

# LANGTON GREEN ARTIFICIAL GRASS PITCH DEVELOPMENT

Arboricultural Impact Assessment



JSL4914\_770  
Langton Green  
Arboricultural Impact  
Assessment  
-  
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## Contents

1	EXECUTIVE SUMMARY .....	3
2	INTRODUCTION .....	4
3	SITE INFORMATION .....	5
4	TREE QUALITY ASSESSMENT .....	6
5	CONSTRUCTION REQUIREMENTS .....	9
6	ARBORICULTURAL IMPACT ASSESSMENT - WORKS .....	10
7	PRE-DEVELOPMENT WORKS .....	14
8	CONSTRUCTION WORKS.....	16

## Tables

TABLE 1: TREE SURVEY SCHEDULE

## Figures

JSL4914\_700: TREE CONSTRAINTS PLAN

JSL4914\_710: TREE PROTECTION AND REMOVAL PLAN

## Appendices

APPENDIX A SURVEY METHODOLOGY

APPENDIX B BS5837 CASCADE CHART FOR TREE QUALITY ASSESSMENT

APPENDIX C TREE PROTECTION BARRIERS

APPENDIX D CONSTRUCTION EXCLUSION SIGNAGE – EXAMPLE

APPENDIX E SITE PHOTOGRAPHS

APPENDIX F HARD SURFACE INSTALLATION METHODOLOGY

APPENDIX G ARBORICULTURAL GLOSSARY

APPENDIX H TPO 0025/2020 TUNBRIDGE WELLS BOROUGH COUNCIL

# 1 EXECUTIVE SUMMARY

## Scope

- 1.1 An arboricultural survey and Arboricultural Impact Assessment (AIA) have been undertaken in support of the proposed development within the grounds of Langton Green, Speldhurst Rd, Tunbridge Wells, TN3 0JJ
- 1.2 This planning application seeks permission for the creation of a new 3G Artificial Turf Pitch as well as associated constructions of ball stop fencing, dug outs and landscaping works at the site.
- 1.3 Trees were recorded, and information was gathered, to allow them to be considered using guidance contained within BS5837:2012 - *Trees in Relation to Design, Demolition and Construction – Recommendations*.
- 1.4 An AIA identifies any vegetation requiring removal, pruning and how retained trees are to be protected during the implementation of the proposals.

## Findings & Recommendations

- 1.5 The principles in BS5837:2012 were used to fully assess the impacts of the proposed works on the trees and other vegetation.
- 1.6 A total of 109 individual trees and 4 groups of trees were recorded during the tree survey. Overall, the tree stock within the survey site is in good vitality, with a high percentage of Category A (high quality) and Category B (moderate quality) trees at the site peripheries.
- 1.7 A check for Tree Preservation Orders (TPO) revealed that Tunbridge Wells Borough Council TPO 0025/2020 protects trees T44 T45, T46, T54, T55 and T56 adjacent to but outside of the site boundary. It is not anticipated that these trees will be affected by the proposed development.
- 1.8 **23 recorded trees will require removal and 1 group will require partial removal** to accommodate the proposed development. All trees identified for removal are Category C (low quality) or Category U (unsuitable for retention).
- 1.9 Minor reduction and pruning works maybe required to T4, T47, T48, T49, T78, T79, T84, G42 and G88.
- 1.10 The layout of the development will encroach the Root Protection Areas (RPA) of T4, T48, T49, T78, T79 and T80, where re-grading is proposed at the periphery of the development. Excavation is to be undertaken sensitively in a retreating manner away from the retained trees, refer to report for further details.
- 1.11 All retained trees will be afforded protection by implementing a Construction Exclusion Zone (CEZ) using tree protection fencing (Heras-style). This must be erected in the positions shown on the Tree Protection & Removal Plan (JSL4914\_710) attached to this report.
- 1.12 By following guidance set out within this report, all retained trees should be sufficiently protected during the development works.

## 2 INTRODUCTION

- 2.1 RPS were instructed in July 2023, by Surfacing Standards Ltd, to undertake a Tree Survey and then to prepare an Arboricultural Impact Assessment (AIA) in respect of the proposed construction of a new '3G Artificial Turf Pitch' development at Langton Green, Speldhurst Rd, Tunbridge Wells, TN3 0JJ.
- 2.2 The survey was undertaken in accordance with BS5837:2012 as described within the 'Survey Methodology' attached to this report at Appendix A.
- 2.3 The purpose of the survey was to gather data on the trees and to prepare a Tree Constraints Plan that has been used in the design of the proposed new sports facilities. Appendix A – 'Survey Methodology' explains the process of interpreting the plan and how it is used during the design and impact assessment process.
- 2.4 This report should be read in conjunction with the supplied Tree Constraints Plan (see drawing JSL4914\_700), Tree Protection & Removal Plan (see drawing JSL4914\_710) and all other relevant Tables and Appendices as detailed within the table of contents.
- 2.5 The tree positions were plotted using Topographical Survey information and Axciscape 4.02 software. The survey data was then collated and presented using AutoCAD software as the Tree Protection & Removal Plan (drawing JSL4914\_710), Tree Constraints Plan (drawing JSL4914\_700) along with the accompanying schedule.
- 2.6 The proposed layout design of the 3G Artificial Turf Pitch (ATP) as well as any other associated constructions and developments were superimposed onto the Tree Constraints Plan, enabling the arboricultural impact of the development to be assessed.
- 2.7 The survey and this assessment were undertaken by Principal Arboriculturist Stefan Kowalczyk, Professional Member of the Arboricultural Association and Jake Bailey, Senior Arboriculturalist and Professional member of the Arboricultural Association, both of RPS.

### Limitations

- 2.8 This tree survey does **NOT** constitute an in-depth 'Tree Condition Survey', but rather a basic site tree survey to the requirements of BS5837:2012. Any recorded findings of this survey are not valid following adverse or unpredictable weather conditions or for any failure due to 'force majeure' or unpredictable events. Trees were not climbed or inspected below ground level and inaccessible trees will have best estimates made about the location, physical dimensions and characteristics.
- 2.9 To quote Claus Mattheck in his book 'Tree Biomechanics': *"Even trees expressing good strength with no decay and rooted in the best soil may still fail in extreme events. Nature has developed a natural failure rate unique to each species which is key in ensuring evolution and selection happens effectively."* Please refer to the book in question for more information.
- 2.10 Trees and woody vegetation were not assessed for their potential impact upon future construction issues such as foundation designs (re: NHBC chapter 4.2). Whilst this report may assist in assessing likely future impacts, it should not be classed as a comprehensive vegetation survey in relation to impact upon future designs or developments.

### 3 SITE INFORMATION

- 3.1 The site under consideration comprises a playing field site located at Langton Green Speldhurst Rd, Tunbridge Wells, TN3 0JJ.
- 3.2 The site is situated roughly on the OS grid reference: TQ 54184 39704.
- 3.3 The site can also be located by the 'What3Words' reference: **brink.pirate.diamonds**.
- 3.4 The playing field is comprised of a natural grass playing area. The ground does not border residential housing.
- 3.5 The woody vegetation of the site is situated around the perimeters of the site.
- 3.6 The trees around the site periphery offered good screening. Prominent in these linear groups were well-established mature trees including oak, sweet chestnut, ash, lime, beech and sycamore, with understoreys of hawthorn and hazel as well as younger specimens of the aforementioned species.
- 3.7 A Tree Preservation Order (TPO) and Conservation Area check was made using the Tunbridge Wells Borough Council online TPO map ([tunbridgewells.gov.uk](http://tunbridgewells.gov.uk)) . **It was found that a number of trees adjacent to the Western boundary are protected by TPO 0025/2020/TPO**. A copy of the TPO document is attached at Appendix H. The TPO protects trees T44, T45, T46, T54 (Reference G9 in the TPO schedule), T55 (T8 in the TPO schedule) and T56 (T9 in the TPO schedule). These trees are outside of the application site, however the crowns and roots encroach over the western boundary. The protected trees have been denoted on the Tree Constraints Plan and Tree Protection & Removal Plan by a blue hatch. It is not anticipated that these trees will be affected by the proposed development.
- 3.8 The above check confirmed that **the application site is not within a Conservation Area**.



## 4 TREE QUALITY ASSESSMENT

### Retention Values

- 4.1 All trees inspected were categorised using BS5837:2012 and the attached Tree Constraints Plan (see drawing JSL4914\_700) shows tree positions, numbers, and retention categories. Trees were recorded as individuals and as groups.
- 4.2 Trees have been surveyed as groups where they can be considered as forming a group as they form cohesive features either aerodynamically (i.e. they form a discrete group feature providing companion), culturally (i.e. they are composed of trees of a similar size, age and species subject to the same management) or visually (i.e. where the value of the trees within the group is as a whole rather than individually).
- 4.3 Where trees have been surveyed as groups the details recorded with respect to condition and retention value intend to represent an average tree within the group; however, on occasion, it must be noted that there will be exceptions within any group that do not conform to the typical character of that group.
- 4.4 The initial stage of a tree survey in accordance with BS5837:2012 looks at the trees on the site in terms of life expectancy and condition. Trees are then categorised according to their retention value.
- 4.5 **Category A** trees are those that have been assessed as being of a high quality and value; significant amendments to the proposed scheme should be considered in preference to their removal. These trees are shown in Green on the Tree Constraints Plan.
- 4.6 **Category B** trees are those that have been assessed as being of a moderate quality and value; amendments to the proposed scheme should be considered in preference to their removal. These trees are shown in Blue on the Tree Constraints Plan.
- 4.7 **Category C** trees are those that have been assessed as being of a low quality and value; the loss of these specimens should not be considered as a constraint to development. These trees are shown in Grey on the Tree Constraints Plan
- 4.8 **Category U** trees are those that have been assessed as being in poor condition and having no retention value; these trees should not be a material consideration in the planning process. These trees are shown in Red on the Tree Constraints Plan.
- 4.9 A total of 109 individual trees and 4 groups of trees were surveyed during the visit.
- 4.10 Of the 109 individuals recorded, **35** were **Category A** (high quality), **23** were given **Category B** (moderate quality), **47** were **Category C** (low quality) and 4 were **Category U** (Unsuitable for retention).
- 4.11 Of the 4 tree groups recorded, 2 were **Category B** (moderate quality) and 2 were **Category C** (low quality).

## Physiological Condition

- 4.12 Trees considered to be in a good physiological condition are those with crown density and shoot extension growth levels within the expected ranges for their age and species. Generally, these trees, subject to being of a suitable structural condition, can be expected to make a lasting contribution to the site. Additionally, trees within the good condition class are likely to tolerate changes within their growing environment that occur as a result of development, as such their successful retention will be easier to achieve.
- 4.13 Trees considered to be in a fair physiological condition are those specimens exhibiting lower shoot extension growth and reduced crown density than would typically be expected. These specimens have a lower life expectancy than those within the good condition class and will not tolerate significant changes as a result of development as well as those in the good condition class.
- 4.14 Trees considered to be in a poor physiological condition are those exhibiting crown and shoot dieback and significantly reduced crown density. Trees of a poor physiological condition are not likely to make a lasting contribution to the site and whilst their retention in the short term may be beneficial such retention will only be achievable if the trees are fully protected throughout development as they will not tolerate changes in their growing environment.
- 4.15 Of the 109 individual trees recorded, **59** were considered in **'good'** condition, **32** were found to be in **'fair'** condition, 14 were in **'fair/poor'** condition and the remaining **2** were found in **'poor'** condition.
- 4.16 While variations in condition exist within the tree groups, generally all 4 groups were considered to be in **'fair'** condition.

## Structural Condition

- 4.17 There were large variations in the structural condition of the trees surveyed; however individual tree condition is largely consistent with expectations for the age, management, and species of the tree.
- 4.18 The majority of structural defects that were noted across most of the tree stock on the site, such as minor deadwood in tree crown, crossing branches and squirrel damage were not considered significant and are unlikely to result in the premature failure of the tree.
- 4.19 Minor defects and dieback were found in some of the young sapling trees surveyed within the site. Many of these trees were growing as a result of natural regeneration, having grown in unfavourable conditions, these trees will develop stunted crowns with defects which as branch failures, squirrel damage and overall spindly forms.
- 4.20 For a more in-depth study of the structural condition of the trees within the site, a thorough 'Tree Condition Survey' should be undertaken on the tree stock. Refer to the books: *'Visual Tree Assessment'* and *'The Body Language of Trees'* both written by Claus Mattheck, for a detailed analysis of the importance of identifying structural defects in trees.



## Age Distribution

- 4.21 Trees assessed as being young (Y) in age are those considered to be less than 10 years old. These trees can generally be considered to have the potential for rapid and significant future growth. Whilst these specimens are not likely to make a substantial contribution to the landscape character of the site at present they will, if retained, provide succession for the eventual removal of mature or over-mature trees as a result of declining physiological or structural condition.
- 4.22 Trees assessed as being semi-mature (SM) are those of more than 10 years old but having attained less than 40% of the maximum lifespan expected for the species. These trees will generally make some contribution to the current landscape character and appearance of the site and their retention will provide a more immediate succession of mature trees. As with young trees these specimens will have the potential for rapid and significant future growth.
- 4.23 Early-mature trees (EM) are those considered to have reached between 40% and 70% of their ultimate life expectancy. These trees are generally not considered to have a significant potential for future growth though they will increase in size at a steadier rate than younger trees.
- 4.24 Mature trees (M) are those considered to have reached between 70% and 100% of their species life expectancy. These trees will have little future growth potential and they have generally reached their maximum expected size for the location. These trees will generally make the highest contribution to the landscape character of the site at this time; however, a tree stock over dominated by mature trees will require careful management to ensure that a continuation of canopy cover can be achieved.
- 4.25 Over-mature trees (OM) are those considered to have existed for longer than typical of their species. They do not have the potential to increase in size and may in fact reduce in size as their crowns begin to break up. These trees will often make a significant contribution to the landscape character of the site and are likely to have ecological value. However, the retention of these trees within new development must be carefully planned as they are approaching the end of their useful life expectancy and they will often have structural defects. Where over-mature trees are to be retained in new development it is essential that access is available for their eventual removal.
- 4.26 Veteran trees (V) are those that show features of biological, cultural, or aesthetic value that are characteristic of an individual surviving beyond the typical age range for the species. These trees have negligible potential to increase in size. Veteran trees are usually of a high ecological value and they will require sensitive management where they are to be retained in new development. As such it is again essential that they are located in areas where access is available to undertake management operations and where there is a reduced risk of harm occurring from failure of the trees.
- 4.27 Of the 109 individual trees, their age class distributions were recorded as: **19 Young (Y), 13 Semi-Mature (SM), 6 Early-Mature (EM), 70 Mature (M), and 1 Over- Mature (OM).**
- 4.28 The 4 tree groups were considered to be predominantly **Mature (M).**
- 4.29 In summary, the site is dominated by mature trees. The planting of younger trees where appropriate space is available would help to broaden the age diversity within the site and continue to provide tree cover as the stock continues to mature.

## 5 CONSTRUCTION REQUIREMENTS

- 5.1 The development consists of the creation of a new '3G Football Turf Pitch' (FTP), along with the installation of floodlights, storage facilities, ball stop fencing and other associated infrastructure.
- 5.2 During the proposed development, access will be required for personnel / equipment to:
- Undertake the removals specified;
  - Undertake the pruning required;
  - Install tree protection fencing;
  - Construct the 3G Football Turf Pitch (FTP);
  - Install services and drainage;
  - Install the site lighting;
  - Install the storage containers;
- Carry out any final landscaping and replanting works.
- 5.3 Reference to this document should form part of any method statement regarding the proposed construction works. This will show an understanding of the issues and actions required to protect the trees.
- 5.4 The construction process will need to be monitored during its progress to ensure continued protection of any retained trees.
- 5.5 Throughout the construction process, all of the protective measures, detailed in the Tree Protection & Removal Plan (drawings JSL4914\_710), specifically the placement of the Heras protective fencing, must be adhered to.

## 6 ARBORICULTURAL IMPACT ASSESSMENT - WORKS

### Introduction

- 6.1 The construction process will need to be monitored during its progress and this Arboricultural Impact Assessment should be used as the document provided to guide the construction process.
- 6.2 Trees have finite energy reserves, developed each year throughout the growing season, which are utilised for biological processes such as growth and defence against pests or diseases throughout the following year.
- 6.3 Any development in proximity to trees has the potential to cause harm to those trees unless control measures are identified and acted upon; as such it is essential to consider the relationship between the proposed development and the retained trees to identify what precautions are necessary, proportionate and appropriate.
- 6.4 Development has the potential to impact upon the above ground as well as below ground parts of trees.
- 6.5 Whilst some damage that can occur, such as physical damage to the trees stems and branches from machinery movements, is clearly visible the impact from other aspects of work common on development sites which can have a significant effect upon the continued health of trees are not always immediately evident.
- 6.6 Damage that is not immediately evident, but which can cause long term harm to retained trees includes things such as damage to the soil structure by compaction causing root damage and levels changes altering the water table and affecting moisture availability.
- 6.7 To minimise the potential for harm to occur to retained trees all works should be carried out with regard to the tree protection measures detailed within this report.
- 6.8 In general, it can be seen that, by adopting appropriate methods of working, precautionary and protective measures, significant harm to retained trees can be avoided.
- 6.9 In particular, the establishment of a **Construction Exclusion Zone (CEZ)** by erection of tree protection fencing will minimise the potential for harm to occur to the canopy and root extents of retained trees.

### Brief Description of Proposed Development

- 6.10 The development consists of the creation of a new '3G Football Turf Pitch' (FTP), along with the installation of floodlights, storage facilities, ball stop fencing and other associated infrastructure.

### Tree Removal

- 6.11 **23 recorded trees will require removal** to accommodate the proposed development. These consist of 21 category C trees and 2 category U trees.
- 6.12 The southern end of G88 (category C) will be required to facilitate site access.

- 6.13 The loss of these trees is unfortunate but will be mitigated by additional tree planting locally.
- 6.14 The trees to be removed/ sections of G88 to be removed are shown on the Tree Protection and Removal Plan (Figure 710).

### Root Protection Areas

- 6.15 Root Protection Areas (RPAs) for each tree surveyed have been determined in accordance with BS5837:2012 Section 4.6 Root Protection Area. Initial RPAs for the trees were plotted onto the Tree Constraints Plan (see drawings JSL4914\_700) and have been used to produce all relevant tree plans in this statement.
- 6.16 The layout of the development will encroach into the Root Protection Areas (RPA) of T4, T48, T49, T78, T79 and T80, where re-grading is proposed at the periphery of the development.
- 6.17 The proposed re-grading is in the outer periphery of the RPAs of the above trees, which were generally in good vitality.
- 6.18 Proposed re-grading is subject to detailed design, however as an approximate guide minor excavation of <200mm is to be undertaken with a banksman present to monitor for any significant roots e.g. >25mm diameter. Levels should be reduced or increased gradually in a retreating manner away from the retained trees.
- 6.19 Any exposed roots should be pruned in accordance with BS3998:2010 and prevented from drying out, either by backfill with topsoil or by wrapping with damp sacking if left overnight.
- 6.20 It is recommended that the above works are supervised by an Arboriculturalist.
- 6.21 Levels changes greater than those described above will require further assessment by an Arboriculturalist as to whether the adjacent trees can be retained or a design solution is required. This is subject to detailed design.
- 6.22 T79 (Category B) has the greatest incursion of re-grading within its RPA. Crown reduction has also been proposed. This tree should be monitored post- development for symptoms of decline.

### Existing Canopy Spreads

- 6.23 Minor reduction and pruning works may be required to T4, G42, T47, T48, T49, T78, T79 and T84. The purpose of such pruning is both to clear the Tree Protection Fencing and/or ball stop fencing and to give sufficient clearance to allow site works such as regrading and surfacing.
- 6.24 Any pruning work should be undertaken by an approved, competent contractor complying with BS3998:2010 throughout. Specifically referring to reductions, this means that pruning cuts are made back to 'sap risers', smaller side branches which should be at least 1/3<sup>rd</sup> of the diameter of the branch removed. Trees should only be reduced by a specified metrage, such as those detailed by a competent arboriculturist.
- 6.25 Pruning work requirements for the site should be reassessed closer to the time of construction commencement and appropriate measures must be put in place to ensure there is no conflict between the construction requirements and the canopies of retained trees.

## Services and Utilities

- 6.26 During any installation of services or utilities, no machinery will be permitted within the CEZ as defined by the Tree Protection Fencing line around these trees during any works of this nature so as to avoid compaction of soils and mechanical damage to tree limbs, stems and roots. Appropriate contractor Method Statements will be required to ensure these works are undertaken in a sensible and orderly manner. General guidance for such works can be found in NJUG Volume 4 - *Guidelines for the planning, installation and maintenance of utility services in proximity to trees*. (National Joint Utilities Group 2007).
- 6.27 The drainage facilities for the proposed FTP will fall within the layout of the pitch meaning that there will be no encroachment into any root zones of trees and thus no impacts.

## Contractor Access / Egress

- 6.28 All routes of access should follow existing roads and hard-surface areas within the site. The movement of all construction vehicles and workers should be planned so as to avoid RPA of trees nearby and therefore should have no impact on them.

## Planning of Site Operations

- 6.29 Planning of site operations will take sufficient account of trees to ensure that no access and movement of material into and around the site impact on trees. Physical damage can result if this is not considered. Consequently, any movement of plant or materials in proximity to trees will be conducted under the supervision of a banksman, to ensure that adequate clearance from trees is always maintained.
- 6.30 All materials or fluids will not be stored within or near the RPA of retained trees, particularly those whose accidental spillage would cause contamination and damage to a tree. Fluids must be handled well away from the outer edge of the RPA of trees.
- 6.31 Chippings or any other mulching materials should not be piled or stored within the RPA of any retained tree and specifically not over the buttresses and lower stem of any tree.
- 6.32 Correct planning of access routes and storage areas prior to start on site will ensure no impacts from these activities will occur. It is considered that there should be ample space away from trees for purposes of storage.



## 7 PRE-DEVELOPMENT WORKS

### Tree Removal

- 7.1 **23 recorded trees will require removal** to accommodate the proposed development; T14, T15, T16, T17, T18, T19, T20, T21, T33, T43, T52, T57, T58, T59, T60, T61, T62, T63, T64, T65, T66, T82 and T83.
- 7.2 The southern end of G88 will require removal- approximately 22m in length of understorey vegetation.

### Predevelopment Tree Pruning Works

- 7.3 Minor reduction and pruning works maybe required to T4, G42, T47, T48, T49, T78, T79 and T84.

### Standard of Work

- 7.4 All tree works should be carried out in accordance with BS3998:2010 *Tree Work - Recommendations* and latest arboricultural best practice.
- 7.5 All tree work should be carried out by suitably qualified, competent and insured arboricultural contractors.
- 7.6 The aim of any pruning activities should be to provide a natural appearance within the crown and should not be to leave an acute side to the crown of the tree.
- 7.7 Final pruning cuts should be considered and where possible to natural target pruning points such as branch unions where branch bark ridges can be used to guide the pruning cuts. Where these points are not available the exposed stub should be a small as possible and an assessment of each individual branch taken by the operative before making the cut.
- 7.8 All cuts should be made so that they do not provide future structural issues such as weak forks and loss of structural integrity. Branch reductions should be used to eliminate bark rips and tears; these forms of damage to retained trees will not be accepted by the client.
- 7.9 If there are any concerns regarding the above, then this shall be raised prior to any construction works commencing.
- 7.10 Any green and woody waste generated by the tree works shall be removed from site and disposed of in an environmentally sustainable manner.

### Timing of Works

- 7.11 All tree works shall be completed prior to commencement of any construction works on the site.
- 7.12 All works shall be timed to have regard to the activity of protected species that are associated with trees, notably birds and bats.
- 7.13 With the above being noted, wound healing and reiterative growth is generally best observed when pruning is undertaken in mid-summer, when energy reserves are high and the tree is metabolically active.

### Tree Protection Barriers

- 7.14 All tree protection fencing should be erected to its position during the pre-development periods of construction. The position is shown on the Tree Protection & Removal Plan (see drawings JSL4914\_710).
- 7.15 To ensure successful tree protection during this process, all operatives should be briefed on the need to pay regard the existing trees and all operations adjacent to trees be properly supervised. This will help ensure the works do not affect adversely the trees.
- 7.16 Once the protective barriers are in place they must remain in situ throughout the course of the development until the completion of all building works. Copies of the Tree Protection Plans shall be placed in the site office for reference by all site staff.
- 7.17 The protective fencing barrier is to be constructed in accordance with the specification detailed at Appendix C.
- 7.18 Signs (A3 in size) detailing the purpose of the protective fencing shall be attached to the fencing at 10m intervals. Such signs should be weatherproof and shall be substantially in the form of the specimen provided at Appendix D. Signs must be replaced as necessary should they be removed or become illegible.

## 8 CONSTRUCTION WORKS

### Construction Exclusion Zone

- 8.1 The CEZ as defined by the protective fence line shall be regarded as sacrosanct, and the protective fencing shall not be moved or taken down at any time.
- 8.2 Within the CEZ there must be no mechanical digging or scraping, no alteration to existing ground levels including soil stripping, no earthworks, no handling or discharge of any chemical substance, concrete washings or of any fuels.
- 8.3 Furthermore, vehicular or pedestrian access and the storage of any materials is prohibited within the CEZ.
- 8.4 Additionally, no materials that may contaminate the soil such as concrete mixings, diesel oil and vehicle washings shall be discharged within 10m of the stem of any tree and no fires shall be lit within 10m of the maximum extent of a trees crown.

### Site Compounds and Materials Stores

- 8.5 Activities related to the establishment of a temporary site compound have the potential to impact upon retained trees by various means. In particular the storage and mixing of chemicals and materials such as concrete can have a damaging effect on tree health if precautions are not taken.
- 8.6 To prevent harm occurring to trees provision for materials storage, site offices, deliveries and other related activities should be made available in areas away from retained trees.
- 8.7 The offices, parking of site and contractor vehicles, along with secure storage will be provided in an area away from retained trees. This area will be directly controlled by the Site Manager.

### Monitoring

- 8.8 Following erection of the protective fencing and prior to commencement of the construction phase an inspection of the site by the Council's Tree Officer, should be arranged to confirm fencing has been installed in accordance with the Tree Protection & Removal Plan (see drawing JSL4914\_710) and any relevant conditions that may be attached to a grant of planning consent for the development.
- 8.9 Further monitoring visits should be carried out during implementation of the works on site, ideally on a monthly basis to ensure all planning conditions are being implemented.

### Reporting

- 8.10 During the construction phase of the development the Site Manager will be responsible for liaising with the Council Tree Officer on all arboricultural issues.
- 8.11 Should any arboricultural issues become apparent during the works the Site Manager should immediately contact the appointed Arboricultural Consultant or the Council's Tree Officer for advice upon how to proceed.

**Tables**

**Table 1: Tree Survey Schedule**

**Key to Inspection Report Form**

<b>Species</b>	Genus and species
<b>Height</b>	Measured Clinometer Reading or Estimated Height in Metres
<b>Girth (dbh @ 1.5m)</b>	Diameter measured in cms, or estimated, Where multi stemmed below 1.5m the diameter is taken as that just above the root flare
<b>Spread (m)</b>	Crown Spread, radius estimated in metres
<b>Canopy height (m)</b>	Canopy height estimated in metres above ground level
<b>Physiological Condition</b>	Good, Fair, Poor, Dead
<b>Age Class</b>	Y – Young, SM – Semi mature, EM – Early Mature, M – Mature, OM - Over mature, V – Veteran
<b>Useful Life Expectancy (years)</b>	<10, 10-20, 20-40, 40+
<b>BS Categorization</b>	See Cascade Appendices 2

## TREE SURVEY SCHEDULE

Site: Langton Green Recreation Ground, Langton  
 Project Schedule Ref: JSL4914\_750  
 Drawing Reference: JSL4914\_700  
 Survey date: 09/08/2023

Surveyor: Stefan Kowalczyk  
 Status: For Planning  
 Revision: -  
 Notes: -



Ref. no	Species	Height (m)	Canopy Spread (m)				Crown Area	Stem dia. (mm)	Stem no. at 1.5m	Height of crown clearance (m)	FSB Height (Direction)	Age class	Condition	General Observations Management Recommendations	Estimated remaining contribution (yrs)	Tree Quality Category (BS5837)
			N	E	S	W										
T1	Quercus robur (Common Oak)	15(4)	10	7	5	7	160	400	1	4	-	EM	Good	Good quality trees growing within shelter belt of large mature trees, asymmetric canopy form due to group pressure.	40+	A1
T2	Crataegus monogyna (Hawthorn)	8(2)	3	2	3	5	31	250	1	2	-	M	Good	Good quality tree growing as understorey within shelter belt of large mature trees, asymmetric canopy form due to group pressure.	10+	C2
T3	Castanea sativa (Sweet Chestnut)	15(4)	4	6	6	6	94	550	1	4	-	M	Good	Good quality tree growing within shelter belt of large mature trees, asymmetric canopy form due to group pressure, ivy on stem.	40+	A1
T4	Fraxinus excelsior (Ash)	20(2)	10	10	10	10	314	500, 500	2	2	-	M	Good	Good quality tree growing within shelter belt of large mature trees, twin stem from ground level covered in ivy, ivy on stem, deadwood in canopy, no obvious signs of Ash Dieback.	40+	A1
T5	Acer pseudoplatanus (Sycamore)	8(2)	4	4	4	4	50	300	1	2	-	SM	Fair	Growing as understorey within shelter belt of large mature trees, vigorous canopy will continue to compete with adjacent ash. <b>Recommendation:</b> arb management - remove to favor adjacent ash tree.	10+	C2
T6	Crataegus monogyna (Hawthorn)	8(2)	3	2	3	5	31	250	1	2	-	M	Good	Good quality tree growing as understorey within shelter belt of large mature trees, asymmetric canopy form due to group pressure.	10+	C2
T7	Quercus robur (Common Oak)	15(4)	9	6	2	6	94	550	1	4	-	EM	Fair	Reasonable tree growing within shelter belt of large mature trees, asymmetric canopy form due to group pressure, canopy heavily bias northwards.	20+	B2
T8	Acer pseudoplatanus (Sycamore)	15(4)	2	6	8	6	88	550	1	4	-	EM	Fair	Reasonable tree growing within shelter belt of large mature trees, asymmetric canopy form due to group pressure, canopy heavily bias southwards.	20+	B2
T9	Crataegus monogyna (Hawthorn)	8(2)	3	3	3	3	28	250	1	2	-	M	Good	Good quality tree growing as small group between large mature trees.	10+	C2
T10	Crataegus monogyna (Hawthorn)	8(2)	3	3	3	3	28	250	1	2	-	M	Good	Good quality tree growing as small group between large mature trees.	10+	C2

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Ref. no	Species	Height (m)	N	E	S	W	Crown Area	Stem dia. (mm)	Stem no. at 1.5m	crown clearance (m)	FSB Height (Direction)	Age class	Condition	General Observations Management Recommendations	remaining contribution (yrs)	Quality Category (BS5837)
T11	Crataegus monogyna (Hawthorn)	8(2)	3	3	3	3	28	250	1	2	-	M	Good	Good quality tree growing as small group between large mature trees.	10+	C2
T12	Acer pseudoplatanus (Sycamore)	8(2)	4	4	4	4	50	350	1	2	-	SM	Fair	Growing as understorey within shelter belt of large mature trees, vigorous canopy will continue to compete with adjacent oak.	10+	C2
T13	Quercus robur (Common Oak)	18(4)	10	7	5	10	200	450, 450	2	4	-	EM	Fair	Reasonable tree growing within shelter belt of large mature trees, asymmetric canopy form due to group pressure, canopy heavily bias northwards, twin stem from ground level with satisfactory union.	20+	B2
T14	Acer pseudoplatanus (Sycamore)	8(2)	2	2	2	2	13	150	1	2	-	Y	Fair	Sapling growth within post and wire fence.	10+	C2
T15	Quercus robur (Common Oak)	8(2)	2	2	2	2	13	150	1	2	-	Y	Fair	Sapling growth within post and wire fence.	10+	C2
T16	Acer pseudoplatanus (Sycamore)	5(2)	1	1	1	1	3	150	1	2	-	Y	Fair	Sapling growth within post and wire fence.	10+	C2
T17	Acer pseudoplatanus (Sycamore)	8(2)	2	2	2	2	13	150	1	2	-	Y	Fair	Sapling growth within post and wire fence.	10+	C2
T18	Acer pseudoplatanus (Sycamore)	10(2)	4	4	4	4	50	150	1	2	-	SM	Fair	Larger sapling growth within post and wire fence, multi stemmed with tight unions.	10+	C2
T19	Acer pseudoplatanus (Sycamore)	7(2)	2	2	2	2	13	150	1	2	-	SM	Fair	Larger sapling growth within post and wire fence, no particular merit.	10+	C2
T20	Acer pseudoplatanus (Sycamore)	7(2)	2	2	2	2	13	150	1	2	-	SM	Fair	Larger sapling growth within post and wire fence, no particular merit.	10+	C2
T21	Acer pseudoplatanus (Sycamore)	7(2)	2	2	2	2	13	150	1	2	-	SM	Fair	Larger sapling growth within post and wire fence, no particular merit.	10+	C2
T22	Acer pseudoplatanus (Sycamore)	15(4)	5	5	5	5	79	300, 300	2	4	-	EM	Fair	Reasonable tree growing within shelter belt of large mature trees, three stems from ground level with tight union.	20+	B2
T23	Quercus robur (Common Oak)	18(4)	10	8	10	7	240	450, 450	2	4	-	M	Good	Reasonable tree growing within shelter belt of large mature trees, twin stem from ground level with satisfactory union.	40+	A2
T24	Quercus robur (Common Oak)	18(4)	9	7	6	7	163	450	1	4	-	M	Good	Good quality tree growing within shelter belt of large mature trees, large pruning wounds on main stem occluding well.	40+	A2
T25	Quercus robur (Common Oak)	18(4)	3	5	8	2	63	400	1	4	-	M	Good	Good quality tree growing within shelter belt of large mature trees, asymmetric canopy form due to group pressure.	40+	A2

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Ref. no	Species	Height (m)	N	E	S	W	Crown Area	Stem dia. (mm)	Stem no. at 1.5m	crown clearance (m)	FSB Height (Direction)	Age class	Condition	General Observations Management Recommendations	remaining contribution (yrs)	Quality Category (BS5837)
T26	Quercus robur (Common Oak)	18(4)	2	2	5	5	31	350	1	4	-	M	Good	Good quality tree growing within shelter belt of large mature trees, asymmetric canopy form due to group pressure.	20+	B2
*#T27	Tilia cordata (Small-leaved Lime)	18(4)	7	7	7	7	154	500	1	4	-	M	Good	Good quality tree growing on boundary, dense lower foliage obscures inspection, assumed off-site, not plotted on topographical survey.	40+	A1
T28	Acer pseudoplatanus (Sycamore)	18(4)	2	2	4	4	25	350	1	4	-	M	Fair	Reasonable quality tree growing on end of shelter belt of mature trees, asymmetric canopy form due to group pressure, multi stemmed from ground level with tight unions.	10+	C2
T29	Acer pseudoplatanus (Sycamore)	15(4)	2	2	4	4	25	250, 250	2	4	-	M	Fair	Reasonable quality tree growing within shelter belt of mature trees, asymmetric canopy form due to group pressure, twin stemmed from ground level with tight unions.	10+	C2
T30	Quercus robur (Common Oak)	18(4)	4	7	3	7	86	450	1	4	-	M	Fair	Reasonable quality tree growing within shelter belt of large mature trees, majorly asymmetric canopy due to group pressure.	20+	B2
T31	Quercus robur (Common Oak)	15(4)	2	7	3	7	71	300	1	4	-	M	Fair	Growing within shelter belt of large mature trees, majorly asymmetric canopy due to group pressure.	10+	C2
T32	Quercus robur (Common Oak)	18(4)	3	3	2	8	47	350	1	4	-	M	Fair	Growing within shelter belt of large mature trees, majorly asymmetric canopy due to group pressure, better of two oaks in this section of shelterbelt.	20+	B2
T33	Quercus robur (Common Oak)	15(4)	2	2	2	2	13	200	1	4	-	Y	Fair	Young sapling growing on boundary fence.	10+	C2
T34	Acer pseudoplatanus (Sycamore)	18(4)	5	6	1	6	60	300, 300	2	4	-	M	Fair	Growing within shelter belt of large mature trees, majorly asymmetric canopy due to group pressure, forms part of a group of very closely spaced tree stems.	20+	B2
*#T35	Acer pseudoplatanus (Sycamore)	15(4)	2	2	2	2	13	200	1	4	-	Y	Fair	Young sapling growing on boundary fence, not plotted on topographical survey, off-site.	10+	C2
#T36	Acer pseudoplatanus (Sycamore)	15(4)	2	2	2	2	13	150, 150, 150, 150, 150	5	4	-	Y	Fair	Young sapling growing on boundary fence, multi stemmed, not plotted on topographical survey.	10+	C2
T37	Acer pseudoplatanus (Sycamore)	15(4)	2	2	2	2	13	200	1	4	-	Y	Fair	Young sapling growing on boundary fence.	10+	C2
*#T38	Quercus robur (Common Oak)	15(4)	6	6	6	6	113	450	1	4	-	M	Good	Good quality tree growing off-site, not plotted on topographical survey.	40+	A1

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Ref. no	Species	Height (m)	N	E	S	W	Crown Area	Stem dia. (mm)	Stem no. at 1.5m	crown clearance (m)	FSB Height (Direction)	Age class	Condition	General Observations Management Recommendations	remaining contribution (yrs)	Quality Category (BS5837)
*#T39	Acer pseudoplatanus (Sycamore)	15(4)	6	3	4	6	71	450	1	4	-	M	Good	Good quality tree growing off-site, not plotted on topographical survey.	20+	B2
T40	Acer pseudoplatanus (Sycamore)	15(4)	3	6	6	6	85	200 x10	10	4	-	M	Fair	Multi stemmed from ground level with satisfactory unions.	20+	B2
T41	Acer pseudoplatanus (Sycamore)	15(4)	7	6	2	6	82	200 x10	10	4	-	M	Fair	Multi stemmed from ground level with satisfactory unions.	20+	B2
G42	Acer pseudoplatanus (Sycamore)	15(4)	-	-	-	-	-	350 (avg.)	-	4	-	M	Fair	Shelter belt of trees with multiple stems.	20+	B2
T43	Quercus robur (Common Oak)	15(4)	2	4	2	2	19	200	1	4	-	Y	Fair	Young sapling growing on boundary fence.	10+	C2
*#T44	Quercus robur (Common Oak)	20(4)	14	14	14	14	616	1100	1	4	-	M	Good	Superb quality tree growing off-site, not plotted on topographical survey.	40+	A1
*#T45	Quercus robur (Common Oak)	20(4)	10	11	8	11	313	900	1	4	-	M	Good	Superb quality tree growing off-site, not plotted on topographical survey.	40+	A1
*#T46	Quercus robur (Common Oak)	20(4)	10	10	4	10	220	900	1	4	-	M	Good	Superb quality tree growing off-site, not plotted on topographical survey.	40+	A1
T47	Quercus robur (Common Oak)	7(4)	4	4	4	4	50	300	1	4	-	SM	Good	Good quality small tree with long term potential.	20+	B2
T48	Quercus robur (Common Oak)	7(4)	5	5	5	5	79	450	1	4	-	SM	Good	Good quality small tree with long term potential.	20+	B2
T49	Quercus robur (Common Oak)	7(4)	4	4	4	4	50	250	1	4	-	SM	Good	Good quality small tree with long term potential.	20+	B2
T50	Quercus robur (Common Oak)	7(4)	2	2	2	2	13	150	1	4	-	Y	Fair	Small sapling growth on boundary.	10+	C2
T51	Acer pseudoplatanus (Sycamore)	7(4)	2	2	2	2	13	150	1	4	-	Y	Fair	Small sapling growth on boundary.	10+	C2
T52	Quercus robur (Common Oak)	7(4)	3	3	3	3	28	200	1	4	-	Y	Fair	Small sapling growth on boundary.	10+	C2
T53	Quercus robur (Common Oak)	10(4)	8	8	8	8	201	500	1	4	-	EM	Fair	Good quality individual with long term potential.	40+	A1
*#T54	Quercus robur (Common Oak)	20(4)	10	6	4	10	176	900	1	4	-	M	Good	Superb quality tree growing off-site, not plotted on topographical survey.	40+	A1
*#T55	Tilia cordata (Small-leaved Lime)	20(4)	8	8	8	8	201	900	1	4	-	M	Good	Superb quality tree growing off-site, not plotted on topographical survey, off-site.	40+	A1

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Ref. no	Species	Height (m)	N	E	S	W	Crown Area	Stem dia. (mm)	Stem no. at 1.5m	crown clearance (m)	FSB Height (Direction)	Age class	Condition	General Observations Management Recommendations	remaining contribution (yrs)	Quality Category (BS5837)
*#T56	Quercus robur (Common Oak)	20(4)	8	9	6	6	160	900	1	4	-	M	Good	Superb quality tree growing off-site, not plotted on topographical survey, off-site.	40+	A1
T57	Fraxinus excelsior (Ash)	7(4)	2	2	2	2	13	200	1	4	-	Y	Fair/Poor	Sapling growing from post and wire fence, no particular merit, early stage Ash Dieback evident.	10+	C1
T58	Fraxinus excelsior (Ash)	7(4)	2	2	2	2	13	200	1	4	-	Y	Dead	Dead.	<10	U
T59	Fraxinus excelsior (Ash)	7(4)	2	2	2	2	13	200	1	4	-	Y	Fair/Poor	Sapling growing from post and wire fence, no particular merit, early stage Ash Dieback evident.	10+	C1
T60	Fraxinus excelsior (Ash)	7(4)	2	2	2	2	13	200	1	4	-	Y	Dead	Dead.	<10	U
T61	Quercus robur (Common Oak)	7(4)	3	3	3	3	28	200	1	4	-	Y	Good	Sapling growing from post and wire fence, potential for long term establishment.	10+	C1
T62	Quercus robur (Common Oak)	7(4)	4	4	4	4	50	200	1	4	-	Y	Good	Sapling growing from post and wire fence, potential for long term establishment, cat c due to small size and age.	10+	C1
T63	Fraxinus excelsior (Ash)	7(4)	2	2	2	2	13	200	1	4	-	Y	Fair/Poor	Sapling growing from post and wire fence, no particular merit, early stage Ash Dieback evident.	10+	C1
T64	Quercus robur (Common Oak)	7(4)	4	1	4	4	31	200	1	4	-	SM	Good	Sapling growing from post and wire fence, potential for long term establishment, cat c due to small size and age.	10+	C1
T65	Quercus robur (Common Oak)	7(4)	4	4	4	1	31	200	1	4	-	SM	Good	Sapling growing from post and wire fence, potential for long term establishment, cat c due to small size and age.	10+	C1
T66	Quercus robur (Common Oak)	7(4)	4	4	4	4	50	200	1	4	-	SM	Good	Sapling growing from post and wire fence, potential for long term establishment, cat c due to small size and age.	10+	C1
*#T67	Fraxinus excelsior (Ash)	20(4)	7	7	7	7	154	600	1	4	-	M	Good	Superb quality tree growing off-site, not plotted on topographical survey, off-site.	20+	B2
*#T68	Fraxinus excelsior (Ash)	20(4)	7	7	7	7	154	600	1	4	-	M	Good	Superb quality tree growing off-site, not plotted on topographical survey, off-site, viewed from a distance.	20+	B2
*#T69	Fraxinus excelsior (Ash)	18(4)	2	4	8	4	57	600	1	4	-	M	Poor/Fair	Heavy lean southwards, twin stem from 3m, assumed off-site, 50% leaf/bud density remaining due to Ash Dieback.	10+	C2

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Ref. no	Species	Height (m)	N	E	S	W	Crown Area	Stem dia. (mm)	Stem no. at 1.5m	crown clearance (m)	FSB Height (Direction)	Age class	Condition	General Observations Management Recommendations	remaining contribution (yrs)	Quality Category (BS5837)
*T70	Fraxinus excelsior (Ash)	18(4)	4	6	5	6	86	600	1	4	-	M	Poor/Fair	Assumed off-site - within public footpath, large deadwood, 50% leaf/bud density remaining due to Ash Dieback.	10+	C2
*T71	Fraxinus excelsior (Ash)	18(4)	6	6	6	6	113	600	1	4	-	M	Poor	Assumed off-site , growing within dense shelterbelt of trees, access to stems limited due to vegetation, likely made up of many stems, majority of tree is dead due to late stage Ash Dieback.	<10	U
T72	Fraxinus excelsior (Ash)	18(4)	6	6	6	6	113	600	1	4	-	M	Poor/Fair	Growing slightly separated from dense shelterbelt of trees, access to stem limited due to vegetation, early stages of Ash Dieback are evident.	10+	C2
S73	Bramble	1(4)	-	-	-	-	-	100 (avg.)	-	4	-	M	Fair	Dense bramble restricting access to shelterbelt of trees.	10+	C2
*#T74	Quercus robur (Common Oak)	20(4)	8	8	8	8	201	750	1	4	-	M	Good	Viewed from a distance due to limited access, canopy appears in good health.	40+	A1
G75	Fraxinus excelsior (Ash), Quercus robur (Common Oak), Acer pseudoplatanus (Sycamore)	15(4)	-	-	-	-	-	400 (avg.)	-	4	-	M	Fair	Shelter belt of trees with multiple stems, some of the large ash within the group are thinning in the canopies showing signs of Ash Dieback.	20+	B2
T76	Robinia pseudoacacia (Locust Tree)	10(4)	5	5	6	10	126	750	1	4	-	M	Good	Viewed from a distance, dimensions estimated, heavily contorted branch structure, large and mature for its species, large deadwood in canopy.	20+	B2
T77	Robinia pseudoacacia (Locust Tree)	10(4)	5	5	5	5	79	500	1	4	-	M	Poor/Fair	Viewed from a distance, dimensions estimated, canopy in decline, centre of tree is dead. <b>Recommendation:</b> Reduce canopy down by approx 5m to retrench canopy / retain as eventual standing deadwood.	10+	C2
T78	Quercus robur (Common Oak)	12(4)	7	7	7	9	176	1000	1	4	-	OM	Poor/Fair	Large old oak in obvious decline, covered in ivy, zero new growth, large deadwood, cavities evident on stem. <b>Recommendation:</b> Reduce canopy down by approx 5m to retrench canopy / retain as eventual standing deadwood.	10+	C1
T79	Quercus robur (Common Oak)	12(2)	7	2	7	10	120	550	1	2	-	M	Poor/Fair	Large oak growing from shelterbelt of trees, canopy bias and stem lean westwards due to group pressure, no other obvious major defects.	20+	B2
T80	Quercus robur (Common Oak)	12(2)	7	7	7	2	99	550	1	2	-	M	Poor/Fair	Large oak growing from shelterbelt of trees, canopy bias and stem lean eastwards due to group pressure, no other obvious major defects.	20+	B2

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Ref. no	Species	Height (m)	N	E	S	W	Crown Area	Stem dia. (mm)	Stem no. at 1.5m	crown clearance (m)	FSB Height (Direction)	Age class	Condition	General Observations Management Recommendations	remaining contribution (yrs)	Quality Category (BS5837)
T81	Quercus robur (Common Oak)	12(2)	2	4	7	4	52	400	1	2	-	M	Poor/Fair	Large oak growing from shelterbelt of trees, canopy bias and stem lean southwards due to group pressure, no other obvious major defects.	20+	B2
T82	Robinia pseudoacacia (Locust Tree)	10(2)	4	4	4	4	50	400	1	2	-	M	Fair/Poor	Previously topped down to a large 5m stump, canopy has since grown back to produce fresh new canopy.	10+	C2
T83	Robinia pseudoacacia (Locust Tree)	10(2)	4	4	4	4	50	400	1	2	-	M	Fair/Poor	Reasonable tree growing within dense shelterbelt of trees.	10+	C2
T84	Quercus robur (Common Oak)	15(4)	9	9	9	9	254	550	1	4	-	M	Good	Good quality tree growing on corner of post and wire fence boundary, compaction of RPA evident from heavy wear marks on soft surface on northern side, used as access into partitioned field, access to stem restricted due to vegetation.	40+	A1
T85	Quercus robur (Common Oak)	15(4)	9	9	9	9	254	550	1	4	-	M	Good	Good quality tree growing within shelterbelt of trees, access to stem restricted due to vegetation.	40+	A1
T86	Quercus robur (Common Oak)	15(2)	5	8	5	2	71	450	1	2	-	M	Good	Good quality tree growing within shelterbelt of trees, access to stem restricted due to vegetation, canopy and stem bias eastwards.	20+	B2
T87	Quercus robur (Common Oak)	15(2)	5	9	5	2	77	500	1	2	-	M	Good	Good quality tree growing within shelterbelt of trees, access to stem restricted due to vegetation, canopy and stem bias eastwards.	20+	B2
G88	Fraxinus excelsior (Ash), Quercus robur (Common Oak), Acer pseudoplatanus (Sycamore), Robinia pseudoacacia (Locust Tree), Crataegus monogyna (Hawthorn)	5(1)	-	-	-	-	-	300 (avg.)	-	1	-	M	Fair	Shelter belt of trees, mostly understorey, larger trees have been picked out as individuals.	10+	C2
#T89	Quercus robur (Common Oak)	15(4)	9	9	9	9	254	700	1	4	-	M	Good	Good quality large tree growing within shelterbelt of trees, no obvious major defects.	40+	A1
#T90	Quercus robur (Common Oak)	15(4)	4	9	11	9	204	500	1	4	-	M	Good	Good quality large tree growing within shelterbelt of trees, no obvious major defects, not plotted on topographical survey, location estimated.	40+	A1
#T91	Fagus sylvatica (Beech)	15(4)	4	7	8	7	130	500	1	4	-	M	Good	Good quality large tree growing within shelterbelt of trees, no obvious major defects, not plotted on topographical survey, location estimated.	40+	A1
#T92	Quercus robur (Common Oak)	15(4)	4	7	10	7	147	600	1	4	-	M	Good	Good quality large tree growing within shelterbelt of trees, no obvious major defects, not plotted on topographical survey, location estimated, canopy bias heavily south, access to stem restricted due to veg.	40+	A1

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Ref. no	Species	Height (m)	N	E	S	W	Crown Area	Stem dia. (mm)	Stem no. at 1.5m	crown clearance (m)	FSB Height (Direction)	Age class	Condition	General Observations Management Recommendations	remaining contribution (yrs)	Quality Category (BS5837)
#T93	Quercus robur (Common Oak)	15(4)	7	8	12	8	236	750	1	4	-	M	Good	Good quality large tree growing within shelterbelt of trees, no obvious major defects, not plotted on topographical survey, location estimated, canopy bias heavily south, access to stem restricted due to veg.	40+	A1
#T94	Quercus robur (Common Oak)	15(4)	7	8	10	8	212	600	1	4	-	M	Good	Good quality large tree growing within shelterbelt of trees, dieback of canopy evident, not plotted on topographical survey, location estimated, canopy bias heavily south, access to stem restricted due to veg.	20+	B2
#T95	Quercus robur (Common Oak)	15(4)	7	8	10	8	212	600	1	4	-	M	Good	Good quality large tree growing within shelterbelt of trees, not plotted on topographical survey, location estimated, canopy bias heavily south, access to stem restricted due to veg, no obvious major defects, ivy in canopy.	40+	A1
#T96	Quercus robur (Common Oak)	15(2)	7	5	10	6	151	650	1	2	-	M	Good	Good quality large tree growing within shelterbelt of trees, not plotted on topographical survey, location estimated, canopy bias heavily south, access to stem restricted due to veg, no obvious major defects, ivy in canopy, asymmetric canopy due to previous group pressure from east easterly trees has since been removed.	40+	A1
#T97	Quercus robur (Common Oak)	15(4)	7	4	10	5	130	650	1	4	-	M	Good	Good quality large tree growing within shelterbelt of trees, not plotted on topographical survey, location estimated, canopy bias heavily south, access to stem restricted due to veg, no obvious major defects, ivy in canopy, asymmetric canopy due to previous group pressure from west, westerly tree has since been removed.	40+	A1
#T98	Quercus robur (Common Oak)	15(4)	7	5	10	3	123	650	1	4	-	M	Good	Good quality large tree growing within shelterbelt of trees, not plotted on topographical survey, location estimated, canopy bias heavily south, access to stem restricted due to veg, no obvious major defects, ivy in canopy, asymmetric canopy due to group pressure.	40+	A1
G99	Fraxinus excelsior (Ash), Quercus robur (Common Oak), Acer pseudoplatanus (Sycamore), Robinia pseudoacacia (Locust Tree), Crataegus monogyna (Hawthorn)	5(1)	-	-	-	-	-	300 (avg.)	-	1	-	M	Fair	Shelter belt of trees, mostly understorey, larger trees have been picked out as individuals where obvious, private driveway to north separates larger group of trees to north.	10+	C2
T100	Quercus robur (Common Oak)	15(4)	10	8	10	8	254	700	1	4	-	M	Good	Good quality tree growing as part of shelter belt of trees, location estimated not plotted on topographical survey, no obvious major defects.	40+	A1
T101	Quercus robur (Common Oak)	15(4)	13	7	10	8	283	750	1	4	-	M	Good	Good quality tree growing as part of shelter belt of trees, location estimated not plotted on topographical survey, no obvious major defects.	40+	A1

Note: This survey is based on a brief visual inspection from the ground.  
It is not intended as a full arboricultural inspection.

# - indicates estimated dimensions location. \* - indicates off site tree. FSB - First Significant Branch.



Ref. no	Species	Height (m)	N	E	S	W	Crown Area	Stem dia. (mm)	Stem no. at 1.5m	crown clearance (m)	FSB Height (Direction)	Age class	Condition	General Observations Management Recommendations	remaining contribution (yrs)	Quality Category (BS5837)
T102	Fraxinus excelsior (Ash)	12(4)	4	4	4	4	50	200, 200, 200, 200, 100	5	4	-	SM	Poor	Late stag Ash Dieback, majority of canopy is dead.	<10	U
T103	Quercus robur (Common Oak)	15(2)	12	6	10	8	254	750	1	2	-	M	Good	Good quality tree growing as part of shelter belt of trees, location estimated not plotted on topographical survey, no obvious major defects.	40+	A1
T104	Quercus robur (Common Oak)	15(2)	10	8	10	6	226	400, 500	2	2	-	M	Good	Good quality tree growing as part of shelter belt of trees, twin stem from ground level with good union, location estimated not plotted on topographical survey, no obvious major defects.	40+	A1
T105	Corylus avellana (Hazel)	7(2)	3	3	3	3	28	250	1	2	-	M	Good	Small understory tree, location estimated not plotted on topographical survey, no obvious major defects.	10+	C2
T106	Acer pseudoplatanus (Sycamore)	7(2)	4	4	4	4	50	350	1	2	-	M	Good	Small understory tree, location estimated not plotted on topographical survey, no obvious major defects.	10+	C2
T107	Quercus robur (Common Oak)	15(2)	9	8	9	6	200	550	1	2	-	M	Good	Good quality tree growing as part of shelter belt of trees, twin stem from ground level with good union, location estimated not plotted on topographical survey, no obvious major defects.	40+	A1
T108	Quercus robur (Common Oak)	15(2)	9	9	9	9	254	550	1	2	-	M	Good	Good quality tree growing as part of shelter belt of trees, twin stem from ground level with good union, location estimated not plotted on topographical survey, no obvious major defects.	40+	A1
T109	Quercus robur (Common Oak)	15(2)	9	2	8	8	138	550	1	2	-	M	Good	Good quality tree growing as part of shelter belt of trees, canopy bias due to growing adjacent to tree to east, location estimated not plotted on topographical survey, no obvious major defects.	40+	A1
T110	Quercus robur (Common Oak)	15(2)	9	10	8	2	149	550	1	2	-	M	Good	Good quality tree growing as part of shelter belt of trees, canopy bias due to growing adjacent to tree to west, twin stem from 1m with tight union, location estimated not plotted on topographical survey, no obvious major defects.	40+	A1
T111	Acer pseudoplatanus (Sycamore)	7(2)	4	4	4	4	50	300	1	2	-	M	Good	Small tree growing as part of shelter belt of trees, no particular merit, location estimated not plotted on topographical survey, no obvious major defects.	10+	C2
T112	Acer pseudoplatanus (Sycamore)	7(2)	4	4	4	4	50	300300	2	2	-	M	Good	Small tree growing as part of shelter belt of trees, no particular merit, location estimated not plotted on topographical survey, no obvious major defects.	10+	C2

Note: This survey is based on a brief visual inspection from the ground.  
It is not intended as a full arboricultural inspection.  
# - indicates estimated dimensions location. \* - indicates off site tree. FSB - First Significant Branch.

Ref. no	Species	Height (m)	Crown				Crown Area	Stem dia. (mm)	Stem no. at 1.5m	crown clearance (m)	FSB Height (Direction)	Age class	Condition	General Observations Management Recommendations	remaining contribution (yrs)	Quality Category (BS5837)
			N	E	S	W										
T113	Fraxinus excelsior (Ash)	12(2)	7	5	5	5	94	400	1	2	-	M	Poor/Fair	Obvious signs of declining canopy, no particular merit, location estimated not plotted on topographical survey.	10+	C2

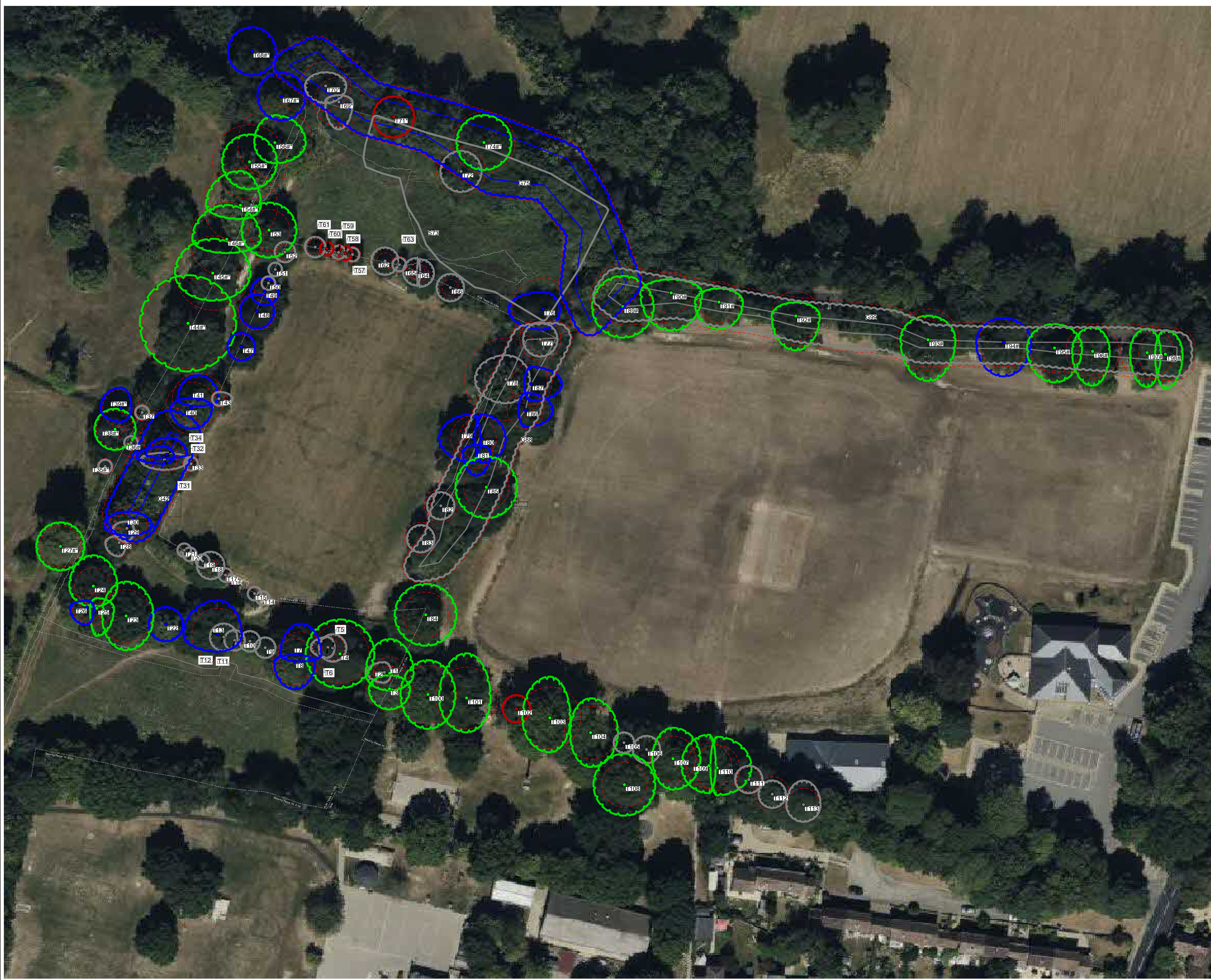
Note: This survey is based on a brief visual inspection from the ground.  
It is not intended as a full arboricultural inspection.  
# - indicates estimated dimensions location. \* - indicates off site tree. FSB - First Significant Branch.

## Figures

**JSL4914\_700: TREE CONSTRAINTS PLAN**

**JSL4914\_710: TREE PROTECTION AND REMOVAL PLAN**





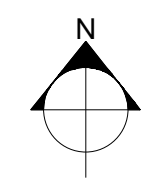
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 Notes  
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 2. If received electronically it is the recipient's responsibility to print to correct scale. Only written dimensions should be used.  
 3. Where applicable Ordnance Survey (c) Crown Copyright 2023. All rights reserved. Licence number 0100031673

**Key**

- Survey boundary.
  - Tree with numbered reference. Canopy spread and coloured BS5837:2012 tree quality category as shown below.  
 # = Tree location estimated (not on topo)  
 \* = Tree in off site location
  - Vegetation group with numbered reference. Canopy extents and coloured BS5837:2012 tree quality category as shown below.
  - Scrub with numbered reference. Canopy extents and coloured BS5837:2012 tree quality category as shown below.
- BS 5837:2012 Tree Quality Categories - Table 1
- Category A - High quality
  - Category B - Moderate quality
  - Category C - Low quality
  - Category U - Unsuitable for retention
- Root protection area (RPA) Calculated in accordance with Section 4.6 - BS5837:2012

NOTES:

- Refer to RPS Tree Survey Report & Schedule for further details.
- Survey based on a visual inspection from the ground and is not intended as a full arboricultural inspection.
- Plan produced in accordance with recommendations set out in BS 5837:2012 - 'Trees in Relation to design, demolition and construction'.
- Due to the legal protection afforded to breeding birds vegetation removal should not take place during the bird nesting period; generally, although not restricted to, March - August inclusive.
- Survey based upon topographic survey provided by the client and produced by jpp in Nov 2022, Drg. No. 25929Y-01.



Rev	Description	By	CB	Date



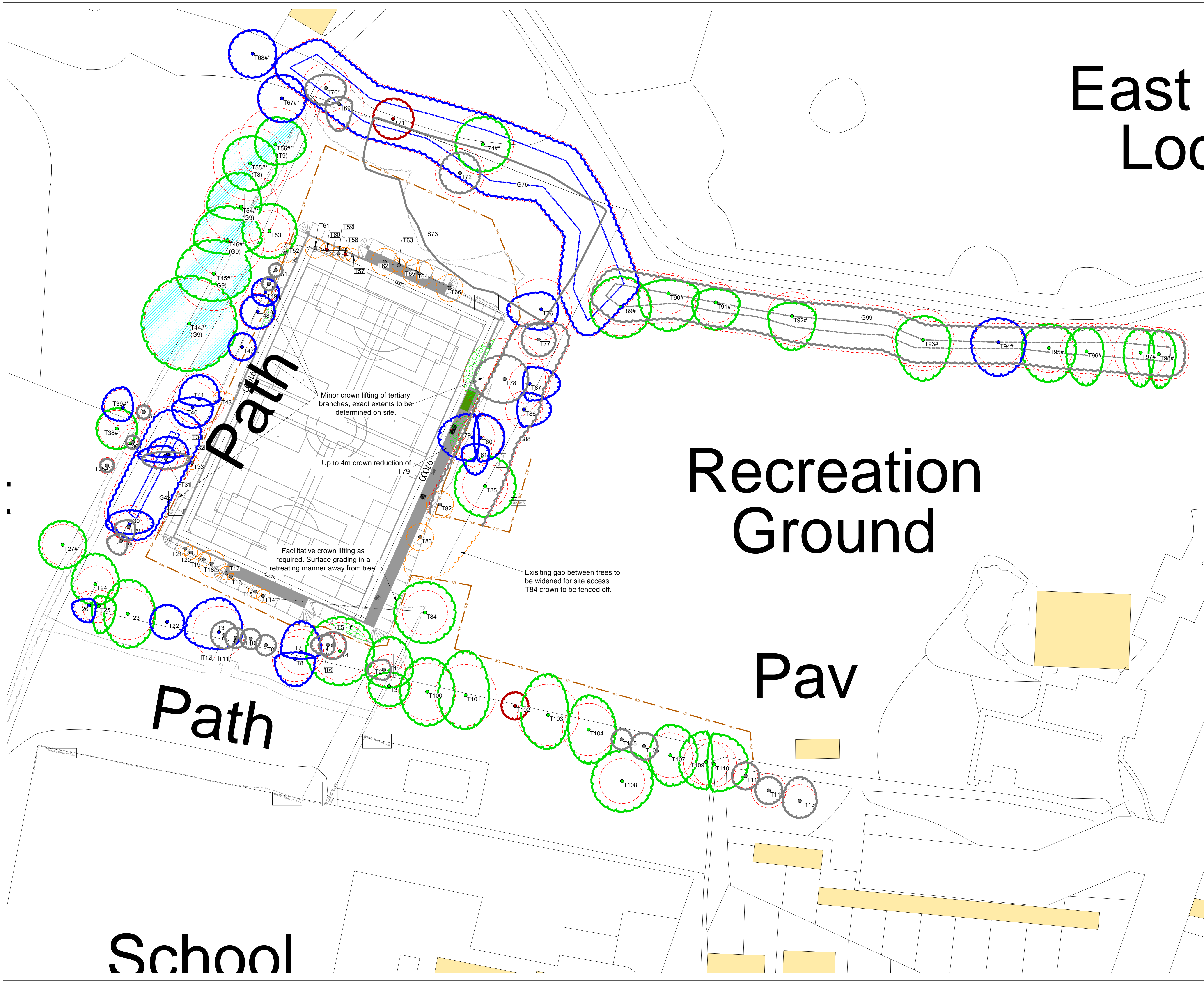
A TETRA TECH COMPANY  
 Lakesbury House, Hillingbury Road, Chandlers Ford, Hampshire SO53 5SS  
 T: 02380 810 440 E: rpsso@rpsgroup.com

Client **Surfacing Standards Ltd**  
 Project **Langton Green Recreation Ground**

Title **Tree Constraints Plan**

Status	Drawn By	PM/Checked by
For Planning	SK	DC
Job Ref	Scale @ A1	Date Created
JSL4914	1:500	Aug 2023
RPS Drawing / Figure Number	Rev	
700	-	





# East Loc

# Recreation Ground

# Pav

# Path

# School

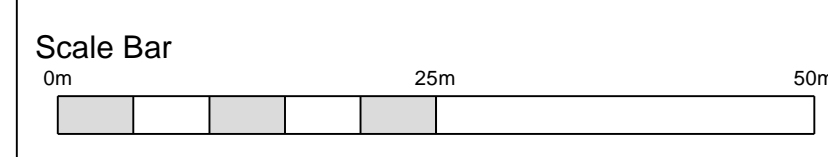
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### Key

- Tree with numbered reference. Canopy spread and coloured BS5837:2012 tree quality category as shown below. # = Tree location estimated (not on topo) \* = Tree in off site location
- Vegetation group with numbered reference. Canopy extents and coloured BS5837:2012 tree quality category as shown below.
- BS 5837:2012 Tree Quality Categories - Table 1**
- Category A - High quality
- Category B - Moderate quality
- Category C - Low quality
- Category U - Unsuitable for retention
- Tree protected by Tree Preservation Order No.0025/2020/TPO. Bracketed Number refers to reference within TPO schedule.
- Root protection area (RPA) Calculated in accordance with Section 4.6 - BS5837:2012
- Tree to be removed with numbered reference. Canopy spread and BS5837:2012 tree quality category.
- Vegetation group or hedge to be removed with numbered reference. Canopy spread and BS5837:2012 tree quality category.
- Temporary protective fencing in accordance with Section 6.2 - BS5837:2012. See inset details for example details.
- Proposed level changes within RPA - excavation to be supervised. Pruning of roots over 25mmØ to be monitored by arboriculturalist, with ongoing monitoring of trees condition by an arboriculturalist being recommended.

**NOTES:**

- Refer to RPS Tree Survey Report & Schedule for further details.
- Survey based on a visual inspection from the ground and is not intended as a full arboricultural inspection.
- Plan produced in accordance with recommendations set out in BS 5837:2012 - 'Trees in Relation to design, demolition and construction'.
- Due to the legal protection afforded to breeding birds vegetation removal should not take place during the bird nesting period; generally, although not restricted to, March - August inclusive.
- Survey based upon topographic survey provided by client in 2023
- Pedestrian/vehicular emergency access routes to be maintained at all times.
- All protective fencing to be completed and approved by LPA / CA prior to commencement of any site works.
- All works to conform with requirements of:  
 BS 3998:2010 - Tree Works  
 BS 5837:2012 - Trees in relation to design, demolition and construction



Rev	Description	By	CB	Date

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Client **Surfacing Standards Ltd**

Project **Langton Green Recreation Ground**

Title **Tree Protection & Removal Plan**

Status	Drawn By	PM/Checked by
For Planning	SK	DC

Job Ref	Scale @ A1	Date Created
JSL4914	1:500	Dec 2023

RPS Drawing / Figure Number	Rev
710	-

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## Appendix A

### Survey Methodology

#### General

This report was authored by Zak Goad, Assistant Arboriculturist and authorised by Thomas Flood, Principal Arboriculturist, of RPS.

The report and survey were carried out in general accordance with the requirements set out in BS 5837:2012 "Trees in Relation to Design, Demolition and Construction – Recommendations".

Trees were inspected from ground level during a site visit. All data was recorded electronically within a Axciscape 4.02 project and then upon return to the office it was imported into an MS Access database. Individual tree numbers and locations were plotted by eye on to a drawing at the time of the survey. Tree positions were then related to a Topographical survey of the site provided, where not shown on the topographical survey tree positions have been plotted by eye only and require confirmation.

Trees were not climbed or inspected below ground level and inaccessible trees will have best estimates made about the location, physical dimensions and characteristics.

The locations of the trees were based upon topographic survey of the site provided by the client.

The survey assesses individual trees and groups of trees for quality and benefits within the context of proposed development. The quality of each tree or group of trees has been recorded by allocating it to one of four categories as described the table below. These categories have been differentiated on the Tree Constraints Plan (JSL4914\_700).

The survey information was recorded on the attached schedule (Table 1) in general accordance with the guidance contained within Section 4 of BS 5837:2012 "Trees in Relation to Design, Demolition and Construction - Recommendations".



## Tree Constraints Plan

The Tree Constraints Plan (see drawing JSL4914\_700) is designed to show the influence that the trees have upon the site by virtue of their size and position. The plan seeks to act as a design tool that shows both the above and below ground constraints presented by the trees.

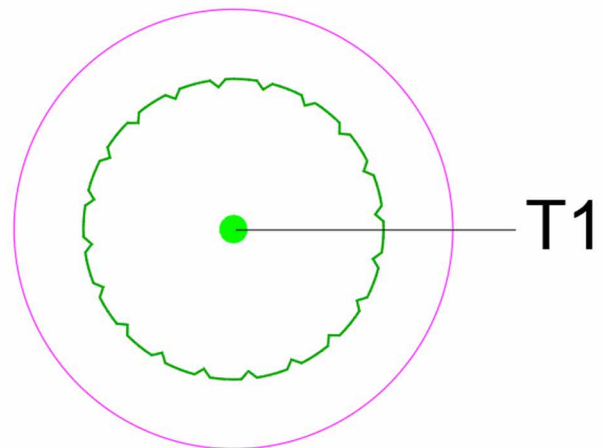
The information provided within this section of the report is to assist in the interpretation of the Tree Constraints Plan and aims to ensure that those trees selected for retention can be successfully integrated within the proposed development.

It should be noted that some of the tree positions shown on the plan have been plotted using the provided topographical survey and others by eye to an Ordnance Survey base map and as such should be considered to be of a provisional nature.

### Root Protection Areas

Root Protection Areas for each tree and group of trees surveyed have been determined in accordance with BS5837:2012 and a schedule of Root Protection Areas is attached to this report as Table 2.

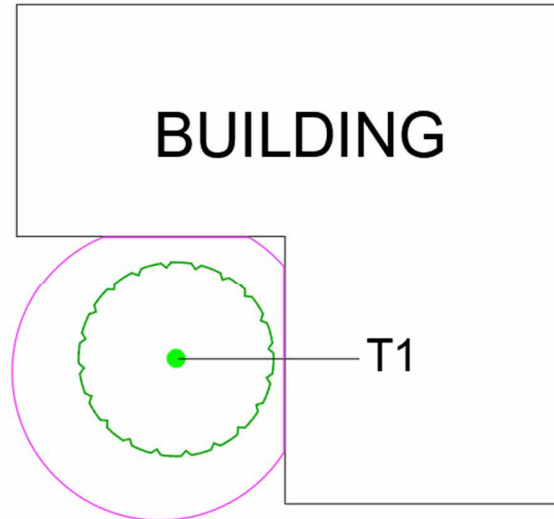
As shown to the right, Root Protection Areas (RPA's) for the trees, where no significant constraints to root development are considered to be present, have been plotted onto the Tree Constraints Plan as circles, with the tree located centrally, extending to encompass the area of ground, and thus the rootable soil volume, required for protection.



Where tree root spread is considered to have been influenced by site conditions the trees RPA's have been plotted to the Tree Constraints Plan as a polygon. The plotted polygon is of the **same area** as it would be as a circle and its shape reflects an arboricultural assessment of likely root distribution.

An example of a polygonal RPA, considered appropriate due to the presence of a building in close proximity to a tree, is shown to the right.

Where possible all development, including new hard landscaping, shall be situated outside of the retained trees designated Root Protection Areas.



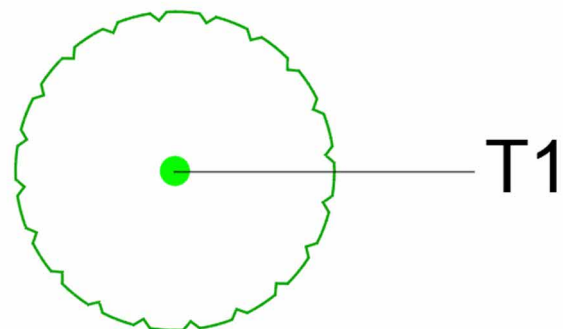
### Existing Canopy Spreads

The existing canopy spreads of the trees on site are shown on the Tree Constraints Plan as depicted here.

The current spread of the tree is a constraint due to its dominance, size and movement in strong winds.

It will typically be unacceptable to design any built development within the current spread of a tree.

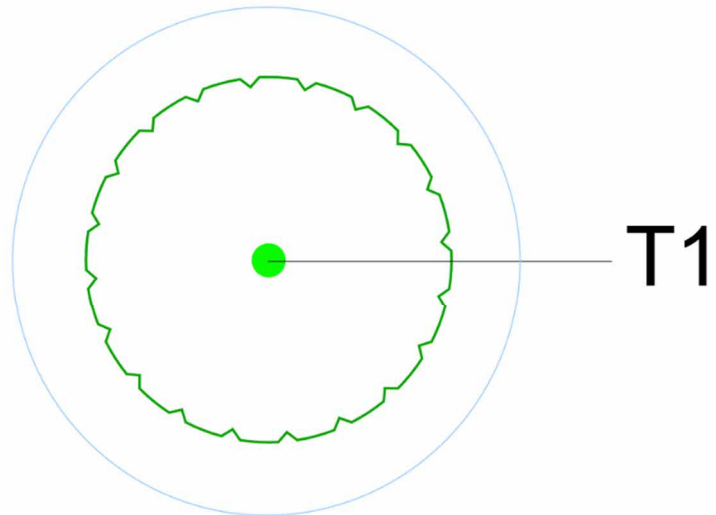
Where built development is proposed in close proximity to existing trees consideration should be given to the amount of working space required to allow its construction.



### Future Tree Growth

Some of the trees surveyed are not yet mature and they have the potential for future growth. Where these are to be retained consideration to their ultimate crown spread should be given as future branch growth may result in interference with proposed development, damage to branches and the need for a tree pruning regime.

To facilitate assessment of future tree growth maximum expected canopy spreads have been marked on the Tree Constraints Plan (see drawing JSL4914\_700) as shown here.



The area of mature tree spread is estimated by the arboriculturist and is their best judgement of mature crown spread based on experience and with regard to the current tree growth observed on the site.

Within the area of maximum branch spread construction activities should be restricted for the long-term health and vigour of the trees.

In this respect it is considered that within the area of maximum branch the construction of utility buildings, such as single storey garages or sheds and the installation of hard surfaces would generally be an appropriate form of construction, however, should car parking be proposed beneath the ultimate spread of trees the likelihood of fruit fall, leaf litter or sap exudate causing a nuisance must be considered.

In addition, it is important to consider the likelihood of damage to trees or structures that may be caused by continuous whipping of branches in windy conditions. In such circumstance's branches may have to be repeatedly cut back which will introduce wounds in the tree and may spoil its form or shape. In general terms trees should not be retained upon the basis that their ultimate branch spread can be significantly controlled by periodic pruning.

### Canopy Height / Clearance

The height and growth direction of the lowest branch of each tree is recorded in the Tree Data Schedule contained within this report as Table 1, the lowest branch height of a tree is shown on the Tree Constraints Plan. Additionally, the vertical clearance of the trees canopy above ground level is recorded within the Tree Data Schedule.

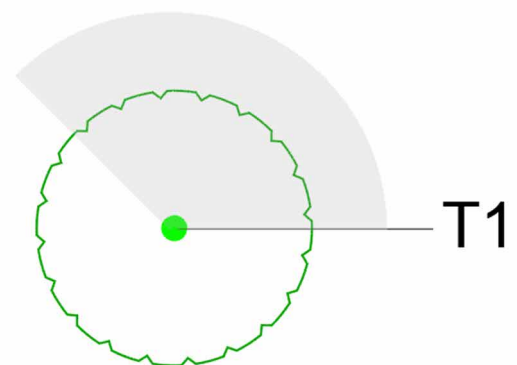
The two figures can be used to inform the extent to which a trees crown may be at risk of damage during development as a result of vehicular or plant movements within the site and to assess the need for additional protective measures to be implemented to protect low branches.

In particular it should also be noted that where the Root Protection Areas for retained trees do not extend to the edge of existing canopy spreads it is possible that those parts of the trees extending beyond the RPA fencing may sustain damage during construction. Where this occurs, there are two primary options available to manage and minimise the potential for damage to tree canopies to occur during development and these may be used singularly or in combination. The first option is to create a Construction Exclusion Zone (CEZ), by the erection of protective fencing, around the full extent of the trees. The second is to undertake pre-development pruning works to the trees to reduce the potential for branch damage to occur.

### Shading

It should be appreciated during the design of the development that trees can cause shading and obstruction of daylight and sunlight. It should be recognised that the extent of shading likely will vary with tree species, canopy shape and size, foliage density, time of year and sun elevation and that such shading will often be seasonal and diffuse.

Shading has been shown on the constraints plan, but this is a very basic shade pattern and it should not be considered as a definitive pattern. Shade and it affects/benefits to residential buildings should be considered by the designers within the overall site appraisal for the building layout. Shade cast by plotted trees will be displayed as seen here on the Tree Constraints Plan.



## Appendix B

# BS5837 Cascade Chart for Tree Quality Assessment

## REPORT

Category and defin	Criteria (including subcategories where app			Identification on plan
<b>Trees unsuitable for retention (see Note)</b>				
<b>Category</b> Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	<ul style="list-style-type: none"> <li>• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning)</li> <li>• Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline</li> <li>• Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality</li> </ul> NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.			Dark Red
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
<b>Trees to be considered for retention</b>				
<b>Category A</b> Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	Light Green
<b>Category</b> Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	Mid Blue
<b>Category</b> Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	Grey

Cascade chart for tree quality assessment

## Appendix C

### Tree Protection Barriers

#### Root Protection Area Barrier Details

Since trees are living organisms which interact with their immediate environment any changes made to their surroundings may have a bearing on that trees future. Developing a site will undoubtedly place any trees within close proximity under some level of stress, which could predispose them to infection. The aim of this method statement is to limit the amount of stress induced by introducing protection measures.

The most effective way of offering protection is by erecting protective barriers set at a distance from the tree stem using the methods given within BS 5837: 2012 Trees in Relation to Design, Demolition and Construction. Barriers should be braced and constructed to resist impacts; see Figures 1 & 2 below for barrier specifications. Barriers can be of an alternative specification to that within the BS5837:2012 provided it is approved by the Local Planning Authority Tree Officer.

Barriers should be erected before any works commence on site with the exception of recommended tree work. Areas of retained and future structure planting should be similarly protected.

All personnel should be made aware of the protected areas and instructed to keep them free of materials, waste and excess soil. Soil disturbance should be prohibited and travel of any kind, including foot traffic should also be excluded within the root protection area (RPA) unless previously agreed and adequate ground protection has been installed.

Where foot traffic is agreed within the RPA, single thickness scaffold boards laid over a compressible material on a geotextile or supported by scaffold should suffice. Where vehicular access through the RPA is agreed an engineer should be consulted to design adequate ground protection methods.

Suggested Barrier Specification (as per BS5837: 2012)

Figure 1

Figure 2 Default specification for protective barrier

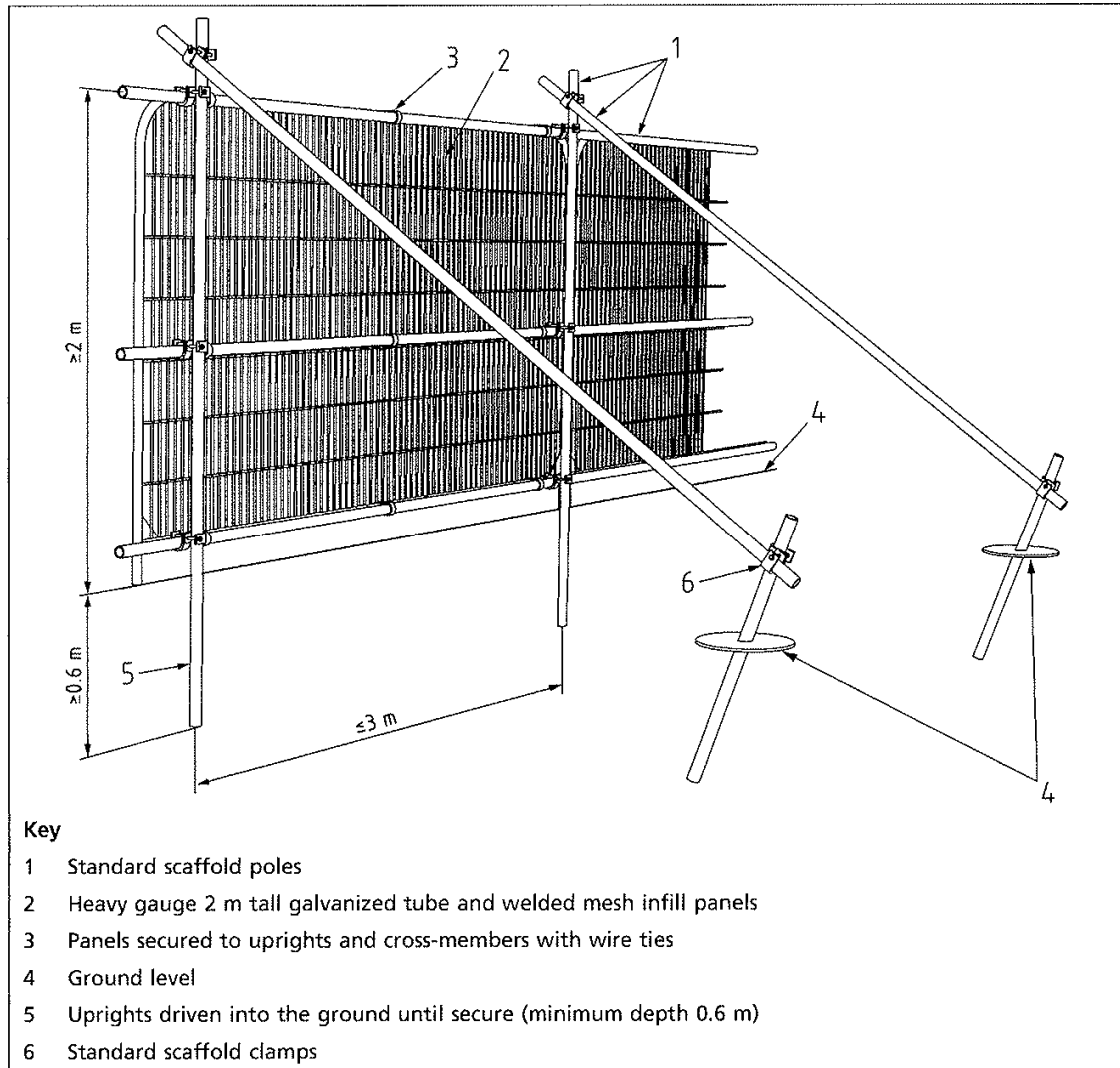
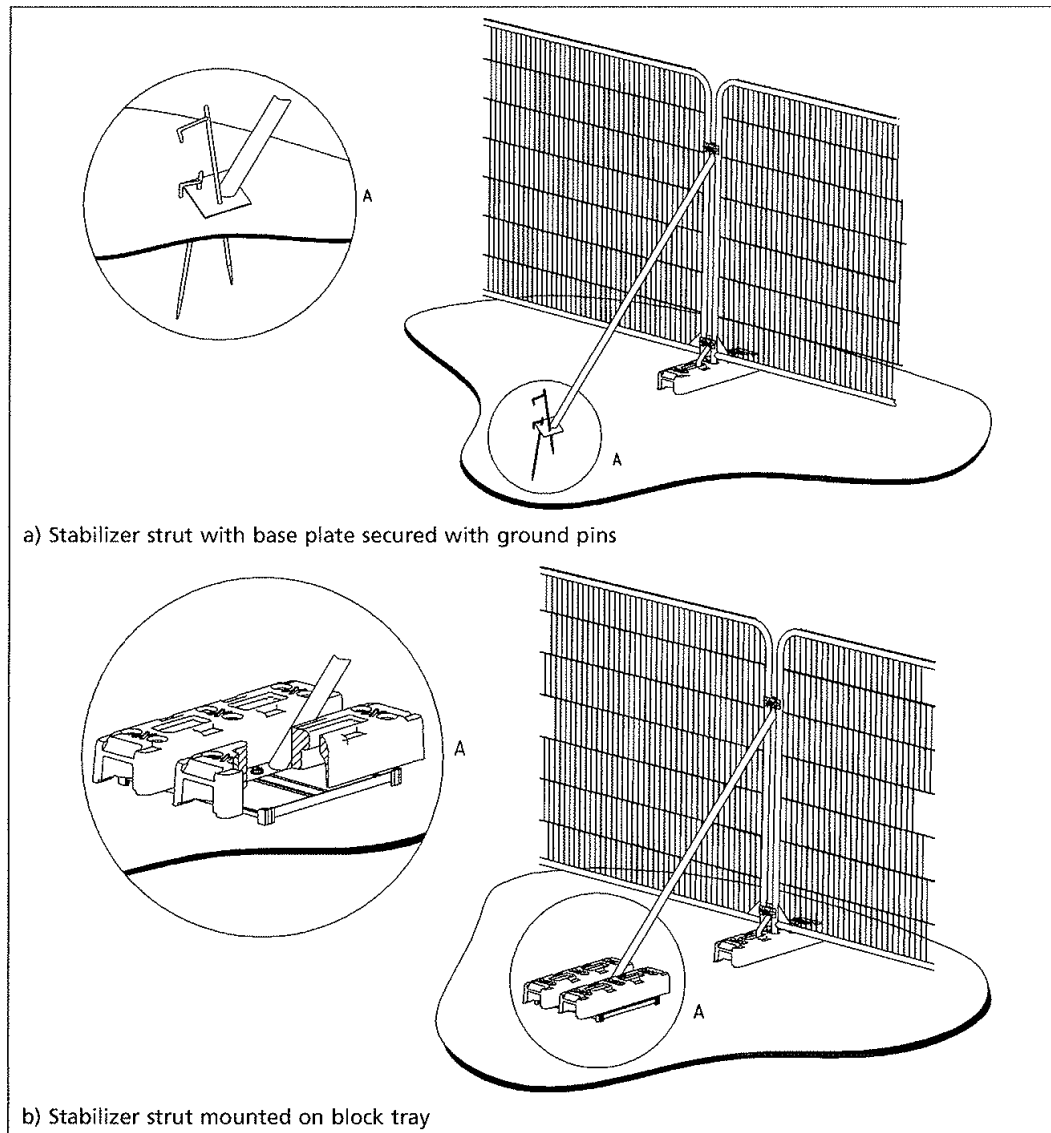




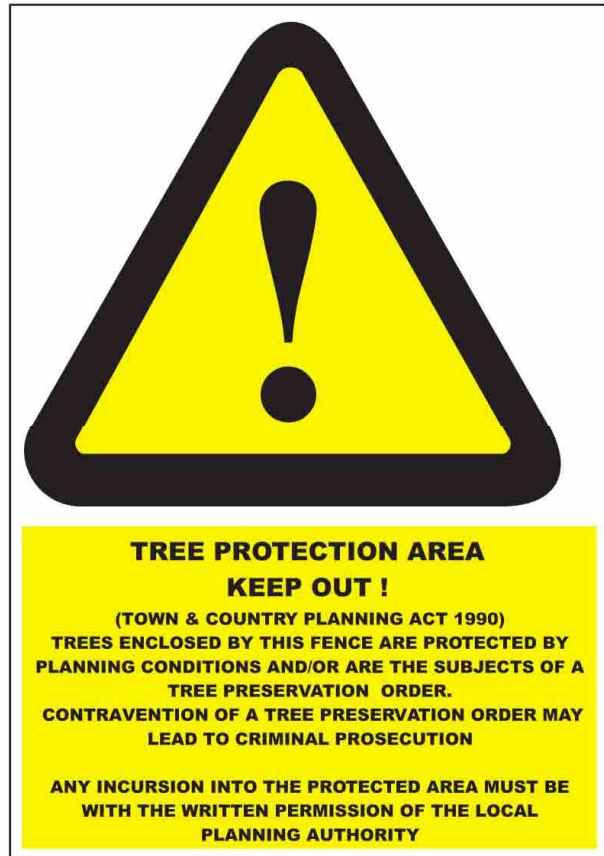
Figure 2.

Figure 3 Examples of above-ground stabilizing systems



Appendix D

Construction Exclusion Signage – Example



## Appendix E

### Site Photographs



**An image taken from within the centre of the playing field site.**





**The existing gap between trees in the south-east boundary. T85 is on the left as pictured, G88 and part of T83 are visible on the right. It is proposed to widen this gap by partially removing G88, T83 and T84.**

## Appendix F

### Hard Surface Installation Methodology

The following methodology sets out the requirements and stages in construction of new hard surfaces in relation to existing trees.

This methodology is not meant to be considered as a specification and whilst examples of products that meet the arboricultural requirements for the installation of hard surfacing adjacent to trees are given the final construction detail must be designed by a suitably qualified and experienced engineer, whilst ensuring the arboricultural requirements are met, to ensure that the finished surface is fit for purpose.

In this respect it should be noted that suppliers of these systems (cellular confinement systems), may offer a design service to develop site specific solutions.

#### **Arboricultural Requirements**

Wherever it is intended to undertake demolition or construction operations within the Root Protection Areas of trees precautions must be taken to maintain the condition and health of trees root systems.

In particular:

Works shall be conducted in such a manner as to prevent physical damage to roots during demolition or construction, such as soil compaction or root severance.

Provision for water and oxygen to reach the roots must be made and the soil structure must not be disturbed.

Provision must be made for future root growth and precautions taken to ensure that such root growth does not cause unacceptable levels of damage to the finished construction.

The soil must not be compacted and soil bulk density must be maintained at suitable levels for tree root growth and function. In this respect a soil bulk density of over 1.8g/cm<sup>3</sup> will impede root growth and function.

To achieve the above requirements for tree root growth and function the surface shall be designed so that:

No excavation is required for their installation; to ensure that physical root damage does not occur.

The surface can be installed without compaction of the existing soils; thus ensuring damage to the soil structure does not occur.

The surface is permeable; thus ensuring that oxygen and water can reach the root system and that CO<sub>2</sub> can diffuse vertically out of the soil as high concentrations can cause root suffocation.

There are various methods of creating such a surface however one that is commonly in use and is therefore recommended here is the use of a three dimensional cellular confinement system to provide for load suspension above the existing soil grade and reducing vertical loads on the underlying soils. One such product is CellWeb produced by Geosynthetics.

Prior to installation of any new surfacing the following factors shall be considered:

The exact location of the area to receive the special surfacing shall be determined.

The area should be investigated to identify any existing services.

The area shall be fenced off with tree protection fencing until installation of the special surfacing is to take place. Such installation should generally be phased to occur following substantial completion of the development.

The final surface shall be decided upon, the surface must be permeable and several options for final surfacing are considered in the following section.

### **Methodology for Surface Installation**

Prior to the installation of the new surface, existing ground cover and surface vegetation should be killed using an appropriate herbicide.

Specialist advice should be sought in order to determine the most appropriate herbicide to use due to the potential for leaching through soils and the potential impacts that this will have on retained vegetation.

As an alternative or addition to herbicide treatment the existing surface vegetation may be carefully removed by using hand tools.

All dead organic matter is to be removed by hand following herbicide treatment to prevent anaerobic conditions, as a result of the decomposition of dead vegetation, occurring.

All major protrusions such as rocks shall be removed by hand and all tree or shrub stumps from removed vegetation shall be ground out to minimise ground disturbance.

The soil surface **must not** be skimmed or stripped to achieve a level surface and where necessary major hollows shall be filled using a granular fill, such as no-fines gravel, washed aggregate or cobbles, to achieve a level surface.

In some cases it may be appropriate to consider the removal of the top layers of soil by non mechanical means to achieve desired levels, establish rooting patterns and potentially provide for some embedding of the new surface into the existing ground level. Such works shall be completed using pneumatic soil excavation techniques and the works must be supervised by an Arboricultural consultant. The need for such works to occur shall be considered during the detailed design of the surface.

Following surface preparation the soil shall be covered by a permeable geotextile to prevent the cellular confinement fill from migrating into the existing soils.

The geotextile layer shall be laid with overlaps of 300mm beyond the edge of the proposed construction and shall be temporarily retained with pins, stakes or weights.

The cellular confinement system shall then be installed and fixed in position in accordance with the manufacturer's recommendations.

The cellular confinement system shall then be filled with the specified aggregate in accordance with the manufacturer's recommendations – Appendix 5. All works involved in the filling of the system with aggregate must be completed by hand and be supervised by the site supervisor.

The infill aggregate shall then be rolled or whacked to ensure cohesion of the granular fill with the cellular confinement system.

The desired finished surface shall then be installed. This shall be permeable and gas porous. Options for the type of finished surface are:

Washed gravel – This retains porosity unless excessively consolidated and will be particularly useful where the final surface is not level. However it may not be suitable in areas with high pedestrian and vehicular passage. If gravel is used, this shall be distributed in a 75mm layer over the exposed infill aggregate.

Paving slabs / brick paviours – These shall be laid dry jointed on a bed of sharp sand to allow air and moisture to permeate. Specialist slabs and paviours with inbuilt infiltration holes may be used.

Tarmacadam – This shall not be used where it will cover over 20% of a trees Root Protection Area.

Following completion of the hard surface protective fencing shall be erected around the trees until the completion of development.

## Appendix G

### Arboricultural Glossary

**Abiotic Factors** - Non-living factors of the environment, including temperature & wind.

**Age-class** - A general classification of the tree into either - young, semi-mature/maturing, mature, over-mature, or senescent.

**Apical Bud/Shoot** – The apical bud, also known as the leading shoot, is responsible for shoot extension and is dominant.

**Apical Dominance** – A singular, leading shoot remains dominant.

**Arboreal** - In connection with, or in relation to, trees.

**Arboriculturist** – Person who has, through relevant education, training and experience, gained recognised qualifications and expertise in the field of trees in relation to construction.

**Arboricultural Implications Assessment (AIA)** – Study, undertaken by an arboriculturist, to identify, evaluate and possibly mitigate the extent of direct and indirect impacts on existing trees that may arise as a result of the implementation of any site layout proposal.

**Arboricultural Method Statement (AMS)** – Methodology for the implementation of any aspect of development that has the potential to result in the loss of or damage to a tree. Note The AMS is likely to include details of an on-site tree protection monitoring regime.

**Biotic factors** - Living factors. For example, animals and pathogens.

**Bottle Butt** – Term used to describe shape of stem base, usually associated with an internal defect – refer to 'Reaction Wood' below.

**Branch union/junction** - The point at which a branch joins a larger stem. Can be a point of weakness, especially in certain species.

**Cambium** - A lateral meristem (see below) in vascular plants located just beneath the bark responsible for secondary growth, e.g. production of annual growth rings.

**Canker** – A clearly defined area of dead and sunken or malformed bark, caused by bacteria or fungi. Can have a bearing on structural integrity of infected limb(s) depending on size and location.

**Chlorosis/Chlorotic** – Abnormal yellow or yellow-green coloration of usually green leaves. Essentially a reduction of chlorophyll levels often as a result disease or nutrient deficiency.

**Co-dominant stems** - A growth characteristic, where two or more stems of similar size grow from the same point. Can create an inherent weakness.



**Compaction** - The compressing & hardening of soil around tree root systems, due to vehicular/pedestrian use etc. Loss of pore space between soil granules limits water movement and gaseous exchange, and inhibits root growth.

**Competent person** – Person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task being approached

Note 1 A competent person understands the hazards and the methods to be implemented to eliminate or reduce the risks that can arise. For example, when on site, a competent person is able to recognise at all times whether it is safe to proceed.

Note 2 A competent person is able to advise on the best means by which the recommendations of this British Standard may be implemented.

**Condition** – Assessment based on a visual and professional view giving consideration to many factors such as tree health, structural integrity and suitability of its position.

**Construction Exclusion Zone** – Area based on the RPA (in m<sup>2</sup>), identified by an arboriculturist, to be protected by development, including demolition and construction work, by the use of barriers and/or ground protection fit for purpose to ensure the successful long-term retention of a tree.

**Coppice** - The method of managing trees by cutting the stems at between 1.0 inch and 1.0 foot from the ground level on a regular cycle, the cut stumps of the trees or shrubs are allowed to re-grow many new stems.

**Crown spread** - Gives distances between extreme limits of the crown and the stem, usually along the four compass points. Helps to show crown symmetry.

**Crown Reduction** – The removal of branch ends to reduce the extreme limits of a trees branch spread and height.

**Crown Thin** – The removal of selected branches within the crown to thin the internal branch structure.

**D.B.H.** - 'Diameter at Breast Height', an industry standard to gauge tree stem size and development. Within arboriculture, breast height is taken to be 1.5m above ground level.

**Dieback** - The reduction in crown vigour and extension growth progressing to death of distal parts; often associated with decline.

**Epicormic/adventitious growth** - New growth from dormant buds that can often form tenuous attachments. Although some species readily form such shoots, it can be an indication of stress.

**Feathered Whip** – Size of tree for planting, usually ranging from 1.25m to 2.5m in height.

**Form** - A general assessment of the shape and position of the tree within its' environment.

**Frass** – Debris such as bore dust left by wood boring insects.

**Hanger** – Term used to describe a branch that has become detached and is being supported by other branches. Can be a hazard to persons and property below.

**Hazard Beam** – After the loss of a distal part, a limb concentrates growth upwards creating adverse end weights that can render the limb susceptible to failure.

**Heavy Standard** – Size of tree for planting, usually above 3.5m in height.

**Included bark** – Growth characteristic usually caused when two or more stems/branches growing in close proximity 'fuse' together entrapping the bark from when the parts were separate in the middle, creating a structural weakness.

**Meristem** - The undifferentiated plant tissue from which new cells are formed, such as that at the tip of a stem or root.

**Meristematic Disorder** – A growth disorder caused by a disruption of the meristem (see above) from any of a number of biotic factors (see above). Manifests as growths such as 'Witches Brooms' & 'Galls'.

**Necrosis/Necrotic** – Death of tissues usually characterised by a blackening in colour.

**Occlusion/Occluded** – Normally used to describe the overgrowth of a wound. Also, immovable foreign objects in contact with a tree part can become encased or 'occluded' by the tree as it grows incrementally.

**Pathogen** - An agent that causes disease, especially a living microorganism such as a bacterium or fungus.

**Plasticity index** - The table used to calibrate the shrinkability of a clay soil.

**Pollard** – The removal and subsequent regular re-removal of the crown of a tree above animal browsing height. Can be an effective method of controlling the size of trees in urban areas. This is ideally begun in the trees early stages and maintained throughout its life.

**Reaction wood** - Essentially additional wood laid down by the tree to compensate for structural defects such as cavities.

**Ring barking/Girdling** – the removal of bark around the entire circumference of a stem or branch, causing the death of all distal parts.

**Root Protection Area (RPA)** – Layout design tool indicating the area surrounding a tree that contains sufficient rooting volume to ensure the survival of the tree, shown in plan form in m<sup>2</sup>.

**Saprophyte** – An organism which exists on dead plant material.

**Scaffold branches** - The main structural branches within the crown.

**Services** – Any above ground and piped and/or ducted underground infrastructure including water main, electricity supply, gas supply, fibre optic utilities, telecommunications cabling, storm and foul water drainage, including temporary storage for run-off, pumping stations, interceptors and other allied buried structures.

**Shrinkable clay** – Clay soil which alters in volume depending on moisture content. Property sited on shrinkable clay can suffer subsidence damage due to soil desiccation; this can be due to the water uptake of nearby vegetation, including trees.

**Special engineering** – design of a structure with the physiological requirements of trees as the priority.

**Standard** – Size of tree for planting, usually ranging from 2m to 3.5m in height.

**Structure** – Man-made object, such as a building, carriageway, path, wall, services, and built and excavated earthworks.

**Transplant** – (1) size of tree for planting, usually ranges from 0.2m to 0.9m in height (2) the relocation of a tree or shrub including a given portion of the root system.

**Tree Constraints Plan (TCP)** – Plan prepared by an arboriculturist for the purposes of layout design showing the RPA and representing the effect that the mature height and spread of retained trees will have on layouts through shade, dominance, etc.

**Tree Protection & Removal Plan** – scale drawing prepared by an arboriculturist showing the finalised layout proposals, tree retention and tree and landscape protection measures detailed within the arboricultural method statement (AMS), which can be shown graphically.

**U.L.E** – ‘Useful Life Expectancy’ is an estimate based on currently known factors of the possible remaining life of the tree as an asset.

**Veteran tree** – Tree that, by recognised criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.

**Vigour** - A general classification, as to the present and future potential growth and development of a tree. A comment regarding the health status of the tree specific to its species

**Appendix H**

**TPO 0025/2020 TUNBRIDGE WELLS BOROUGH COUNCIL**

**Dated 29 June 2020**

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**Town and Country Planning Act 1990**

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**Tunbridge Wells Borough Council**

**TREE PRESERVATION ORDER No. 0025/2020/TPO**

**Ashurst Place, Lampington Row, Langton Green,  
Tunbridge Wells Kent**



**Town and Country Planning Act 1990**

**Tunbridge Wells Borough Council**

**Tree Preservation Order No. 0025/2020/TPO**

**Ashurst Place, Lampington Row, Langton Green, Tunbridge Wells Kent**

The Tunbridge Wells Borough Council in exercise of the powers conferred on them by Section 198 of the Town and Country Planning Act 1990 make the following Order –

**Citation**

1. This Order may be cited as the Tunbridge Wells Borough Council Tree Preservation Order No. 0025/2020/TPO Ashurst Place Lampington Row Langton Green Tunbridge Wells Kent

**Interpretation**

2. (1) In this Order “the authority” means Tunbridge Wells Borough Council
- (2) In this Order any reference to a numbered section is a reference to the section so numbered in the Town and Country Planning Act 1990 and any reference to a numbered regulation is a reference to the regulation so numbered in the Town and Country Planning (Tree Preservation)(England) Regulations 2012.

**Effect**

3. (1) Subject to Article 4, this Order takes effect provisionally on the date on which it is made.
- (2) Without prejudice to subsection (7) of Section 198 (power to make tree preservation orders) or subsection (1) of Section 200 (tree preservation orders: Forestry Commissioners) and, subject to the exceptions in Regulation 14, no person shall –
  - (a) cut down, top, lop, uproot, wilfully damage, or wilfully destroy; or
  - (b) cause or permit the cutting down, topping, lopping, wilful damage or wilful destruction of,

any tree specified in the Schedule to this Order except with the written consent of the authority in accordance with Regulations 16 and 17, or of the Secretary of State in accordance with Regulation 23, and, where such consent is given subject to conditions, in accordance with those conditions.

**Application to trees to be planted pursuant to a condition**

4. In relation to any tree identified in the first column of the Schedule by the letter “C”, being a tree to be planted pursuant to a condition imposed under paragraph (a) of Section 197 (planning permission to include appropriate provision for preservation and planting of trees), this Order takes effect as from the time when the tree is planted.





**Tunbridge Wells Borough Council**

**Tree Preservation Order No. 0025/2020/TPO**

**Ashurst Place Lampington Row Langton Green Tunbridge Wells Kent**

**Article 3**

**SCHEDULE**

**Specification of trees**

**Trees specified individually** (encircled in black on the map)

<i>Reference on map</i>	<i>Description</i>	<i>Situation</i>
T	NIL	
T1	Lawson Cypress	South of Ashurst Place
T2	Lawson Cypress	South of Ashurst Place
T3	Oak	South of Ashurst Place
T4	Oak	South of Ashurst Place
T5	Wellingtonia	South-west of Ashurst Place
T6	Sycamore	South of Lampington Row, near entrance to Ashurst Place
T7	Lime	East of Ashurst place, along PRow WT82
T8	Lime	East of Ashurst place, along PRow WT82
T9	Oak	East of Ashurst place, along PRow WT82
T10	Oak	Pin Oak - North of Ashurst Place
T11	Cedar	North of Ashurst Place

**Trees specified by reference to an area** (within a dotted black line on the map)

<i>Reference on map</i>	<i>Description</i>	<i>Situation</i>
A1	Various	<del>All trees of whatever species</del> - The whole of the grounds of Ashurst Place
A	NIL	



**Groups of trees** (within a broken black line on the map)

<i>Reference on map</i>	<i>Description</i>	<i>Situation</i>
G	NIL	
G1	Oak	2 Oak Trees - South of Ashurst Place
G2	Various	4 Oak, 1 Lime and 1 London Plane Trees - South of Ashurst Place
G3	Oak	4 Oak Trees - South of Ashurst Place
G4	Lime	2 Lime Trees - Traffic island south of Ashurst Place
G5	Various	1 Lime, 1 Beech and 1 Sycamore Trees - Southern estate boundary, near PRoW WT88
G6	Various	2 Beeches and 1 Scots Pine Trees - Southern estate boundary, near PRoW WT88
G7	Various	2 Lime, 1 Horse Chestnut, 1 Sycamore, 1 Pin Oak and 1 Holm Oak Trees - Near entrance to Ashurst Place, along PRoW WT82
G8	Lime	3 Lime Trees - East of Ashurst Place, along PRoW WT82
G9	Oak	4 Oak Trees - North-east of Ashurst Place, along PRoW WT82
G10	Various	1 Pin Oak and 1 Sycamore Trees - East of Ashurst Place
G11	Various	3 Ash and 2 Oak Trees - North of Ashurst Place



**Woodlands** (within a continuous black line on the map)

---

<i>Reference on map</i>	<i>Description</i>	<i>Situation</i>
W	NIL	
W1	Various	Mixed deciduous trees and conifers (mainly Oak, Beech, Scots Pine, Horse Chestnut, Alder and Lime) - Wooded area surrounding ponds west of Ashurst

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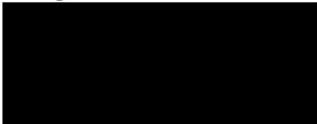
**Tunbridge Wells Borough Council**

**Tree Preservation Order No. 0025/2020/TPO**

**Ashurst Place, Ashurst Place, Lampington Row, Langton Green Tunbridge Wells**

Dated this...29<sup>th</sup>.....day of .....June.....2020

Signed on behalf of Tunbridge Wells Borough Council



Signed on behalf of Tunbridge Wells Borough Council

A handwritten signature in black ink, consisting of a large 'S' followed by a stylized, cursive name.





**Town and Country Planning Act 1990  
Tunbridge Wells Borough Council  
Tree Preservation Order No. 0025/2020/TPO**

**Ashurst Place, Lampington Row, Langton Green, Tunbridge Wells, Kent**

**CONFIRMATION OF ORDER**

This Order was confirmed by the Tunbridge Wells Borough Council subject to the modifications indicated as shown in red on the attached schedule/plan.

on the....21st.....day of ....December.....2020



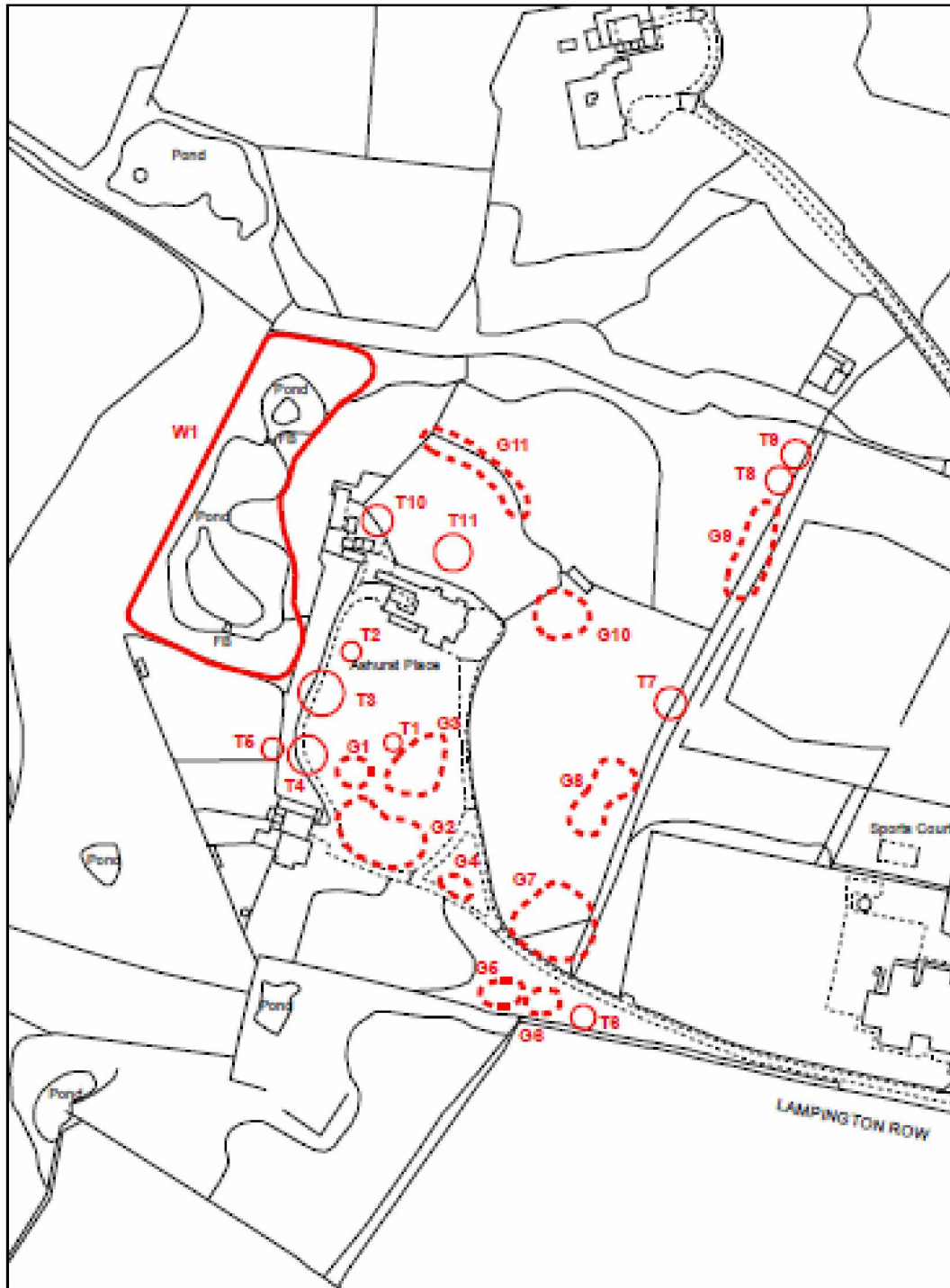
Authorised Signatory for Tunbridge Wells Borough Council

A handwritten signature in black ink, appearing to be 'S. [unclear]'.

Authorised Signatory for Tunbridge Wells Borough Council



MODIFIED PLAN - SUPERSEDES PLAN DATED JUNE 2020



Scale 1:2,500

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Map Dated: December 2020