality, of low landscape value, and of little potential.</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td>Laurel</td>
<td>6m</td>
<td>x2 stems 100mm</td>
<td>3m</td>
<td>0.2m</td>
<td>2m</td>
<td>Mature</td>
<td>Average</td>
<td>Poor</td>
<td>Of only low-level screening value only; of low quality, of low landscape value, but of medium-term potential.</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td>Apple</td>
<td>6.5m</td>
<td>40mm x2 stems 95mm</td>
<td>1.5m N 2m E 2m S 1m W</td>
<td>1m</td>
<td>1.5m</td>
<td>Semi-mature</td>
<td>Below average</td>
<td>Poor</td>
<td>Small suppressed specimen; suppressed by trees off-site and adjacent on-site laurel no. 16; leans to E; previous pruning wounds of approx. 20mm diameter; of low quality, of low landscape value, and of little potential.</td>
</tr>
<tr>
<td>19</td>
<td></td>
<td>Apple</td>
<td>8.5m</td>
<td>est. 310mm (over ivy)</td>
<td>4m N 3m E 3m S 4m W</td>
<td>1m NE</td>
<td>2m</td>
<td>Over-mature</td>
<td>Below average</td>
<td>Indifferent</td>
<td>Growing against close boarded fence; has a lean of approx. 15° to NE; covered in ivy from base of trunk to top of crown; density of canopy is low particularly at top of crown; average amount of deadwood within canopy; stubs of approx. 250mm diameter at 1m on E side of trunk and also at 1.5m at NW side of trunk; at 2m stem bifurcates into co-dominant stems; co-dominant stems lean over adjacent car park; of low quality, of low landscape value, and of little potential.</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>Flowering cherry</td>
<td>5m</td>
<td>100mm 160mm</td>
<td>3m</td>
<td>1.3m</td>
<td>2m</td>
<td>Semi-mature</td>
<td>Average</td>
<td>Indifferent</td>
<td>Domestic fruit tree; single stemmed to approx. 1.2m where it bifurcates into two co-dominant stems; evidence of previous pruning leaving several pruning wounds of diameter of approx. 65mm; of low quality, of low landscape value, and of short-term potential only.</td>
</tr>
<tr>
<td>21</td>
<td></td>
<td>Apple</td>
<td>6m</td>
<td>120mm 90mm</td>
<td>3m</td>
<td>1.3m</td>
<td>2m</td>
<td>Semi-mature</td>
<td>Average</td>
<td>Indifferent</td>
<td>Single stemmed specimen to 1.3m where it bifurcates into two co-dominant stems; at junction point a wound of approx. 75mm diameter which would have been a third stem from that point; no occlusion around this wound and die-back of bark; several pruning wounds of average diameter of approx. 50mm; of low quality, of low landscape value, and of short-term potential only.</td>
</tr>
<tr>
<td>No.</td>
<td>TPO no.</td>
<td>Species</td>
<td>Height</td>
<td>Trunk crown diameter</td>
<td>Radial crown spread</td>
<td>Crown break</td>
<td>Crown clearance</td>
<td>Age class</td>
<td>Physiological</td>
<td>Structure</td>
<td>Comments</td>
</tr>
<tr>
<td>-----</td>
<td>---------</td>
<td>------------------</td>
<td>--------</td>
<td>----------------------</td>
<td>---------------------</td>
<td>-------------</td>
<td>----------------</td>
<td>-----------</td>
<td>----------------</td>
<td>-----------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>22</td>
<td>TPO. T26 No.6/1993</td>
<td>English oak</td>
<td>18m</td>
<td>est. 730mm</td>
<td>7m N 8m E 7m S 8m W</td>
<td>5m</td>
<td>6m</td>
<td>Mature</td>
<td>Average</td>
<td>Moderate</td>
<td>Off-site tree; part of high value group situated along SW boundary; crown of this specimen is less dense than adjacent oaks; higher percentage of deadwood within crown; ivy within crown up to top 2/3 of tree; evidence of some pruning on NW side of part of the canopy which overhangs the garden; evidence of some squirrel damage within crown; of moderate quality and high landscape value; of long-term potential.</td>
</tr>
<tr>
<td>23</td>
<td></td>
<td>Horse chestnut</td>
<td>7m</td>
<td>x4 stems est. 90mm</td>
<td></td>
<td>3.5m</td>
<td>0.5m</td>
<td>Young</td>
<td>Average</td>
<td>Indifferent</td>
<td>Off-site tree; young tree with stem diameter below 150mm; inessential component of group in which it stands; suppressed specimen; of low quality, of low landscape value, but of medium-term potential.</td>
</tr>
<tr>
<td>24</td>
<td></td>
<td>Ash</td>
<td>9m</td>
<td>est. 210mm</td>
<td>4m N 3m E 3m S 4m W</td>
<td>4m NW</td>
<td>5m</td>
<td>Semi-mature</td>
<td>Below average</td>
<td>Poor</td>
<td>Off-site tree; single stemmed specimen covered in ivy; stem bifurcates at approx. 6m into co-dominant stems; one stem is truncated at approx. 1.5m above this union point leaving a pruning wound of approx. 130mm; the remaining co-dominant stem has evidence of pruning wounds all way up stem, it is lion tailed with only a limited amount of canopy; pruning wounds average 40mm diameter; suppressed specimen; inessential component of group in which it stands; of low quality, of low landscape value, but of long-term potential.</td>
</tr>
<tr>
<td>25</td>
<td>TPO. T24 No.6/1993</td>
<td>English oak</td>
<td>19.5m</td>
<td>850mm (over ivy)</td>
<td>5m N 8m E 9m S 6m W</td>
<td>5m</td>
<td>14m</td>
<td>Mature</td>
<td>Average</td>
<td>Indifferent</td>
<td>Off site tree; single vertical stem ; ivy-covered; high crown; crown has been heavily reduced or &quot;topped&quot; in past; of moderate quality and landscape value; of medium-term potential.</td>
</tr>
<tr>
<td>26</td>
<td>TPO. T20 No.6/1993</td>
<td>Norway maple</td>
<td>10m</td>
<td>est. 300mm</td>
<td>4.5m N 4.5m E 4.5m S 4.5m W</td>
<td>4m</td>
<td>3m</td>
<td>Semi-mature</td>
<td>Average</td>
<td>Indifferent</td>
<td>Off-site tree; slightly leaning to NNE; a single vertical stem; has been reduced or topped in the past with pruning cuts up to 50mm in diameter; of moderate quality and of medium-term potential; but of low landscape value.</td>
</tr>
<tr>
<td>27</td>
<td></td>
<td>Blackthorn</td>
<td>5m</td>
<td>est. 100mm est. 220mm est. 180mm</td>
<td>3.5m N 1m E 3m S 1m W</td>
<td>2m</td>
<td>4m</td>
<td>Semi-mature</td>
<td>Average</td>
<td>Poor</td>
<td>Off-site tree; multi-stemmed from approx. 1m; half of its canopy has been reduced to 4.5m underneath the overhead service cables; the remainder of canopy extends to approx. 6m; as a result of the pruning has a poor structure; above average deadwood in crown; canopy sparser than expected for species; ivy covering from base to approx. 4m from top of crown; overhanging pavement and driveway; of low quality, of low landscape value, but of medium-term potential.</td>
</tr>
<tr>
<td>28</td>
<td>TPO. T25 No.6/1993</td>
<td>English oak</td>
<td>20m</td>
<td>470mm (over ivy)</td>
<td></td>
<td>6m</td>
<td>0m</td>
<td>Semi-mature</td>
<td>Average</td>
<td>Indifferent</td>
<td>Off-site tree; of moderate quality and high landscape value; of long-term potential.</td>
</tr>
</tbody>
</table>

Simon Jones Associates Ltd. 46 Goffs Park Road, Crawley Tree Schedule - November 2015
Root Protection Areas (RPAs)

Root Protection Areas have been calculated in accordance with paragraph 4.6.1 of the British Standard 'Trees in relation to design, demolition and construction – Recommendations', BS 5837: 2012. This is the minimum area which should be left undisturbed around each retained tree. RPAs are portrayed initially as a circle of a fixed radius from the centre of the trunk; but where there appear to be restrictions to root growth the circle is modified to reflect more accurately the likely distribution of roots.

<table>
<thead>
<tr>
<th>Tree No.</th>
<th>Species</th>
<th>RPA</th>
<th>RPA Radius</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Common lime</td>
<td>366.4m²</td>
<td>10.8m</td>
</tr>
<tr>
<td>2</td>
<td>Ash</td>
<td>57.1m²</td>
<td>4.26m</td>
</tr>
<tr>
<td>3</td>
<td>Western red cedar</td>
<td>231.3m²</td>
<td>8.58m</td>
</tr>
<tr>
<td>4</td>
<td>Horse chestnut</td>
<td>25.0m²</td>
<td>2.82m</td>
</tr>
<tr>
<td>5</td>
<td>Flowering cherry</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>6</td>
<td>Flowering cherry</td>
<td>20.4m²</td>
<td>2.55m</td>
</tr>
<tr>
<td>7</td>
<td>Field maple</td>
<td>39.9m²</td>
<td>3.56m</td>
</tr>
<tr>
<td>8</td>
<td>English oak</td>
<td>162.9m²</td>
<td>7.2m</td>
</tr>
<tr>
<td>9</td>
<td>English oak</td>
<td>289.5m²</td>
<td>9.6m</td>
</tr>
<tr>
<td>10</td>
<td>Laurel</td>
<td>11.6m²</td>
<td>1.92m</td>
</tr>
<tr>
<td>11</td>
<td>Laurel</td>
<td>7.1m²</td>
<td>2.6m</td>
</tr>
<tr>
<td>12</td>
<td>Field maple</td>
<td>52.3m²</td>
<td>4.08m</td>
</tr>
<tr>
<td>13</td>
<td>Field maple</td>
<td>99.9m²</td>
<td>5.64m</td>
</tr>
<tr>
<td>14</td>
<td>English oak</td>
<td>547.4m²</td>
<td>13.2m</td>
</tr>
<tr>
<td>15</td>
<td>Flowering cherry</td>
<td>7.1m²</td>
<td>2.9m</td>
</tr>
<tr>
<td>16</td>
<td>Laurel</td>
<td>7.1m²</td>
<td>1.7m</td>
</tr>
<tr>
<td>17</td>
<td>Apple</td>
<td>7.1m²</td>
<td>1.3m</td>
</tr>
<tr>
<td>18</td>
<td>Goat willow</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>19</td>
<td>Apple</td>
<td>43.5m²</td>
<td>3.72m</td>
</tr>
<tr>
<td>20</td>
<td>Flowering cherry</td>
<td>16.1m²</td>
<td>1.89m</td>
</tr>
<tr>
<td>21</td>
<td>Apple</td>
<td>10.2m²</td>
<td>2.9m</td>
</tr>
<tr>
<td>22</td>
<td>English oak</td>
<td>241.1m²</td>
<td>8.76m</td>
</tr>
<tr>
<td>23</td>
<td>Horse chestnut</td>
<td>7.1m²</td>
<td>2.2m</td>
</tr>
<tr>
<td>24</td>
<td>Ash</td>
<td>20.0m²</td>
<td>2.52m</td>
</tr>
<tr>
<td>25</td>
<td>English oak</td>
<td>326.9m²</td>
<td>10.2m</td>
</tr>
<tr>
<td>26</td>
<td>Norway maple</td>
<td>40.7m²</td>
<td>3.6m</td>
</tr>
<tr>
<td>27</td>
<td>Blackthorn</td>
<td>41.1m²</td>
<td>3.62m</td>
</tr>
<tr>
<td>28</td>
<td>English oak</td>
<td>99.9m²</td>
<td>5.64m</td>
</tr>
</tbody>
</table>
APPENDIX 3
Tree Locations Plan
APPENDIX 4
Tree Protection Plan