

Arboricultural Impact Assessment

43-45 Pevensey Road
Bognor Regis
West Sussex
PO21 5NY

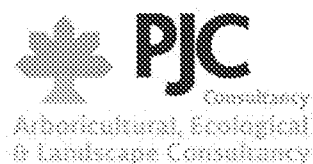
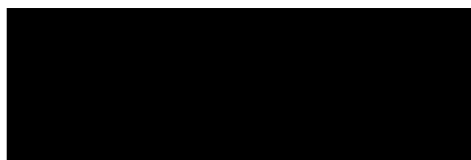
9th August 2017



PJC ref: 4524/17-02

This report has been prepared by
PJC Consultancy Ltd
on behalf of
John Parsons

Prepared by	Peter Davies FdSc Arboriculture M.Arbor.A Peter has a Foundation Degree in Arboriculture and is a professional member of the Arboricultural Association. He has ten years experience in the arboricultural industry, originally working as a groundsman and feller, and progressing into consultancy. He is a Lantra accredited professional tree inspector.
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1 EXECUTIVE SUMMARY

1.1 This report should be read in conjunction with arboricultural survey ref. PJC/4524/17-01 and arboricultural method statement ref. PJC/4524/17-03.

1.2 **Site location:** The site is situated to the south-west of Pevensey Road in Bognor Regis, more broadly to the south of Regis School. It has a central OS national grid reference of SZ922998. The surrounding land use is comprised of residential properties in all directions. The location of the site within its environs is shown in figure 1.



Figure 1: Location of Site and Environs

1.3 **Proposal:** A proposal has been outlined to construct four residential dwellings within the rear gardens of 43 and 45 Pevensey Road. There shall be a new detached garage block for plots 1 and 2, and nine additional parking bays with a new driveway located between the two existing dwellings. An existing conservatory and lean-to shall be dismantled on 43 Pevensey Road to facilitate construction of the driveway.

1.4 **Tree removals:** Trees G3, G5 (part), T6, T7, T8, T9, G10, T15, T18, T23 and G24 (part) will be removed to facilitate the proposed development. New tree planting is proposed on the southern and western site boundaries to replace poor quality scrub that will be cleared (planting specification is to be confirmed).

1.5 **Access facilitation pruning:** Trees T4 and T14 will require access facilitation pruning to enable the proposed construction works. Further tree works not directly related to the proposed construction works are recommended for T11, T13, T19 and T20.

1.6 **Works within root protection areas:** New parking bays will be constructed within the root protection areas of T11 and T12. Sympathetic construction methodology will be employed to ensure the roots and rooting medium are not damaged.

2 INTRODUCTION

2.1 Instruction: PJC Consultancy has been instructed by John Parsons to provide an arboricultural impact assessment for a proposed residential development at 43-45 Pevensey Road in Bognor Regis.

2.2 Brief: PJC Consultancy has been commissioned to compile an arboricultural impact assessment written in accordance with guidelines set out in BS5837: 2012 '*Trees in relation to design, demolition and construction – Recommendations*'.

2.3 Scope of this report: This report is concerned with all significant trees located within the site boundary and those located around the curtilage of the site with the potential to impact or be impacted by the proposed construction works.

2.4 Contents of report: This report includes the following:

- A schedule of trees to be retained/removed.
- A schedule of access facilitation pruning required for development.
- An assessment of the impact construction works will have on retained trees and mitigation measures to be implemented.
- An assessment of post development pressures on trees.
- Recommendations for post development arboricultural management.
- Tree Constraints Plan and Tree Retention Plan.

2.5 Documents and information provided: The following documents were provided by the client to produce this report:

- Drawing ref. 15907 – Topographical Survey
- Tree Preservation Order ref. TPO/2/08/BR
- Drawing ref. 1615-2.01 Rev C – Proposed Site Plan
- Drawing ref. 1615-2.02 Rev C – Units 1 & 2 Proposed Plans & Elevations
- Drawing ref. 1516-2.03 Rev C – Units 3 & 4 Proposed Plans & Elevations
- Drawing ref. 1615-2.05 – Block & Location Plans and Site Section

3 INITIAL TREE SURVEY SUMMARY

3.1 Site visit: A site visit was carried out on 13th July 2017. The weather conditions at the time were fine and dry. The visibility was adequate for visual tree inspection from ground level. The initial survey assessed the trees in the context of the existing land use, not in consideration of development proposals.

3.2 Survey methodology: Explanations for the measurements and information collected for each tree are described in arboricultural report ref. PJC/4524/17-01.

3.3 Site layout: The site comprises two adjacent residential properties with front driveways and relatively large rear gardens. Trees and shrubs are located throughout both gardens, and in adjacent properties. Measurements and information for each tree can be viewed in the Tree Survey Schedule in Appendix 2.

3.4 Tree categorisation summary: A total of twenty trees and five tree/shrub groups were surveyed and recorded in the Tree Survey Schedule.

Table 1: Tree categorisation summary

Categorisation	Individual tree	Tree group
A	-	-
B	8	-
C	11	5
U	1	-
Total	20	5

3.5 Statutory tree protection: Arun District Council's online mapping tool was utilised on 7th July 2017 to establish restrictions to tree works at the site. The site is not located within a Conservation Area, however Tree Preservation Order ref. TPO/2/08/BR protects trees T2, T12, T13 and T20.

3.6 Any persons proposing to undertake tree works must check the status of the trees with the local authority, and gain necessary consent before works are undertaken. Financial penalties and/or criminal proceedings can result if tree works are carried out on a protected tree without consent. The entirety of the tree is protected, both above and below ground.

4 ARBORICULTURAL IMPACT ASSESSMENT

4.1 Tree removals: Trees to be removed for the proposed development are shown with dashed outlines on the Tree Retention Plan in Appendix 1 and are shaded to indicate their BS5837 tree category. These comprise G3, G5 (part), T6, T7, T8, T9, G10, T15, T18, T23 and G24 (part), all of which are categorised as C except for T18, which is categorised as U. All category B trees, third party trees and trees protected by the TPO will be retained and protected.

4.2 The trees proposed for removal are largely located centrally to the site. Some small, poor quality trees/shrubs will be removed from the southern boundary as their poor condition makes their retention in the reduced size residential gardens less appropriate. It is proposed that new planting occurs on the southern boundary, as shown on the proposed layout. The detailed planting specification is to be confirmed on the date of this report, however smaller, manageable tree species such as holly or apple are recommended to avoid future shading constraints.

4.3 Access facilitation pruning: Trees requiring access facilitation pruning to enable the proposed construction works (based on the information currently available) comprise T4 and T14. Further tree works that are not directly related to the proposed development are recommended for trees T11, T13, T19 and T20.

Table 2: Summary of tree pruning:

Tree number	Species	Works required	Reason for works
T4	Hazel	Reduce crown over site by 2m on north side.	To increase usable garden space and reduce shade to dwelling in plot 4.
T11	Cherry	Sever ivy around stem (above fence).	To allow comprehensive future tree inspections.
T13	Scots pine	Remove deadwood and sever ivy around base.	To improve aesthetics of tree and due to the increased frequency of use within trees target area.
T14	Hazel	Crown lift or coppice stems over new garden boundary.	To create adequate clearance to construct new garden fence.
T19	Horse chestnut	Sever ivy around base of stem.	To allow comprehensive future tree inspections.
T20	Oak	Sever ivy around base of stem.	To allow comprehensive future tree inspections.

4.4 All tree pruning should be carried out in accordance with BS3998: 2010 'Tree works – recommendations'. Any additional requirements for access facilitation pruning that cannot be predicted at this stage in the design process (e.g. for contractor compound or movement of large or specialist plant machinery) shall be discussed at the pre-commencement meeting with the project arboriculturalist and agreed with the local authority arboricultural officer. No works may be carried out on protected trees without prior permission from the local authority.

4.5 Works within root protection areas: All of the proposed buildings will be located outside the root protection areas of retained trees, therefore use of specialist foundations for root protection is not deemed necessary. NHBC guidelines on foundation depth in proximity to trees must still be followed. This will be determined by a structural engineer but should be guided by information in this report and appropriate sampling to determine soil profiles at the site.

4.6 Four new parking bays will be constructed within the root protection areas of trees T11 and T12 in the area highlighted purple in the Tree Retention Plan. In order that both the tree roots and rooting medium are not damaged during construction of this surface, or post development, the four parking bays shall be constructed to the following specification:

- The parking bays shall be constructed directly onto the existing ground level without soil stripping. A layer of sharp sand (or other inert granular aggregate) may be used to fill divots to create a level working surface if necessary.
- The parking bays shall be constructed on a CellWeb TRP cellular confinement system filled with clean angular stone (Type 4/20mm). This will provide a permeable base for the surface that will spread the loads of vehicles to reduce post development compaction of the soil beneath (compacted rooting medium can have a significant detrimental impact on root function).
- The cellular confinement system shall be installed directly onto a TreeTex Geotextile membrane. A second membrane shall be installed above the cellular confinement system as well. These membranes will prevent the migration of soil, construction debris and the bedding layer for the top surface through the cellular confinement system as that would otherwise reduce the porosity of the completed parking bays. The membranes should also help filter pollutants from vehicles from leeching into the rooting medium.
- The top surface of the parking bays shall be permeable (loose gravel, resin bound gravel or block paving with permeable spacers and bedding aggregate) to allow continued moisture ingress and gaseous diffusion with the rooting medium.
- Traditional kerbing requires trenching to install so will not be suitable for use within the root protection areas. As an alternative, haunched kerbing, treated timber edging, aluminium L-shaped edging, galvanised metal edging or no fixed edging shall be used.

4.7 The levels of the driveway located adjacent to the no-dig parking bays will need to be raised to match. This should not be an issue, particularly as the floor levels of the houses will be raised above the existing ground level (the houses will be accessed by steps).

4.8 Services: Details of the routing of services for the proposed development are not currently available. Once details of the routing of new services become available, prior to commencement, these shall be reviewed by the project arboriculturalist. The arboriculturalist shall then confirm to the local authority arboricultural officer either that no works will be carried out within root protection areas, or provide details of the methodology required to ensure the works are carried out in accordance with NJUG10 '*Guidelines for the planning, installation and maintenance of utilities in proximity to trees*' and BS5837: 2012.

4.9 Post development tree pressures and management: Tree T11 has historically been heavily reduced over the site, leaving almost no crown overhanging the proposed parking bays. Continuation of this process (ensuring all future pruning cuts comply with recommendations in BS3998: 2010) will minimise any potential nuisance from leaf detritus or honeydew on parked cars.

4.10 Following the pre-development tree works, there will be a 3.6m gap between the crown of T4 and the dwelling in plot 4. This should provide an adequate buffer to prevent over shading of the house and free movement around the outside of the dwelling. It is expected that the hazel will regrow over time, however not at a rate that should pose a significant nuisance to residents at the property.

4.11 Tree T13 and T14 are located to the south of the dwelling in plot 2. T14 (hazel) is only 7m in height and located 15m from the house. It is not expected to increase significantly in height, therefore will not pose a shading constraint. T13 is a mature Scots pine, and will cast shade onto the dwelling for part of the day. Given the species, adequate levels of natural light should be able to penetrate the crown of T13 to allow reasonable use and enjoyment of the property without regular applications to undertake crown reductions or remove the tree.

4.12 Trees T19 (horse chestnut) and T20 (oak) are located to the south-west of the houses in plots 1 and 2. They are situated a suitable distance away from the houses that it is not expected they will create more than a minor shading constraint for a short period of the day.

4.13 Tree T21 is a hazel located to the north of T20. Dense existing scrub prevented close inspection of this tree during the initial tree survey, however some crown dieback was observed. It is recommended that this tree be reinspected when the scrub has been cleared to assess whether it is a suitable specimen for retention within the new garden area.

5 CONCLUSIONS

5.1 Six trees, two groups and sections of two further groups categorised as C along with one tree categorised as U will be removed to facilitate the proposed development. All trees noted as having moderate to good arboricultural or landscape value will be retained and protected.

5.2 The proposed site layout involves construction of parking bays within the root protection areas of T11 and T12 on previously unsurfaced ground. Due to the collective amenity value of these trees, an engineered solution has been provided to minimise the impact of the construction works, therefore allowing their retention and continued contribution to the site.

5.3 Based on the above assessment, trees recommended for retention in this report can be protected during the proposed construction works and successfully integrated into the site post development.

6 OTHER CONSIDERATIONS

6.1 Trees should be checked for protected species before works are undertaken. It is against the law to disturb bats or their roosts under the Conservation of Habitat and Species Regulations. Nesting birds are protected by the Wildlife and Countryside Act. If protected species are discovered, Natural England should be contacted for advice.

6.2 The tree works contractors should carry out all tree works to BS3998: 2010 '*Tree works – recommendations*', as modified by research that is more recent. They should also carry relevant, adequate and up to date insurance.

6.3 It is also recommended that all tree works be carried out by an Arboricultural Association approved contractor. Approved contractors are expected to work to industry best standards, and the Arboricultural Association website contains contact details and information on engaging a suitable contractor.

6.4 The trees at this site were assessed for their condition and safety in relation to the average range of weather conditions that the region experiences. Any weather events that exceed the average norm cannot be predicted, and so their effects are not considered within this report.

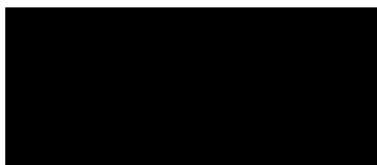
6.5 The views and opinions contained within this report are entirely those of the author.

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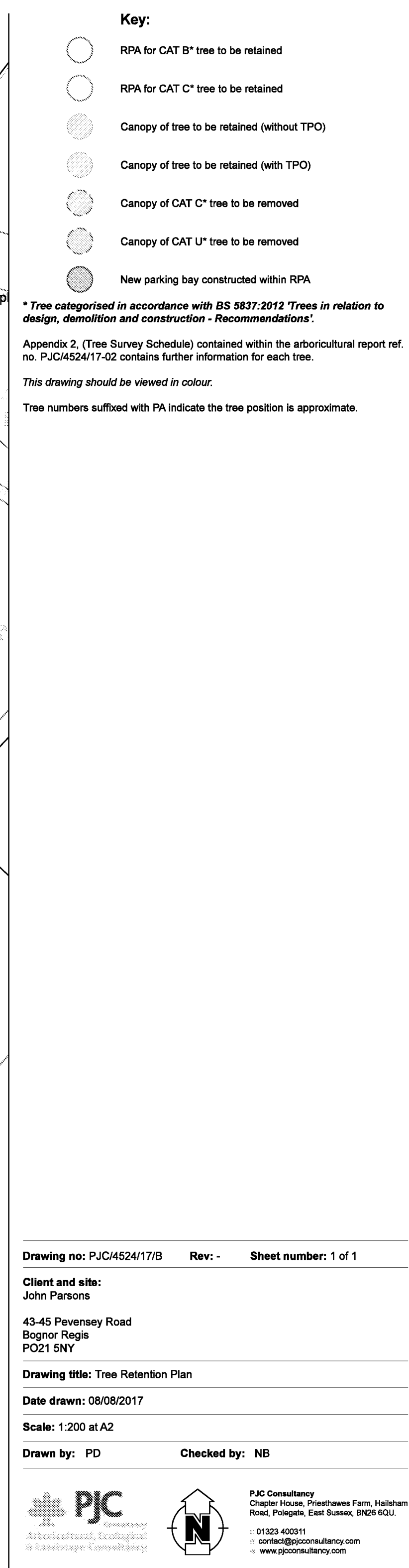


Author: Peter Davies

Date: 9th August 2017

APPENDIX 1

Tree Constraints Plan and Tree Retention Plan



APPENDIX 2

Tree Survey Schedule

Tree Survey Schedule

				Client: Mr John Parsons Site: 43-45 Pevensey Road, Bognor Regis Survey date: 13/07/2017 Surveyor: Peter Davies							T: Individual tree or shrub G: Group of 2 or more trees H: Hedgerow W: Woodland block		
Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendation	Category grading	Root Protection Area (m2)	Root Protection Radius (m)
T1	Field maple (Acer campestre)	10	500 est	N: 5 E: 3 S: 4 W: 4	Crown: 0 south Branch: 3 south	Over mature	Good	Fair	Previously crown lifted. North lean to 3m. Stem straddles boundary fence. Elder under-storey inhibits inspection.	No action required.	B2	113.1	6.0
T2	Ash (Fraxinus excelsior)	12	450, 400, 150 est	N: 4 E: 5 S: 5 W: 3	Crown: 7 west Branch: 2 average	Mature	Fair	Fair	Third party tree only viewed from site. Multi-stemmed. Decay cavity in main stem. Minor crown dieback.	TPO - No action required.	C2	174.2	7.4
G3	Mixed (including elder, ash, sycamore, sumac, Griselinia)	2-6 average	Up to 150 average est	1-3 average	0 average	Young-semi mature	Good	Fair	Dense, unmanaged shrubs and self set tree saplings.	Fell to ground level and remove stumps.	C2	10.2 average	1.8 average
T4	Hazel (Corylus avellana)	7	100 average x6 stems	N: 5 E: 4 S: 3 W: 3	Crown: 0 north Branch: N/A	Mature	Good	Fair	Third party shrub overhanging site boundary. Ivy clad.	Reduce over site by 2m on north side of crown.	C2	27.1	2.9
G5	Mixed (including buddleia, elder and mixed garden ornamentals)	1-3 average	Under 75 average	1-3 average	0 average	Semi mature	Fair	Fair	Mixed shrubs. Some ivy clad.	Remove part of group as shown on Tree Retention Plan.	C1	2.5 average	0.9 average
T6	Indian bean tree (Catalpa bignonioides)	2	110 above root flair	N: 1 E: 1 S: 2 W: 2	Crown: 0 average Branch: 0 average	Young	Good	Fair	Sapling. Multi-stemmed at 0.5m.	Fell to ground level and remove stump.	C1	5.5	1.3

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Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendation	Category grading	Root Protection Area (m2)	Root Protection Radius (m)
T7	Common pear (Pyrus communis)	4	70, 120	N: 2 E: 1 S: 0 W: 1	Crown: 1 north Branch: 1 west	Young	Good	Fair	Crown previously heavily reduced from shed. (Shed not shown on topo so assumed to be relatively new feature).	Fell to ground level and remove stump.	C1	8.7	1.7
T8	Japanese maple (Acer palmatum)	3	50, 30, 30, 60	N: 2 E: 1 S: 1 W: 1	Crown: 1 average Branch: 0 average	Semi mature	Good	Good	Typical example of species.	Fell to ground level and remove stump.	C1	3.6	1.1
T9	Yucca (Yucca spp.)	4	270	N: 1 E: 1 S: 1 W: 1	Crown: 2 average Branch: N/A	Mature	Good	Good	Typical example of species.	Fell to ground level and remove stump.	C2	33.0	3.2
G10	Mixed (including Photinia, cherry laurel, buddleia)	1-2 average	Under 75 average	1-2 average	0 average	Semi mature	Good	Good	Managed shrub group.	Fell to ground level and remove stumps.	C1	2.5 average	0.9 average
T11	Cherry (Prunus avium)	10	560 over ivy	N: 5 E: 5 S: 4 W: 2	Crown: 2 east Branch: 4 east	Mature	Good	Fair	Stem straddles boundary and is ivy clad. Previously heavily reduced over site.	Sever ivy around stem (above fence).	B2	141.9	6.7
T12	Walnut (Juglans regia)	12	300, 450 est	N: 3 E: 4 S: 4 W: 3	Crown: 1 average Branch: 1 average	Mature	Good	Fair	Third party tree only viewed from site. 1x stem failed/pollarded.	TPO - No action required.	B1/2	140.9	6.7

Tree Survey Schedule

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Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendation	Category grading	Root Protection Area (m2)	Root Protection Radius (m)
T13	Scots pine (<i>Pinus sylvestris</i>)	16	600 over ivy	N: 4 E: 5 S: 4 W: 3	Crown: 4 east Branch: 5 east	Mature	Good	Good	Ivy clad stem. Deadwood in lower crown. No major visible defects.	TPO - Remove deadwood for aesthetics. Sever ivy around base.	B1	162.9	7.2
T14	Hazel (<i>Corylus avellana</i>)	7	50 average x25 stems est	N: 5 E: 4 S: 3 W: 4	Crown: 1 average Branch: 0 average	Early mature	Good	Fair	Typical example of species.	Crown lift/coppice stems as required to allow installation of garden fence.	C1	28.3	3.0
T15	Elder (<i>Sambucus nigra</i>)	5	100, 100, 100 est	N: 1 E: 3 S: 3 W: 2	Crown: 0 east Branch: 1 average	Early mature	Good	Poor	Multi-stemmed, ivy clad shrub.	Fell to ground level and remove stump.	C1	13.6	2.1
T16	Ash (<i>Fraxinus excelsior</i>)	9	340	N: 4 E: 3 S: 3 W: 3	Crown: 1 north Branch: 1 north	Early mature	Good	Good	Reasonable form. Small deadwood due to suppression. No major visible defects.	No action required.	B1/2	52.3	4.1
T17	Yucca (<i>Yucca</i> spp.)	6	190	N: 2 E: 1 S: 0 W: 0	Crown: 3 average Branch: N/A	Early mature	Good	Good	Typical example of species.	No action required.	C1	16.3	2.3
T18	Apple (<i>Malus</i> spp.)	3	120, 130, 80	N: 2 E: 2 S: 2 W: 2	Crown: 2 average Branch: 1 average	Semi mature	Poor	Fair	Previously crown lifted. Sparse foliage throughout crown.	Fell to ground level and remove stump.	U	17.1	2.3

Tree Survey Schedule

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Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendation	Category grading	Root Protection Area (m2)	Root Protection Radius (m)
T19	Horse chestnut (Aesculus hippocastanum)	15	390, 260, 330, 410 over ivy	N: 4 E: 6 S: 5 W: 5	Crown: 1 east Branch: 1 south	Mature	Good	Good	Multi-stemmed from 1m. Ivy clad stem. Leaf miner moth. No major visible defects.	Sever ivy around base.	B1/2	224.7	8.5
T20	Pedunculate oak (Quercus robur)	17	700 over ivy	N: 7 E: 4 S: 2 W: 5	Crown: 4 north Branch: 2 north	Mature	Good	Good	Crown bias north due to suppression from T19. Ivy inhibits inspection. Crown lifted over neighbours garden.	TPO - Sever ivy around base.	B1	221.7	8.4
T21	Hazel (Corylus avellana)	7	200 est	N: 3 E: 3 S: 2 W: 2	Crown: 1 north Branch: N/A	Mature	Fair	Fair	Dense under-storey prevents close inspection. Some crown dieback.	Reassess condition when under-storey is cleared.	C2	18.1	2.4
G22	Field maple (Acer campestre)	6-8 average	Up to 150 average est	2 average	1-3 average	Semi mature	Fair	Poor	Dense ivy and bindweed prevent thorough inspection. Some crown dieback and small split limbs.	No action required on date of survey.	C2	10.2 average	1.8 average
T23	Yucca (Yucca spp.)	5	210	N: 1 E: 2 S: 2 W: 1	Crown: 3 average Branch: N/A	Early mature	Good	Fair	Typical example of species. Crown encroached by field maple and hazel.	Fell to ground level and remove stump.	C1	20.0	2.5
G24	Mixed (including ash, hazel, cherry laurel, bramble)	1-5 average	Under 75 average	Refer to drawing	0 average	Young-semi mature	Fair	Poor	Unmanaged shrubs and tree saplings. Smothered by bramble.	Clear group back to site boundary and remove stumps.	C1	2.5 average	0.9 average

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Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendation	Category grading	Root Protection Area (m2)	Root Protection Radius (m)
T25	Quince (Cydonia oblonga)	4	300, 150, 80, 80	N: 2 E: 3 S: 3 W: 2	Crown: 2 average Branch: 1 south	Mature	Good	Good	Third party, managed fruit tree only viewed from site. Appears of good condition.	No action required.	B1	56.7	4.2

APPENDIX 3

Photographs



Photograph 1 – Trees T1, T2 and T4



Photograph 2 – Trees T11-T12



Photograph 3 – Tree T13, T14 and T16



Photograph 4 – Trees T19-T20



Photograph 5 – Trees G22-T23



Photograph 6 – Trees T13 and T18-T21