

Arboricultural Impact Assessment

Angels Nursery
Yapton Road
Barnham
West Sussex

21st June 2016



PJC ref: 4040/16-02

This report has been prepared by
PJC Consultancy Ltd
on behalf of
West Sussex County Council

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1 EXECUTIVE SUMMARY

1.1 This report should be read in conjunction with arboricultural survey ref. PJC/4040/16-01 and arboricultural method statement ref. PJC/4040/16-03.

1.2 **Site location:** The site is situated on the south side of Yapton Road, more broadly to the south of Barnham Train Station. It has a central OS grid reference of SU962040. The surrounding land use is comprised residential properties beyond Yapton Road to the north, 'Lilies Caravan Park' to the east, plant nurseries to the south and Barnham Community Centre and 'The Murrells' to the west. 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 a residential development comprising ninety-five plots on the former site of Angels Nursery.

1.4 **Tree removals:** Twenty-three trees (including a Corsican pine protected by a tree preservation order), ten tree groups and two hedgerows (plus a section of a third hedgerow) will require removal to facilitate the proposed development.

1.5 **Access facilitation pruning:** It is anticipated that two trees and two tree groups will require access facilitation pruning to enable the proposed construction works.

1.6 **Works within root protection areas:** New permanent surfacing for roads and footpaths will be constructed within the root protection areas of ten retained trees or tree groups.

2 INTRODUCTION

2.1 Instruction: PJC Consultancy has been instructed by West Sussex County Council to provide an arboricultural impact assessment for proposed construction works at Angels Nursery in Barnham. The proposal is to construct a ninety-five unit residential development.

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. BHP10/92 – Topographical Survey
- Drawing ref. 2124 – Site Plan (as proposed)
- Drawing ref. LLD1006/01 – Landscape Masterplan

3 INITIAL TREE SURVEY SUMMARY

3.1 Site visit: A site visit was carried out on 31st May 2016. The weather conditions at the time were light cloud by dry with no wind. 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/4040/16-01.

3.3 Site layout: Site comprises a former garden nursery with all glasshouses now removed. A dilapidated residential dwelling is located adjacent to the site entrance on the northern boundary. Trees and hedgerows are located around the curtilage of the site and in belts running adjacent to drainage ditches at the southern end. A small number of further trees are scattered around the centre of the site.

3.3 Tree categorisation summary: A total of sixty-four trees, eighteen tree groups and five hedgerows were surveyed and recorded in the Tree Survey Schedule. Details of each tree or tree group can be viewed in the Tree Survey Schedule in Appendix 2.

Table 1: Tree categorisation summary

Categorisation	Individual tree	Tree group	Hedgerow
A	1	0	0
B	32	4	0
C	27	13	5
U	4	0	0
Total	64	18	5

3.4 Statutory tree protection: Tree Preservation Order ref. TPO/BN/1/10 protects two oaks, a pine and a group of poplars at the site (trees T64, T65, T75, T76, T85, T86 and T87). The site is not located in a Conservation Area. Any persons proposing to undertake tree works must check the status of these trees with the local authority, and gain necessary consent before works are undertaken.

3.5 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 grading. Trees to be removed include T1, T2, G3, T4, G5, T6, T7, H8, T9, T10, G11, T12, G13, T14, H15 (part only), T16, T24, T42, G58, G59, T60, T61, G62, T63, T66, T67, T68, T69, T0, G71, T72, T73, G74, T75, G77 and H82. These comprise four trees categorised as B, fifteen trees, ten groups, two hedgerows and a section of a third hedgerow categorised as C and four trees categorised as U.

4.2 Tree T75 is a pine located adjacent to the existing site entrance. It is protected by a Tree Preservation Order but will require removal to facilitate construction of the new wider road entrance to the site. It is proposed that a Caucasian Wingnut (*Pterocarya fraxinifolia*) be planted adjacent to the amended site entrance with adequate space to mature into a specimen tree as mitigation for the T75. Additional roadside tree planting is proposed throughout the site as shown on the Landscape Masterplan.

4.3 Privacy and screening: Some of the vegetation located on the eastern site boundary will be cleared to facilitate construction of formal garden areas. This will remove the low level screening between 'Lilies Caravan Park' and the proposed development. It is recommended that either appropriate fencing is installed or new planting occurs along this boundary to create privacy for plots 47-63.

4.4 All trees on the southern and western boundaries will be retained to maintain screening between the site and the garden nursery to the south and Barnham Community Centre, 'The Murrells' and the residential properties to the west.

4.5 Access facilitation pruning: Trees requiring access facilitation pruning to enable the proposed construction works (based on the information currently available) comprise G50, T53, G57 and T64. A summary of the access facilitation pruning is shown below.

Table 2: Summary of access facilitation pruning:

Tree number	Species	Works required	Reason for works
G50	Field maple	Reduce crowns and remove small or poor quality specimens in proximity to pedestrian link.	To allow construction of pedestrian link to 'The Murrells'.
T53	Sycamore	Reduce crown laterally on east to suitable growth points to leave minimum of two metres clearance from proposed house in plot 95.	To allow installation of scaffolding.
G57	Poplar	Crown lift to 3m over proposed bike store.	To avoid direct conflict during construction.
T64	Oak (TPO designation)	Crown lift to 4m over new parking bays. Branches shall be removed to source rather than shortened to minimise post development maintenance requirements.	To avoid direct conflict during construction and post development.

4.6 All access facilitation 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/specialist plant) should 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.

4.7 **Works within root protection areas:** New permanent surfacing for both vehicles and footpaths will encroach the root protection areas of T52, T64, T76, T83, T85, T86 and T87. These trees are to be retained, therefore sympathetic construction methodology will be required to minimise the impact of construction on the tree roots.

4.8 The detailed surfacing specifications are to be confirmed on the date of this report. Within the root protection areas, the surfaces will need to be of a no-dig design to avoid root severance (the majority of roots will be located close to the surface so soil stripping must be completely avoided within these root protection areas). The surfaces will also need to be permeable (including a permeable sub-base) and have provision to prevent localised compaction of the rooting medium. The methodology required to construct the low impact surfacing is described in the arboricultural method statement.

4.9 All 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.

4.10 A children's play area is indicatively shown on the proposed layout to be located within the root protection area of tree T64. The specification for the play area is to be confirmed on the date of this report. Further input from the project arboriculturalist into the design is recommended to ensure the root protection area is adequately protected.

4.11 New bin and bike stores will be located within the root protection area of group G57. The detailed design of these stores is to be confirmed. They should either be located on an area of no-dig surfacing or comprise of another above ground structure.

4.12 **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.

4.13 Post development tree pressures and management: Tree T64 will shade the houses in plots 15-18 and trees T76 and T83-T87 will shade the houses in plots 4-7 for part of the day. The trees will shade the buildings for part of the day but it is not anticipated that they will prevent their reasonable use or enjoyment.

4.14 There is approximately a 4m gap between the existing crown spread of T64 and the closest building. It is likely that reductions to this tree's crown will be required in the future to negate the overbearing presence of a mature tree overhanging parking bays and being close to buildings. As oak is a relatively slow growing species, crown reductions to this tree will not be a markedly regular occurrence.

4.15 A new footpath will connect the site with The Murrells to the west. This path will pass through the group of trees comprising T47-T52. It is recommended that the under-storey and ivy cover on these trees be kept clear post development to allow comprehensive future tree inspections due to the increased frequency of land use.

4.16 The mature trees on the southern boundary will be separated from the main site by a retention basin. The proposed development should not significantly increase the frequency of land use within the target areas (area in falling distance of a tree or defective part of the tree) of these trees.

5 CONCLUSIONS

5.1 Four trees categorised as B, fifteen trees, ten groups and two hedgerows categorised as C and four trees categorised as U will be removed to facilitate the proposed development. Sections of a third hedgerow will also be removed. The required tree removals include a Corsican pine covered by a Tree Preservation Order. It is also anticipated that two trees and two groups will require access facilitation pruning.

5.2 The proposed site layout involves construction of new permanent surfacing within the root protection areas of seven retained trees. Due to the condition and amenity value of these trees, engineered solutions will be used to minimise the impact of 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.

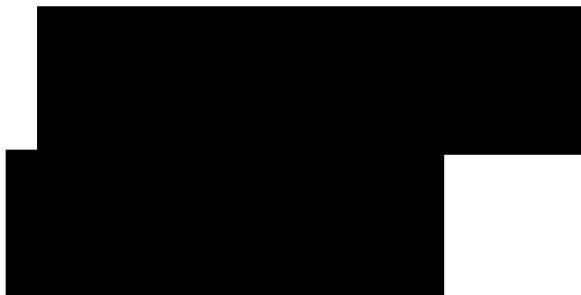
6.3 It is also recommended that all tree works be carried out by an Arboricultural Association approved contractor. Approved contractors are expected to work to industry best standards, and the Arboricultural Association website contains contact details and information on engaging a suitable contractor.

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.

Contact details

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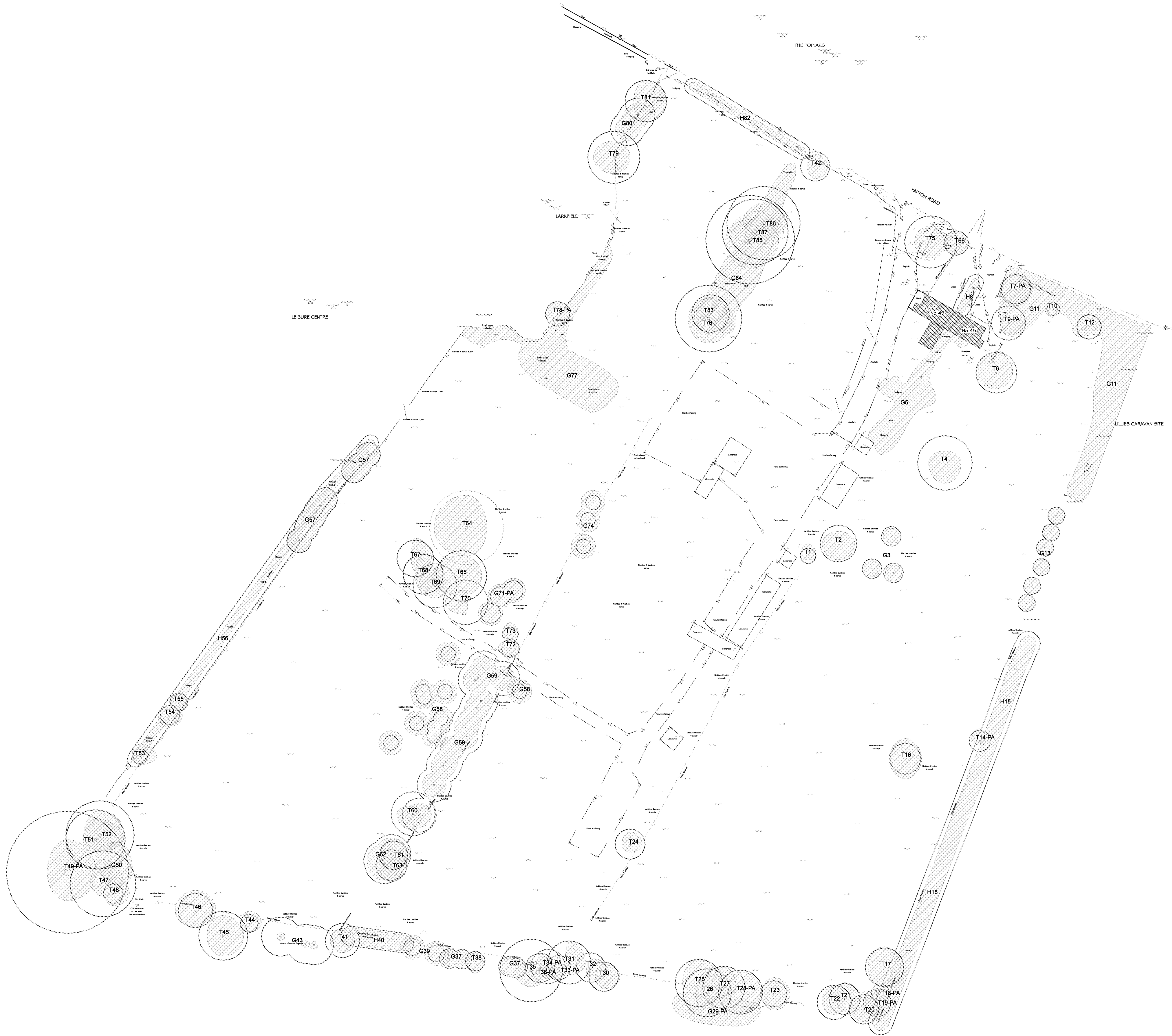


Author: Peter Davies

Date: 21st June 2016

APPENDIX 1

Tree Constraints Plan and Tree Retention Plan



Key:

- RPA for CAT A* tree
- RPA for CAT B* tree
- RPA for CAT C* tree
- RPA for CAT U* tree
- Tree canopy

*** Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.**

Appendix 2, (Tree Survey Schedule) contained within the arboricultural report ref no. PJC/4040/16-01 contains further information for each tree.

This drawing should be viewed in colour.

Tree numbers suffixed with PA indicate the tree position is approximate.

Drawing no: PJC/4040/16/A Rev: 01 Sheet number: 1 of 1

Client and site:
West Sussex County Council

Angels Nursery
Yapton Road
Barnham

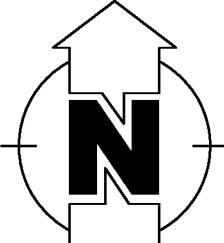
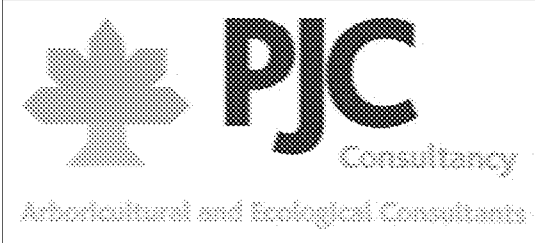
Drawing title: Tree Constraints Plan

Date drawn: 07/06/2016

Scale: 1:500 at A1

Drawn by: PD

Checked by: NB



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Key:

- RPA for CAT A* tree to be retained
- RPA for CAT B* tree to be retained
- RPA for CAT C* tree to be retained
- Canopy of tree to be retained
- Canopy of CAT B* tree to be removed
- Canopy of CAT C* tree to be removed
- Canopy of CAT U* tree to be removed
- New surfacing within RPA of retained tree

*** Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.**

Appendix 2, (Tree Survey Schedule) contained within the arboricultural report ref no. PJC/4040/16-02 contains further information for each tree.

This drawing should be viewed in colour.

Tree numbers suffixed with PA indicate the tree position is approximate.

Drawing no: PJC/4040/16/B Rev: 02 Sheet number: 1 of 1

Client and site:
West Sussex County Council

Angels Nursery
Yapton Road
Barnham

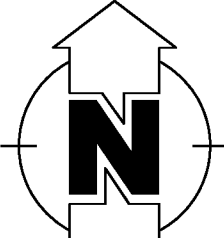
Drawing title: Tree Retention Plan

Date drawn: 21/06/2016

Scale: 1:500 at A1

Drawn by: PD

Checked by: NB



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APPENDIX 2

Tree Survey Schedule

Tree Survey Schedule

				Client: West Sussex County Council Site: Angels Nursery, Barnham Date: 31/05/2016 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 (m ²)	Root Protection Radius (m)
T1	Elder (<i>Sambucus nigra</i>)	4	158.1 combined stem diameter	N: 3 E: 2 S: 1 W: 2	2 north	Over mature	Poor	Poor	Virtually dead tree (not health and safety threat).	Remove to facilitate development.	U	11.3	1.9
T2	Walnut (<i>Juglans regia</i>)	6	374.2 combined stem diameter	N: 3 E: 4 S: 4 W: 4	2 south	Mature	Fair	Fair	Multi-stemmed form, dense under-storey inhibits inspection.	Remove to facilitate development.	C1	63.3	4.5
G3	Pear (<i>Pyrus communis</i>)	4 average	200 average	2 average	1 average	Early mature	Fair	Fair	Fair condition, minor crown dieback.	Remove to facilitate development.	C1	18.1 average	2.4 average
T4	Apple (<i>Malus</i> spp.)	5	558.7 combined stem diameter	N: 3 E: 4 S: 5 W: 4	1 south	Over mature	Good	Fair	Multi-stemmed with low forking habit, small decay cavities in stem.	Remove to facilitate development.	C1	141.2	6.7
G5	Elder, ash, blackthorn, Euonymus japonica and lilac	4-5 average	N/A	Refer to drawings	0 average	Semi mature	Fair	Fair	Former garden shrubs, overgrown.	Remove to facilitate development.	C1	N/A	1 from face of group
T6	Sweet chestnut (<i>Castanea sativa</i>)	5	420	N: 5 E: 4 S: 4 W: 5	1 east	Mature	Good	Fair	Formerly multi-stemmed, 1x stem remains, dense ivy prevents inspection of base.	Remove to facilitate development.	C1	79.8	5

Tree Survey Schedule

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T7	Cherry (<i>Prunus avium</i>)	6	300 estimate	N: 4 E: 4 S: 4 W: 4	1 west	Early mature	Good	Fair	Dense vegetation inhibits inspection, no major visible defects.	Remove to facilitate development.	B1	40.7	3.6
H8	Lilac (<i>Syringa vulgaris</i>)	4	N/A	1 average	0 average	Early mature	Good	Fair	Unmanaged hedgerow.	Remove to facilitate development.	C2	N/A	1 from face of hedge
T9	Goat willow (<i>Salix caprea</i>)	5	350 estimate	N: 2 E: 4 S: 3 W: 2	1 south	Mature	Fair	Fair	Unable to view stem, minor dieback, smothered by ivy.	Remove to facilitate development.	C1	55.4	4.2
T10	Swedish whitebeam (<i>Sorbus intermedia</i>)	5	130	N: 1 E: 1 S: 2 W: 2	1 south	Semi mature	Good	Fair	Unbalanced crown due to suppression from scrub area.	Remove to facilitate development.	C1	7.6	1.6
G11	Blackthorn, hazel, apple and elder	3-6	N/A	Refer to drawings	0 average	Semi mature	Fair	Fair	Area of shrubs.	Remove to facilitate development.	C2	N/A	1 from face of group
T12	Poplar (<i>Populus canadensis</i>)	7	250 estimate	N: 2 E: 2 S: 1 W: 2	2 south	Semi mature	Poor	Poor	Standing dead tree.	Remove to facilitate development.	U	28.3	3

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G13	Mixed fruit trees.	4 average	178.9 combined diameter average	2 average	0 average	Early mature	Fair	Fair	Poor quality trees with good landscape value (visual screen for adjacent property).	Remove to facilitate development.	C2	14.5 average	2.1 average
T14	Hawthorn (Crataegus monogyna)	5	220	N: 3 E: 2 S: 1 W: 2	1 north	Early mature	Good	Good	Unbalanced crown due to suppression, no major visible defects.	Remove to facilitate development.	C1	21.9	2.6
H15	Wild privet (dominant) and hawthorn	4-5 average	N/A	2 average	0 average	Mature	Good	Fair	Unmanaged hedgerow, good amenity value.	Remove part of hedgerow to facilitate development.	C2	N/A	1 from face of hedge
T16	Goat willow (Salix caprea)	6	316.2 combined stem diameter	N: 5 E: 4 S: 5 W: 4	1 north	Early mature	Fair	Fair	Multi-stemmed stand with low forking habit.	Remove to facilitate development.	C1	45.2	3.8
T17	English oak (Quercus robur)	10	390	N: 5 E: 4 S: 5 W: 4	1 north	Mature	Good	Good	Ivy clad. Good overall condition.	Sever ivy to allow comprehensive future inspection.	B1	68.8	4.7
T18	Lawson cypress (Chamaecyparis lawsoniana)	6	180	N: 1 E: 2 S: 2 W: 1	0 south	Early mature	Good	Good	Narrow habit due to suppression.	No action required on date of survey, or for development.	C1	14.7	2.2

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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 (m ²)	Root Protection Radius (m)
T19	Cherry (Prunus avium)	7	282.8 combined stem diameter	N: 3 E: 3 S: 3 W: 3	1 north	Mature	Good	Fair	Dual leaders, smothered by ivy.	Sever ivy to allow comprehensive future inspection.	C1	36.2	3.4
T20	Poplar (Populus canadensis)	14	300 estimate	N: 3 E: 4 S: 3 W: 3	2 east	Early mature	Good	Good	Unable to view base of tree.	Sever ivy to allow comprehensive future inspection.	B2	40.7	3.6
T21	Cherry (Prunus avium)	7	320.1 combined stem diameter	N: 4 E: 4 S: 3 W: 2	3 north	Mature	Good	Good	Dual leaders, no major visible defects.	Sever ivy to allow comprehensive future inspection.	B1	46.4	3.8
T22	Poplar (Populus canadensis)	15	350 estimate	N: 4 E: 3 S: 3 W: 3	3 north	Mature	Good	Good	Unable to view base of tree.	Sever ivy to allow comprehensive future inspection.	B2	55.4	4.2
T23	Cherry (Prunus avium)	6	269.3 combined diameter estimate	N: 4 E: 4 S: 4 W: 3	3 north	Mature	Good	Fair	Regrowth from failed stem.	No action required on date of survey, or for development.	C1	32.8	3.2
T24	Silver birch (Betula pendula)	8	310	N: 3 E: 3 S: 2 W: 2	0 east	Mature	Good	Good	Typical habit for species, no major visible defects.	Remove to facilitate development.	B1	43.5	3.7

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T25	Poplar (Populus canadensis)	20	480	N: 6 E: 5 S: 3 W: 4	0 north	Mature	Good	Good	Typical habit for species, no major visible defects.	No action required on date of survey, or for development.	B2	104.2	5.8
T26	Poplar (Populus canadensis)	20	489.9 combined stem diameter	N: 5 E: 5 S: 4 W: 3	2 north	Mature	Good	Fair	Multi-stemmed, top of east stem snapped out.	No action required on date of survey, or for development.	B2	108.6	5.9
T27	Poplar (Populus canadensis)	20	430	N: 5 E: 3 S: 2 W: 3	3 north	Mature	Good	Good	Unbalanced crown due to suppression, no major visible defects.	No action required on date of survey, or for development.	B2	83.6	5.2
T28	Poplar (Populus canadensis)	20	450 estimate	N: 5 E: 5 S: 5 W: 3	0 north	Mature	Fair	Fair	Multi-stemmed, unable to view buttress.	No action required on date of survey, or for development.	B2	91.6	5.4
G29	Poplar (Populus canadensis)	10-15 average	Up to 300 average	4 average	1 average	Early mature	Good	Good	Self set group .	No action required on date of survey, or for development.	B2	40.7 average	3.6 average
T30	Scots pine (Pinus sylvestris)	5	300 estimate	N: 3 E: 4 S: 3 W: 2	0 south	Early mature	Good	Fair	Small snapped limbs, no major visible defects.	No action required on date of survey.	B2	40.7	3.6

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T31	Poplar (Populus canadensis)	15	445.5 combined stem diameter	N: 5 E: 4 S: 3 W: 1	4 north	Mature	Good	Good	Dual stemmed with low forking habit.	No action required on date of survey, or for development.	B2	89.8	5.3
T32	Scots pine (Pinus sylvestris)	5	300 estimate	N: 2 E: 4 S: 3 W: 1	0 east	Early mature	Fair	Fair	Suppressed by adjacent poplars.	Sever ivy to allow comprehensive future inspection.	C2	40.7	3.6
T33	Poplar (Populus canadensis)	12	250 estimate	N: 1 E: 2 S: 3 W: 2	3 north	Early mature	Good	Good	Typical habit for species, no major visible defects.	No action required on date of survey, or for development.	B1	28.3	3
T34	Leyland cypress (Cupressocyparis leylandii)	6	350 at 1m estimate	N: 2 E: 3 S: 3 W: 2	0 south	Mature	Fair	Fair	Fair condition, good visual screen.	No action required on date of survey, or for development.	C2	55.4	4.2
T35	Poplar (Populus canadensis)	15	640.3 combined diameter estimate	N: 2 E: 4 S: 4 W: 4	1 north	Mature	Good	Fair	1x stem pollarded to 3m, poor access to view stem.	No action required on date of survey, or for development.	B2	185.5	7.7
T36	Leyland cypress (Cupressocyparis leylandii)	6	300 estimate	N: 3 E: 3 S: 3 W: 1	2 east	Early mature	Good	Fair	Unbalanced crown due to suppression, no major visible defects.	No action required on date of survey, or for development.	C2	40.7	3.6

Tree Survey Schedule

				Client: West Sussex County Council Site: Angels Nursery, Barnham Date: 31/05/2016 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 (m ²)	Root Protection Radius (m)
G37	Poplar (<i>Populus canadensis</i>)	5 average	200 average estimate	2 average	0 average	Semi mature	Good	Good	Poor access to survey, visual screen.	Sever ivy to allow comprehensive future inspection.	C2	18.1 average	2.4 average
T38	Leyland cypress (<i>Cupressocyparis leylandii</i>)	5	200 estimate	N: 2 E: 2 S: 3 W: 2	0 average	Semi mature	Good	Fair	Poor access to survey, visual screen.	No action required on date of survey, or for development.	B2	18.1	2.4
G39	Silver birch (<i>Betula pendula</i>)	6 average	173.2 combined diameter estimate	3 average	2 average	Semi mature	Good	Fair	Multi-stemmed trees, poor access to survey, visual screen.	No action required on date of survey, or for development.	C2	13.6	2.1
H40	Poplar (<i>Populus canadensis</i>)	4-6 average	200 average estimate	2 average	0 average	Semi mature	Good	Fair	Unmanaged hedgerow.	No action required on date of survey, or for development.	C2	18.1 average	2.4 average
T41	Leyland cypress (<i>Cupressocyparis leylandii</i>)	8	350 estimate	N: 3 E: 3 S: 3 W: 3	0 north	Mature	Good	Good	Poor access to survey, no major visible defects.	No action required on date of survey, or for development.	B2	55.4	4.2
T42	Field maple (<i>Acer campestre</i>)	6	300 estimate	N: 3 E: 3 S: 3 W: 2	1 north	Early mature	Fair	Fair	Fair condition, no major visible defects.	Remove to facilitate development.	C2	40.7	3.6

Tree Survey Schedule

				Client: West Sussex County Council Site: Angels Nursery, Barnham Date: 31/05/2016 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 (m ²)	Root Protection Radius (m)
G43	Lombardy poplar (Populus nigra 'italica')	15 average	400 average	1 average	0 average	Mature	Fair	Fair	Ivy clad, no major visible defects.	Sever ivy to allow comprehensive future inspection.	B2	72.4 average	4.8 average
T44	Cherry (Prunus avium)	6	180	N: 3 E: 3 S: 2 W: 2	1 north	Semi mature	Good	Good	Typical habit for species, no major visible defects.	No action required on date of survey, or for development.	B1	14.7	2.2
T45	White poplar (Populus alba)	14	500 estimate	N: 5 E: 5 S: 5 W: 4	4 north	Mature	Good	Good	Only viewed from site, no major visible defects.	No action required on date of survey, or for development.	B2	113.1	6
T46	Goat willow (Salix caprea)	8	346.4 combined stem diameter	N: 5 E: 5 S: 4 W: 5	0 north	Over mature	Good	Fair	Multi-stemmed stand with low forking habit.	No action required on date of survey, or for development.	C2	54.3	4.2
T47	Poplar (Populus canadensis)	14	673.6 combined stem diameter	N: 6 E: 5 S: 3 W: 3	4 east	Mature	Good	Fair	Dual stemmed, decaying branch wound at 3m on east stem.	Sever ivy to allow comprehensive future inspection.	B2	205.3	8.1
T48	Hawthorn (Crataegus monogyna)	5	200 combined stem diameter estimate	N: 4 E: 4 S: 3 W: 2	1 north	Semi mature	Fair	Fair	Suppressed by adjacent poplar.	No action required on date of survey, or for development.	C1	18.1	2.4

Tree Survey Schedule

				Client: West Sussex County Council Site: Angels Nursery, Barnham Date: 31/05/2016 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 (m ²)	Root Protection Radius (m)
T49	Poplar (Populus canadensis)	15	1749.3 combined diameter estimate	N: 8 E: 7 S: 7 W: 5	4 north	Mature	Good	Fair	Multi-stemmed, large stem previously snapped out, ivy clad.	Sever ivy to allow comprehensive future inspection.	C1	707	15
G50	Field maple (Acer campestre)	5 average	120 average	3 average	1 average	Semi mature	Good	Good	Young trees of good condition.	Reduce as necessary to allow pedestrian link to The Murrells.	C2	6.5 average	1.4 average
T51	Poplar (Populus canadensis)	15	610.3 combined stem diameter	N: 5 E: 7 S: 3 W: 3	1 east	Mature	Good	Fair	Unbalanced leaning form due to suppression, heavily ivy clad.	Clear ivy and understorey from around base of tree and re-inspect.	B1	168.5	7.3
T52	Poplar (Populus canadensis)	15	700 estimate	N: 6 E: 6 S: 4 W: 4	2 east	Mature	Good	Fair	Unbalanced leaning form due to suppression, heavily ivy clad.	Clear ivy and understorey from around base of tree and re-inspect.	B1	221.7	8.4
T53	Sycamore (Acer pseudoplatanus 'spaethii')	7	150 estimate	N: 3 E: 4 S: 2 W: 2	3 east	Semi mature	Good	Good	Tree growing from hedgerow.	Reduce crown to leave 2m clearance from house.	C2	10.2	1.8
T54	Goat willow (Salix caprea)	5	200 estimate	N: 2 E: 3 S: 3 W: 3	1 east	Semi mature	Good	Fair	Fair condition, no major visible defects.	No action required on date of survey, or for development.	C2	18.1	2.4

Tree Survey Schedule

				Client: West Sussex County Council Site: Angels Nursery, Barnham Date: 31/05/2016 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 (m ²)	Root Protection Radius (m)
T55	Sycamore (Acer pseudoplatanus)	7	180 estimate	N: 2 E: 2 S: 2 W: 2	0 east	Semi mature	Good	Good	Tree growing from hedgerow.	No action required on date of survey, or for development.	C2	14.7	2.2
H56	Hawthorn and cherry	2-4 average	N/A	1 average	0 average	Semi mature	Good	Good	Hawthorn hedgerow with cherry saplings.	No action required on date of survey, or for development.	C2	N/A	1 from face of hedge
G57	Poplar (Populus canadensis)	12-14 average	250 average	3 average	1 average	Early mature	Good	Good	Typical habit for species, no major visible defects.	Crown lift to 3m over bike store,	B2	28.3 average	3 average
G58	Poplar (Populus canadensis)	8-10 average	150 average	3 average	1 average	Early mature	Good	Good	Metal strips through 1x tree's stem union.	Remove to facilitate development.	C1	10.2 average	1.8 average
G59	Poplar (Populus canadensis)	14 average	350 average	3 average	0 average	Mature	Good	Fair	Ivy clad, previously pollarded to 5m.	Remove to facilitate development.	C2	55.4 average	4.2 average
T60	Leyland cypress (Cupressocyparis leylandii)	6	450 estimate	N: 2 E: 2 S: 4 W: 4	0 south	Mature	Good	Fair	Previously topped at 5m, unbalanced crown due to suppression.	Remove to facilitate development.	C1	91.6	5.4

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 (m ²)	Root Protection Radius (m)
T61	Silver birch (Betula pendula)	14	290	N: 4 E: 4 S: 3 W: 3	1 east	Mature	Good	Good	Typical habit for species, no major visible defects.	Remove to facilitate development.	B1	38	3.5
G62	Leyland cypress (Cupressocyparis leylandii)	7 average	Up to 400 average	4 average	0 average	Mature	Fair	Fair	Minor crown dieback.	Remove to facilitate development.	C1	72.4 average	4.8 average
T63	Poplar (Populus canadensis)	14	320	N: 2 E: 4 S: 4 W: 3	4 east	Mature	Good	Fair	Ivy clad, previously pollarded to 5m.	Remove to facilitate development.	C1	46.3	3.8
T64	English oak (Quercus robur)	11	760	N: 8 E: 5 S: 7 W: 8	1 west	Mature	Good	Good	Good condition and arboricultural value. TPO designation.	Crown lift to 4m over parking bays (branch removals rather than shortening).	A1	261.3	9.1
T65	English oak (Quercus robur)	12	520	N: 5 E: 5 S: 5 W: 7	4 east	Mature	Good	Good	Good condition and arboricultural value. TPO designation.	No action required on date of survey, or for development.	B1	122.3	6.2
T66	Lime (Tilia spp.)	5	N/A	N: 3 E: 3 S: 3 W: 3	0 south	Semi mature	Good	Fair	Regrowth from old stump.	No action required on date of survey, or for development.	C2	28.3	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 (m ²)	Root Protection Radius (m)
T67	Apple (Malus sylvestris)	5	377.4 combined stem diameter	N: 5 E: 4 S: 3 W: 1	0 north	Over mature	Fair	Poor	Partially collapsed. Smothered by mixed under-storey.	Remove to facilitate development.	U	64.4	4.5
T68	Apple (Malus sylvestris)	4	412.4 combined stem diameter	N: 4 E: 3 S: 4 W: 2	0 west	Over mature	Fair	Poor	Partially collapsed. Smothered by mixed under-storey.	Remove to facilitate development.	U	76.9	4.9
T69	Apple (Malus sylvestris)	5	447.2 combined stem diameter	N: 4 E: 3 S: 3 W: 4	0 west	Over mature	Fair	Poor	Bark and crown dieback, stem decay.	Remove to facilitate development.	C1	90.5	5.4
T70	Apple (Malus sylvestris)	5	454.5 combined stem diameter	N: 3 E: 0 S: 3 W: 5	0 west	Over mature	Fair	Poor	Bark and crown dieback, stem decay.	Remove to facilitate development.	C1	93.4	5.5
G71	Apple (Malus sylvestris)	4 average	200 average	3 average	1 average	Mature	Fair	Fair	Fair condition, minor crown dieback.	Remove to facilitate development.	C1	18.1 average	2.4 average
T72	English oak (Quercus robur)	5	180	N: 2 E: 2 S: 2 W: 3	2 west	Semi mature	Good	Fair	Young tree of reasonable condition.	Remove to facilitate development.	C1	14.7	2.2

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 (m ²)	Root Protection Radius (m)
T73	Hawthorn (Crataegus monogyna)	5	160	N: 3 E: 2 S: 1 W: 2	0 north	Semi mature	Good	Fair	Typical habit for species, no major visible defects.	Remove to facilitate development.	C1	11.6	1.9
G74	English oak (Quercus robur)	5 average	150 average	3 average	0 average	Semi mature	Good	Good	Young trees of reasonable condition.	Remove to facilitate development.	C1	10.2 average	1.8 average
T75	Pine (Pinus nigra)	9	530	N: 4 E: 4 S: 4 W: 4	2 north	Mature	Good	Good	Ivy clad, good amenity value. TPO designation.	Remove to facilitate development.	B2	127.1	6.4
T76	Poplar (Populus canadensis)	15	680	N: 5 E: 6 S: 6 W: 5	0 south	Mature	Good	Good	Dual leaders, no major visible defects. TPO designation.	No action required on date of survey, or for development.	B2	209.2	8.2
G77	Elder, blackthorn and holly	3-5 average	N/A	Refer to drawings	0 average	Semi / early mature	Fair	Fair	Sporadic area of scrub.	Remove to facilitate development.	C2	N/A	1 from face of group
T78	Norway spruce (Picea abies)	6	250 estimate	N: 3 E: 3 S: 3 W: 3	1 over site	Early mature	Good	Good	Third party tree overhanging site.	No action required on date of survey, or for development.	B2	28.3	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 (m ²)	Root Protection Radius (m)
T79	Sycamore (Acer pseudoplatanus)	12	529.2 combined stem diameter	N: 4 E: 4 S: 4 W: 5	2 east	Mature	Good	Good	Multi-stemmed, low forking habit.	No action required on date of survey, or for development.	B2	126.7	6.4
G80	Sycamore (Acer pseudoplatanus)	14 average	350 average estimate	3 average	2 average	Early mature	Good	Fair	Multi-stemmed, low forking habit.	No action required on date of survey, or for development.	B2	55.4 average	4.2 average
T81	Sycamore (Acer pseudoplatanus)	15	427.2 combined stem diameter	N: 5 E: 5 S: 5 W: 3	2 east	Mature	Good	Fair	Multi-stemmed, low forking habit.	No action required on date of survey, or for development.	B2	82.6	5.1
H82	Hawthorn and blackthorn	2 average	N/A	1 average	0 average	Early mature	Good	Fair	Unmanaged, intermittent hedgerow.	Remove to facilitate development.	C2	N/A	1 from face of hedge
T83	Horse chestnut (Aesculus hippocastanum)	8	380 at 1m	N: 4 E: 4 S: 5 W: 4	0 south	Mature	Good	Fair	Suppressed by T91, no major visible defects.	Sever ivy to allow comprehensive future inspection.	B1	65.3	4.6
G84	Wild privet (dominant), blackthorn and hawthorn	Up to 4 average	N/A	Refer to drawings	0 average	Early mature	Good	Fair	Former hedgerow, now area of scrub.	No action required on date of survey, or for development.	C1	N/A	1 from face of group

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 (m ²)	Root Protection Radius (m)
T85	Poplar (Populus canadensis)	15	905.5 combined diameter estimate	N: 5 E: 7 S: 7 W: 6	2 south	Over mature	Good	Fair	Multi-stemmed, low forking habit. TPO designation.	Sever ivy to base, clear adjacent understorey and re-inspect.	B2	370.9	10.9
T86	Poplar (Populus canadensis)	15	750 estimate	N: 5 E: 6 S: 3 W: 5	8 north	Over mature	Good	Fair	Dense ivy and understorey inhibits inspection. TPO designation.	Sever ivy to base, clear adjacent understorey and re-inspect.	B2	254.5	9
T87	Poplar (Populus canadensis)	15	672.7 combined stem diameter	N: 5 E: 7 S: 3 W: 6	3 north	Over mature	Good	Fair	Dual stemmed, low forking habit, ivy clad. TPO designation.	Sever ivy to base, clear adjacent understorey and re-inspect.	B2	204.7	8.1

APPENDIX 3

Photographs



Photograph 1 – Tree T76 and T83-T87



Photograph 2 – Tree T64



Photograph 3 – Group G57



Photograph 4 – Trees T43-T46



Photograph 5 – Western site boundary (T1-T28)



Photograph 6 – Trees T48-T52