

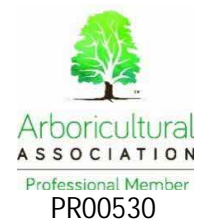


Arboricultural Impact Assessment  
and  
Method Statements

For

Land to the rear of 135 and 137 Fronks Rd, Dovercourt,  
Essex

Date	10 <sup>th</sup> June 2023
Client	Tim Snow Architects
Report by	Mr James Choat BSc, M Arbor A
Site	Land rear of 135/137 Fronks Rd
Reference No.	TPSQU0058
Issue No	1
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1. Summary
  - 1.1.1 Tree Planning Solutions received instruction from Tim Snow Architects to complete a suitable arboricultural site survey and produce this subsequent arboricultural impact assessment (AIA) for an area of land to the rear of 135 and 137 Fronks Road, Dovercourt, Essex.
  - 1.1.2 Trees are a material consideration during the planning application process and require specialist input at the design stage to ensure the success for the end use of the proposed development whilst retaining the best tree specimens. Generally, local authorities provide local plan policies for planning applicants with regards to the suitable retention and protection criteria for trees during the application process and subsequent construction phase, and the level of detail that will be required to determine the application - details can be found on the local authority web site. Central government provide 'The National Planning Policy Framework' (NPPF 2021), which provides specific details of application acceptability; paragraphs 131 and 179 specifically relate to tree retention, biodiversity, habitat including trees and woodlands. Consultants providing arboricultural impact assessment (AIA) apply British Standard 5837 2012 criteria to demonstrate the suitable retention, design and protection of trees during the application / design process. The completed assessment forms part of the application detail and will aid the Planning Authorities decision with regard to the impact of the proposed development on the existing tree stock and local landscape character.
  - 1.1.3 The survey and this report are provided in support of a planning application for the construction of a development of 5 detached dwellings, access and parking.
  - 1.1.4 The site was surveyed on the 18th May 2023, the weather was dry, sunny with a light wind, conditions for surveying trees were good. 9 individual trees and 3 tree groups were surveyed as part of the assessment for trees that could be affected either directly or indirectly by the construction of the proposed development.
  - 1.1.5 The report provides the following information and data in accordance with the criteria provided within BS 5837 2012 'Trees in relation to design, demolition and construction Recommendations'

Tree survey and schedule

Tree constraints data and plan

Arboricultural Impact Assessment

Arboricultural Method Statement and Tree Protection Plan

## 1.1.6 This report pays particular reference to:

British Standard 5837 2012	Trees in relation to design, demolition and construction Recommendations
British Standard 3998 2010	Recommendations for tree work
NHBC CH 4.2	Building near trees
NJUG 4	National Joint Utilities Group 'Working Near Trees'
NPPF 2021	National Planning Policy Framework

## 1.2 Statutory protection

1.2.1 The client has confirmed there are no tree preservation orders (TPOs) at the site and the site is not situated within a designated conservation area. The hedgerows at the site are not subject to the hedgerow regulations as they are not situated on land used / registered for agriculture, keeping of livestock or horses, common land or land designated as a site of special scientific interest (SSSI), special protection area (SPA) or special area of conservation (SAC). It is recommended the applicant obtain written consent from Tendring District Council and where applicable the Forestry Commission, before carrying out recommendations contained within this report. Furthermore, no works should be carried out to any 3<sup>rd</sup> party tree(s) without first obtaining consent from the owner(s) of the tree(s).

1.2.2 Multi agency nature on the map GIS data (MAGIC) was checked 17th May 2023, specifically data sets for land designations and habitats (woodlands). The site is subject to site of special scientific interest (SSSI) and Ramsar impact zones – (Stour and Orwell Estuary SSSI and Ramsar, Stour and Copperas Wood SSSI, Harwich Foreshore SSSI, Hamford Water SSSI and Ramsar, Essex Estuaries SAC and Colne Estuary Ramsar and SPA ).

### 1.3 Limitations

1.3.1 The applicant has supplied a plan of the existing and proposed (desired) site, no further information has been provided.

The following plans have been provided with the instruction for this report:

Existing layout drawing provided by Tim Snow Architects

Proposed layout/concept drawing provided by Tim Snow Architects

1.3.2 This survey is for the purpose of determining the impact of the development upon existing trees; it is not a detailed tree condition survey and should not be used as such. All trees have been assessed from ground level; no aerial or below ground parts have been inspected in detail.

1.3.3 The survey remains valid for 12 months. If during 12 months following the tree survey adverse weather conditions have occurred, or the site environment changed in any form, it is recommended the trees be reassessed.

1.3.4 The content of this report remains the property of Tree Planning Solutions unless otherwise stated. This report is not to be copied without written consent from Tree Planning Solutions.

1.3.5 The consultant is a qualified arboriculturist, occasionally opinions and views are provided regarding buildings and structures, the consultant is not a qualified buildings surveyor or structural engineer and therefore all opinions and views should be supported by a qualified structural/building engineer.

#### 1.4 Qualifications

1.4.1 The consultant has been working within the Arboricultural industry for 24 years as a tree surgeon, tree officer and consultant. Knowledge and experience are regularly updated by attending industry related seminars and courses. Continued professional development is verified by professional membership to the Arboricultural Association (membership No. PR00530), CPD is updated on-line, a record can be provided upon request.

1.4.2 The consultant holds a Bachelor of Science (BSc) degree in Rural Resource Development, a Higher National Diploma (HND) in Rural Resource Management, the Lantra Professional Tree Inspection Award, the RFS Level 2 Certificate in Arboriculture, level 3 certificate in Ecology and is a registered user of Quantified Tree Risk Assessment (QTRA).

## 2.1 The site

## 2.2 Site description

2.2.1 The site is located centrally within the town of Dovercourt and accessed via a crossover from Fronks Road providing access to the site via a tarmac driveway with large parking facility. The trees subject of this report are situated randomly throughout the site, the site is within an urbanised setting with reasonable number of tree features, although most favour the non-native stock. The site contains the following built structures; detached dwelling, detached outbuildings and hard standings (drive, paths and patio). The site consists of the following habitat / green features –improved grass, amenity trees and shrubs.

## 2.3 Topographical survey

2.3.1 A topographical survey was not provided with the instruction for this project. The site is generally flat with no significant changes in the ground levels that would influence root orientation or morphology, it is therefore reasonable to assume all root protection areas (RPA's) are normal in terms of size and shape. Various inspection chambers were recorded during the survey, the date of construction/servicing is not known, it is not known therefore whether the below ground services are affecting / have previously affected the rooting zone of the trees. Overhead services were not recorded during the tree survey.

## 2.4 Soils

2.4.1 British Soil Geology Maps scaled at 1:50,000 show the site to be situated on bedrock of London Clay Formation – clay, silt and sand and superficial deposits of Kesgrave Catchment Subgroup – sand and gravel. Sand and gravel soil texture is likely to offer a deeper rooting environment than that of clay as the roots can easily penetrate and explore sandy soils with little resistance, clay like soils tend to restrict root exploration. Clay soils can be modified by moisture, either reduced or increased in volume by fluctuations in moisture content, such fluctuations can influence how structures perform and therefore may require additional, engineered support to improve the stability of the structure. Local variations and differing soil seams of superficial and bedrock deposits do occur, differing bedrock and superficial deposits will have a different soil texture and structure to those described above and will perform differently. It is recommended core samples be obtained to determine the exact soil texture at the site.



## Part 1 Tree Survey, Constraints and Impact Assessment

### 3.1 Tree survey and schedule

3.1.1 The tree schedule provides an account of all the trees at or adjacent to the site and is written on to a tabular form. Each tree is given a reference number (T1, T2, T3, G1 etc) that is plotted on to a tree survey plan to be cross-referenced with the tabular form. Contained within the schedule are the dimensions of each individual tree and any notable physiological or mechanical defects. An estimated life expectancy is derived from the condition and context of the tree and then graded for the retention suitability. The tabular form can be found in appendix 1 with explanatory notes for each column heading. The tree survey plan can be found in appendix 2. Provided below is a table of the existing trees, their current condition and British Standard 5837 category grading. The categories for retention are; A - high value, B - moderate value, C - low value and U - unable to be retained as a living tree, each category is given a colour code for use with the tree survey plan (appendix 2), A - Green, B- Blue, C - Grey and U- Red. There are further sub-categories used alongside the categorisation; 1 arboricultural, 2 landscape and 3 wildlife or historical values. British Standard 5837 recommends trees with a stem diameter of less than 150mm are categorised as C regardless of condition, form etc. it is assumed that a tree of this size can either be transplanted or replaced without any negative impact upon tree-based visual amenity. Veteran and Ancient trees are automatically graded as category A due to their age and / or wildlife associations, although they will likely contain significant defects, generally the defects are the microhabitats that increase their value.

Table 1 Tree condition table

Tree ref	Species Common and Scientific	Age class	Observations	Category grading
T1	Oak Quercus robur	M	Good condition.	A1/2/3
T2	Cherry Sp Prunus Sp	M	Multi stem. 3 stems at 500 dbh. Young Ganoderma fungal fruit body at base. Likely to decline over next 10 years.	C1
G1	Various Fruit	Y	Various fruit trees recently planted forming small orchard.	C1
G2	Leyland cypress Cupressus x leylandii	EM	Close planting centres. Some with open lower crown. Possible issues with high hedges.	C1
T3	Gum Eucalyptus sp	M	3rd Party. Good condition. Tree often cited as a nuisance species due to vigorous growth, high water demand, etc.	C1
T4	Willow Salix Sp	M	3rd party . Ivy clad stem. Asymmetric crown bias to west. Branch welding at 5m.	C1

Tree ref	Species Common and Scientific	Age class	Observations	Category grading
T5	Cherry Sp Prunus Sp	M	Compression fork at 2.5m with small inclusion.	C1
T6	Cherry Sp Prunus Sp	EM	Compression fork at 2.5m with small inclusion.	C1
T7	Cherry Sp Prunus Sp	EM	3rd party. Ivy clad, unable to fully assess.	C1
T8	Maritime Pine Pinus pinaster	M	3rd party, unable to assess. Crown appears in good condition, needles are good size, shape, colour and density.	B1
G3	Cherry Sp Prunus Sp	Y	Group of cherry suckers	C1
T9	Silver Birch Betula pendula	EM	3rd party unable to assess. Crown appears in good condition, leaves are good size, shape, colour and density.	C1

## 3.2 Further discussion

### 3.2.1 Visual amenity value.

Visual tree amenity value of the surveyed tree features is limited, the trees cannot be seen from the publicly maintained highway, footway or other significant public vantage point. The trees range in height from 2m – 19m but are not prominent features within the street scene.

### 3.2.1 Landscape value

The trees provide reasonable landscape (screening) value, the trees help screen and reduce the perceptual load of the built form at and beyond the site boundaries reducing the visual impact of the hard landscape and roof line within the immediate area. The trees are not however aged or veteran specimens and do not form part of the historical landscape (hedgerow, pollards, coppice) or landform (ditches, ponds, woodland edge remnant etc), the trees are considered recent landscape additions and do not add character to the local landscape character.

### 3.2.2 Wildlife value

The wildlife value is considered limited, the structural diversity and connectivity is limited, with limited ground, sub and higher canopy layers which will limit foraging, breeding, migratory and navigational opportunity for less mobile fauna. The trees are mostly non-native specimens, non -native trees tend to have limited numbers of associated native insects. The trees are mostly young to early mature specimens, likely to have a limited number of microhabitats as these tend to favour older specimens.

### 3.2.3 Condition

Tree condition is generally reasonable with few significant defects recorded. Tree T2 has a Ganoderma fruit body present at the base, only 1 fruit body was observed and no further incremental / persistent fungus can be seen, it is assumed this is a recent infection, albeit a terminal pathogen that will eventually kill the tree / render it unsafe.

### 3.2.4 Provided below is the British Standard 5837 categorisations with total number of surveyed trees for each corresponding categorisation:

A = 1

B = 1

C = 10

U = 0

3.2.5 All category A trees should be retained. The development design should seek to accommodate such trees using special construction techniques and design modification. There should be only very minor work within the RPA and only minor crown works, generally those required to improve the condition of the tree. Category A trees are those that offer a significant contribution to the amenity and character of the area, they have a long-life expectancy and contain very few defects.

3.2.6 The majority of category B trees should be retained where their long-term retention is achievable. A mixture of tree works, design modification and special construction techniques should be employed to accommodate category B trees. Generally, category B trees have a life expectancy over 20 years and offer a medium to long-term contribution to the amenity/character of the area. Category B trees contain occasional defects that can be remedied with suitable tree works.

3.2.7 The category C trees are desirable for retention in the short term. Generally, category C trees have a life expectancy of less than 10 years and would be acceptable to remove once new planting is established. Category C trees contain many defects that are likely to reduce the long-term life expectancy of the tree. Category C trees do not add to the character or visual amenity of the area.

## 4.1 Tree constraints

4.1.1 The above and below ground tree constraints are represented by the present crown spread and root protection areas (RPA) of each retained tree. British Standard 5837 provides a calculation for root protection areas for both single and multi-stem trees. The constraints are plotted to a site plan around each individual tree; the constraints plan is used to determine the site layout feasibility and further clarifies suitable tree retention or removal. The constraints plan can be found in appendix 2. Further consideration should be given to the future growth potential for each retained tree; the table below provides estimated growth rates that should be considered when achieving a suitable design layout.

4.1.2 Provided below is a constraints table that provides data for the radial distance required for the RPA, the present height and spread of the tree, the future increase in height and spread of the tree in 10 years and tree management considerations.

Table 2 Tree constraints table

Tree ref	Species Common and Scientific	Height in m	Stem diameter in mm	Radial distance required for RPA	Branch spread				Height of crown clearance in m	Estimated increase in M in crown height in 10 years	Estimated increase in M in crown spread in 10 years	Management Considerations
					N	E	S	W				
T1	Oak Quercus robur	18	720	8.64	5	5	5	5	3	2	2	None
T2	Cherry Sp Prunus Sp	15	860	10.32	5	5	5	5	1	0	0	Likely to require crown works due to condition.
G1	Various Fruit	2	90	1.08	1	1	1	1	1	0	0	None
G2	Leyland cypress Cupressus x leylandii	18	220	2.64	1	1	1	1	0	0	0	Likely to require crown works due to condition.
T3	Gum Eucalyptus sp	19	500	6	4	4	4	6	2	2	2	None
T4	Willow Salix Sp	15	500	6	5	5	5	5	0	2	2	None
T5	Cherry Sp Prunus Sp	15	470	5.64	4	4	4	4	1	2	2	Likely to require crown works due to condition.
T6	Cherry Sp Prunus Sp	12	300	3.6	3	3	3	3	1	2	2	Likely to require crown works due to condition.
T7	Cherry Sp Prunus Sp	12	200	2.4	3	3	3	3	1	2	2	None

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Tree ref	Species Common and Scientific	Height in m	Stem diameter in mm	Radial distance required for RPA	Branch spread				Height of crown clearance in m	Estimated increase in M in crown height in 10 years	Estimated increase in M in crown spread in 10 years	Management Considerations
					N	E	S	W				
T8	Maritime Pine Pinus pinaster	17	600	7.2	4	4	4	4	1	2	2	None
G3	Cherry Sp Prunus Sp	15	180	2.16	3	3	3	3	2	2	2	None
T9	Silver Birch Betula pendula	10	200	2.4	2	2	2	2	2	2	2	None

## 5.1 Arboricultural impact assessment

5.1.1 Provided below is an assessment of the impact of the development on each individual tree and any design requirements for the site. Such factors include tree preservation orders, tree amenity, tree retention, removal of structures within RPA, infrastructure requirements, construction of infrastructure, end use of space, tree loss / new planting, light issues, proximity to structures, relationship with new homeowners and tree nuisance.

Table 3 Arboricultural Impact Assessment

Tree Ref	TPO/CA/other statutory protection. Amenity assessment. Retention recommendation.	Removal of existing structures and hard surfacing within RPA	Proposed Infrastructure within RPA	Construction methods for proposed infrastructure	End use of space	Tree loss and new planting	Shading and light	Proximity to structures	Future pressure for tree removal/works	Seasonal tree nuisance
T5, G1 and G3	The client has confirmed no TPO's at the site and the site is not situated within a designated conservation area. MAGIC GIS checked 17/05/23 – site listed within SSSI, SAC, SPA and Ramsar Impact Zones. Limited amenity, wildlife and landscape value. Tree recommended for removal.	N/a	N/a	N/a	N/a	Fell trees Replacement planting as part of wider landscape design. 1 heavy standard tree recommended to offer screening, visual amenity, colour and texture to the surrounding area.	N/a	N/a	N/a	N/a

Tree Ref	TPO/CA/other statutory protection. Amenity assessment. Retention recommendation.	Removal of existing structures and hard surfacing within RPA	Proposed Infrastructure within RPA	Construction methods for proposed infrastructure	End use of space	Tree loss and new planting	Shading and light	Proximity to structures	Future pressure for tree removal/works	Seasonal tree nuisance
T1, T2, T3, T4, T6, T7, T8, T9 and G2	The client has confirmed no TPO's at the site and the site is not situated within a designated conservation area. MAGIC GIS checked 17/05/23 – site listed within SSSI, SAC, SPA and Ramsar Impact Zones. Limited amenity, wildlife and landscape value. Trees recommended for retention.	N/a	Minor section of turning access within RPA of T4 – (1.9% of RPA affected).	Excavation using handheld tools only within the RPA. See method statement provided within section 9 and tree protection plan appendix 5.	End use of amenity spaces and parking areas not significantly affected by the retained trees. T1 will require the crown raising to improve the amenity space of Plot A.	N/a	G2 will cause some loss of midsummer sunlight reaching the amenity space of Plot E.	Tree T3 will require lateral spread reduction / target pruning to allow suitable crown clearance for the build and end use of Plot C.	Low. Trees not likely to cause significant future nuisance or limit the enjoyment of the proposal. Occasional cyclical target pruning and crown lift management is likely required, this is generally considered routine arboricultural management to maintain trees in urbanised settings.	Leaf and fruit dispersal Nuisance of blocked drains, gutters etc. Recommend use of guards as appropriate to prevent blockages occurring. Use surfaces that do not tarnish from tree deposits (shingle, loose stone, grass, etc.).

## 5.2 Further discussion

- 5.2.1 Below ground services for drainage, electricity, gas, water, telecoms, are to be located outside the RPA of the retained trees or connected to existing services within the site. If however, this is not viable then trenchless methods of working will be adopted, shallow trenching may be permitted although a trial trench should be prepared to determine the presence of roots and the impact upon the health of the tree affected. Overhead services such as lighting columns, electricity, telecoms, etc. are to be outside the present and future canopy spread, use of Table 2 'Tree Constraints' will aid design.
- 5.2.2 Guttering and drains will have guards to prevent leaf/fruit drain blockages. Where a significant loss of rainwater water is likely due to loss of natural soft surfaces, the rainwater drainage will be redirected into the soil area of the retained trees. The drainage will result in an even and slow distribution within the soil environment, it will not cause waterlogged conditions or damage to the soil structure, structural engineer to advise further.
- 5.2.3 The information provided in the impact assessment and constraints advice has provided a basis for tree retention, works specification and construction techniques required. Further details for this can be found in the following sections of this report.



## 6.1 Tree removals and impact assessment

6.1.1 Provided below is a table of the trees to be removed and the impact upon visual amenity value. This is to be cross-referenced with the tree survey plan provided in appendix 2.

Table 4 Trees to be removed

Trees to be removed	Reason for removal	Impact upon visual amenity
T5, G1 and G3	Facilitate construction of proposal and access / turning area and due to defect likely to reduce the longer-term viability of T5.	Low. The tree is a low value specimen (category C) and cannot be seen from any significant public vantage point, the tree is obscured from view by the existing built and retained natural form. Replacement planting as part of the wider landscaping scheme is considered sufficient to mitigate loss.



## Part 2 Arboricultural Method Statement

### 7.1 Tree works specification

7.1.1 All tree works are to be completed as a starting phase of development unless otherwise stated.

7.1.2 All works are to be completed to BS3998 2010 'Recommendations for tree works'

7.1.3 Research suggests that tree works are better completed when the trees are using the least amount of energy and when conditions do not favour pathogens. It is recommended that the works specified below be carried out in midsummer July/early August or the dormant period Jan/Feb. Specifically, times of bud break and leaf abscission should be avoided. This may need further assessment for different species or for aged/veteran trees whose energy reserve and potential to kinetic ratio is susceptible to change from minor tree works. Where this is likely to occur, a separate management plan for that individual tree may be required.

7.1.4 Provided below is a table showing tree works specification. The key for works urgency can be found in Appendix 1 Explanatory notes.

Table 5 Tree works specification

Tree ref	Species Common and Scientific	Age class	Tree works to facilitate construction and / or access	Preliminary management recommendations	Works urgency (Preliminary works only)	Category grading
T1	Oak Quercus robur	M	Raise crown to 4m removing sub-laterals only.	None	0	A1/2/3
T2	Cherry Sp Prunus Sp	M	None	None	0	C1
G1	Various Fruit	Y	Fell and grind stumps following below ground service assessment.	None	0	C1
G2	Leyland cypress Cupressus x leylandii	EM	None	Consider speaking with owner to see if the trees could be removed or reduced.	0	C1
T3	Gum Eucalyptus sp	M	Reduce western aspect of crown by 2.5 / 3m to provide suitable crown clearance for access / build purposes.	None	0	C1

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Tree ref	Species Common and Scientific	Age class	Tree works to facilitate construction and / or access	Preliminary management recommendations	Works urgency (Preliminary works only)	Category grading
T4	Willow Salix Sp	M	Hand excavation and root pruning within section of RPA to facilitate construction of the turning head / access.	None	0	C1
T5	Cherry Sp Prunus Sp	M	Fell and grind stump following below ground service assessment.	Reduce crown by 2m.	0	C1
T6	Cherry Sp Prunus Sp	EM	None	Reduce crown by 2m.	0	C1
T7	Cherry Sp Prunus Sp	EM	None	None	0	C1
T8	Maritime Pine Pinus pinaster	M	None	None	0	B1
G3	Cherry Sp Prunus Sp	Y	Fell and grind stumps following below ground service assessment.	None	0	C1
T9	Silver Birch Betula pendula	EM	None	None	0	C1

## 8.1 Tree protection method statement

8.1.2 Tree protection is required to prevent physical damage to the stem, branch and crown structure. Tree protection is used also to prevent indirect damage caused by loads passing over the root protection area that would otherwise cause compaction of the soil. Soil compaction reduces soil pore space, which in turn reduces; soil air, available water and nutrients, the anaerobic environment will prevent healthy and strong root growth (elongation, thickening, mycorrhizal association, etc.). Prolonged anaerobic soil conditions will lead to longer term poor tree health with symptoms (crown die back, sparse crown, poor extension growth, etc.) not evident until well after the occurrence. The simplest and most effective way to prevent damage to any retained tree on the development site is the provision of a construction exclusion zone around the tree and its calculated rooting area.

8.1.2 The areas for protection will see the RPA confirmed on the ground with the erection of a scaffold frame with wire mesh attached (Please see appendix 3 Barrier protection construction profile, diagram 2). Where site personnel require access across the RPA, ground protection will be installed utilising scaffold boards laid on a compressible layer (100mm of woodchip) with geotextile membrane beneath, as per British Standard 5837 section 6.2.3.3 (see appendix 5 tree protection plan). Where plant less than 2 tonnes requires access across an RPA, the compressible layer, as described above, should be increased to 200-300mm and the scaffold boards substituted for composite boards fit for the applied load, plant above 2 tonnes should utilise reinforced concrete slabs or specialised track mats fit for the applied load.

8.1.3 The barrier protection will contain and display information highlighting the protected tree and consequences of any breach of tree protection. Please see appendix 4, example of informative to be placed on barrier protection.

8.1.4 The tree protection plan is shown in appendix 5. This shows; the RPA for each retained tree, the location of protective barriers/ground protection and areas for site storage and contractors parking.

## 9.1 Construction method statements

9.1.2 Provided in this section are arboricultural method statements primarily concerned with working within the RPA of the retained trees. The method statements are designed to minimise/remove any identified impact or damage/disturbance that may otherwise occur. The method statements provided should be distributed to all key staff involved with the development.

## 9.2 Excavation within the RPA

9.2.1 Excavation will be required within the RPA of T4 as identified in the impact assessment section 5 and tree protection plan appendix 5 for the preparation of levels for the construction of the turning head / access road. It is unlikely that structural roots will be encountered due to the distance from the stem and minor area affected, structural roots tend to taper after around 4m radial distance (Landscape below ground Vol 1 2005). Feeder roots are likely to be encountered, however these die and reform as part of the trees normal biological process over days and weeks (Thomas 2022), careful removal of a small amount will not have a detrimental effect on the health of the tree. The method statement provided below is in accordance with British Standard 5837 section 7.2.

Sequential method statement for hand excavation and root pruning.

1. Soft surfaces / underlying soils – Using a turf remove set at 50mm, remove all grassed surfaces and hand barrow and store all debris outside of the RPA. Carefully remove the underlying soils using handheld tools only (spade, shovel, soft brush, trowel) to achieve excavation depth (TBC by project structural engineer, it is assumed to be 300-400mm). Hand barrow and store all debris outside of RPA.
2. Where roots are pliable and will not damage from movement, push to side of pit or downwards, roots can be pinned with soil or small hazel rods.
3. Any exposed roots should immediately be wrapped or covered in damp hessian to prevent desiccation and to protect them from rapid temperature changes.

4. If required, sever any roots with a diameter less than 25mm (use a sharp tool to provide a clean cut across the cross section near to a root junction/growth point).
5. Avoid severing roots greater than 25mm or clumps of roots (root mats). If this is necessary, then request an arboriculturist to attend the site to assess likely impact upon tree health and future stability.
6. Prior to backfilling any roots should be removed from the protective wrapping and surrounded by sharp sand, or other loose granular fill, before soil or other material is replaced. The backfill is to be free from any contaminants or foreign objects.
7. Monitor tree health during next 2 growth seasons. Check leaf colour, size, density and extension growth.

## 9.3 Soft surfaces / soft landscaping within RPA

9.3.1 Provided below is a method statement to avoid damaging/disturbance to the roots of the retained trees during soft landscape operations.

No tractor mounted or heavy plant rotavating machinery is to be used unless working on surface fit for purpose to reduce/spread load and prevent soil compaction.

Cultivation is to be completed using manual hand tools only.

Existing soil is to be used, where additional soil is required it should be contaminant free, well drained and suitable PH, texture and structure for the site and planting/existing trees/shrubs.

Damage to roots is to be avoided, large structural roots may be seen at or near the surface and where they radiate from the stem of the tree from large buttresses. After around 4m radial distance structural roots tend to taper to around 3cm in diameter.

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Changes in ground levels are to be avoided, any lowering or raising of levels should be carried out using a suitable method statement that provides continued soil conditions of gas exchange and water percolation.

Planting is to be done with care and to avoid severing tree roots; generally, planting should be completed outside the RPA.

## 10.1 General arboricultural considerations

10.1.1 Provided in this section are wider arboricultural considerations to be used either at the later design stage or for the 'on-site' contracting team. Further information contained within this section provides details on tree and associated wildlife legislation. The method statements provided should be distributed to all key staff involved with the development.

## 10.2 Storage

10.2.1 There is to be no storage within the RPA of any retained trees. An outline area can be designated at pre-commencement construction site meeting.

## 10.3 Contractors parking

10.3.1 There is to be no parking within the RPA of any retained trees. An outline area can be designated at pre-commencement construction site meeting.

## 10.4 Slope

10.4.1 All mixing and storage of materials/chemicals to be done on a pre-prepared flat/level surface with sealed sides to prevent any runoff. Storage of all chemicals/materials likely to cause harm to the trees should be in a sealed container or area with a bund to prevent run off if spillages occur. Site personnel are to have access to spillage treatment equipment.

## 10.5 Services

10.5.1 Methods for service run construction within the RPA are micro tunnelling, Surface launched directional drilling, pipe ramming and impact moling. Method statements for the above listed modes of service provision should be provided by the relevant utility companies. Shallow trenching may be acceptable for minor services; if shallow



trenching is required then hand excavation should be adopted using an approved method statement.

10.5.2 All overhead services to be located outside the present and future crown spread of the retained trees, use tree constraints table provided in section 4 to aid design.

## 10.6 Levels

10.6.1 No stripping or raising of levels within the RPA without consent from the local authority. Where site levels require lowering, the use of hand excavation or an air spade should be adopted using an approved method statement. If site levels are to be raised the material added should allow for water infiltration and gaseous exchange allowing the roots to carry out their normal biological function, the use of structural soil and a below ground aeration system may be required depending on the size of the area affected and depth.

## 10.7 Development phasing

10.7.1 All contracting staff working at the site should be briefed on approved working practices and protection requirements for the retained trees.

10.7.2 The tree works specification should be completed following approval from the local authority.

10.7.3 Prior to the commencing of development the chosen arboriculturist should re- assess all retained trees and provide further assessment.

10.7.4 All barrier/ground protection should be erected/laid and confirmed as correct by the arboriculturist. All signs should be placed on the barriers at a height of 2m at 3m intervals.

10.7.5 Hand excavation within the RPA of T4 for the construction of the turning head / access road.

10.7.6 Barrier/ground protection altered after intensive phase of development.

10.7.7 Soft landscaping as final phase of development.

10.7.8 Barrier / ground protection removed following landscaping phase.

10.8 Monitoring

10.8.1 Key site personnel

Architect and Contractors

Name	Position	Contact details
Tim Snow Architects	Lead consultant	

Planning Authority

Name	Position
Clive Dawson	Tree and Landscape Officer

Arboriculturist

Name	Position
James Choat	Arboricultural Consultant

10.8.2 It is recommended that all trees and protection methods be monitored for the duration of development. A qualified arboriculturist will make a regular visit; the project arboriculturist is to carry out an assessment of tree health and protection condition and make recommendations when required.



## 10.8.3 Site specific monitoring

Item	Number of visits required	Timing of visit
Pre-commencement site meeting with key personnel. (Contractor, site manager, architect). Tree works Tree protection installation (ground/barrier) as per tree protection plan and method statements within supplied arboricultural report. Identify area for contractors parking, site storage and access. Place 'exclusion zone' signs at 2m height, 3m intervals facing outwards on temporary fencing.	1 – 2 depending on whether items can be completed on same day.	Meeting to be arranged between architect and site manager before construction phase.
Site visit during construction phase to monitor tree health and tree protection condition.	1	During construction phase
Removal of tree protection.	1	After intensive construction phase

10.8.4 The above is subject to the client/site manager informing the project staff of the proposed date for each development activity. Following each site visit a brief report (see appendix 6 arboricultural monitoring form) is to be sent to the client and local authority within 24 hrs following the visit. Any incidents will be dealt with within 2 hours and to be reported to the project arboriculturist, photos to be provided via email and recommendations provided verbally, if required a site visit should be undertaken to provide further advice/ recommendations.

## 10.9 Incidents/variations

### 10.9.1 Planned

- Site manager to contact arboriculturist for any anticipated/planned variations
- Arboriculturist to assess impact upon trees and offer advice regarding alternative methods
- Arboriculturist to update tree officer providing details of variations

### 10.9.2 Non-planned

- Site manager to inform arboriculturist of incident
- Site manager to photograph incident and send to arboriculturist
- Arboriculturist to provide initial advice via telephone or email
- Arboriculturist to make site visit within 1 day to assess impact upon trees and offer advice to reduce/remove impact



Arboriculturist to update the local authority tree officer providing details of incident and measure taken to reduce/remove impact.

## 10.10 Wildlife legislation

10.10.1 The Wildlife and Countryside Act 1981, The Habitats Directive 1994 (consolidated under Conservation of Habitats and Species Regulations 2017) and The Countryside and Rights of Way Act 2000. These acts protect certain species of flora and fauna; it is an offence to intentionally or recklessly destroy species or habitats contained within these acts. Trees, especially veteran or ancient, can support associated flora and fauna that is protected via the above legislation. It is recommended the applicant employ a suitably qualified ecologist to carry out a survey of the area to ensure no offence is committed. See the following link for further details.

<https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications>

## 10.11 Tree legislation

10.11.1 The Town and Country Planning Act 1990. It is an offence to cut down, uproot, lop, top, or cause wilful damage or destruction to a tree subject of a tree preservation order or conservation area. Such acts will lead to prosecution and if convicted a fine not exceeding £20,000 in the magistrate's court; if the case is referred to the crown court the fine may be unlimited. See the following link for further details.

<https://www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas>

10.11.2 Hedgerow regulations 1997 protect certain hedgerows from being removed, certain exemptions apply. A removal notice is required to be sent to the local authority for their consideration to determine whether the hedgerow is important before the authority can permit removal of a hedgerow subject of the above regulations. See the following link for further details.

<http://www.legislation.gov.uk/uksi/1997/1160/contents/made>

# TPS

10.11.3 Forestry Act 1967 as amended - Felling licences are issued by the forestry commission, certain exemptions apply. Before felling trees a check with the Forestry Commission should be made to ensure a felling licence is not required. See the following link for further details. <http://www.legislation.gov.uk/ukpga/1967/10/contents>

## 11.1 Conclusion

### 11.1.1 All surveyed trees have been categorised in accordance with British Standard 5837 2012.

Visual tree amenity value of the surveyed tree features is limited, the trees cannot be seen from the publicly maintained highway, footway or other significant public vantage point. The trees range in height from 2m – 19m but are not prominent features within the street scene. The trees provide reasonable landscape (screening) value, the trees help screen and reduce the perceptual load of the built form at and beyond the site boundaries reducing the visual impact of the hard landscape and roof line within the immediate area. The trees are not however aged or veteran specimens and do not form part of the historical landscape (hedgerow, pollards, coppice) or landform (ditches, ponds, woodland edge remnant etc), the trees are considered recent landscape additions and do not add character to the local landscape character. The wildlife value is considered limited, the structural diversity and connectivity is limited, with limited ground, sub and higher canopy layers which will limit foraging, breeding, migratory and navigational opportunity for less mobile fauna. The trees are mostly non-native specimens, non-native trees tend to have limited numbers of associated native insects. The trees are mostly young to early mature specimens, likely to have a limited number of microhabitats as these tend to favour older specimens. Tree condition is generally reasonable with few significant defects recorded. Tree T2 has a Ganoderma fruit body present at the base, only 1 fruit body was observed and no further incremental / persistent fungus can be seen, it is assumed this is a recent infection, albeit a terminal pathogen that will eventually kill the tree / render it unsafe.

11.1.2 Trees T5, G1 and G3 are to be removed to facilitate construction of the proposal and turning head / access and due to a defect that is likely to reduce the longer-term viability of T5. The trees are low value specimens (category C) and cannot be seen from any significant public vantage point, the trees are obscured from view by the existing and retained natural and built form. Replacement planting as part of the wider landscaping scheme is considered sufficient to mitigate loss. Hand excavation within a minor section of the RPA of T4 (1.9%) will be required for the preparation of levels for the construction of the turning head / access road. It is very unlikely that structural roots will be encountered due to the distance of the excavation from the stem of the tree and minor

area affected; structural roots tend to taper after around 4m radial distance from the stem (Landscape Below Ground Vol 1 2005). Feeder roots are likely to be encountered, however these die and reform or days / weeks (Thomas 2022) as part of the trees normal biological process, careful removal of small amounts will not have a detrimental effect on tree health. A suitable method statement for hand excavation is provided that will limit the impact that would otherwise occur from mechanical excavation. Routine arboricultural management to T1 (crown lift to 4m) and T3 (target prune by 2.5/3m on western aspect) is required to provide suitable crown clearance for the end use and build access, the works will not have a detrimental effect on tree health or cause a loss of visual amenity. No further tree works are required to facilitate construction of the proposal or access to the site. The trees can be adequately protected using temporary barriers in accordance with BS 5837. Following development, the retained trees will not be further obscured, the development is therefore considered to have a low impact upon visual amenity value.

11.1.3 Tree protection and method statements have been provided within this report to reduce the risk of direct and indirect development related damage that may otherwise occur to the retained trees. In conclusion, assuming the method statements and tree protection are implemented as part of the development, the proposal can be constructed with reduced disturbance to the trees.

TPS

