

# MEDMERRY HOLIDAY PARK, CHICHESTER

**Tree Survey Report and Arboricultural Impact Assessment** 





#### TREE SURVEY AND ARBORICULTURAL IMPACT ASSESSMENT

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#### 1 INTRODUCTION

- 1.1 This Tree Survey and Arboricultural Impact Assessment (AIA) has been prepared by RPS on behalf of Cove Communities in respect of the proposed development of Medmerry Holiday Park, Stoney Lane, Chichester PO20 7JP.
- 1.2 A tree survey of the application area was carried out by RPS on the 28th of February 2023 in accordance with the requirements of BS5837:2012. Refer to the Tree Constraints Plan in Appendix A.
- 1.3 This report has been prepared in broad accordance with the requirements set out in BS5837:2012 'Trees in relation to design, demolition and construction Recommendations.'
- 1.4 The purpose of this report is to:
  - Provide an assessment of the quality of the surveyed trees with reference to the categories and sub-categories listed within Table 1 BS5837:2012.
  - Assess and quantify the arboricultural impact of the proposed development within the survey area, based on the proposed development layout.
  - Provide additional arboricultural information and advice in relation to the protection of trees throughout the development of the site.
  - Provide a Tree Protection and Removal Plan to detail the proposed protective measures to be taken in respect of the trees during development of the site.
- 1.5 The Tree Protection and Removal Plan included in Appendix B identifies the following:
  - Trees to be retained
  - Trees to be removed
  - Alignment and design of protective fence
  - Root Protection Area (RPA) of trees
- 1.6 The Tree Protection and Removal Plan shall be made available to all relevant site operatives prior to and throughout the construction process, so they understand the scope and importance of the tree protection measures.
- 1.7 To minimise the potential for harm to occur to retained trees all works shall be carried out in accordance with the Tree Protection Measures and construction techniques detailed within this report.
- 1.8 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 retained trees.

<sup>&</sup>lt;sup>1</sup> British Standards Institute. British Standard (BS5837) Trees in Relation to Design, Demolition and Construction - Recommendations. 2012.



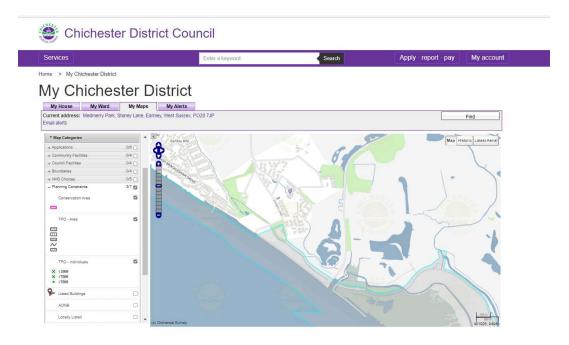
#### 2 SITE LOCATION

- 2.1 The survey site is located on a parcel of land off Stoney Lane, Chichester PO20 7JP.
- The land is roughly centred on OS grid reference SZ 81918 95860. The Local Planning Authority (LPA) governing this site is Chichester District Council.
- 2.3 The soilscape of the area in which the survey site is situated typically consists of 'Loamy soils with naturally high groundwater'<sup>2</sup>.

#### Tree Preservation Orders\ Conservation Areas

2.4

2.5 A desktop investigation using the Chichester District Council<sup>3</sup> 'My Maps' confirmed that the survey site is not located within a Conservation Area and that no trees on site are protected by a TPO, as shown in the screenshot below:



2.6 A desktop investigation using the Magic Map Application<sup>2</sup> confirmed that there are no Ancient Woodland on site.

<sup>&</sup>lt;sup>2</sup> https://magic.defra.gov.uk/MagicMap.aspx

<sup>&</sup>lt;sup>3</sup> Chichester District Council - My Chichester District



#### 3 SURVEY METHODOLOGY

- 3.1 This report was completed by Ross Carthew FdSc Arb, of RPS group and authorised by David Cox, a professional member of the Arboricultural Association and Chartered Landscape Architect of RPS Group.
- 3.2 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".
- The tree survey involved a visual inspection from the ground of individual specimens and groups of trees in order to record their amenity value, management recommendations and dimensions. Where observed, the general condition of all the trees has been noted. The survey does not constitute a full arboricultural condition assessment involving the detailed inspection of trees in relation to their structural condition, decay, and any other physical and pathogenic defects.
- 3.4 The locations of the trees are based upon a Ordnance Survey Landline data and Aerial imagery provided by Emapsite and AutoCad in February 2023.
- 3.5 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 in table 1. These categories have been differentiated in Appendix A & B by colour.
- 3.6 The survey information was recorded on the attached schedule (Table 2) in general accordance with the guidance contained within Section 4 of BS 5837:2012 "Trees in Relation to Design, Demolition and Construction Recommendations".
- 3.7 See Table 1 for a breakdown of the information recorded during the survey.

#### Limitations

- 3.8 The findings of this survey are not valid following adverse or unpredictable weather conditions or for any failure due to 'force majeure' or unpredictable events.
- 3.9 Trees were not climbed or inspected below ground level and inaccessible trees will have best estimates made about the location, physical dimensions and characteristics. Where direct access to trees was difficult a '#' denotes this within the Tree Survey Schedule (Table 2).
- 3.10 Trees and woody vegetation were not assessed for their potential impact upon future construction issues such as foundation designs (re: NHBC chapter 4.2)'4. 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.
- 3.11 It is recommended that further arboricultural assessments be undertaken in order to assess the full health and safety of all trees which may possess structural or pathogenic conditions.

<sup>&</sup>lt;sup>4</sup> NHBC. 'Chapter 4.2- Building Near Trees'. NHBC Standards 2016. 2016.



# 4 APPRAISAL AND RECOMMENDATIONS

## **Generally**

- 4.1 During the survey <u>136</u> trees were surveyed as individuals while, <u>16</u> tree groups, 8 hedgerows and 24 areas of scrub were recorded in the survey.
- 4.2 The majority of trees were located within the centre of the site of the site. There was also a number of off-site trees recorded during the survey.

Tree/Tree Group	Α	В	С		Total
Individual Tree	2	29	102	3	136
Tree Group	1	5	10	0	16

- 4.3 There was also eight hedges and twenty four sections of scrub surveyed and form part of this report data schedule.
- 4.4 The species diversity surveyed trees is shown in the list below:

Acer campestre (Field Maple)

Acer pseudoplatanus (Sycamore)

Betula pendula (Silver Birch)

Crataegus monogyna (Hawthorn)

Cupressus macrocarpa (Monterey Cypress)

Elaeagnus pungens (Spiny Oleaster)

Eucalyptus gunnii (Cider Gum)

Fraxinus excelsior (Ash)

Gorse (Ulex europea)

Ligustrum ovalifolium (Garden Privet)

Pinus nigra 'maritima' (Corsican Pine)

Pinus sylvestris (Scots Pine)

Populus alba (White Poplar)

Populus serotina (Hybrid Black Poplar)

Prunus spinosa (Blackthorn)

Quercus ilex (Holm Oak)

Quercus robur (Common Oak)

Salix alba (White Willow)

Salix caprea (Goat Willow)

Salix fragilis (Crack Willow)



Sambucus nigra (Elder)

Sorbus aria (Whitebeam)

Tamarix spp. (Salt cedar)

Thuja plicata (Western Red Cedar),

Elm (Ulmus spp.)

X Cupressocyparis leylandii (Leyland Cypress)

X Cupressocyparis leylandii Castlewellan Gold (Leyland Cypress)

Yucca spp. (Yucca palm)

## **Planning considerations**

- 4.5 Trees can offer many benefits, including the provision of visual amenity, softening or complementing the effect of the built environment, adding maturity to new developments and by making places more comfortable in tangible ways e.g. contributing screening and shade, reducing wind speed and turbulence, intercepting snow and rainfall, and reducing glare.
- 4.6 New tree planting opportunities should be considered as part of any potential redevelopment; this will help to broaden the age diversity of the tree cover within the area. Sufficient space should be provided for species with significant stature to grow out into maturity.
- 4.7 Under the UK planning system, local authorities have a statutory duty to consider the protection and planting of trees when granting planning permission for proposed development. The potential effect of development on trees, whether statutorily protected (e.g. by a tree preservation order or by their inclusion within a conservation area) or not, is a material consideration that is considered when dealing with planning applications.
- 4.8 Trees covered by a Tree Preservation Order are protected under the Town and Country Planning Act 1990 (Trees Regulation 2012). The local authority must be consulted, and permission sought for any works that may affect them.

## **Design and Site Layout Considerations**

- 4.9 A Tree Constraints Plan defines the Root Protection Area (RPA) for each tree shown as a circle. This area may be adjusted should physical constraints or topographical features limit root activity in a particular area, however the total area should remain the same. Prior to any adjustment of the trees RPA zones the changes should be assessed by an arboriculturist. During any site planning exercises the current and future growth potential of the trees should be considered.
- 4.10 The RPA for single stem trees broadly equates to a radius 12 times the stem diameter of the tree at 1.5m above ground level or the extent of canopy spread, whichever is the greater. For multi-stemmed, low branching trees or those with trunks with an irregular girth the point of stem diameter measurement is adjusted in consideration of these factors and in accordance with the illustrations in BS5837:2012 (Annex C).
- 4.11 The RPA should become an exclusion zone during construction works and for any development. It should be fenced-off and protected in accordance with BS5837:2012. The canopy is likewise susceptible to damage during construction work and requires similar protection.



- 4.12 No activities that result in excavations, changes in level or soil compaction should take place within the RPA of any retained trees, especially older mature trees. This would include the storage of materials, any construction work, trafficking by vehicles or even excessive trafficking by pedestrians.
- 4.13 If some form of construction must take place within the RPA, then certain measures need to be adopted to avoid disturbance or damage to the roots and to maintain moisture infiltration and gaseous diffusion into the soil.

#### **Services**

- 4.14 Services likewise should be routed outside the existing or potential root zone of trees. Where it is unavoidable, then certain measures should be employed to avoid damage to the tree's larger roots.
- 4.15 The location and siting of new facilities near trees should consider the potential impact on and conflict with both tree roots and canopy. This should consider the ultimate size of existing young and middle-aged trees at maturity. Conversely the impact of the tree on the activities should also be considered regarding obstruction, shading, leaf fall and root action. These are problems that can be managed provided sufficient space is allowed for.
- 4.16 Any new services should avoid the RPAs of any retained tree. Where it is unavoidable, then the route of the services must be designed by an Engineer in consultation with an Arboriculturist. Further advice can be found in NJUG Volume 4- "Guidance for the planning, installation and maintenance of utility services in proximity of trees, 2007".

# **Trees and Management of Health and Safety**

4.17 It is recommended that a programme of periodic arboricultural assessments be undertaken in order to regularly assess the full health and safety of all trees both in full leaf and bare stemmed. The assessments should prioritize areas based on levels of access and presence of target (i.e. exposure of people to hazard) and accord with arboricultural advice, taking account of relevant factors (where known) that affect safety such as the age class, condition, size and species of the trees.



#### 5 ARBORICULTURAL IMPACT ASSESSMENT

#### Introduction

- 5.1 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.
- 5.2 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.
- Development has the potential to impact upon the above ground and below ground parts of trees. 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.
- 5.4 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.
- To minimise the potential for harm to occur to retained trees all works must be carried out with regard to the Tree Protection measures detailed within this report.
- 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.
- 5.7 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 retained trees.
- 5.8 The retention and protection of significant trees and vegetation will assist in assimilating the proposed development into the wider landscape and offer long term tree cover.
- Furthermore, redevelopment of the site may offer an excellent opportunity to actively manage any retained vegetation and accordingly we recommend restorative tree works be undertaken as appropriate. This will further improve the amenity value and landscape setting of the site and increase the useful life of any retained trees.

## **Brief Description of Proposed Development**

- 5.10 This document supports the proposed development, consisting of:
  - The construction of a caravan layout and associated infrastructure;
  - New car-parking spaces;
  - New associated access & Utilities;
  - Associated works and landscaping.



# **Proposed Tree Removal and Works**

- 5.11 <u>96 individual</u> trees will require removal to facilitate the proposed layout.
- 5.12 These trees are categorised as follows:

Category	Total Number	% of Total Removals	Tree Referance Numbers
Α	1	1%	T129
В	18	18.8%	T8, T11, T13, T14, T25, T29, T45, T46, T62, T74, T82, T85, T86, T101, T106, T109, T121, T122
С	74	77.1%	T1-T10, T12, T15-T24, T26-T28, T30, T31, T41- T44, T48-T50, T53, T58, T61, T63-T71, T73, T75- T81, T83, T84, T87-T90, T96, T102, T103, T105, T110-T114, T116, T117, T123-T126, T134
U	3	3.1%	T54, T56 & T57
Total	96		

5.13 These trees are of the following condition:

Condition	Number of removals	% of removals
Good	15	15.63%
Fair	60	62.50%
Fair/Poor	10	10.42%
Poor	11	11.46%
Grand Total	96	100.00%

5.14 The majority of these removals are also of short lived or non- native species:

Condition	Descripton	Number of removals	% of removals
Populus alba (White Poplar)	Short lived/ non- native	23	23.96%
Populus serotina (Hybrid Black Poplar)	Short lived/ non- native	15	15.63%
Salix alba (White Willow)	Short lived/ non- native	8	8.33%
Tamarix spp. (Salt cedar)	non- native	7	7.29%
Betula pendula (Silver Birch)	Short Lived	3	3.13%
Yucca spp. (Yucca palm)	Non- Native	2	2.08%
Subtotal	-	61	63.55%
Others	Mixed	35	36.46%
Grand Total		96	100.00%

5.15 6 tree groups are also required to be removed and categorised as follows:

Category	Total Number	% of Total Removals	Tree Referance Numbers
Α	0	0%	
В	1	16.7%	G13
С	5	83.3%	G2, G3, G5, G6 & G9
U	0	0%	
Total	6		

5.16 Additionally, <u>8</u> areas of scrub and hedgerow require removal (S1, S2, S3, S13, S14, S16, S7, H1 & H2).



- 5.17 Despite the high percentage of trees being removed, the arboricultural impact of these works remains low because, as shown above, the majority of trees for removal are of a low retention Category (C & U) condition (80.2%), poor quality condition (84.38% are below 'Good' condition) or are non-native/have short life expectancies (63.55%).
- 5.18 In order to facilitate construction, it will also be necessary to reduce back the canopies of some trees and tree groups. The extent of the reductions will be agreed at the first site prestart meeting on the site and be recorded and sent to the Local Authority for approval.
- 5.19 It may also be necessary to lift the crowns of any trees that overhang the Tree Protection Fencing into site in order to lift them clear of works. This should be assessed on site as and when necessary and any pruning carried out to the specification BS3998:2010 Tree Work.

#### Impacted Root Protection Areas

- 5.20 Root Protection Areas for each surveyed tree were determined in accordance with BS5837:2012 and plotted on the Tree Constrains Plan and Tree Protection Plan (Appendix A & B) as a circle, with the tree located centrally, extending to encompass the area of ground, and thus the rootable soil volume, required for protection.
- 5.21 After reviewing the RPAs on site, it can be seen that the proposed development will all take place outside the RPA of most trees to be retained. There will however be some minor incursions of footpaths into the RPA of <u>5</u> trees (T34, T36, T60, T94 & T96).
- 5.22 In order to assess the potential impact these works will have on any retained trees, the amount of RPA incursion has been approximately assessed and compared to the total RPA to give an incursion significance. These incursion for individual trees were T35, T36, T60, T94 and T95.
- 5.23 5.23BS5837 guidance states:

Tree Number	Incursion Type	RPA Area (m2)	Incursion Area (m2)	Total Incursion % of RPA
T35	Construction of new hard surfacing	22.73	0.79	3.48
T36	Construction of new hard surfacing	187.26	1.23	0.66
T60	Construction of new hard surfacing	104.24	14.03	13.5
T94	Construction of new hard surfacing	77.3	10.18	13.2
T95	Construction of new hard surfacing	40.71	6.09	15

- "7.4.2.3 New permanent hard surfacing should not exceed 20% of any existing unsurfaced ground within the RPA."
- As such, the same limit of a 20% construction incursion into the RPA has been used as a guide when determining whether or not the impact on an affected tree is acceptable.
- 5.25 As the table above shows, all proposed incursions on site are less than 20% and therefore the impact on the effected trees should be of an acceptable level.
- 5.26 New hard surfaces within the RPA of G3, T60, T94 & T95 are to be permeable and constructed using "No-dig" design principles in accordance with AA Guidance Note 12 Cellular Confinement Systems Near Trees. This has been shown with a Red hatch in Appendix B.



# **Outline methodology within Root Protection Areas**

- All new (and existing re-routed) services shall be routed outside the existing or potential RPA of retained trees. Where it is unavoidable, then hand excavation shall be employed to avoid damage to the larger roots and the services slid through or below the root system. Ducting shall be used to carry cables. Reference shall be made to the recommendations included within Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (NJUG 4)<sup>5</sup>.
- 5.2 Details of Tree Protection Fencing and ground protection are detailed in section 7 of this document.
- 5.3 The RPA should become an exclusion zone during construction works and for any development. It should be fenced-off and protected in accordance with BS5837:2012. The canopy is likewise susceptible to damage during construction work and requires similar protection.
- No activities that result in excavations, changes in level or soil compaction should take place within the RPA of any retained trees, especially older mature trees. This would include the storage of materials, any construction work, trafficking by vehicles or even excessive trafficking by pedestrians.
- The location and siting of new facilities near trees should consider the potential impact on and conflict with both tree roots and canopy. This should take into account the ultimate size of existing young and middle-aged trees at maturity. Conversely the impact of the tree/s on end user activities should also be considered with regard to obstruction, shading, leaf fall and root action. These are problems that can be managed provided sufficient space is allowed for.
- Where works within the RPA are unavoidable works must be undertaken by hand and the soil levels should be carefully reduced by hand to avoid damage to the bark of larger roots directly beneath and adjacent to the excavation. Where these become exposed, they should be further protected from drying out. Where root pruning is unavoidable it should be made at a suitable place within the root system, avoiding damage to surrounding tissue in accordance with BS 3998:2010<sup>6</sup>. Final pruning cuts shall be made at right angles to the axis of the root and the final cut wound should be smooth and as small as possible, free from ragged torn ends.
- To minimise harm occurring as a result of the works existing hardstanding should be reused. Any necessary hard surface removal within the Root Protection Area (RPA) shall be carried out by low impact handheld pneumatic tools. Removal of the surface shall occur in strips working from the undisturbed surface, working in a retreating manner away from the retained trees. Subsequent removal of arisings / debris shall also be carried out by hand.

<sup>&</sup>lt;sup>5</sup> http://streetworks.org.uk/wp-content/uploads/V4-Trees-Issue-2-16-11-2007.pdf

<sup>&</sup>lt;sup>6</sup> British Standards Institute. British Standard (BS3998) Trees Work - Recommendations. 2010.



#### 6 TREE WORKS

#### Standard of Work

- 6.1 The tree work required in order to facilitate this development will adhere to the following standards.
- 6.2 All tree works shall be carried out in accordance with BS3998:2010 and latest arboricultural best practice.
- 6.3 All tree work shall be carried out by suitably qualified, competent and insured arboricultural contractors in accordance with Arboricultural Association Standard Conditions of Contract and Specifications for Tree Works (2008) Edition and BS 3998:2010 Tree Work.
- 6.4 All green and woody waste generated by the tree works shall be removed from site and disposed of in an environmentally sustainable manner.
- When a branch is removed at its point of attachment, injury of the wood and bark of the parent stem or branch above the cut shall be avoided. If a branch collar is visible, the final cut shall be just outside it and care shall be taken to avoid tearing retained wood and bark when the cut is made. Preliminary cuts shall be made, if necessary, so as to remove weight, before a final cut is made. Care shall be taken to prevent falling branches from harming other parts of the tree (including its roots), its surroundings, people or property. Heavy branches shall be removed in sections and, where necessary, shall be lowered with ropes.
- 6.6 Prior to the commencement of any tree works an appropriate risk assessment shall be produced to describe the measures required to fulfil the statutory safety obligations. It shall aim to identify and prioritise the necessary control measures and precautions.
- 6.7 Following the works, it is recommended that the trees are monitored on a regular basis to ensure their ongoing vitality and health. These inspections shall be completed by a suitably qualified and experienced person.

## **Timing of Works**

- 6.8 Any tree works required shall be completed prior to any construction and enabling works on the site.
- 6.9 All works shall be timed to have regard to the phenological cycles of protected species that are associated with trees; notably birds and bats.
- 6.10 Nesting birds are protected by law and any removal / tree works should not be carried out during the bird nesting season (March-August inclusive). Should any vegetation be outlined for removal during this period, then an ecological inspection would be required to check that no nesting birds are present. Should checks reveal nesting birds the vegetation must remain until September or until an ecologist has certified that the fledglings have left the nest. A visual inspection for bats shall also be carried on mature / ivy clad trees prior to commencing operations.



#### 7 TREE PROTECTION MEASURES

#### **Construction Exclusion Zone**

- 7.1 The protective fence line defines the Construction Exclusion Zone (CEZ), and the fencing shall not be moved or taken down at any time. Within the Construction Exclusion Zone there must be no mechanical digging or scraping; no alteration to existing ground levels including soil stripping; no earthworks; and no handling or discharge of any chemical substance, concrete washings or of any fuels.
- 7.2 Furthermore, vehicular or pedestrian access and the storage of any materials is prohibited within the Construction Exclusion Zone.
- 7.3 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.

## **Tree Protection Fencing**

- 7.4 Unless otherwise agreed in writing with the Arboricultural Consultant and/or LPA Tree Officer, the fencing system to be utilised shall be in accordance with Appendix C and compliant with BS5837:2012.
- 7.5 The tree protection fence shall be erected as shown on the Tree Protection and Removal Plan (Appendix B) included with is report.
- 7.6 The fence line shown is the minimum required and the length of the fence shall be extended or adjusted on site as agreed with the Arboricultural Consultant to ensure satisfactory protection of all retained trees and RPAs.
- 7.7 Where proposed (permanent) construction site-hoarding provides the same level of protection to the retained trees and RPAs as the proposed tree protection fence, subject to agreement with the Arboricultural Consultant, the hoarding may serve as the tree protection fence. Notwithstanding, depending on the form and alignment of the construction site- hoarding it may be necessary to provide additional tree protection fence to ensure adequate protection of retained trees and RPAs as shown on the Tree Protection and Removal Plan.
- 7.8 Once the protective barrier is in place it must remain in situ throughout the course of the development until the completion of development, other than to facilitate agreed tree removal; see below.
- 7.9 Where necessary, tree protection fencing may be temporarily re-aligned in order to facilitate tree removal. Fencing is to be re-instated immediately following removal in a manner that encompasses the remaining trees and their respective RPAs.
- 7.10 During tree removal, no wheeled or tracked machinery is to enter the area previously encompassed by tree protective fencing as shown in the Tree Protection and Removal Plan.
- 7.11 Copies of the Tree Protection and Removal Plan shall be placed in the site office for reference by all site staff.



- 7.12 Signs detailing the purpose of the protective barrier shall be attached to the barriers at 10m intervals. Such signs should be weatherproof and shall be substantially in the form of the specimen provided in Appendix D. Signs must be replaced as necessary should they be removed or become illegible.
- 7.13 Following erection of the protective barriers and prior to commencement of the development it is recommended that an inspection of the site, by either the Council's Tree Officer or the Arboricultural Consultant, is arranged to confirm fencing has been installed in accordance with the Tree Protection and Removal Plan and that any relevant arboreal conditions attached to the planning consent have been met.

## **Site Compounds and Materials Stores**

- 7.14 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.
- 7.15 To prevent harm occurring to trees, provision for materials storage, deliveries and other related activities shall be made available in areas away from retained trees.
- 7.16 Under no circumstances shall materials or plant be stored beneath the canopy or within or abutting the Root Protection Zone of any retained trees/hedges, whether fenced or not.

## **Monitoring**

- 7.17 Following erection of the protective fencing and prior to commencement of the construction phase, an inspection of the site by either the Council's Tree Officer or the Arboricultural Consultant should be arranged to confirm fencing has been installed in accordance with the Tree Protection and Removal Plan (Appendix B).
- 7.18 It is also recommended that further monitoring visits be carried out following commencement of the works on site, ideally on at least a monthly basis to ensure ongoing functionality of the CEZ and to check on tree condition.

## Reporting

7.19 Should any arboricultural issues become apparent during the works the site manager should immediately contact the Arboricultural Consultant or the Council's Tree Officer for advice upon how to proceed.



#### 8 SUMMARY

- 8.1 The survey site is located at Medmerry Holiday Park, Stoney Lane, Chichester PO20 7JP.
- 8.2 During the survey <u>136</u> trees were surveyed as individuals, while <u>16</u> tree groups, <u>8</u> hedgerows and 24 areas of scrub were recorded in the survey.
- The majority of trees were located within the centre of the site of the site. There was also a number of off-site trees recorded during the survey.

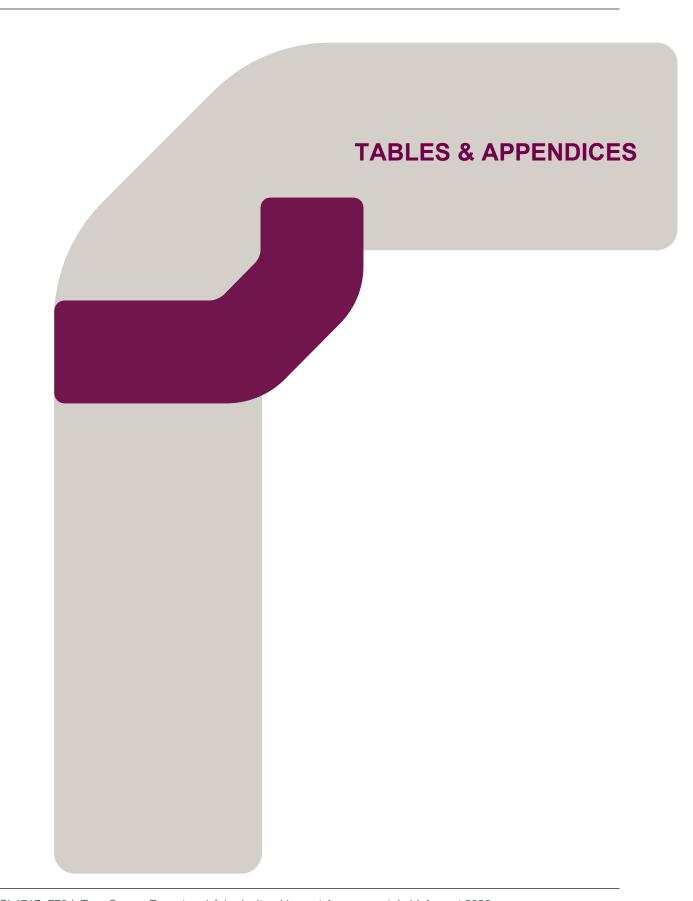
#### **Impacted Trees**

- 8.4 <u>96 individual</u> trees and 6 tree groups will require removal in order to facilitate the proposed layout:
  - Catagory A: 1 tree
  - Catagory B: 18 trees and 1 group
  - Catagory C: 74 trees and 5 groups
  - Catagory U: 3 trees
- 8.5 Additionally, <u>8</u> areas of scrub and hedgerow require removal (S1, S2, S3, S13, S14, S16, S7, H1 & H2).
- Despite the high percentage of trees being removed, the arboricultural impact of these works remains low because, as shown above, the majority of trees for removal are of a low retention Category (C & U) condition (80.2%), poor quality condition (84.38% are below 'Good' condition) or are non-native/have short life expectancies (63.55%).
- 8.7 In order to facilitate construction, it will also be necessary to reduce back the canopies of some trees and tree groups. The extent of the reductions will be agreed at the first site prestart meeting on the site and be recorded and sent to the Local Authority for approval.
- 8.8 After reviewing the RPAs on site, it can be seen that the proposed development will all take place outside the RPA of most trees to be retained. There will however be some incursion into the RPA of 5 trees (T35, T36, T60, T94 & T95).
- As the table in paragraph 5.21 shows, all proposed incursions on site are less than 20% and therefore the impact on the effected trees should be of an acceptable level.

# Mitigation

- 8.10 New hard surfaces within the RPA of G3, T60, T94 & T95 are to be permeable and constructed using "No-dig" design principles in accordance with AA Guidance Note 12 Cellular Confinement Systems Near Trees. This has been shown with a Red hatch in Appendix B.
- 8.11 All tree works shall be carried out in accordance with BS3998:2010 and latest arboricultural best practice.
- 8.12 Should any arboricultural issues become apparent during the works the site manager should immediately contact the Arboricultural Consultant or the Council's Tree Officer for advice upon how to proceed.







# Table 1

# Tree characteristics recorded during survey

Tree Ref No:		Sequential reference number of trees or groups of trees. Avenues, woodlands and hedgerows were also recorded on the tree constraints plan.											
Tree Kei No:	# - denotes inaccessible trees (be and characteristics.)	est estimates are made abo	ut the loca	ation, physical dimensions									
Species	Species listed by common name,	with scientific names (italic	lettering)										
Height (m)	Estimated height of canopy to nearest metre.												
Branch Spread	branch spread, taken as a minimum at the four cardinal points, to derive an accurate representation of the crown												
Stem diameter @ 1.5 m (m)	Estimated diameter of trunk at 1.5 m above ground level in metres unless otherwise indicated, multi-stemmed trees being measured in accordance with Annex C: BS5837												
Existing height above ground level	To inform on ground clearance, crown/stem ratio and shading the estimated height of the first significant branch and direction of growth and canopy above ground level.												
Stem No.	Number of stems (if necessary) o	f individual tree.											
	Y	(Young)	OM	(Over-mature)									
Life Stage	Expressed SM	(Semi-mature)	V	(Veteran)									
Life Otage	as:- EM	(Early-mature)	D	(Dead)									
	M	(Mature)											
	Apparent condition expressed as the following categories, based upon a brief visual inspection from the ground only:-  Good  Fair  Poor												
Physical													
Condition													
				Dead									
Comments /	General observations, particularly any decay and physical defect), a												
Management Recommendat	for wildlife habitats (not exhaustiv		ieni recoi	ililiendations and potential									
ions	,	,											
Estimated remaining contribution (years)	Estimated remaining contribution,	in years (<10, 10+,20+,40+	-)										
	Criteria grading with regards to	A (Trees/Vegetation of	of high qu	ality and value)									
Tree Quality	Table 1: BS 5837:2012, expresse	B (Vegetation of mod	erate qua	lity and value)									
Assessment	as:-	C (Trees/Vegetation	C (Trees/Vegetation of low quality and value)										
Value:				hat they cannot realistically									
<u>Category</u>				the context of the current									
	* Catagony II troop can have evi	land use for longer											
	<ul> <li>Category U trees can have exist preserve.</li> </ul>	sung or potential conservation	on value v	vilicit migrit be desirable to									
Tree Quality	Criteria grading with regards to	1 (Trees with mainly a	arboricultu	ıral value)									
Assessment	Table 1: BS 5837:2012, expresse	<b>2</b> (Trees with mainly I	landscape	value)									
Value: <u>Sub -</u> <u>Category</u>	as:-	<b>3</b> (Trees with mainly o	cultural / c	onservation value)									



#### Table 2

Tree Survey Schedule JSL4717\_750

#### TREE SURVEY SCHEDULE

Project Schedule Ref: Drawing Reference:

Survey date:

Medmerry Holiday Park JSL4717\_750 Tree Survey Shedule JSL4717\_700-705 Tree Constraints Plans 20/02/2023-24/02/2023 Surveyor: Status: Revision:

Notes:

Ross Carthew For Planning



			Ca	nopy S	opy Spread (m)					Height of					Estimated	Tree
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)
T1	Populus alba (White Poplar)	7.5	2	5	6	1	38	200	1	2	3 (S)	EM	Fair	Small tree on stream bank, previous pruning wounds to east crown back from road.	10+	C2
T2	Populus alba (White Poplar)	7.5	6	3	3	6	64	200	1	2	3 (NW)	EM	Fair	Small tree on stream bank, suppressed by adjacent trees.	10+	C2
Т3	Populus alba (White Poplar)	10	7	9	5	4	113	470	1	3	3.5 (NW)	M	Fair	Growing adjacent to stream, previous pruning wounds to northeast crown, crown and stem bias to northeast, occluding crack in bark on south side of stem at 1-2m, minor deadwood in crown.	10+	C2
T4	Populus alba (White Poplar)	10	3	7	6	4	79	250 400	2	2	1.5 (W)	М	Fair	Growing adjacent to stream, previous pruning wounds to northeast crown, crown and stem bias to southeast, fungal fruiting body on northern secondary stem at 2m.	10+	C2
T5	Populus alba (White Poplar)	4	1	1	1	1	3	200	1	1	-	EM	Poor	Small tree on stream bank, suppressed by adjacent trees, previously pollarded at 1.5m.	10+	C2
Т6	Populus serotina (Hybrid Black Poplar)	10	7	9	6	4	126	400 330 320 150	4	2	1.5 (NW)	М	Fair	Multi-stemmed from 1m, epicormic growth throughout crown, minor deadwood in crown.	10+	C2
Т7	Populus serotina (Hybrid Black Poplar)	7.5	2	8	7	4	86	200 200 200 300 100	5	2	2.5 (E)	М	Fair	Multi-stemmed from ground level, epicormic growth throughout crown, minor deadwood in crown.	10+	C2
Т8	Pinus nigra 'maritima' (Corsican Pine)	7.5	5	2	3	2	27	250	1	1	3 (N)	EM	Good	Unremarkable tree.	20+	B2
Т9	Tamarix spp. (Salt cedar)	5	4	4	4	4	50	300	1	1	1 (N)	М	Fair	Unremarkable tree abutting fence line.	10+	C2
T10	Pinus nigra 'maritima' (Corsican Pine)	5	1	2	3	3	14	250	1	2	3 (W)	EM	Fair	Small ivy clad tree.	10+	C1
T11	Pinus nigra 'maritima' (Corsican Pine)	7.5	6	7	3	2	51	370	1	3	3 (N)	EM	Fair	Stem and crown bias to east, minor stem wounds and pruning wounds.	20+	B2

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)
T12	Tamarix spp. (Salt cedar)	5	2	2	2	2	13	150 150	2	1	1 (W)	М	Fair	Unremarkable ivy clad tree.	10+	C2
T13	Pinus nigra 'maritima' (Corsican Pine)	5	5	6	4	3	60	330	1	2	2.5 (NE)	EM	Fair	Stem and crown bias to east, stem wound at 1.5m on east side.	20+	B2
T14	Pinus nigra 'maritima' (Corsican Pine)	5	4	6	3	1	31	300	1	2	2.5 (E)	EM	Fair	Stem and crown bias to east.	20+	B2
T15	Tamarix spp. (Salt cedar)	5	3	3	3	3	28	200 150 100	3	2	1 (S)	М	Fair	Unremarkable tree abutting fence line.	10+	C2
T16	Tamarix spp. (Salt cedar)	5	3	3	3	3	28	250	1	0	0.5 (S)	М	Fair	Tree abutting fence line, stem leans northwest at <45 degree angle from floor, epicormic growth on stem.	10+	C2
T17	Pinus nigra 'maritima' (Corsican Pine)	5	4	5	2	2	28	150 150	2	2	2 (N)	EM	Fair	Stem and crown bias to east.	10+	C2
T18	Crataegus monogyna (Hawthorn)	5	2	4	2	1	14	150 150	2	2	1 (E)	М	Fair	Shrubby tree with crown bias to east, suppressed by adjacent tree.	10+	C2
T19	Pinus nigra 'maritima' (Corsican Pine)	5	3	3	3	2	24	150 150 100	3	2	2 (N)	EM	Fair	Stem and crown bias to east, minor stem wounds.	10+	C2
T20	Crataegus monogyna (Hawthorn)	5	2	4	2	1	14	150 150	2	2	1 (E)	М	Fair	Shrubby tree with crown bias to east, suppressed by adjacent tree.	10+	C2
T21	Tamarix spp. (Salt cedar)	4	2	2	2	2	13	150 150 150	3	0	0.5 (S)	М	Fair	Multi-stemmed tree abutting fence line.	10+	C2
T22	Populus alba (White Poplar)	7.5	5	6	4	3	60	200 200 200 150	4	2	4 (SE)	EM	Fair	Multi-stemmed from ground level, previous pruning wounds.	10+	C2
T23	Populus alba (White Poplar)	7.5	2	6	7	2	57	310	1	2	2 (S)	EM	Fair	Crown and stem bias to southeast, multiple previous pruning wounds, minor wound at base of stem on east side.	10+	C2
T24	Populus serotina (Hybrid Black Poplar)	5	2	2	2	2	13	150	1	1	-	М	Poor	Old hollow stump with vigorous epicormic regrowth.	10+	C3
T25	Pinus nigra 'maritima' (Corsican Pine)	7.5	7	3	1	4	39	300	1	2	1.5 (E)	EM	Fair	Stem and crown bias to north, some minor wounds.	20+	B2
T26	Acer pseudoplatanus (Sycamore)	5	4	4	2	2	25	200 150 100	3	3	2 (E)	SM	Fair	Multiple stems from ground level, minor stem wounds, previous pruning wounds.	10+	C2

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)
T27	Populus serotina (Hybrid Black Poplar)	5	6	6	1	1	19	350 250	2	1	-	М	Fair	Subordinate stem from 1.5m, cavities in subordinate stem, epicormic growth throughout crown, pruning wounds, crown bias to northeast.	10+	C3
T28	Tamarix spp. (Salt cedar)	5	5	4	3	4	49	150 200	2	1	2 (N)	М	Fair	Multi-stemmed tree abutting fence line.	10+	C2
T29	Pinus nigra 'maritima' (Corsican Pine)	7.5	5	5	5	5	79	350	1	1	1 (E)	EM	Good	Some minor pruning wounds on stem, good potential.	20+	B2
T30	Pinus nigra 'maritima' (Corsican Pine)	4	4	4	1	4	31	200 150	2	1	4 (N)	EM	Fair	Twin stemmed tree with heavy lean to north.	10+	C2
T31	Salix caprea (Goat Willow)	4	6	4	1	2	24	250	1	2	1 (E)	М	Fair	Stem and crown bias to northeast, several stem wounds.	10+	C2
T32	Pinus nigra 'maritima' (Corsican Pine)	5	2	2	2	3	16	150 150	2	2	2 (W)	EM	Fair	Unremarkable twin stemmed tree.	10+	C2
T33	Acer pseudoplatanus (Sycamore)	5	4	4	2	1	19	100 100 100 100	4	2	2 (N)	SM	Fair	Stem trifurcates at 0.3m, sparce crown.	10+	C2
T34	Elaeagnus pungens (Spiny Oleaster)	3	3	3	3	3	28	100 100 100	3	1	-	М	Good	Multi-stemmed shrub.	10+	C2
T35	Acer pseudoplatanus (Sycamore)	5	4	4	2	2	25	100 100 100 100 100	5	2	1 (N)	SM	Fair	Multiple stems from ground level, sparce crown.	10+	C2
T36	Pinus nigra 'maritima' (Corsican Pine)	5	9	5	3	7	110	330 300 250 250 300	5	2	2 (W)	М	Fair	Multi-stemmed tree adjacent to pond, one dead stem, multiple previous pruning wounds, wounded surface roots.	20+	B1
T37	Populus alba (White Poplar)	7.5	4	4	3	5	50	260 190	2	3	2 (E)	М	Fair	Twin stemmed roadside tree, previously pruned back from road, minor deadwood.	10+	C2
T38	Pinus nigra 'maritima' (Corsican Pine)	7.5	4	4	4	3	44	300	1	2	2 (SE)	М	Good	Tree growing adjacent to pond, good potential.	20+	B2
T39	Populus alba (White Poplar)	7.5	4	4	3	1	25	230	1	3	3 (S)	М	Fair	Cavities at base of stem.	10+	C2
T40	Populus alba (White Poplar)	7.5	3	4	4	3	38	150 150 150 150	4	1	0.5 (S)	М	Fair	Multi-stemmed from ground level, growing adjacent to pond, some small cavities in stem near round level.	10+	C2

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)
T41	Populus alba (White Poplar)	7.5	3	3	1	2	14	220	1	3	3 (S)	М	Poor	Cavities at base of stem, small heavily pruned crown, with epicormic growth throughout crown.	10+	C2
T42	Populus alba (White Poplar)	5	3	4	4	3	38	200 150 150 100	4	2	0.5 (N)	М	Fair	Multi-stemmed from ground level, growing adjacent to pond, old split in main stem, heavily pruned crown, slight root plate heave.	10+	C2
T43	Populus alba (White Poplar)	7.5	5	2	1	2	16	150 150	2	3	3 (S)	М	Poor	Small heavily pruned crown, with epicormic growth throughout crown, lower stem leans heavily to northeast and corrects at 1.5m.	10+	C2
T44	Populus alba (White Poplar)	7.5	3	3	1	3	19	250	1	3	3 (S)	М	Poor	Cavities in main stem, small heavily pruned crown, epicormic growth throughout crown.	10+	C2
T45	Salix alba (White Willow)	5	8	6	5	5	110	450 350	2	0	1.5 (N)	М	Good	Growing from bank of pond, short squat form, dense crown.	20+	B2
T46	Salix alba (White Willow)	4	4	4	3	3	38	200	1	0	1.5 (S)	М	Good	Growing from bank of pond, short squat form, dense crown.	20+	B2
T47	Salix caprea (Goat Willow)	5	3	3	3	3	28	100 150 200 100	4	2	-	М	Fair	Multi-stemmed from 1m, previously reduced to 3m, multiple recent pruning wounds on stem.	10+	C2
T48	Salix alba (White Willow)	7.5	5	5	1	1	16	250	1	3	3 (S)	М	Poor	Cavities in main stem, small heavily pruned crown, epicormic growth throughout crown.	10+	C2
T49	Prunus spinosa (Blackthorn)	5	3	3	2	2	19	200 150	2	2	-	М	Poor	lvy clad stem and canopy.	10+	C2
T50	Eucalyptus gunnii (Cider Gum)	7.5	3	4	3	1	22	200	1	2	3 (S)	EM	Fair	Small tree growing within decked area.	10+	C2
T51	Sorbus aria (Whitebeam)	3	3	3	2	2	19	100 100 100 100 100 100	6	1	0.5 (N)	М	Fair	Multiple stems from 0.5m, short squat form, abutting fence, pruning wounds and some bark damage.	20+	B2
T52	Sorbus aria (Whitebeam)	3	3	3	2	2	19	100 100 100 100 100 100	6	1	0.5 (N)	М	Fair	Multiple stems from 0.5m, short squat form, abutting fence, pruning wounds and some bark damage.	20+	B2
T53	Populus alba (White Poplar)	10	4	8	6	4	94	340 360	2	2	5 (N)	М	Fair	Secondary leader from 1m has been topped at 5m, crown and stem bias to east, several pruning wounds, wounded exposed roots.	10+	C2

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)
T54	Populus alba (White Poplar)	10	7	12	5	1	90	450	1	3	4 (N)	M	Poor	Stem leans to east at 45 degree angle towards building, crown bias to east, moderate deadwood in crown, east crown previously pruned back, remains of fungal fruiting body at base of stem.	<10	U
T55	Populus alba (White Poplar)	10	6	9	4	2	71	410	1	2	2 (E)	М	Poor	Crown and stem bias to east, secondary stem from 2m has been topped at 3.5m, stem wound at 1.5m on north side of trunk.	10+	C2
T56	Populus alba (White Poplar)	10	5	6	5	3	69	340 290	2	2	5 (N)	М	Poor	Secondary leader from ground level has been topped at 5m, crown and stem bias to east, several pruning wounds, large cavity at base tree between stems, wound and woodpecker hole at 1.5m on east side of main stem with ganoderma brackets within cavities.	<10	U
T57	Populus alba (White Poplar)	10	9	7	5	8	163	400 320	2	3	4 (NE)	М	Poor	Secondary leader from 1m has been topped at 2m, crown bias to east, several cavities in lower stem, large old fruiting body growing out of cavity on north of stem at 0.5m.	<10	U
T58	Yucca spp. (Yucca palm)	7.5	3	3	3	3	28	250 200 150 150 100 100	6	2	-	М	Fair	Growing within decorative boarder, one broken branch within crown.	10+	C2
T59	Yucca spp. (Yucca palm)	7.5	3	3	3	3	28	250 200 200 200 200 150 150	7	2	-	М	Fair	Growing within decorative boarder.	10+	C2
T60	Pinus nigra 'maritima' (Corsican Pine)	12.5	5	5	5	5	79	480	1	2	1 (W)	М	Good	Twin leaders from 3m, some pruning wounds on stem.	20+	B2
T61	Betula pendula (Silver Birch)	7.5	5	5	3	4	55	210 190 270	3	2	3 (E)	М	Fair	Tree trifurcates at 1.5m, several small pruning wounds in crown.	10+	C2
T62	Pinus sylvestris (Scots Pine)	5	3	3	3	2	24	320	1	2	1.5 (E)	EM	Good	Co dominant leaders from 1.5m, short squat form, good potential.	20+	B2
T63	Yucca spp. (Yucca palm)	4	2	2	2	2	13	100 100 100	3	1	-	М	Good	Growing within decorative flower bed.	10+	C2
T64	Salix alba (White Willow)	5	7	6	3	4	71	410	1	2	2 (N)	М	Fair/Poor	Multiple co-dominant leaders from 2m;occluded unions, several cracked branches in lower crown, wound on base of tree on east side.	10+	C2

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)
T65	Salix alba (White Willow)	10	7	2	1	5	42	530	1	3	3 (N)	М	Fair/Poor	Stem leans slightly north, stem trifurcates at 2m, previously topped at 5m, heavy pruning wounds throughout crown.	10+	C2
T66	Betula pendula (Silver Birch)	5	1	1	1	1	3	100	1	3	-	Y	Fair	Unremarkable young tree.	10+	C1
T67	Betula pendula (Silver Birch)	5	5	3	2	3	31	200	1	1	1.5 (N)	М	Fair	Crown bias to north, strimmer damage at base of tree.	10+	C2
T68	Populus serotina (Hybrid Black Poplar)	12.5	5	6	6	3	78	470	1	3	5 (E)	М	Fair	Multiple pruning wounds, minor deadwood within crown, epicormic growth throughout crown.	10+	C1
T69	Populus serotina (Hybrid Black Poplar)	15	10	8	4	4	113	560	1	3	5 (N)	М	Fair	Multiple small flush pruning wounds on stem, minor deadwood within crown, crown bias to northeast, epicormic growth throughout crown.	10+	C1
T70	Populus serotina (Hybrid Black Poplar)	12.5	9	6	4	3	82	560	1	3	3 (S)	М	Fair	Minor deadwood within crown, crown bias to northeast, epicormic growth throughout crown.	10+	C1
T71	Populus serotina (Hybrid Black Poplar)	12.5	7	7	1	1	22	360	1	4	4 (NE)	М	Fair	Minor deadwood within crown, crown bias to northeast, epicormic growth throughout crown.	10+	C1
T72	Salix caprea (Goat Willow)	10	5	5	1	2	24	200 200	2	5	4 (E)	М	Poor	Twin stemmed tree, space crown, wound at base of east stem from 0-0.5m, limited potential.	10+	C2
T73	Populus alba (White Poplar)	10	6	6	4	5	85	200 200 200	3	0	3 (N)	М	Fair	Roadside tree, minor deadwood within crown, ivy covered stem.	10+	C1
T74	Pinus nigra 'maritima' (Corsican Pine)	10	5	5	5	5	79	450 150	2	2	3 (S)	М	Good	Dead subordinate stem, ivy clad stem.	20+	B2
T75	Salix alba (White Willow)	7.5	6	6	5	3	75	250 250 250 500	4	1	2 (S)	М	Fair	Multi-stemmed from ground level, included unions, previously reduced to 5m, several large pruning wounds, epicormic growth throughout crown, minor deadwood in crown.	10+	C1
T76	Prunus spinosa (Blackthorn)	5	3	2	2	2	16	150 100	2	2	2 (N)	М	Fair	Twin stemmed from ground level.	10+	C2
T77	Salix caprea (Goat Willow)	1	1	1	1	1	3	150	1	0	-	М	Fair	Small ornamental tree, dense weeping habit.	10+	C2
T78	Acer pseudoplatanus (Sycamore)	5	3	1	2	3	16	150 100	2	2	2 (S)	SM	Fair	Main stem bifurcates at 0.5m and again at 1m, minor deadwood.	10+	C2

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)
T79	Populus serotina (Hybrid Black Poplar)	15	9	5	6	4	110	600	1	4	5 (S)	M	Fair	Multiple pruning wounds, minor deadwood within crown, epicormic growth throughout crown.	10+	C1
Т80	Populus serotina (Hybrid Black Poplar)	15	8	8	3	4	88	540 300	2	0	7.5 (N)	М	Fair	Subordinate second stem from ground level, multiple pruning wounds, minor deadwood within crown, epicormic growth on stem and throughout crown, crown bias to northeast.	10+	C1
T81	Populus serotina (Hybrid Black Poplar)	15	8	8	3	4	88	450	1	3	3 (NE)	М	Fair	Multiple pruning wounds, minor deadwood within crown, epicormic growth on stem and throughout crown, crown bias to northeast.	10+	C1
T82	Pinus nigra 'maritima' (Corsican Pine)	5	5	6	4	3	60	250	1	2	3 (SE)	М	Fair	Historical root heave, stem leans heavily east till 0.5m then corrects, multiple pruning wounds on stem, phonelines resting on upper crown.	20+	B2
T83	Populus alba (White Poplar)	7.5	8	8	0.5	3	44	290	1	2	5 (N)	М	Fair	Road side tree, crown bias to northeast, small cavity and pruning wound on lower stem.	10+	C2
T84	Populus alba (White Poplar)	10	7	12	8	4	179	600	1	2	2 (N)	М	Fair	Road side tree, crown bias to northeast, pruning wounds, minor deadwood in crown.	10+	C2
T85	Cupressus macrocarpa (Monterey Cypress)	12.5	8	7	7	6	153	430 750 320 230	4	2	1.5 (N)	М	Good	Multi-stemmed from 1m, dense crown.	20+	B2
T86	Cupressus macrocarpa (Monterey Cypress)	12.5	6	6	7	6	123	250 500 270 450	4	2	1.5 (SW)	М	Good	Multi-stemmed from 1m, dense crown.	20+	B2
T87	Populus serotina (Hybrid Black Poplar)	10	4	4	3	4	44	270 221	2	2	3 (E)	EM	Fair/Poor	Twin stemmed from ground level, minor deadwood throughout the crown, epicormic growth on stem, wounds on lower stem.	10+	C2
T88	Populus serotina (Hybrid Black Poplar)	12.5	9	10	4	5	134	590	1	2	2.5 (NE)	М	Fair/Poor	Minor deadwood throughout the crown, epicormic growth throughout the crown, crown bias to northeast.	10+	C2
T89	Fraxinus excelsior (Ash)	5	3	3	2	2	19	200	1	1	1.5 (E)	EM	Fair	Crown bias to northeast, multiple pruning wounds, minor deadwood in crown.	10+	C2
T90	Salix alba (White Willow)	5	4	4	3	3	38	300	1	0	0 (N)	М	Fair/Poor	Heavily pruned and deformed form, lots of epicormic growth.	10+	C2
T91	Crataegus monogyna (Hawthorn)	5	3	2	2	2	16	150	1	2	-	М	Poor	Small shrubby tree, some dieback in crown, grows through lower shrub.	10+	C2

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)
T92	Populus alba (White Poplar)	7.5	7	7	6	6	132	360 230	2	3	2 (NE)	М	Fair	Subordinate stem from 1m, previously pruned back heavily from carpark, minor deadwood, cavity at 1m on north side of stem.	10+	C2
Т93	Salix alba (White Willow)	7.5	5	5	3	3	47	150 150 150 100 100	5	1	2 (S)	M	Good	Growing from bank of stream, multi stemmed from 0.5m, pruning wounds, epicormic growth on stems.	10+	C2
T94	Fraxinus excelsior (Ash)	7.5	6	7	5	3	82	240 310 130	3	2	1.5 (N)	М	Fair	Stem and crown bias to east, stem bifurcates at 1m, sparce crown, low vitality; small buds.	20+	B1
T95	Salix alba (White Willow)	7.5	5	5	2	2	31	300	1	0	0.5 (NE)	М	Good	Growing from bank of stream, multi stemmed from 0.5m, pruning wounds, epicormic growth on stems.	20+	B2
Т96	Sorbus aria (Whitebeam)	4	1	1	1	1	3	100 100 100	3	1	0.5 (W)	SM	Fair	Small multi-stemmed tree maintained at 4m.	10+	C2
Т97	Salix alba (White Willow)	7.5	5	5	2	2	31	300	1	0	0.5 (NE)	М	Good	Growing from bank of stream, multi stemmed from 0.5m, pruning wounds, dense crown.	20+	B2
T98	Populus alba (White Poplar)	7.5	5	5	2	4	47	200 150	2	2	1 (W)	М	Fair	Twin stems from ground level, pruning wounds, epicormic growth throughout crown, wound on east side of stem at ground level.	10+	C2
Т99	Crataegus monogyna (Hawthorn)	5	2	2	1	1	6	150	1	2	1	М	Poor	Unremarkable tree.	10+	C2
T100	Populus alba (White Poplar)	5	5	4	1	2	21	150 100	2	2	1 (N)	М	Fair	Unremarkable tree.	10+	C2
T101	X Cupressocyparis leylandii (Leyland Cypress)	7.5	2	2	2	2	13	160	1	2	-	EM	Good	Growing in raised paved area.	20+	B1
T102	Crataegus flabellata (Fan Leaved Hawthorn)	2.5	1	1	1	1	3	100	1	2	-	Υ	Fair	Young tree with minor dieback on branches.	10+	C1
T103	Crataegus flabellata (Fan Leaved Hawthorn)	4	3	3	3	1	19	200 150	2	2	1.5 (SE)	М	Fair	Young tree with minor dieback on branches.	10+	C1
T104	Salix caprea (Goat Willow)	5	4	4	4	4	50	100 100 100 100 100 100	6	0	-	М	Good	Scrubby multi-stemmed tree growing on bank of stream.	10+	C2

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)
T105	Salix alba (White Willow)	5	4	7	3	2	43	250	1	0	2 (E)	М	Fair	Crown has extrema bias to east, small dense crown, wound on base of stem on east side.	10+	C2
T106	Cupressus macrocarpa (Monterey Cypress)	7.5	5	6	6	6	104	350 160 260 200 390	5	2	2 (S)	М	Fair/Poor	Multi stemmed from ground level, buckling of stems at 1.5m.	20+	B1
T107	Salix alba (White Willow)	5	4	7	4	1	43	250 250 250	3	0	0 (E)	М	Poor	Stems have collapsed to the east, small dense crown, wound on base of stem on west side, pruning wounds.	10+	C2
T108	Salix alba (White Willow)	4	4	4	3	4	44	200	1	0	1 (W)	М	Fair	Previously coppiced at 1.5m, thick epicormic regrowth.	10+	C2
T109	X Cupressocyparis leylandii (Leyland Cypress)	10	6	8	5	3	88	150 310 220 150 200	5	2	1.5 (SE)	М	Fair/Poor	Multi stemmed from 1m.	20+	B1
T110	Populus alba (White Poplar)	3	2	2	3	0.5	11	100 150	2	2	1 (E)	М	Fair	Twin stems from ground level, pollard at 2m, minor wounds on stem.	10+	C2
T111	Populus alba (White Poplar)	7.5	4	6	4	3	55	290 280	2	3	2 (W)	М	Fair	Stem bifurcates at 1m, stem removed at 0.5m, crown bias to east, epicormic growth throughout crown, cavity in secondary stem at 1.5m on north side of stem.	10+	C2
T112	Populus alba (White Poplar)	7.5	4	10	5	1	66	140 200	2	2	0.5 (E)	М	Fair	Heavy stem and crown bias to east, epicormic growth throughout crown, multiple pruning wounds.	10+	C2
T113	Populus alba (White Poplar)	7.5	6	10	5	3	101	300 300	2	1	2 (E)	М	Fair	Stem bifurcates at 1m, crown bias to east, epicormic growth throughout crown, cavity between stems at 0.5m on north side of stem, multiple pruning wounds.	10+	C2
T114	Populus alba (White Poplar)	7.5	5	7	4	0.5	42	150 250	2	3	2 (NE)	М	Fair	Twin stems from ground level, moderate deadwood, pruning wound at base of stem in east side, minor stem wounds.	10+	C2
T115	Populus alba (White Poplar)	7.5	5	4	1	2	21	150 100	2	2	0.5 (E)	М	Fair	Twin stemmed tree, one stem is growing along floor, heavy stem and crown bias to northeast, epicormic growth throughout crown, multiple pruning wounds.	10+	C2
T116	Populus serotina (Hybrid Black Poplar)	5	2	3	2	1	12	370	1	2	-	М	Fair/Poor	Pollard at 5m, multiple pruning wounds on stem, cavity at base of stem on west side.	10+	C2

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)
T117	Populus serotina (Hybrid Black Poplar)	5	2	3	2	1	12	520	1	2	-	М	Fair/Poor	Pollard at 5m, multiple pruning wounds on stem, cavity on stem at 0.5-1.5m on west side.	10+	C2
T118	Tamarix spp. (Salt cedar)	5	4	5	4	4	57	300 300	2	0	1 (S)	М	Fair	Twin stems from ground level with included union, multiple pruning wounds.	10+	C2
T119	Acer pseudoplatanus (Sycamore)	5	2	3	3	1	16	100 150	2	2	1.5 (E)	SM	Fair	Unremarkable tree.	10+	C2
T120	Cupressus macrocarpa (Monterey Cypress)	7.5	7	6	3	3	61	230 390	2	3	2 (W)	М	Good	Nice example of species.	20+	B1
T121	Sorbus aria (Whitebeam)	4	2	2	2	2	13	100 100 100 100 100 100	6	1	0.5 (S)	ЕМ	Good	Small multi-stemmed tree.	20+	B2
T122	Pinus nigra 'maritima' (Corsican Pine)	5	3	3	3	3	28	150 100	2	1	1 (W)	SM	Good	Small tree with good potential.	20+	B2
T123	Pinus nigra 'maritima' (Corsican Pine)	5	1	1	1	1	3	100	1	1	-	Υ	Good	Good potential.	10+	C1
T124	Pinus nigra 'maritima' (Corsican Pine)	5	3	3	3	3	28	180	1	2	2 (NE)	SM	Good	Unremarkable tree.	10+	C2
T125	Tamarix spp. (Salt cedar)	4	3	3	3	3	28	170 180	2	1	1 (N)	М	Good	Unremarkable tree.	10+	C1
T126	Salix caprea (Goat Willow)	4	2	2	2	2	13	150 150 150	3	2	-	EM	Poor	Small, triple stemmed, ivy covered .	10+	C2
T127	Cupressus macrocarpa (Monterey Cypress)	10	2	6	7	2	57	600	1	0	2 (S)	М	Fair	Some deadwood in upper crown, growing within scrub.	10+	C2
T128	Quercus ilex (Holm Oak)	5	2	2	7	4	35	250	1	0	0.5 (S)	М	Fair	Some dieback upper crown, suppressed by adjacent tree, growing within scrub.	10+	C2
T129	Quercus ilex (Holm Oak)	7.5	5	11	7	1	101	600	1	1	0 (SE)	М	Fair	Crown bias to east, some minor deadwood in crown, minor wounds on stem.	40+	A2
T130	Quercus ilex (Holm Oak)	7.5	5	8	5	3	82	450	1	2	0.5 (SE)	М	Fair	Crown bias to east, some minor deadwood in crown, minor wounds on stem.	40+	A2

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)
T131	Quercus ilex (Holm Oak)	7.5	3	5	5	5	63	250	1	2	1.5 (S)	М	Fair	Crown bias to east, some minor deadwood in crown, minor wounds on stem.	20+	B1
T132	Salix fragilis (Crack Willow)	5	4	4	4	4	50	100 100 100 100 100 100	6	0	-	М	Good	Unremarkable tree in area of scrub.	10+	C2
T133	Crataegus monogyna (Hawthorn)	5	3	4	2	2	22	200	1	2	1.5 (E)	М	Fair/Poor	Unremarkable, ivy clad tree.	10+	C2
T134	Crataegus monogyna (Hawthorn)	5	3	4	2	2	22	200	1	2	1.5 (E)	М	Fair/Poor	Unremarkable, ivy clad tree.	10+	C2
T135	Quercus robur (Common Oak)	4	3	5	4	2	38	200 200	2	0	1 (S)	SM	Fair	Multiple pruning wounds, scrub growing through crown of tree.	20+	B2
T136	Ulmus spp.	5	2	2	2	2	13	150	1	2	-	EM	Poor/Fair	Declining tree in roadside scrub, most likely dutch elm disease.	10+	C2
G1	Thuja plicata (Western Red Cedar),X Cupressocyparis leylandii (Leyland Cypress),X Cupressocyparis leylandii Castlewellan Gold (Leyland Cypress),Cupressus macrocarpa (Monterey Cypress),Populus alba (White Poplar)	10	-	-	-	-	-	400 (avg.)	-	2	-	М	Fair	Group of mixed conifers and 1 poplar, ivy on stems throughout group, most conifer stems have lean at origin.	20+	B2
G2	Tamarix spp. (Salt cedar)	7.5	-	-	-	-	-	300 (avg.)	-	0	-	М	Fair	Two shrubby sprawling trees, ivy clad.	10+	C2
G3	Populus alba (White Poplar)	7.5	-	-	-	-	-	250 (avg.)	-	2	-	М	Fair	Road side trees, all have slight stem/ crown bias to northeast, all have small heavily pruned crowns, many have small cavities/ wounds in stems.	10+	C2
G4	Cupressus macrocarpa (Monterey Cypress)	10	-	-	-	-	-	450 (avg.)	-	2	-	М	Fair	Linear group of roadside trees.	10+	C2
G5	Salix caprea (Goat Willow),Crataegus monogyna (Hawthorn),Betula pendula (Silver Birch)	5	-	-	-	-	-	200 (avg.)	-	0	-	М	Good	Informal roadside boundary group.	10+	C2

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)
G6	Cupressus macrocarpa (Monterey Cypress)	5	-	-	-	-	-	250 (avg.)	-	2	-	М	Fair/Poor	Stems growing from scrubby area with heavy lean to northwest.	10+	C2
G7	Cupressus macrocarpa (Monterey Cypress)	10	-	-	-	-	-	500 (avg.)	-	2	-	М	Fair	Linear group, most stems have previously heaved to the northeast but continued to grow.	20+	B1
G8	Salix caprea (Goat Willow)	5	-	-	-	-	-	100;100;1 00;100;10 0;100 (avg.)	-	0	-	М	Good	Scrubby group of multi-stemmed trees growing on bank of stream.	10+	C2
G9	Populus alba (White Poplar)	5	-	-	-	-	-	150 (avg.)	-	0	-	М	Fair	Trees growing along stream bank, all have small heavily pruned crowns.	10+	C2
G10	Salix alba (White Willow)	5	-	-	-	-	-	200;200;2 00;200 (avg.)	-	0	2 (E)	М	Fair	Cluster of trees with collapsing habit to the east, some trees have previously been coppiced.	10+	C2
G11	Quercus ilex (Holm Oak),Quercus robur (Common Oak)	7.5	-	-	-	-	-	300 (avg.)	-	2	-	М	Fair	Group of three trees on the edge of scrubby area, all have slight bias to east, ivy on stems.	20+	B2
G12	Tamarix spp. (Salt cedar)	5	-	-	-	-	-	250 (avg.)	-	0	-	М	Fair	Patchy linear group of trees, most are multi-stemmed, many have wounds on stems.	10+	C2
G13	Quercus robur (Common Oak)	4	-	-	-	-	-	200;150;1 50 (avg.)	-	0	1 (S)	SM	Fair	Multiple pruning wounds, flail damage to lower crown, growing through in scrub defining field boundary.	20+	B2
G14	Salix alba (White Willow)	5	-	-	-	-	-	200;200;1 50 (avg.)	-	1	-	М	Fair	Roadside trees growing within scrub, ivy and bramble within crown.	10+	C2
G15	Acer pseudoplatanus (Sycamore),Acer campestre (Field Maple)	10	-	-	-	-	-	250 (avg.)	-	3	-	М	Fair		20+	B2
G16	Quercus robur (Common Oak)	12.5	-	-	-	-	-	750 (avg.)	-	2	1.5 (S)	М	Fair	Two roadside trees, some pruning wounds, multi-stemmed from 1-2m.	40+	A2
H1	Crataegus monogyna (Hawthorn)	5	-	-	-	-	-	200 (avg.)	-	0	-	М	Good	Informal roadside boundary hedge.	10+	C2
H2	Salix caprea (Goat Willow),Crataegus monogyna (Hawthorn)	5	-	-	-	-	-	200 (avg.)	-	0	-	М	Good	Informal roadside boundary hedge.	10+	C2
НЗ	Mixed shrub (mainly Gorse & Bramble)	1.5	-	-	-	-	-	150 (avg.)	-	0	-	М	Fair	Unremarkable scrubby boundary hedge, maintained at 1.5m.	10+	C2
H4	Elaeagnus pungens (Spiny Oleaster)	1.5	-	-	-	-	-	150 (avg.)	-	0	-	М	Fair	Unremarkable scrubby boundary hedge, maintained at 1.5m.	10+	C2

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)
H5	Ligustrum ovalifolium (Garden Privet)	2	-	-	-	-	-	100 (avg.)	-	0	-	М	Fair	Roadside field boundary hedge.	10+	C2
H6	Ligustrum ovalifolium (Garden Privet)	2	-	-	-	-	-	100 (avg.)	-	0	-	М	Fair	Roadside field boundary hedge.	10+	C2
H7	Ligustrum ovalifolium (Garden Privet),Crataegus monogyna (Hawthorn)	2	-	-	-	-	-	100 (avg.)	-	0	-	М	Fair	Roadside field boundary hedge.	10+	C2
Н8	Ligustrum ovalifolium (Garden Privet),Crataegus monogyna (Hawthorn)	2	-	-	-	-	-	100 (avg.)	-	0	-	М	Fair	Roadside field boundary hedge.	10+	C2
S1	Bramble, Tamarix spp. (Salt cedar),Salix alba (White Willow)	3	-	-	-	-	-	150 (avg.)	-	0	-	М	Fair	Area of scrub, mostly bramble.	10+	C2
S2	Mainly bramble	5	-	-	-	-	-	100 (avg.)	-	0	-	М	Fair	Scrubby area of mainly bramble.	10+	C2
S3	Mixed Scrub (Mainly Bramble & Willow)	3	-	-	-	-	-	150 (avg.)	-	0	-	М	Fair	Unremarkable area of scrub.	10+	C2
S4	Mixed Scrub (Mainly Bramble, Willow, Gorse & Blackthorn)	3	-	-	-	-	-	150 (avg.)	-	0	-	М	Fair	Area of scrub along field boundary.	10+	C2
S5	Mixed scrub, Salix alba (White Willow),Populus tremula (Aspen)	7.5	-	-	-	-	-	150 (avg.)	-	3	-	М	Fair	Area of scrub, most trees within scrub have been deformed/ damaged by wind, lots of sucker growth around group.	10+	C2
S6	Mixed scrub, Salix alba (White Willow),Populus tremula (Aspen),Cupressus macrocarpa (Monterey Cypress)	7.5	-	-	-	-	-	150 (avg.)	-	3	-	М	Fair	Area of scrub, most trees within scrub have been deformed/ damaged by wind, lots of sucker growth around group.	10+	C2
S7	Gorse	1	-	-	-	-	-	100 (avg.)	-	0	-	М	Good	Open field filled mainly with gorse.	10+	C2
S8	Mixed scrub, Prunus spinosa (Blackthorn),Tamarisk, Crataegus monogyna (Hawthorn)	4	-	-	-	-	-	150 (avg.)	-	0	-	М	Fair	Area of scrub, most trees within scrub have been deformed/ damaged by wind.	10+	C2
S9	Mixed Scrub (Mainly Bramble, Gorse & Blackthorn)	3	-	-	-	-	-	150 (avg.)	-	0	<u>-</u>	М	Fair	Area of scrub along drainage ditch.	10+	C2
S10	Mixed Scrub (Mainly Bramble, Gorse & Blackthorn)	3	-	-	-	-	-	150 (avg.)	-	0	-	М	Fair	Area of scrub along drainage ditch.	10+	C2

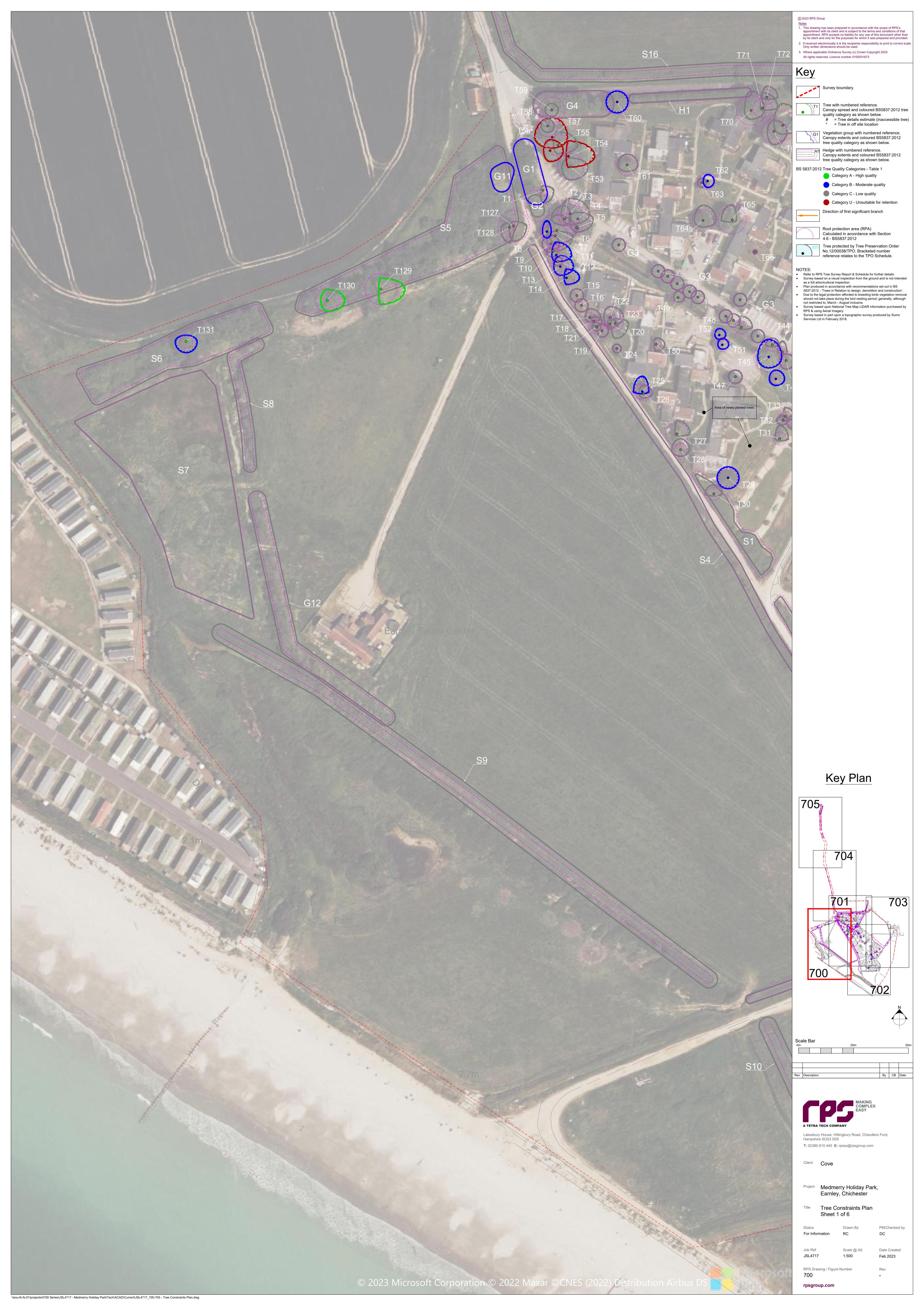
Ref. no	Species	Height (m)	N	E	s	w	Crown Area	Stem dia. (mm)	Stem no. at 1.5m	crown clearance (m)	FSB Height (Direction)	Age class	Condition	General Observations Management Recommendations	remaining contribution (yrs)	Quality Category (BS5837)
S11	Mixed Scrub (Mainly Bramble, Gorse & Blackthorn)	3	-	-	-	-	-	150 (avg.)	-	0	-	М	Fair	Area of scrub along drainage ditch.	10+	C2
S12	Mixed scrub (Mainly Bramble)	3	-	-	-	-	-	150 (avg.)	-	0	-	М	Fair	Area of scrub along field boundary.	10+	C2
S13	Mixed Scrub (Mainly bramble, Blackthorn),Populus tremula (Aspen),Salix alba (White Willow),Crataegus monogyna (Hawthorn)	3	-	-	-	-	-	150 (avg.)	-	0	-	М	Fair	Area of scrub along field boundary with some larger unremarkable trees within area.	10+	C2
S14	Mixed Scrub (Mainly bramble, Blackthorn),Salix alba (White Willow),Crataegus monogyna (Hawthorn)	3	-	-	-	-	-	150 (avg.)	-	0	-	М	Fair	Area of scrub along field boundary with some larger unremarkable trees within area.	10+	C2
S15	Mixed Scrub (Mainly bramble, Blackthorn),Crataegus monogyna (Hawthorn),Chamaecypari s lawsoniana (Lawson Cypress)	3	-	-	-	-	-	150 (avg.)	-	0	-	М	Fair	Area of scrub along field boundary with some larger unremarkable trees within area.	10+	C2
S16	Mixed Scrub (Mainly bramble, Salix alba (White Willow),Crataegus monogyna (Hawthorn)	3	-	-	-	-	-	150 (avg.)	-	0	-	M	Fair	Area of scrub along field boundary with some larger unremarkable trees within area.	10+	C2
S17	Prunus spinosa (Blackthorn)	3	-	-	-	-	-	100 (avg.)	-	0	-	М	Fair	Scrubby area growing in drainage ditch.	10+	C2
S18	Mixed scrub, Bramble, Sambucus nigra (Elder)	3	-	-	-	-	-	100 (avg.)	-	0	-	М	Fair	Roadside scrub.	10+	C2
S19	Mixed scrub, Bramble	3	-	-	-	-	-	100 (avg.)	-	0	-	М	Fair	Roadside scrub.	10+	C2
S20	Mixed scrub, Bramble, Prunus spinosa (Blackthorn)	3	-	-	-	-	-	100 (avg.)	-	0	-	М	Fair	Roadside scrub.	10+	C2
S21	Mixed scrub, Bramble, Prunus spinosa (Blackthorn),Salix caprea (Goat Willow),Ulmus spp.	3	-	-	-	-	-	100 (avg.)	-	0	-	М	Fair	Roadside scrub.	10+	C2
S22	Mixed scrub, Bramble, Prunus spinosa (Blackthorn)	3	-	-	-	-	-	100 (avg.)	-	0	-	М	Fair	Roadside scrub.	10+	C2

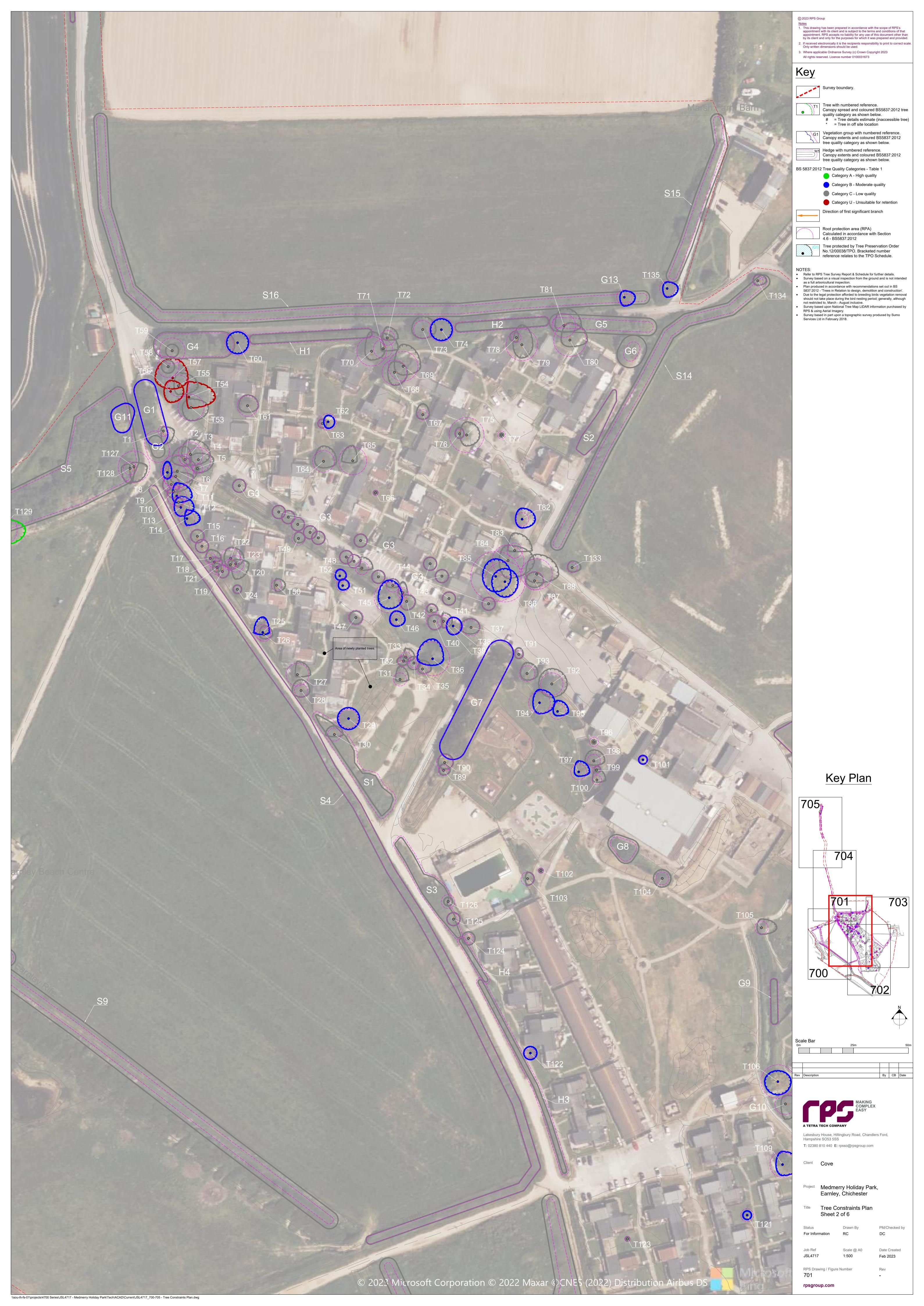
Ref. no	Species	Height (m)	N	E	s	w	Crown Area	Stem dia. (mm)	Stem no. at 1.5m	crown clearance (m)	FSB Height (Direction)		Condition	General Observations Management Recommendations	remaining contribution (yrs)	Quality Category (BS5837)
S23	Mixed scrub, Bramble, Prunus spinosa (Blackthorn),Salix caprea (Goat Willow),Ulmus spp.	3	-	-	-	-	-	100 (avg.)	-	0	-	М	Fair	Roadside scrub, multiple dead elm within scrub.	10+	C2
S24	Mixed scrub, Bramble, Prunus spinosa (Blackthorn)	3	-	-	-	-	-	100 (avg.)	-	0	-	М	Fair	Roadside scrub.	10+	C2

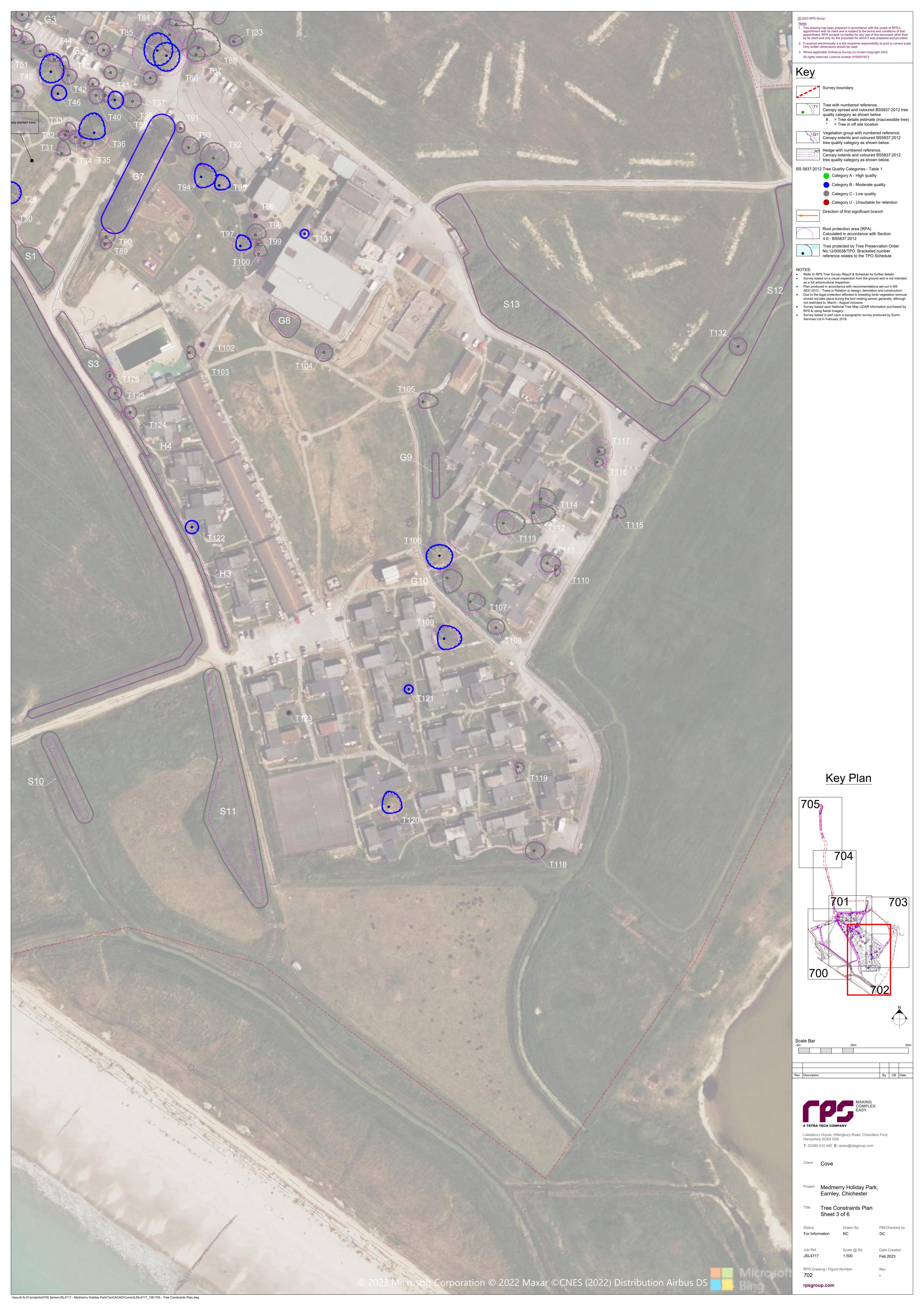


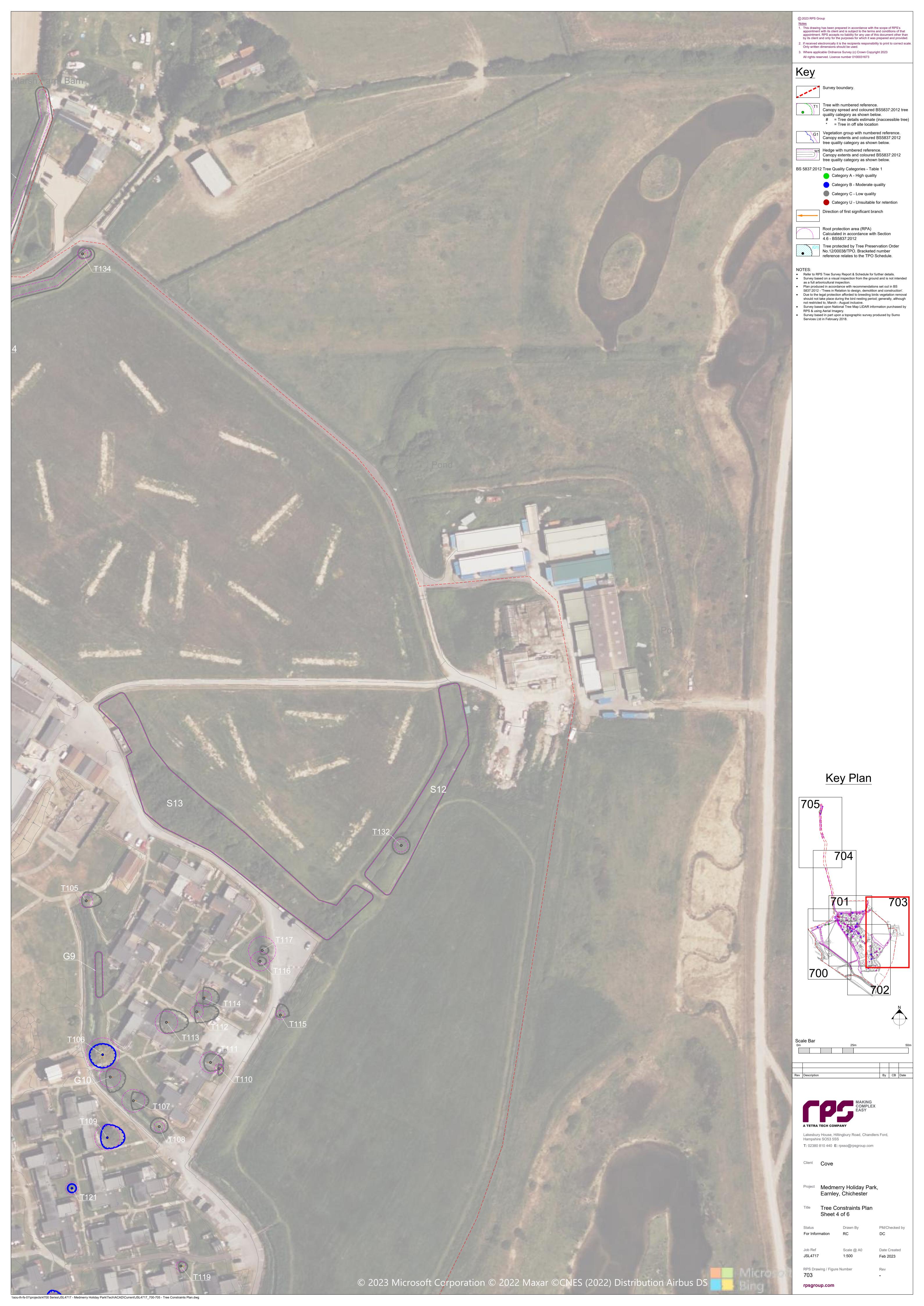
# Appendix A

**Tree Constraints Plan JSL4717\_700 to 705** 

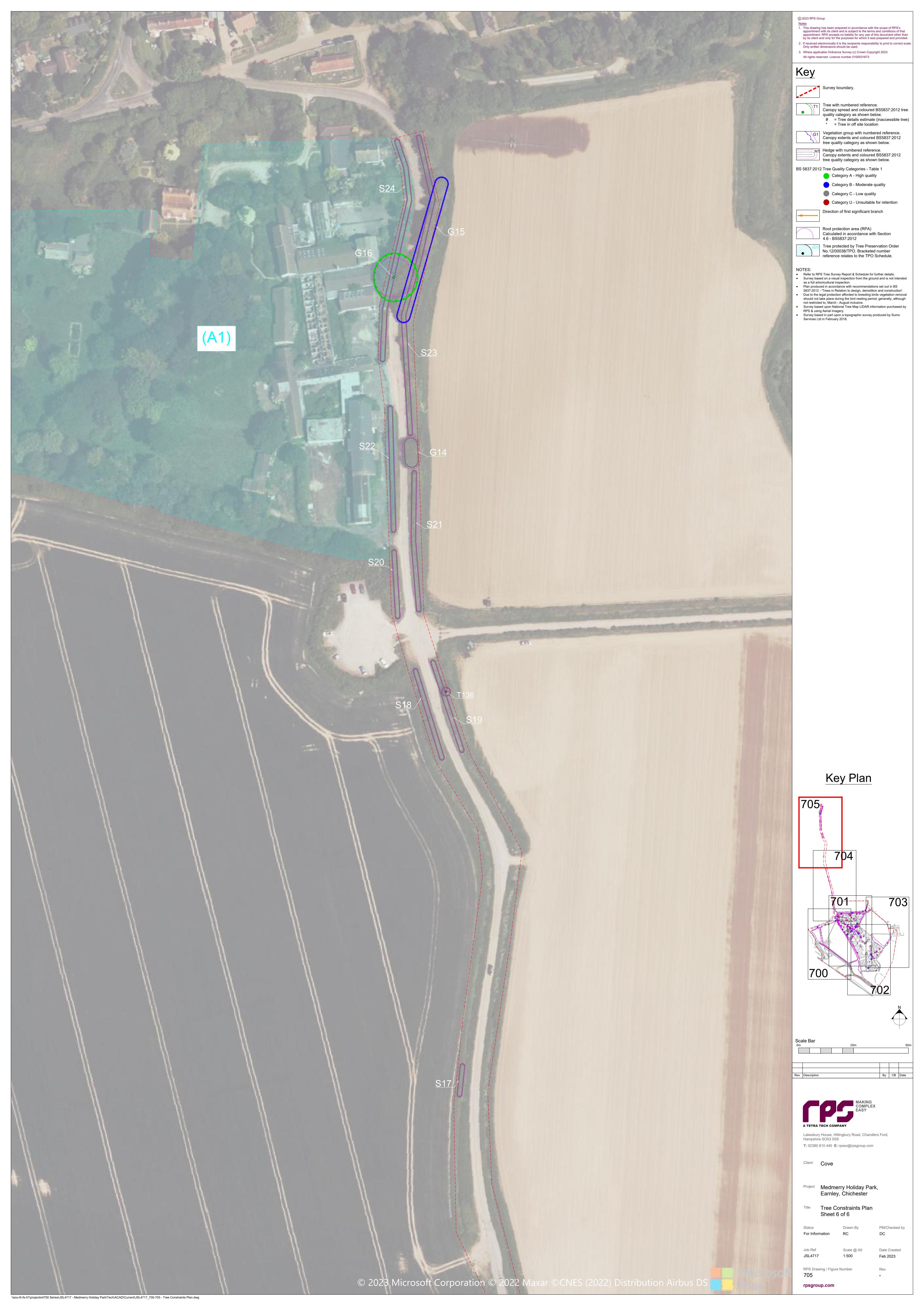








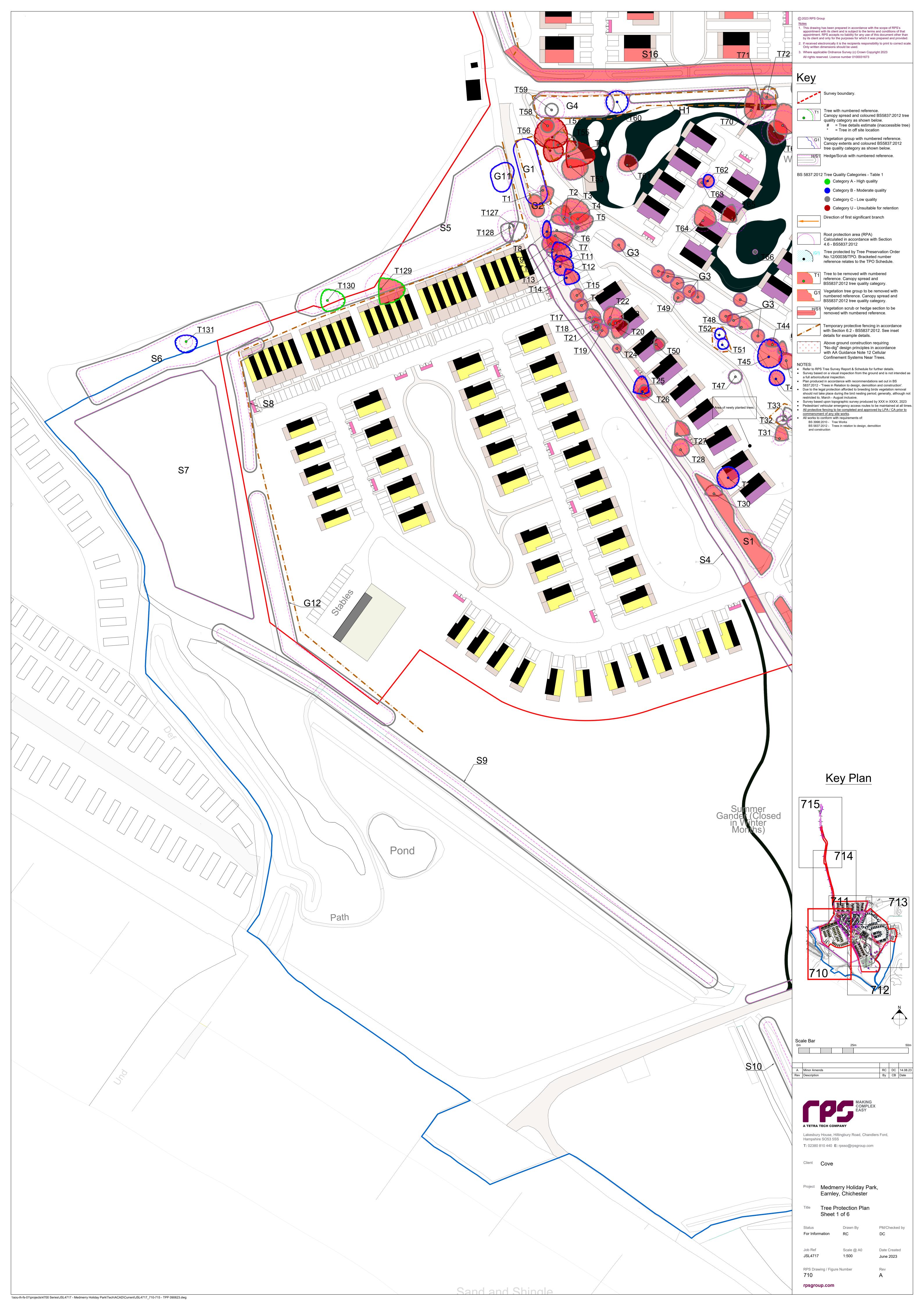


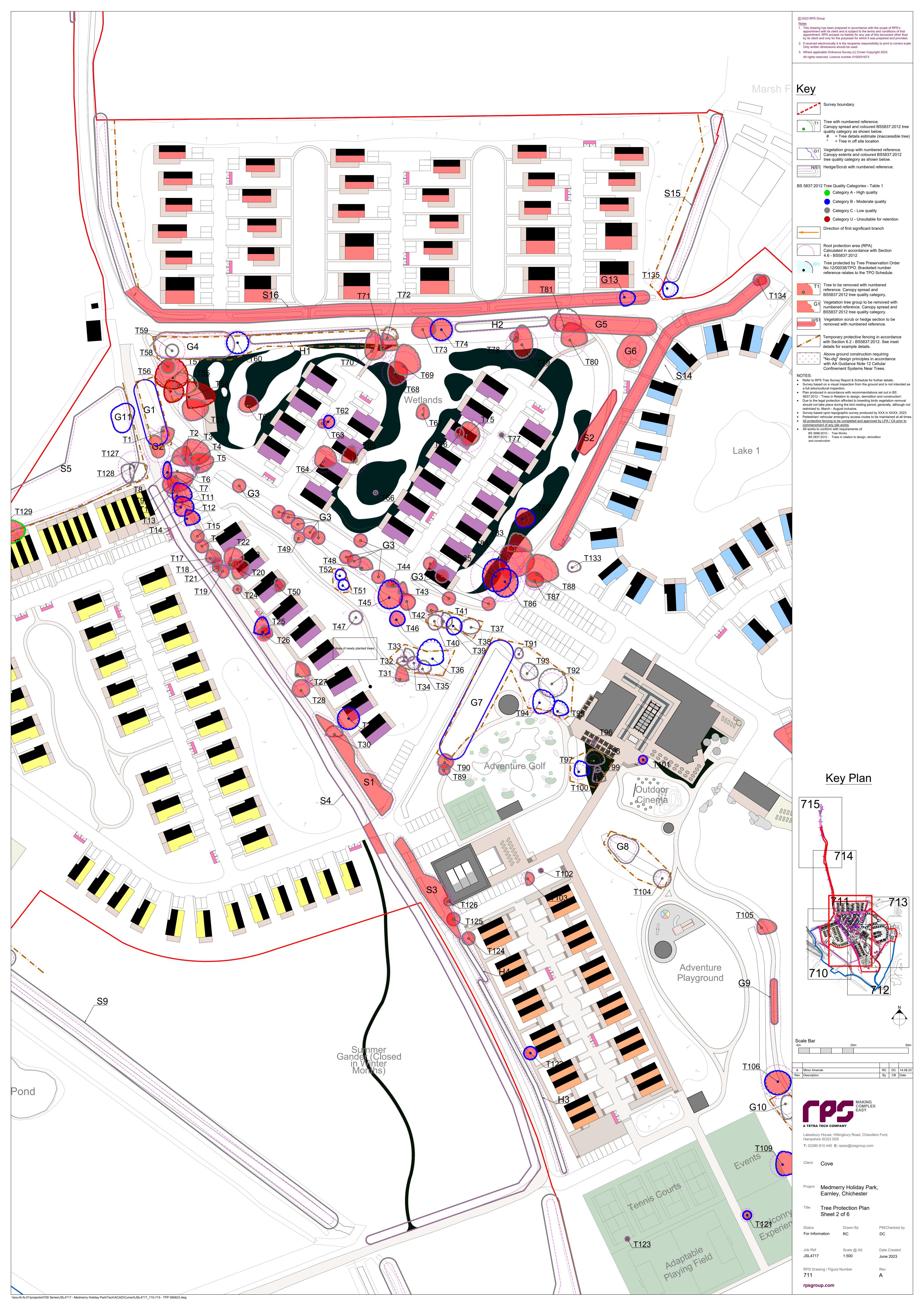


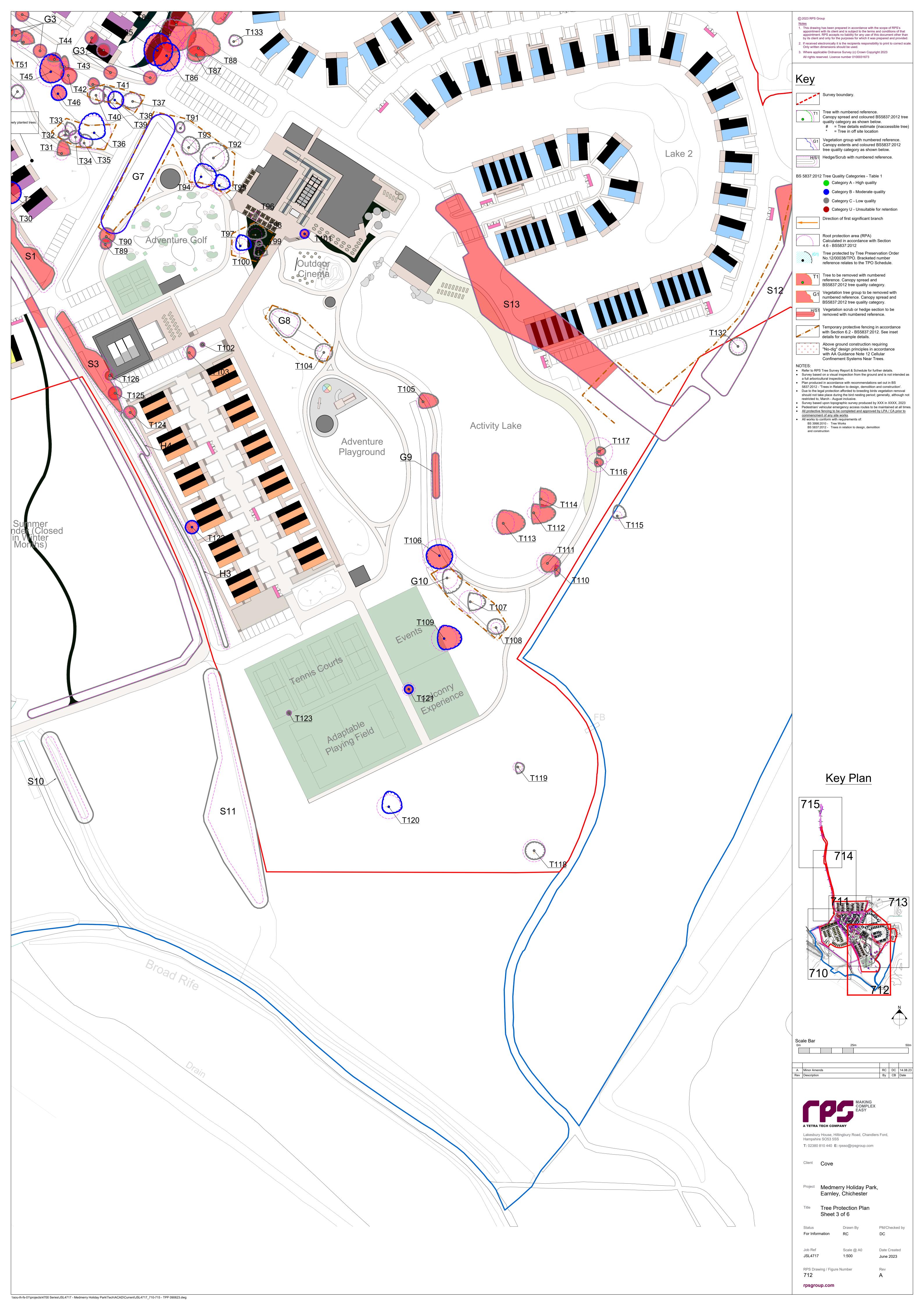


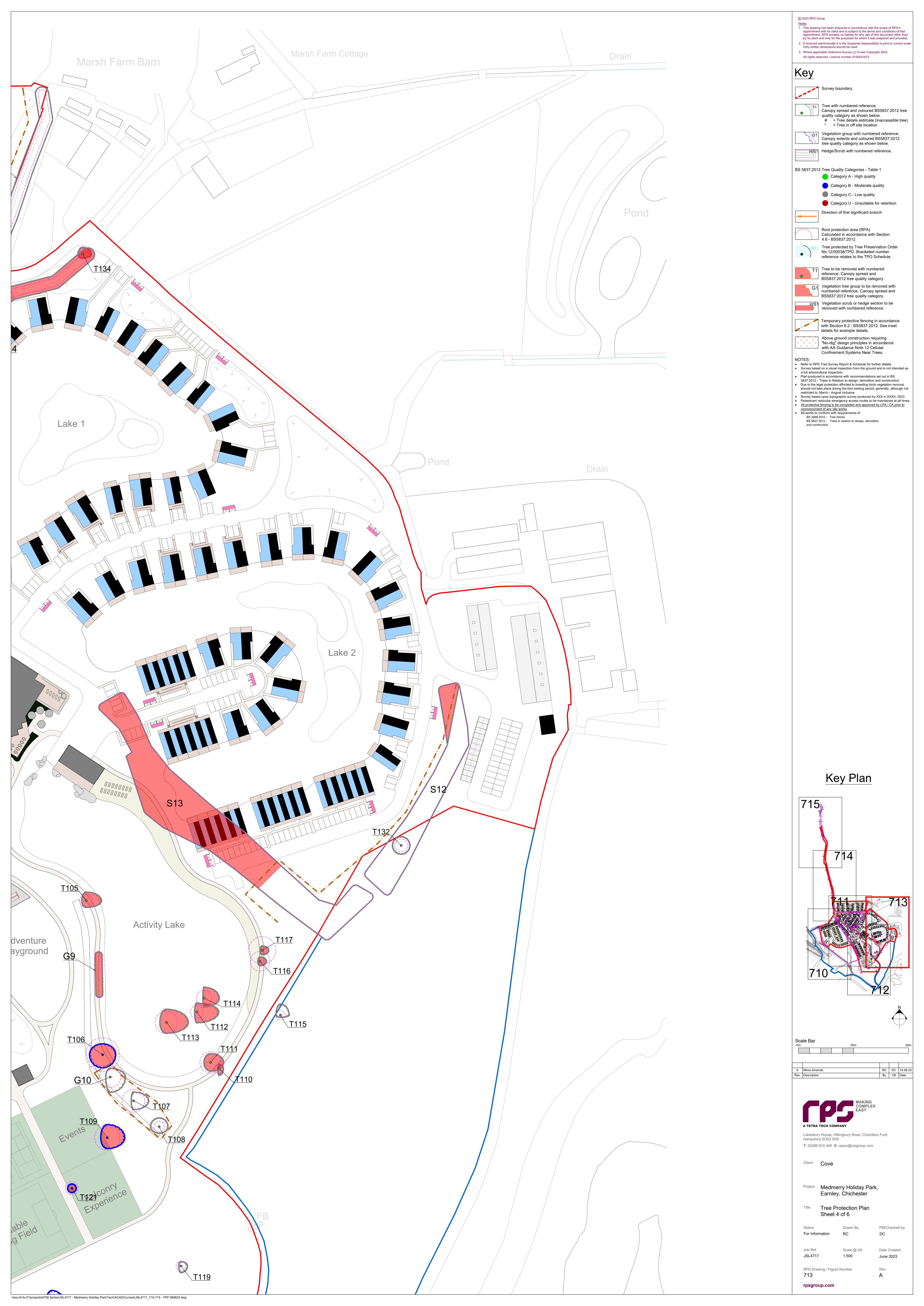
# Appendix B

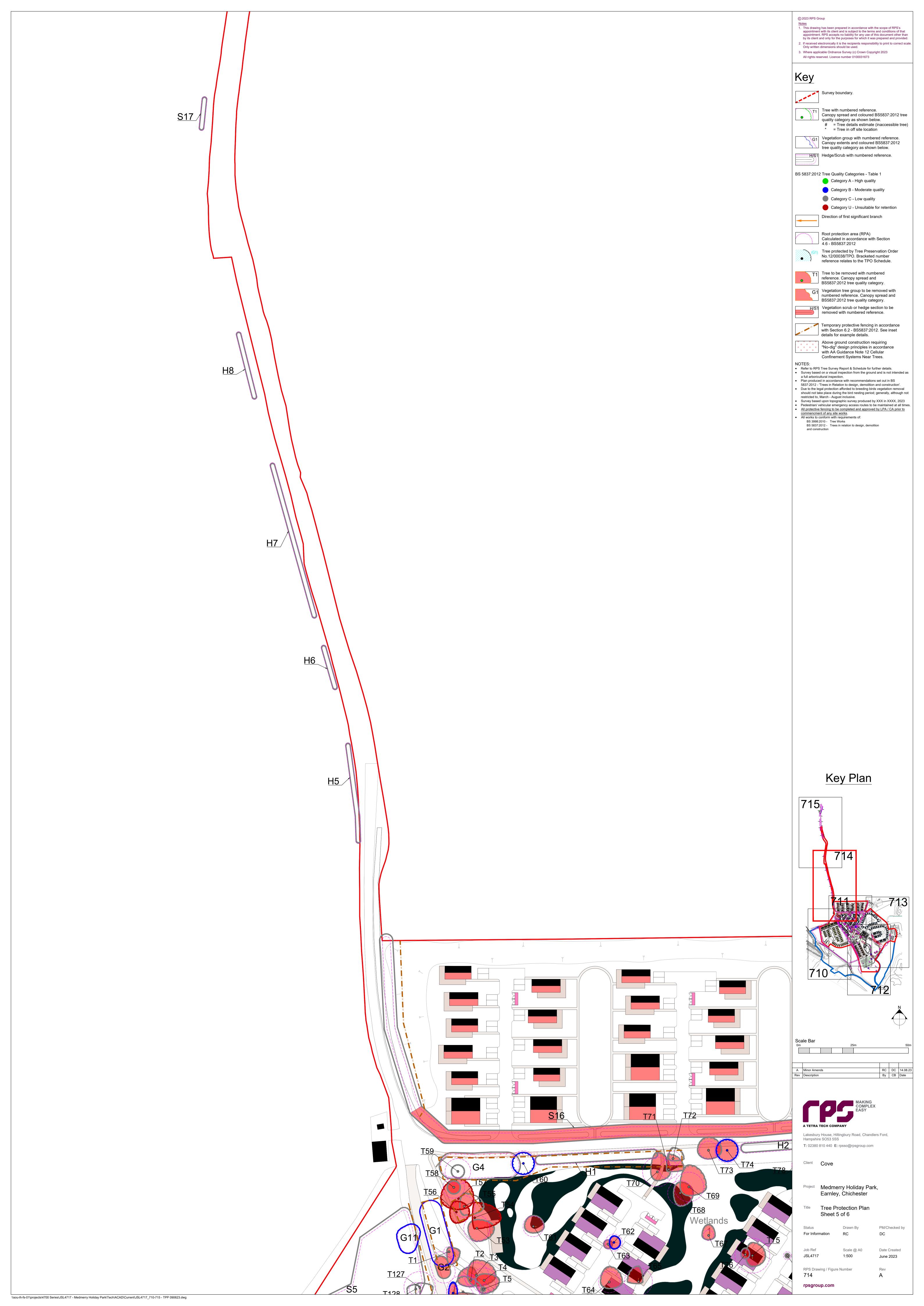
**Tree Protection Plan JSL4717\_710 to 715** 

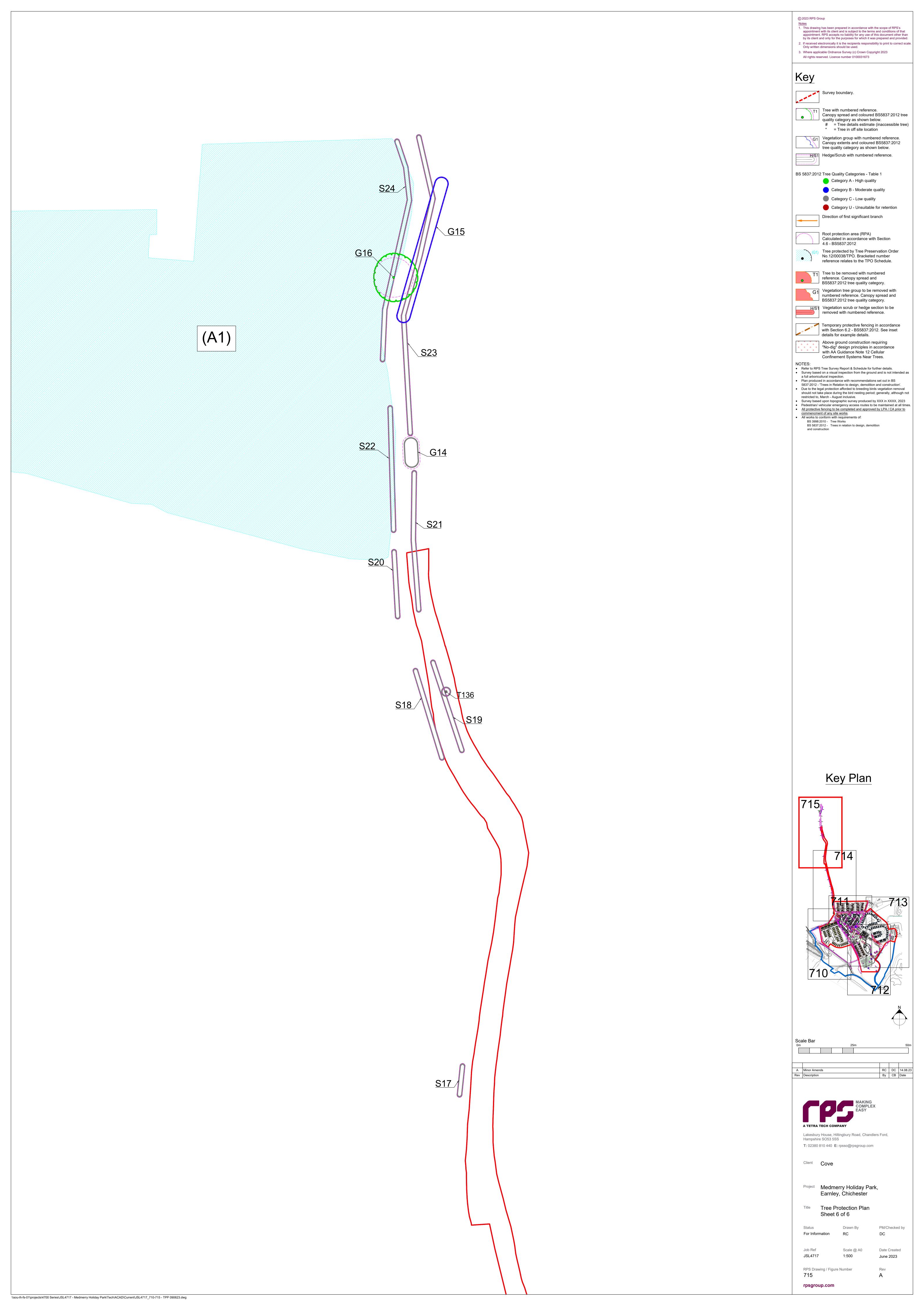














## **Appendix C**

## Example Tree Protection Barriers (BS5837:2012 Fig 2 & 3)

Figure 2 Default specification for protective barrier

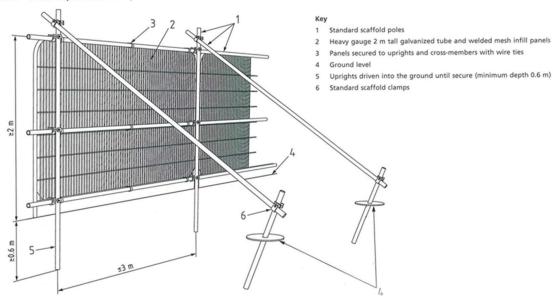
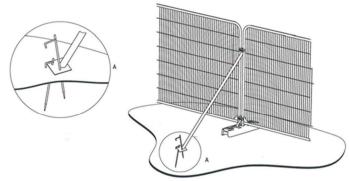
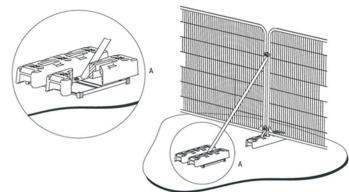


Figure 3 Examples of above-ground stabilizing systems



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray



#### **Appendix D**

### **Construction Exclusion Zone (CEZ) Sign**







#### **Appendix E**

#### **Arboricultural Glossary**

- **Age-class** A general classification of the tree into either young, semi-mature, early mature, mature, overmature, or veteran.
- **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.
- **Asymmetric crown-** Crowns that have a morphological bias in a particular direction. This can give the tree an aesthetically unfavourable appearance, but can also subject the tree to uneven wind- loading forces and potentially result in failure.
- **Basal** Referring to the bottom part of a tree's stem.
- **Basifugal mortality** A natural process seen in trees in an advanced life stage whereby the trees extremities die back and the inner crown expresses new growth, in order to conserve energy reserves.
- **Bifurcated** A growth characteristic, where two stems of similar size grow from the same point. Can create an inherent weakness.
- **Branch union/junction** The point at which a branch joins a larger stem. Can be a point of weakness, especially in certain species.
- **Brown Rot** Decay caused by certain species of fungus which results in the affected wood becoming brittle and liable to suddenly 'break out', especially if in key structural areas.



- **Buttress flares** Extensions of the basal stem of a tree that provide additional structural support. See reaction wood.
- **Bifurcated-** A growth characteristic, where two or more stems of similar size grow from the same point. Can create an inherent weakness.
- **Cable braces** Cable braces used to support the crown of a tree, reduce impacts caused by wind- throw oscillation.
- **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.
- Central leader- See apical dominance.
- **Chalara ash dieback-** A disease affecting ash trees caused by the fungus *Hymenoscyphus fraxineus*.

  Usually fatal, the disease causes leaf loss and crown dieback in infected trees. It was first confirmed in Britain in 2012.
- **Chlorosis** yellowing of leaves which can be caused by a range of factors, often an indicator of nutrient deficiency.
- **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.
- **Companion shelter-** Shelter provided by neighbouring trees in groups to one another, factors such as wind throw are reduced due to supporting branches and interlocking root systems. Removing individual trees on the peripheries of such groups can expose neighbouring trees to environmental factors they have not previously been subjected to and can lead to individual failure.
- **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.
- **Conservation dead- wooding-** Removal of deadwood using 'coronet cuts' that mimic the way a branch would naturally break off, maximising deadwood habitat availability for invertebrates.



- **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 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.
- Form A general assessment of the shape and position of the tree within its environment.
- **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.
- 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.
- **Invertebrate tower** Pollarding of a (usually dead) tree to a safe height that leaves part of the main stem as a deadwood habitat for invertebrate species.
- Occlusion/Occluded Normally used to describe the overgrowth of a wound. Also, immoveable 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.
- **Phototropic growth** Growth responding to a light stimulus i.e. the sun. This can influence the form of a tree, particularly where other factors e.g. buildings or other trees, affect the amount/ direction light is received.



- **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.
- **Rhizosphere -** The rhizosphere is the narrow region of soil that is directly influenced by root secretions and associated soil microorganisms. In particular, mycorrhizal fungi form a symbiotic relationship with trees and assist in the assimilation of phosphates essential to the trees health.
- 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 m².
- Scaffold limbs The main structural branches within the crown.
- **Tree protection 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. AKA 'Estimated remaining contribution'.
- **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.
- **White Rot -** A type of decay caused by certain species of fungi which results in the affected wood becoming flexible with little compressive strength.