

Cambridge Waste Water Treatment Plant Relocation Project  
Anglian Water Services Limited

# Appendix 8.17: Proposed WWTP [REDACTED] Arboricultural Impact Assessment

Application Document Reference: 5.4.8.17  
PINS Project Reference: WW010003  
APFP Regulation No. 5(2)a

## Document Control

<b>Document title</b>	Proposed WWTP Arboricultural Impact Assessment
<b>Version No.</b>	01
<b>Date Approved</b>	28.01.23
<b>Date 1<sup>st</sup> Issued</b>	30.01.23

## Version History

<b>Version</b>	<b>Date</b>	<b>Author</b>	<b>Description of change</b>
01	30.01.23	-	DCO Submission

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## Summary

Anglian Water has appointed Mott MacDonald to undertake an arboricultural survey in relation to the Cambridge Waste Water Treatment Plant Relocation Scheme (CWWTPR).

There were 112 trees, 123 tree groups and 34 hedgerows surveyed in relation to this Proposed Development. In order to facilitate the construction of the Proposed Development, the following tree removals are likely to be required:

- Category A i.e. trees of high quality, 0 trees;
- Category B i.e. trees of moderate quality, 4 trees and the partial removal of 1 tree group;
- Category C i.e. trees of low quality, 3 trees, 6 hedges and the partial removal of 6 hedges;
- Category U i.e. trees to be removed for sound arboricultural management, 4 trees.

Note, Category U trees are trees that require removal for arboricultural or health and safety purposes. They are not however required for removal as a direct consequence of the Proposed Development.

The Proposed Development falls within the administrative boundaries of the South Cambridgeshire District Council (SCDC). Following a review of SCDC's online mapping portal (South Cambridgeshire District Council, n.d.) on 01.07.2022, it was confirmed that there were no Tree Preservation Order (TPO) trees within the boundary of the Proposed Development. Tree groups and hedges within the Fen Ditton and Baits Bite Lock Milton Conservation Areas are protected.

The DCO will permit the felling of four trees within the Baits Bite Lock Conservation Area. It is not anticipated that all four of these trees will require removal. The exact removal will be confirmed at the construction stage and no tree removal is to be undertaken until the Scheme Arboriculturist is consulted and this report is updated.

The DCO will also permit partial removal of hedgerows (approx. 18m in total) located in the proposed Waste Water Treatment Plant (WWTP). No hedge removal is to be undertaken until the Scheme Arboriculturist is consulted and this report is updated.

# 1 Introduction

## 1.1 Anglian Water Services Limited

1.1.1 Anglian Water Services Limited (the Applicant) is the largest regulated water and water recycling company in England and Wales by geographic area, supplying water and water recycling services to almost seven million people in the East of England and Hartlepool.

1.1.2 The Applicant is committed to bringing environmental and social prosperity to the region they serve, through their commitment to Love Every Drop. As a purpose-led business, the Applicant seeks to contribute to the environmental and social wellbeing of the communities within which they operate. As one of the largest energy users in the East of England, they are also committed to reaching net zero carbon emissions by 2030.

## 1.2 Background

1.2.1 The Applicant is proposing to build a modern, low carbon Waste Water Treatment Plant (WWTP) for Greater Cambridge on a new site area north of the A14 between Fen Ditton and Horningsea within the Cambridge drainage catchment area, to replace the plant on Cowley Road, hereafter referred to as the existing Cambridge WWTP.

1.2.2 The relocation will enable South Cambridgeshire District Council and Cambridge City Council's long held ambition to develop a new low-carbon city district on Cambridge's last major brownfield site, known as North East Cambridge. The site is an important component of the First Proposals (preferred options) for the new Greater Cambridge Local Plan that were subject to public consultation late last year. The North East Cambridge Area Action Plan has also recently been agreed by the Councils in its Proposed Submission form and will be subject to public consultation prior to submission, once the Development Consent Order is determined. The relocation of the existing waste water treatment facility will enable this new district to come forward and deliver 8,350 homes, 15,000 new jobs and a wide range of community, cultural and open space facilities in North East Cambridge.

1.2.3 The relocation of the existing Cambridge WWTP will allow the Applicant to continue providing vital waste water services to customers across Cambridge and Greater Cambridge. The new plant will continue storing and treating storm flows and treating sludge to produce renewable energy. It will be designed to deal with a growing population. It offers the opportunity for a joined-up solution for treating waste water from Cambridge and Greater Cambridge, including Waterbeach. The proposal is for both waste water from the existing Waterbeach Water Recycling Centre (WRC) and future flows from Waterbeach New Town to be treated at the proposed WWTP.

- 1.2.4 The Proposed Development will be the first waste water project to seek a Development Consent Order that is not specifically named in the National Policy Statement (NPS). The Applicant sought and obtained a direction from the Secretary of State under section 35 of the Planning Act 2008 ('the 2008 Act'), which confirms that the Proposed Development will be treated as a Nationally Significant Infrastructure Project (NSIP) when the application is submitted.

## 1.3 The Proposed Development

- 1.3.1 The purpose of the Proposed Development will be to treat all waste water and wet sludge from the Cambridge catchment just as the existing Cambridge WWTP currently does, plus that from the growth indicated and being planned within the catchment in the Local Plan to 2041, with ability to expand beyond to deal with further growth.
- 1.3.2 As part of its statutory function, the Applicant operates the existing Cambridge WWTP. The existing Cambridge WWTP receives waste water from the Cambridge catchment either directly from the connected sewerage network or tankered to the plant from homes and businesses that are not connected. This waste water is then treated and the treated effluent discharged through an outfall to the nearby River Cam. The existing Cambridge WWTP is an integrated WWTP, as would be the proposed WWTP. Integrated WWTPs incorporate a sludge treatment function in the form of a Sludge Treatment Centre (STC). This treats sludge derived from the waste water within the catchment and the 'wet sludge' produced by other satellite plants which do not have integrated STC.
- 1.3.3 The development of Waterbeach New Town lies to the north of Cambridge. The Waterbeach new town development when built out will comprise approximately 11,000 new homes along with associated business, retail, community and leisure uses. Waste water from Waterbeach will ultimately be treated by the proposed WWTP once operational. However, the rate of development at Waterbeach New Town may require a new pipeline (rising main) to be built from Waterbeach to the existing Cambridge WWTP to allow treatment of waste water in advance of the proposed WWTP becoming operational. In that case, either a later connection would be made to the proposed WWTP from a point on the pipeline route, or flows diverted from the existing Cambridge WWTP via the transfer tunnel.
- 1.3.4 In summary, the Proposed Development will comprise of:
- an integrated waste water and sludge treatment plant.
  - a shaft to intercept waste water at the existing Cambridge WWTP on Cowley Road and a tunnel/ pipeline to transfer it to the proposed WWTP and terminal pumping station. Temporary intermediate shafts to launch and recover the micro-tunnel boring machine.
  - a gravity pipeline transferring treated waste water from the proposed WWTP to a discharge point on the River Cam and a pipeline for storm water overflows.

- a twin pipeline transferring waste water from Waterbeach to the existing Cambridge WWTP, with the option of a connection direct in to the proposed WWTP when the existing works is decommissioned.
  - ancillary on-site buildings, including a Gateway Building with incorporated Discovery Centre, substation building, workshop, vehicle parking including electrical vehicle charging points, fencing and lighting.
  - environmental mitigation and enhancements including substantial biodiversity net gain, improved habitats for wildlife, extensive landscaping over 72 ha, a landscaped earth bank enclosing the proposed WWTP, climate resilient drainage system and improved recreational access and connectivity.
  - Renewable energy generation via anaerobic digestion which is part of the sludge treatment process that produces biogas designed to be able to feed directly into the local gas network to heat homes, or as an alternative potential future option burnt in combined heat and power engines.
  - renewable energy generation via solar photovoltaic and associated battery energy storage system.
  - other ancillary development such as internal site access, utilities, including gas, electricity and communications and connection to the site drainage system.
- 1.3.5 a new vehicle access from Horningsea Road including for Heavy Goods Vehicles (HGV's) bringing sludge onto the site for treatment and other site traffic. A detailed description of the project can be found in Chapter 2: Project Description (App Doc Ref 5.2.2).
- 1.3.6 This Arboricultural Impact Assessment has been prepared for the proposed WWTP including the landscaping proposals, final effluent pipeline, the outfall, waste water transfer tunnel and new access connecting with Horningsea Road and the existing Cambridge WWTP. For the arboricultural impact assessment for land required for the Waterbeach pipeline please refer to Waterbeach Arboricultural Impact Assessment (Appendix 8.19, App Doc Ref 5.4.8.19).

## 1.4 Document purpose

- 1.4.1 This report is designed to meet the following objectives:
- to set out the constraints to development posed by existing tree stock;
  - to identify trees or areas of arboricultural significance; and
  - to provide information for later use in the detailed design stage of this Proposed Development in relation to minimising or avoiding impact on trees.



## 1.5 Tree assessment methodology

- 1.5.1 The tree survey was carried out by a qualified Mott MacDonald Arboriculturist (29 November to 17 December 2021) to assess the quality and value of the principal trees within or adjacent to the Proposed Development footprint.
- 1.5.2 The trees plotted within the Tree Protection Plans (Appendix A.1) were recorded by visual survey from ground level and no invasive tree inspection measures were employed.
- 1.5.3 The Tree Schedule Definition of Terms, (Appendix 4.1) and the BS 5837:2012 Cascade Chart for Tree Quality Assessment (Appendix 4.2) are to be read in conjunction with the Tree Survey Schedule (Appendix 4.3)
- 1.5.4 The survey was undertaken in accordance with the guidelines set out in BS 5837:2012 "Trees in relation to design, demolition and construction – Recommendations" (BSI Standards Publication, 2012).
- 1.5.5 The survey process categorises the trees on site, selects those appropriate for retention and reviews the options for incorporating these trees within the developed landscape.
- 1.5.6 In accordance with BS 5837:2012, the following information was recorded for each tree:
- sequential reference number;
  - species listed by common name and scientific name;
  - life stage recorded as shown in Table 1-1;
  - height (metres);
  - crown spread (metres), taken as a minimum at the four cardinal points, to derive an accurate representation of the crown;
  - existing height (metres) above ground level of:
  - first significant branch within the canopy; and
  - first significant branch in the northern, eastern, southern and western extents of the canopy.
  - stem diameter (millimetres) in accordance with Annex C of BS 5837:2012. The stem diameters of single stemmed trees were measured at 1.5m above ground level and multi-stemmed trees measured in accordance with Appendix 4.2;
  - the Root Protection Area (RPA) calculated in accordance with Section 4.6 of BS 5837:2012. The two measurements provided are a 'Root Protection Radius (m)' (circle centred on the base of the stem) and an overall 'root protection area (m<sup>2</sup>)';

- general observations, particularly of structural and/or physiological condition (e.g. the presence of any decay and physical defect), and/or preliminary management recommendations;
- estimated remaining contribution, in years (<10, 10 +, 20+, 40+); and,
- retention category recorded as A, B, C or U in accordance with BS 5837:2012 (see Table 1-2) to be recorded on the tree survey plan (Appendix A.1). This gives an indication as to each tree's arboricultural, landscape and cultural value and significance as well as its suitability for retention in the context of the proposed redevelopment of the site. These sub-categories [1 – Arboricultural values; 2 – Landscape values and 3 – Cultural values, including conservation] are included where considered necessary to clarify why a tree has been assigned to a particular retention category. The categorisation criteria are summarised in Table 1-2.

**Table 1-1: Life stages**

Abbreviation	Life Stage	Description
Y	Young	Trees aged less than 1st quarter of their life expectancy
SM	Semi-mature	Trees within 2nd quarter of their life expectancy
EM	Early mature	Trees within 3rd quarter of their life expectancy
M	Mature	Trees aged within final quarter of their life expectancy
OM	Over Mature	Over-mature – declining or moribund trees of low vigour
V	Veteran	Specimens exhibiting 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

Source: (BSI Standards Publication, 2012)

**Table 1-2: Categorisation criteria**

Category	Description
Category A	Trees of high quality and value whose retention is most desirable (suggested minimum contribution 40 years)
Category B	Trees of moderate quality and value whose retention is desirable if practicable (suggested minimum contribution 20 years)
Category C	Trees of low quality and value or limited long-term potential, which could be retained if not in conflict with development proposals or young trees with a stem diameter of less than 150mm (suggested minimum contribution 10 years)
Category U	Trees requiring removal irrespective of any development proposals due to significant structural defects, irreversible decline or with a very short-term life expectancy of less than 10 years

Source: (BSI Standards Publication, 2012)

## 1.6 Limitations of survey

- 1.6.1 This report provides comment on the general quality of the trees on the site but is not, nor should be taken to be, a full or thorough assessment of the health and

safety of trees on or adjacent to the site. It is recommended that a full tree survey should be undertaken on a regular basis to satisfy health and safety requirements.

- 1.6.2 The location of a minority of trees associated with this Proposed Development were identified within the topographical information provided prior to the survey. However, in most instances, trees that were present on-site were not identified in the topographical information provided. Where locational information was not present, the estimated locations of the trees have been plotted, either as individual trees or tree groups, onto the OS base plans provided with their approximate positions determined by GPS (not guaranteed to less than 5m accuracy) and/or existing site features. It should be noted that an accurate topographical survey, depicting tree locations, is a prerequisite to comply fully with BS5837:2012. As such, this report and associated Tree Protection Plans are not in full accordance with BS5837:2012. It is recommended that an accurate topographical survey, depicting individual trees, is procured at the earliest opportunity to align the trees surveyed with GPS with the topographical tree positions to increase accuracy during the detailed design stage of the project.
- 1.6.3 The group of trees numbered G123 was surveyed using aerial imagery due to access restrictions. Currently there are no works in this location but if this becomes a requirement to do work in this area it is advisable this group is surveyed at the earliest possible juncture.
- 1.6.4 Previous management and/or surveys in relation to the health and safety of trees on this site have not been taken into account as part of this report.
- 1.6.5 Distances were recorded using a standard metric tape measure where appropriate and stem diameter was recorded using a diameter tape. Tree height was visually estimated to the nearest metre.

## 2 Arboricultural Impact Assessment

### 2.1 Tree summary

- 2.1.1 The trees described within this section can be seen within the Tree Protection Plans (Appendix A.1) to be read in conjunction with the Tree Survey Schedule (Appendix 4.3).
- 2.1.2 A total of 112 trees, 123 tree groups and 34 hedgerows were surveyed across this site. The majority of these trees have been assessed as moderate quality (Category B) and low quality (Category C). Four individual trees and three tree groups were assessed as Category A i.e. trees of high quality, and a further four individual trees have been assessed as Category U i.e. trees recommended for removal irrespective of any proposed development due to poor condition, form or limited useful life expectancy (see Table 2-1).

**Table 2-1: Summary of BS5837 tree categories**

Tree category	Description	Total number surveyed
Category A	Trees or groups of high quality	4 individual trees and 3 tree groups
Category B	Trees or groups of moderate quality	84 individual trees and 65 tree groups
Category C	Trees or groups of low quality	20 individual trees, 55 tree groups and 34 hedges
Category U	Trees recommended for removal irrespective of the Proposed Development	4 individual trees

- 2.1.3 A wide range of species are present on-site including predominately common ash (*Fraxinus excelsior*) and occasional field maple (*Acer campestre*) with crack willow (*Salix fragilis*), white willow (*Salix alba*), walnut (*Juglans regia*), horse chestnut (*Aesculus hippocastanum*), common oak (*Quercus robur*), cherry (*Prunus spp.*), sycamore (*Acer pseudoplatanus*), hybrid black poplar (*Populus x canadensis*), grey poplar (*Populus x canescens*), Lombardy poplar (*Populus nigra "Italica"*), apple (*Malus spp.*) silver birch (*Betula pendula*), common alder (*Alnus glutinosa*), giant sequoia (*Sequoiadendron giganteum*), leylandii (*Cupressus x leylandii*) and black pine (*Pinus nigra*).
- 2.1.4 The understorey comprises sporadic common hawthorn (*Crataegus monogyna*), elm (*Ulmus procera*), blackthorn (*Prunus spinosa*), dogwood (*Cornus alba*) and elder (*Sambucus nigra*).
- 2.1.5 The trees on site are generally young to early mature with occasional mature species and are located predominately along the borders of agricultural fields, the River Cam, roadsides, railways and disused railways and the borders of the existing Cambridge WWTP. The primary benefit of these trees is to provide a screening function within the landscape.

- 2.1.6 Four Category A trees (6, 9, 48, 105) and three Category A groups (G45, G48, G81) were surveyed. Group G48 on the west bank of the River Cam, the opposite bank to the proposed works, consists of a linear group of crack willow pollards with important habitat potential and amenity value, screening the canal and public footpath. Groups G45, east of Fen Road and G81, south of the A14 are both located within residential property outside of the boundary of the Proposed Development and provide important screening functions and amenity value to the residents within the properties. During detailed design consideration must be given that while the stems of these trees are situated outside the red line boundary, the RPAs will extend within the red line boundary.
- 2.1.7 Category A trees 6 and 9 make up parts of Category B groups G4 and G11 that provide a dense screening function from the existing Cambridge WWTP and have been assigned Category A status and plotted individually due to their large size and good form, distinguishing them from the other trees in the groups. Tree 6 is outside of the red line boundary however its roots will likely extend under the boundary.
- 2.1.8 Tree 48, north east of the proposed WWTP makes up part of Category B group G86 that provides a dense screening function from the proposed WWTP. Tree 48 has been assigned Category A status and plotted individually due to its large size and good form, distinguishing it from the other trees in group G86.
- 2.1.9 Category A tree 105 is a white willow of significant form and size with good habitat potential. The tree is located 1m from the northern drainage ditch, north of the Treated Effluent Pipe to the River Cam and during the detailed design consideration must be given to the roots of this tree that will likely be biased to the south as the northern drainage ditch will be acting as a constraint to the root system.
- 2.1.10 The most established groups of Category A and B trees associated with this proposed development that create wide bands of planting and provide important screening functions and habitat value can be found in the following locations:
- the eastern and northern boundary of the existing Cambridge WWTP;
  - the western boundary of the railway to the east of the existing Cambridge WWTP;
  - the trees flanking the western boundary of the River Cam, opposite the proposed treated effluent discharge point;
  - the trees flanking the north and south boundaries of the A14 slip road;
  - the north eastern side of Horningsea Road;
  - the trees flanking the disused railway on the south eastern boundary of the proposed WWTP within the Low Fen Drove Way county wildlife site (CWS); and
  - the trees flanking the agricultural field to the north east of the proposed WWTP and Lower Fen Drove Way within the redline boundary.

- 2.1.11 The dominant tree species surveyed within the Proposed Development were common ash trees of which many were recorded as having varying stages of Chalara dieback of common ash (*Hymenoscyphus fraxinea*), also known as ash dieback. This is a disease that is affecting many common and raywood ash trees across Europe and can be fatal to its host. Initial findings from the Woodland Trust (Woodland Trust, n.d.) suggest however that some trees may be tolerant to dieback, meaning that the population could eventually recover over time (likely over 50 years). However, tolerance to the disease is complicated because a number of factors play into it including genetic traits, the health of the tree and the number of ash dieback spores in the atmosphere. As well as aiming to retain as many potentially tolerant common ash trees as possible, letting nature take its course by allowing diseased common ash trees to decline is also beneficial for ecological purposes and habitat creation. However, trees should not be allowed to become a significant health and safety hazard.
- 2.1.12 Common ash was surveyed in the groups screening the northern boundary of the existing Cambridge WWTP, the trees flanking the disused railway on the south eastern boundary of the proposed WWTP, the trees flanking the north and south of the A14 slip road and the north eastern side of Horningsea Road, and the trees flanking the agricultural field to the north east of the proposed WWTP and Lower Fen Drove Way.
- 2.1.13 Trees 1, 86, 99 and 100 have been assessed as Category U as they have either died or are in a state of significantly reduced vitality. Tree 1 (horse chestnut) is in striking distance of the Cowley Road and associated cycle path and tree 86 (horse chestnut) is immediately adjacent to Horningsea Road. Trees 99 (crack willow) and 100 (hawthorn) are unsuitable for their locations 2m from a pylon and growing into the pylon. These trees and are currently presenting a health and safety hazard and should be felled as soon as possible. If the development proceeds and these trees have not been felled then they should be felled as part of the initial site clearance works.
- 2.1.14 The remaining trees on site have been assessed as Category C i.e. trees of low quality. Where a tree has been categorised as low retention value it is generally due to its low landscape and arboricultural value in relation to the site, and also references ease of replacement with mitigation planting. It should be noted however, as a collective, the Category C trees bordering the southern extents of the proposed treated effluent discharge point, the eastern and southern extents of the proposed WWTP and the southern and northern extents of the A14 provide a significant screening function.

## 2.2 Tree preservation order and conservation area

- 2.2.1 The Proposed Development falls within the administrative boundaries of the South Cambridgeshire District Council (SCDC). Following a review of SCDC's online mapping portal (South Cambridgeshire District Council, n.d.) on 01.07.2022, it was confirmed that there were no Tree Preservation Order (TPO) trees within the boundary of the Proposed Development. The following trees, tree groups and

hedges are however protected by the Fen Ditton and Baits Bite Lock Milton Conservation Areas (Appendix E). No works associated with the following trees must be undertaken without prior permission from SCDC:

- individual trees: 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 98, 99, 100, 101, 102, 103, 104, 105, 106 and 107;
- tree groups: G48, G50, G51, G52, G53, G54, G56, G57, G58, G59, G60, G61, G62, G63, G64, G66, G81, G83, G115, G116, G118 and G119; and
- hedges: H11, H12, H13 and H15.

## 2.3 Ancient woodland and veteran trees

2.3.1 Both Ancient Semi Natural Woodland (ASNW) and Planted Ancient Woodland Sites (PAWS) are afforded the same protection by means of the planning system, in particular paragraph 175 (c) of the National Planning Policy Framework (NPPF) (Department for Levelling Up, Housing and Communities, 2021). Many local planning authorities will often have their own local policy or guidance relating to the protection of ancient woodland and can choose to strengthen and tailor ancient woodland protection in their local plans.

2.3.2 An ancient and veteran tree check has been undertaken using the online Magic Map application (Natural England, 2022) and has confirmed that no ancient or veteran trees are located within the Proposed Development.

## 2.4 Tree constraints plans

2.4.1 Trees can be adversely affected on development sites if their protection is not factored into the wider project management of on-site operations. The design layer detailing the current proposals has been transposed over the Tree Constraints Plans (Doc Ref: 100415458-MML-XX-00-DR-Z-0201005 to 020) in order to assess the impact on surveyed trees and produce Tree Protection Plans (Appendix A.1, Doc Ref: 100415458-MML-XX-00-DR-Z-0201021 to 036).

## 2.5 Root protection areas (RPA) – background information

2.5.1 Working anywhere in the vicinity of trees is likely to cause some root damage due to the fact that in the order of 80% of the roots of any tree will occur within the upper 600mm of the soil. Roots will spread out for a considerable distance from a tree and may be encountered at a distance beyond the canopy spread of a tree. Where construction activities are proposed within the rooting zone of trees, the potential for significant damage exists. To avoid this an RPA can be calculated for each tree that needs protection.

2.5.2 The RPA represents the minimum area that should be retained undisturbed around a tree or trees for the avoidance of an unacceptable degree of root disturbance. The required RPA of a tree is calculated, and typically plotted as a circle (or where appropriate as a square of equivalent area) to determine constraints or the location

of protective fencing. In certain circumstances the actual shape of this area may then be adjusted to take account of local topography or any existing site features that may serve as restrictions to 'normal' root development.

- 2.5.3 The proposed RPA dimensions based on the calculations using Table 2 of *BS 5837:2012* are included in Appendix 4.2.



## 3 Recommended Actions

### 3.1 Background

- 3.1.1 The construction of this Proposed Development must be undertaken in accordance with the Tree Protection Plans (Appendix A.1, Doc Ref: 100415458-MML-XX-00-DR-Z-0201020– 035) and the following recommendations in Table 3-1 to enable integration between the Proposed Development and the existing tree constraints on site.
- 3.1.2 The BS5837:2012 default specification for temporary protective barriers and ground protection are contained in Appendix 4.5 for information.

### 3.2 Tree work

- 3.2.1 Tree works stated within the Recommended Actions for Trees (Table 3-1), are works required to facilitate development.
- 3.2.2 All tree works should be carried out in accordance with BS3998:2010 Tree Work – Recommendations (BSI Standards Publication, 2010).
- 3.2.3 Tree works required to facilitate the relevant phase of the development must be carried out prior to the commencement of on-site operations associated with that phase. Clearance will be sufficient to enable construction works to be implemented without damaging retained trees.
- 3.2.4 Any unforeseen tree works that become apparent during the construction process will require consent from either the appointed Arboriculturist and/or the Local Authority Tree Officer.

**Table 3-1: Tree work recommendations**

Tree Ref	Species	Retention category	CA	Recommended actions
1	Horse Chestnut	U	No	Fell – for sound arboricultural management.
2	Common Lime	B	No	Retain – No action required.
3	Grey Poplar	B	No	Retain – No action required.
4	Horse Chestnut	B	No	Retain – No action required.
5	Giant Sequoia	B	No	Retain – No action required.
6	Grey Poplar	A	No	Retain – No action required.
7	Apple	C	No	Retain – No action required.
8	Leylandii	B	No	Retain – No action required.
9	Horse Chestnut	A	No	Retain – No action required.
10	Scots' Pine	B	No	Retain – No action required.
11	Scots' Pine	B	No	Retain – No action required.
12	Goat Willow	B	No	Retain – No action required.

Tree Ref	Species	Retention category	CA	Recommended actions
13	Pine spp.	B	No	Retain – No action required.
14	Black pine	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
15	Black pine	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
16	Sycamore	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where hardstanding is present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.
17	Sycamore	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
18	Sycamore	B	No	Retain – No action required.
19	Common Lime	B	No	Retain – No action required.
20	Hybrid black poplar	C	No	Retain – No action required.
21	Hybrid black poplar	B	No	Retain – No action required.
22	Hawthorn	C	Yes	Fell – The DCO permits the felling of this tree. The requirement to fell this tree to facilitate the Proposed Development is to be confirmed at the construction stage.
23	Hawthorn	C	Yes	Fell – The DCO permits the felling of this tree. The requirement to fell this tree to facilitate the Proposed Development is to be confirmed at the construction stage.
24	Hawthorn	C	Yes	Fell – The DCO permits the felling of this tree. The requirement to fell this tree to facilitate the Proposed Development is to be confirmed at the construction stage.
25	Elder	C	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
26	Goat Willow	C	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
27	Crack Willow	C	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
28	Elder	C	Yes	Retain – No action required.
29	Common ash	B	Yes	Retain – No action required.
30	Lombardy Poplar	B	Yes	Retain – No action required.
31	Common ash	B	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012. Ground protection in accordance with BS5837 to be installed in the RPA of tree 31.
32	Horse Chestnut	B	Yes	Retain – No action required.
33	Field Maple	C	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
34	Walnut	B	Yes	Retain – No action required.

Tree Ref	Species	Retention category	CA	Recommended actions
35	Lombardy Poplar	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
36	Norway Maple	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
37	Field Maple	B	No	Retain – No action required.
38	Field Maple	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
39	Field Maple	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
40	Common ash	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
41	Common ash	C	No	Retain – No action required.
42	Common ash	C	No	Retain – No action required.
43	Common ash	B	No	Retain – No action required.
44	Common ash	B	No	Retain – No action required.
45	Elder	C	No	Retain – No action required.
46	Common ash	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
47	Pedunculate Oak	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
48	Pedunculate Oak	A	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
49	Common ash	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
50	Field Maple	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
51	Field Maple	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
52	Common ash	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
53	Common ash	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
54	Common ash	B	No	Fell – tree is in direct conflict with the footprint of the works.
55	Sycamore	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
56	Common ash	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
57	Common ash	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
58	Sycamore	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
59	Crack Willow	B	No	Retain – No action required.
60	Crack Willow	C	No	Retain – No action required.
61	Crack Willow	B	No	Retain – No action required.
62	Field Maple	B	No	Retain – No action required.
63	Sycamore	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.

Tree Ref	Species	Retention category	CA	Recommended actions
64	Common ash	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
65	Common ash	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
66	Sycamore	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
67	Sycamore	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
68	Common ash	B	No	Fell – tree is in direct conflict with the footprint of the works.
69	Red maple	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where hardstanding is present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.
70	Common ash	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where hardstanding is present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.
71	Sycamore	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where hardstanding is present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.
72	Common ash	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where hardstanding is present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.
73	Common ash	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where hardstanding is present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.
74	Common ash	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where hardstanding is present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.
75	Common ash	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where hardstanding is present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.
76	Field Maple	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where hardstanding is present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.
77	Horse Chestnut	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where hardstanding is

Tree Ref	Species	Retention category	CA	Recommended actions
				present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.
78	Horse Chestnut	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where hardstanding is present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.
79	Common ash	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where hardstanding is present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.
80	Common ash	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where hardstanding is present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.
81	Common ash	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
82	Horse Chestnut	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where hardstanding is present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.
83	Common ash	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where hardstanding is present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.
84	Common ash	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where hardstanding is present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.
85	Horse Chestnut	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where hardstanding is present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.
86	Horse Chestnut	U	No	Fell – for sound arboricultural management.
87	Horse Chestnut	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
88	Horse Chestnut	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
89	Hawthorn	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where hardstanding is present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.
90	Field Maple	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.

Tree Ref	Species	Retention category	CA	Recommended actions
91	Common ash	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where hardstanding is present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.
92	Horse Chestnut	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
93	Horse Chestnut	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where hardstanding is present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.
94	Horse Chestnut	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
95	Field Maple	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
96	Sycamore	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where hardstanding is present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.
97	Common ash	B	No	Retain – No action required.
98	Field Maple	B	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
99	Crack Willow	U	Yes	Fell – for sound arboricultural management.
100	Hawthorn	U	Yes	Fell – for sound arboricultural management.
101	White Willow	B	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
102	Walnut	B	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
103	Common ash	B	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
104	Common ash	B	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
105	White Willow	A	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
106	Common ash	B	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
107	Common ash	B	Yes	Fell – The DCO permits the felling of this tree. The requirement to fell this tree to facilitate the Proposed Development is to be confirmed at the construction stage.
108	Sycamore	B	No	Fell – tree is in direct conflict with the footprint of the works.
109	Grey Poplar	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
110	Common ash	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where a hardcore surface is present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.

Tree Ref	Species	Retention category	CA	Recommended actions
111	Hawthorn	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where a hardcore surface is present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.
112	Hawthorn	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012. RPA extends outside of the protective barrier where a hardcore surface is present. If the hardstanding requires removal the Scheme Arboriculturist must be contacted.
G1	Mixed species	B	No	Retain – No action required.
G2	Mixed species	C	No	Retain – No action required.
G3	Mixed species	C	No	Retain – No action required.
G4	Mixed species	B	No	Retain – No action required.
G5	Mixed species	B	No	Retain – No action required.
G6	Mixed species	C	No	Retain – No action required.
G7	Mixed species	B	No	Retain – No action required.
G8	Scots' Pine	B	No	Retain – No action required.
G9	Mixed species	C	No	Retain – No action required.
G10	Mixed species	C	No	Retain – No action required.
G11	Mixed species	B	No	Retain – No action required.
G12	Elder	C	No	Retain – No action required.
G13	Mixed species	B	No	Retain – No action required.
G14	Mixed species	B	No	Retain – No action required.
G15	Silver Birch	B	No	Retain – No action required.
G16	Mixed species	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G17	Mixed species	C	No	Retain – No action required.
G18	Mixed species	B	No	Retain – No action required.
G19	Common ash	B	No	Retain – No action required.
G20	Mixed species	B	No	Retain – No action required.
G21	Mixed species	C	No	Retain – No action required.
G22	Mixed species	C	No	Retain – No action required.
G23	Mixed species	C	No	Retain – No action required.
G24	Mixed species	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G25	Mixed species	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G26	Hawthorn	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G27	Grey Poplar	B	No	Retain – No action required.
G28	Common ash	B	No	Retain – No action required.

Tree Ref	Species	Retention category	CA	Recommended actions
G29	Grey Poplar	B	No	Retain – No action required.
G30	Mixed species	C	No	Retain – No action required.
G31	Mixed species	C	No	Retain – No action required.
G32	Hawthorn	B	No	Retain – No action required.
G33	Mixed species	C	No	Retain – No action required.
G34	Mixed species	C	No	Retain – No action required.
G35	Mixed species	B	No	Retain – No action required.
G36	Mixed species	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G37	Mixed species	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G38	Mixed species	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G39	Mixed species	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G40	Black Poplar	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G41	Mixed species	B	No	Retain – No action required.
G42	Field Maple	B	No	Retain – No action required.
G43	Mixed species	B	No	Retain – No action required.
G44	Mixed species	B	No	Retain – No action required.
G45	Mixed species	A	No	Retain – No action required.
G46	Mixed species	C	No	Retain – No action required.
G47	Mixed species	C	No	Retain – No action required.
G48	Crack Willow	A	Yes	Retain – No action required.
G49	Mixed species	C	No	Retain – No action required.
G50	Crack Willow	C	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
G51	Crack Willow	B	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
G52	Mixed species	B	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
G53	Crack Willow	B	Yes	Retain – No action required.
G54	Mixed species	C	Yes	Retain – No action required.
G55	Hawthorn	C	No	Retain – No action required.
G56	Common ash	B	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012. The access track passes under the canopies of the trees in G56 which has sufficient canopy clearance for vehicular access.
G57	Mixed species	C	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012. The access track passes under the canopies of the trees in G57 which has sufficient canopy clearance for vehicular access.
G58	Mixed species	C	Yes	Retain – No action required.



Tree Ref	Species	Retention category	CA	Recommended actions
G59	English Elm	C	Yes	Retain – No action required.
G60	Mixed species	C	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
G61	Mixed species	C	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
G62	Common ash	C	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
G63	Mixed species	C	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
G64	Mixed species	C	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
G65	Mixed species	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G66	Mixed species	C	Yes	Retain – No action required.
G67	Mixed species	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G68	Mixed species	B	No	Retain – No action required.
G69	Hawthorn	B	No	Retain – No action required.
G70	Mixed species	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G71	Common ash	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G72	Hawthorn	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G73	Mixed species	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G74	Mixed species	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G75	Mixed species	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G76	Mixed species	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G77	Mixed species	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G78	Mixed species	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G79	Mixed species	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G80	Mixed species	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G81	Mixed species	A	Yes	Retain – No action required.
G82	Mixed species	C	No	Retain – No action required.
G83	Mixed species	B	Yes	Retain – No action required.
G84	Mixed species	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G85	Mixed species	B	No	Retain – No action required.
G86	Mixed species	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.

Tree Ref	Species	Retention category	CA	Recommended actions
G87	Mixed species	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G88	Mixed species	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G89	Common ash	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G90	Common ash	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G91	Common ash	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G92	Hawthorn	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G93	Mixed species	B	No	Retain – No action required.
G94	Common ash	B	No	Retain – No action required.
G95	Mixed species	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G96	Mixed species	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G97	Mixed species	B	No	Retain – No action required.
G98	Hawthorn	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G99	Hawthorn	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G100	Mixed species	B	No	Retain – No action required.
G101	Hawthorn	C	No	Retain – No action required.
G102	Mixed species	B	No	Retain – No action required.
G103	Elder	C	No	Retain – No action required.
G104	Norway Maple	B	No	Retain – No action required.
G105	Field Maple	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G106	Cherry Plum	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G107	Mixed species	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G108	Mixed species	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G109	Mixed species	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G110	Mixed species	B	No	Partial removal – fell section in conflict with the footprint of the works. Retain – the remainder of the group. Protect with temporary barrier in accordance with BS5837:2012.
G111	Mixed species	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G112	Mixed species	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G113	Mixed species	B	No	Retain – No action required.

Tree Ref	Species	Retention category	CA	Recommended actions
G114	Mixed species	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G115	Mixed species	C	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
G116	Mixed species	C	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
G117	Mixed species	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G118	Common ash	B	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
G119	Mixed species	B	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
G120	Hawthorn	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G121	Hawthorn	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G122	Mixed species	B	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
G123	Mixed species	No access	No	Retain – No action required.
H1	Mixed species	C	No	Retain – No action required.
H2	Hawthorn	C	No	Retain – No action required.
H3	Mixed species	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
H4	Mixed species	C	No	Retain – No action required.
H5	Hawthorn	C	No	Retain – No action required.
H6	Mixed species	C	No	Partial removal – fell section in conflict with the footprint of the works. Retain – the remainder of the hedge. Protect with temporary barrier in accordance with BS5837:2012. The DCO permits one section of 6m to be felled from H6. The requirement to fell this hedge to facilitate the Proposed Development is to be confirmed at the construction stage.
H7	Mixed species	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
H8	Portuguese Laurel	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
H9	Mixed species	C	No	Retain – No action required.
H10	Mixed species	C	No	Retain – No action required.
H11	Mixed species	C	Yes	Retain – No action required.
H12	Mixed species	C	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
H13	Mixed species	C	Yes	Retain – protect with temporary barrier in accordance with BS5837:2012.
H14	Blackthorn	C	No	Partial removal – fell section in conflict with the footprint of the works. Retain – the remainder of the hedge. Protect with temporary barrier in accordance with BS5837:2012.
H15	Mixed species	C	Yes	Retain – No action required.

Tree Ref	Species	Retention category	CA	Recommended actions
H16	Mixed species	C	No	Retain – No action required.
H17	Mixed species	C	No	Partial removal – fell section in conflict with the footprint of the works. Retain – the remainder of the hedge. Protect with temporary barrier in accordance with BS5837:2012.
H18	Mixed species	C	No	Partial removal – fell section in conflict with the footprint of the works. Retain – the remainder of the hedge. Protect with temporary barrier in accordance with BS5837:2012. The DCO permits two sections of 6m to be felled from H18 and or H19. The requirement to fell this hedge to facilitate the Proposed Development is to be confirmed at the construction stage.
H19	Hawthorn	C	No	Partial removal – fell section in conflict with the footprint of the works. Retain – the remainder of the hedge. Protect with temporary barrier in accordance with BS5837:2012. The DCO permits two sections of 6m to be felled from H18 and or H19. The requirement to fell this hedge to facilitate the Proposed Development is to be confirmed at the construction stage.
H20	Mixed species	C	No	Fell – hedge is in direct conflict with the footprint of the works.
H21	Hawthorn	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
H22	Mixed species	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
H23	Mixed species	C	No	Retain – No action required.
H24	Hawthorn	C	No	Retain – No action required.
H25	Mixed species	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
H26	Mixed species	C	No	Retain – No action required.
H27	Mixed species	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
H28	Hawthorn	C	No	Retain – protect with temporary barrier in accordance with BS5837:2012.
H29	Mixed species	C	No	Partial removal – fell section in conflict with the footprint of the works. Retain – the remainder of the hedge. Protect with temporary barrier in accordance with BS5837:2012.
H30	Mixed species	C	No	Fell – hedge is in direct conflict with the footprint of the works.
H31	Hawthorn	C	No	Fell – hedge is in direct conflict with the footprint of the works.
H32	Hawthorn	C	No	Fell – hedge is in direct conflict with the footprint of the works.
H33	Hawthorn	C	No	Fell – hedge is in direct conflict with the footprint of the works.
H34	Mixed species	C	No	Fell – hedge is in direct conflict with the footprint of the works.

### 3.3 Important hedgerows

- 3.3.1 The Hedgerow Regulations and Tree Preservation Plans Sheets 1 – 9, Regulation 5(2)(O) (Doc ref: 00001-100006-CAMEST-ZZZ-LAY-Z-9021 – 30), (App Doc Reference 4.8), identify the important hedgerows to be removed or managed.
- 3.3.2 Hedge H17, H18, H19 and H20 bordering the proposed WWTP as referenced in the Hedgerow Regulations and Tree Preservation Plans have been identified as important. These correlate with tree references T44, T46, T47, T48, T49, G85, G86, G87, G88, G89, H18 and H19 within this arboricultural report.
- 3.3.3 The DCO will permit two 6m sections of hedgerow to be felled from H18 and H19. The exact locations are to be confirmed at the construction stage. It has been confirmed however that the 6m sections will make use of pre-existing gaps where possible and the sections where removal is undertaken will be where the hedge is of the lowest quality arboriculturally. No trees recorded in these hedges as high to medium quality (Category A to Category B) are to be removed.

### 3.4 Summary of tree removals

- 3.4.1 To facilitate construction, the following tree removals are likely to be required:
- Category A i.e. trees of high quality, 0 trees;
  - Category B i.e. trees of moderate quality, 4 trees and the partial removal of 1 tree group;
  - Category C i.e. trees of low quality, 3 trees, 6 hedges and the partial removal of 6 hedges; and
  - Category U i.e. trees to be removed for sound arboricultural management, 4 trees.
- 3.4.2 Note, Category U trees are trees that require removal for arboricultural or health and safety purposes. However, they are not required for removal as a direct consequence of the Proposed Development.
- 3.4.3 The DCO will permit the felling of trees 22, 23, 24 and 107 north of the Treated Effluent Pipe. It is not anticipated however that all four of these trees will require removal. The exact removal will be confirmed at the construction stage and no tree removal is to be undertaken until the Scheme Arboriculturist is consulted and this report is updated.
- 3.4.4 The DCO will also permit one section of 6m to be felled from H6 and two sections of 6m to be felled from H18 and or H19. The exact locations of these removals are to be confirmed at the construction stage and no hedge removal is to be undertaken until the Scheme Arboriculturist is consulted and this report is updated.

### 3.5 Ground protection

- 3.5.1 As stated within the Recommended Actions for Trees, Tree 31, east of Green End Road, has been recommended for ground protection.
- 3.5.2 The Tree Protection Plans (Appendix A.1) detail the extent of ground protection. Ground protection offsets should be dimensioned from existing fixed points on the site to enable accurate setting out. The type of ground protection should be determined by the below:
- 3.5.3 Ground protection is required for all trees where, due to site constraints, construction activity cannot be fully or permanently excluded from all or part of a tree's RPA and must be constructed according to BS5837.
- 3.5.4 Alternative ground protection systems (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice can be employed to protect RPAs. These will accommodate the likely loading to which they will be subjected, i.e. wheeled or tracked construction traffic exceeding 2 t gross weight, or, for pedestrian-operated plant up to a gross weight of 2 t. This would require using proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip) and laid onto a geotextile membrane.

### 3.6 Land Required for the Proposed WWTP

- 3.6.1 The tree removal associated with the proposed WWTP will be predominantly hedges H20, H32, H33, H34, and trees 54 and 108, which will require full or partial removal as they will be in direct conflict with the footprint of the proposed WWTP. There are a number of trees and hedges of moderate to low quality flanking the agricultural fields to the northeast of the proposed WWTP and Lower Fen Drove Way that provide important screening functions.

### 3.7 Land required for the treated effluent pipeline and outfall

- 3.7.1 Two 1.5m diameter pipes (one pipe for treated effluent and one adjacent pipe for storm flows) will be installed using open cut techniques from the proposed WWTP to the River Cam. Prior to laying the pipes a working easement will be established, up to 40m wide. The easement width will be calculated to allow sufficient area to stockpile topsoil, sub soil, and to allow room to lay the pipes whilst also allowing access to the rest of the pipeline and the outlet chamber.
- 3.7.2 The tree removals associated with these works include Category C trees 22, 23 and 24 and moderate quality tree 107 within the agricultural fields west of Horningsea Road. Category B trees 98, G114, G117 and Category C tree groups G115 and G116 which are located to the south of the pipeline provide an important screening function from the A14. It has been confirmed that these trees will not be impacted by the works.

- 3.7.3 During detailed design, consideration should be given to tree groups G118 and G119 in the north western extent of the pipeline. These trees have been designated Category B due to their habitat potential; however, they are showing advanced stages of ash die back with less than 50 percent live canopy remaining. In their current context in an agricultural field, they do not present a high health and safety risk; however, no works should go within striking distance (16m) of these trees. Works within 16m will increase the health and safety risk to construction activities and may necessitate their removal.

### **3.8 Land required for the construction of the transfer tunnel**

- 3.8.1 Waste water will be transferred from the existing Cambridge WWTP using a new tunnel constructed from an interception point at the existing Cambridge WWTP to the proposed WWTP. The tunnel will have an approximate length of 2.4km, an internal diameter of 2.4m, and will be up to 24m deep (cover depth to the top of tunnel). The waste water transfer tunnel corridor is a wide area extending eastwards from the existing Cambridge WWTP to the proposed WWTP crossing below the existing railway line and the River Cam, Horningsea Road and the A14 along its route. The new tunnel is a gravity system and during construction will require a number of shafts, sited at connections and changes of tunnel direction and otherwise approximately at 600m intervals.
- 3.8.2 It has been confirmed that no tree removal will be required for the installation of these shafts and associated compounds.

### **3.9 Highway network alterations**

- 3.9.1 The proposed WWTP site is located east of Junction 34 of the A14 and north-west of Junction 35 of the A14. The local roads in the vicinity of the site include Horningsea Road to the west, High Ditch Road to the south and Low Fen Drove Way to the north and east.
- 3.9.2 The proposed highway network alteration includes an additional 4th arm to the signalised junction of the Junction 34 off-slip road and Horningsea Road. The works associated with this alteration will require the full or partial removals of G110, H30 and tree 68. During detailed design it is advised that important screening functions will be lost as a result of these removals. Replanting is recommended to create new screening from the proposed WWTP following the completion of construction.

### **3.10 Compound locations**

- 3.10.1 The proposed WWTP construction compound and project administration building will be located to the east of Horningsea Road within an agricultural field. The indicative layout of the compound and associated buildings will not require the removal of any trees, nor does it conflict with the RPAs of any trees.
- 3.10.2 The final design for this Proposed Development must be undertaken in accordance with the following guidance.

### 3.11 General recommendations – risk to trees from construction activities

3.11.1 Trees can be easily damaged by construction processes, with both the tree roots and the main structure of a tree susceptible to a range of impacts. Root damage can affect the anchorage and stability of the tree, as well as preventing or inhibiting the absorption of water and nutrients. Damage to the trunk and branches leaves the tree more exposed to disease and decay.

3.11.2 Activities that can cause damage to tree roots include:

- trenches;
- alterations in soil level;
- non-porous surfaces;
- compaction of soil;
- changes in soil hydrology;
- root exposure;
- soil pollution (i.e. oil spill, incorrect application of herbicide and/or other chemicals); and
- fires.

3.11.3 Activities that can cause damage to tree trunks and branches include:

- pressure from materials stored against trunks;
- physical impact from plant and equipment;
- incorrect pruning;
- exposure of bark or leaves to chemicals; and
- damage to bark from mowers and strimmers.

3.11.4 Any unforeseen works associated with this Proposed Development that could affect the existing trees as described above must be discussed and approved by a qualified Arboriculturist prior to commencement.



## References

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## 4 Appendices

## A.1 Tree protection drawings

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•	100415458-MML-XX-00-DR-Z-0201022	Sheet 1
•	100415458-MML-XX-00-DR-Z-0201023	Sheet 2
•	100415458-MML-XX-00-DR-Z-0201024	Sheet 3
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•	100415458-MML-XX-00-DR-Z-0201035	Sheet 14
•	100415458-MML-XX-00-DR-Z-0201036	Sheet 15

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**Key**

2/G2/H2 Tree/Tree Group/Hedge Reference

- Approximate extent of canopy
- Tree Root Protection Area (RPA)
- Tree to be removed
- Ground Protection within RPA
- Temporary Tree Protection Barrier

**Individual Trees**

- Category A Trees
- Category B Trees
- Category C Trees
- Category U Trees to be removed for reasons of sound arboricultural management

**Tree Groups**

- ▨ Category A Trees
- ▨ Category B Trees
- ▨ Category C Trees
- ▨ Tree Group to be removed

— Design  
 — Red Line Boundary  
 — Conservation Area

**Reference drawings**

Tree Protection Plan	Sheet
100415458-MML-XX-00-DR-Z-0201022	SHEET 1
100415458-MML-XX-00-DR-Z-0201023	SHEET 2
100415458-MML-XX-00-DR-Z-0201024	SHEET 3
100415458-MML-XX-00-DR-Z-0201025	SHEET 4
100415458-MML-XX-00-DR-Z-0201026	SHEET 5
100415458-MML-XX-00-DR-Z-0201027	SHEET 6
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100415458-MML-XX-00-DR-Z-0201029	SHEET 8
100415458-MML-XX-00-DR-Z-0201030	SHEET 9
100415458-MML-XX-00-DR-Z-0201031	SHEET 10
100415458-MML-XX-00-DR-Z-0201032	SHEET 11
100415458-MML-XX-00-DR-Z-0201033	SHEET 12
100415458-MML-XX-00-DR-Z-0201034	SHEET 13
100415458-MML-XX-00-DR-Z-0201035	SHEET 14
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P	16/20	M	Final Issue		

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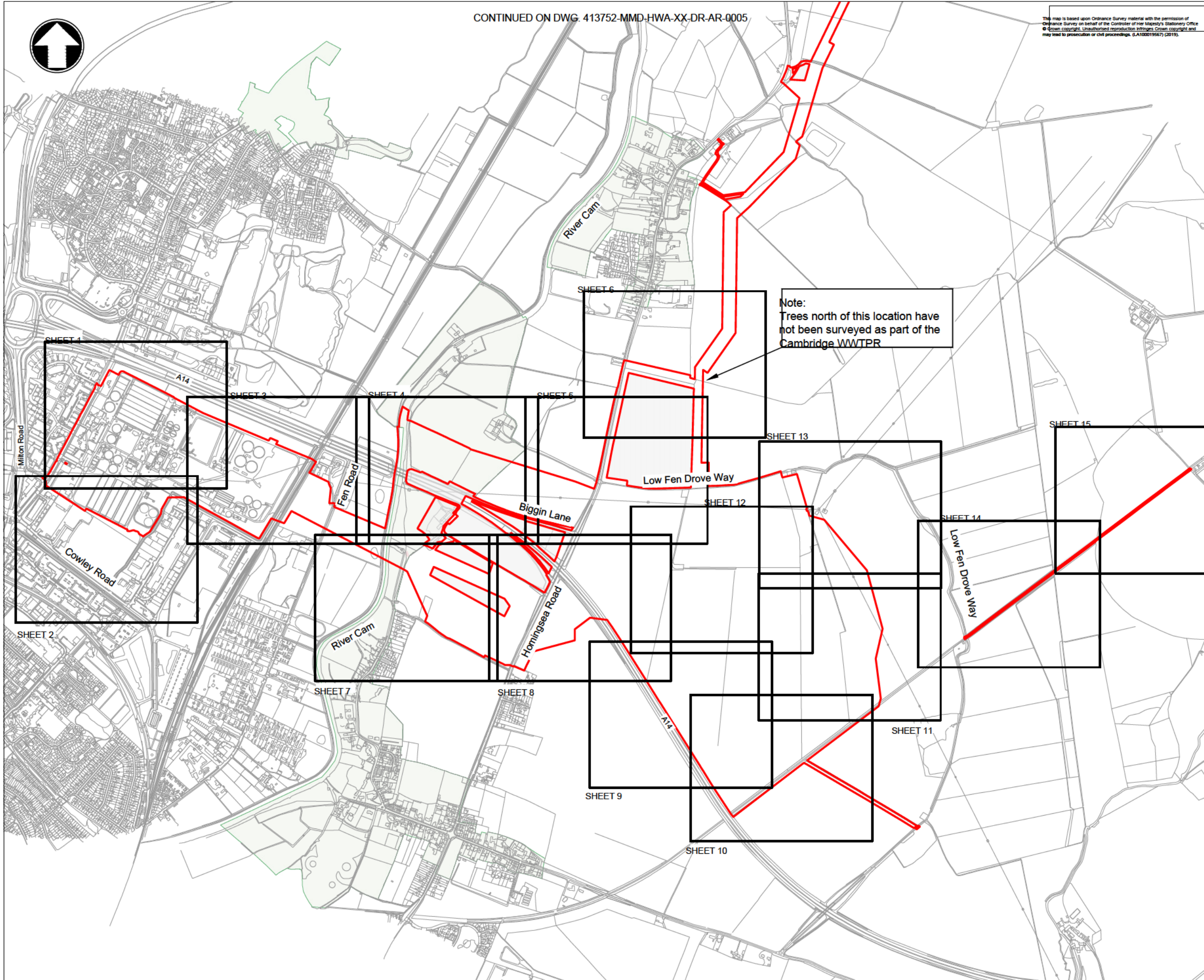
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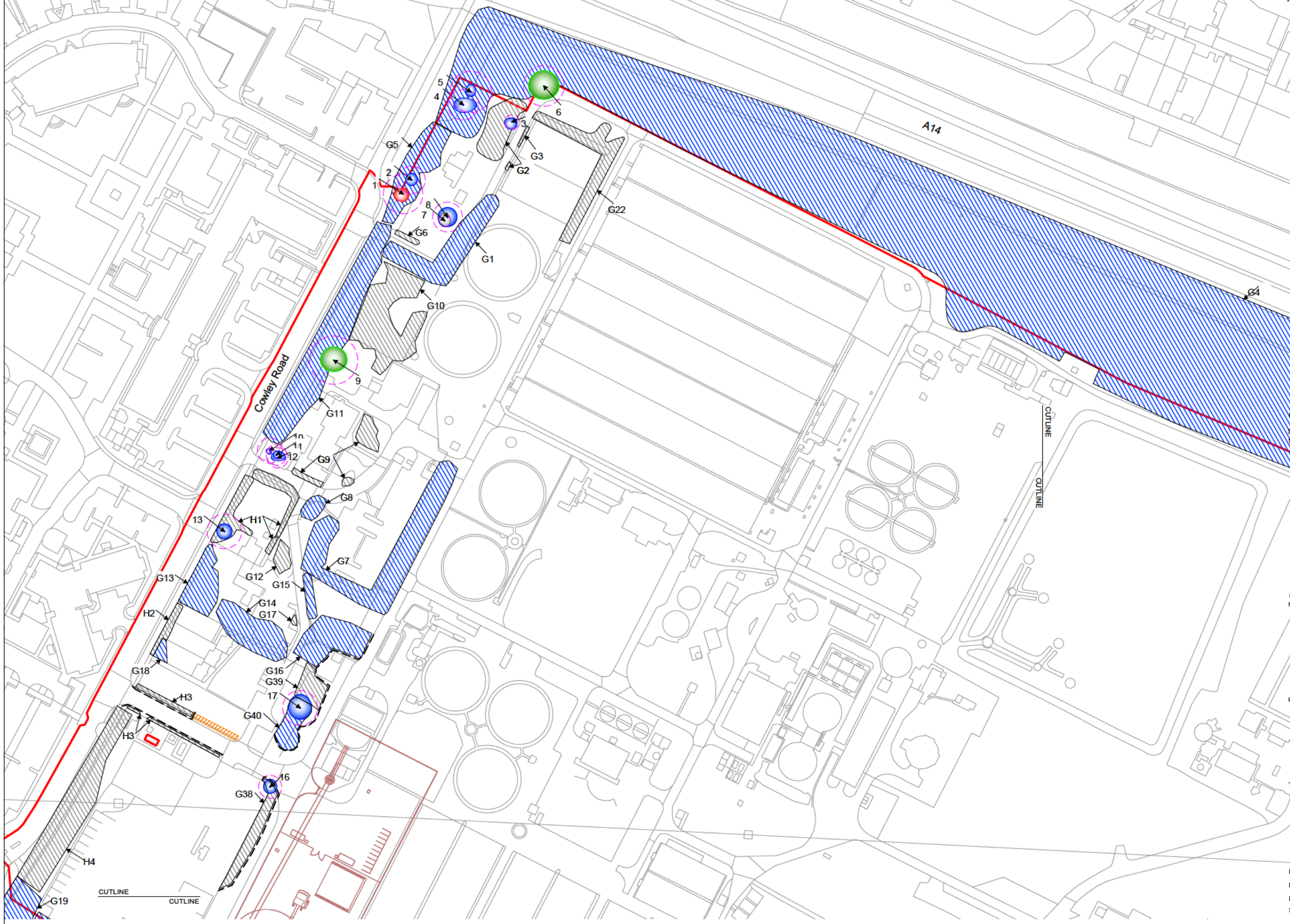


Note:  
 Trees north of this location have not been surveyed as part of the Cambridge WWTPR



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5. Drawing must be read in colour.
6. To be read in conjunction with Cambridge WWTPR Arboricultural Report, Ref. 100415458-MML-XX-00-RP-EN-0201004 (August 2022).



**Key**

2/G2/H2 Tree/Tree Group/Hedge Reference

- Approximate extent of canopy
- Tree Root Protection Area (RPA)
- Tree to be removed
- Temporary Tree Protection Barrier

**Individual Trees**

- Category A Trees
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- Category C Trees
- Category U Trees to be removed for reasons of sound arboricultural management

**Tree Groups**

- ▨ Category A Trees
- ▨ Category B Trees
- ▨ Category C Trees
- ▨ Tree Group to be removed

— Design

— Red Line Boundary

■ Conservation Area

Reference drawings  
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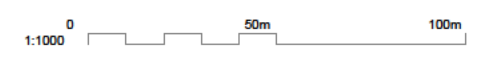
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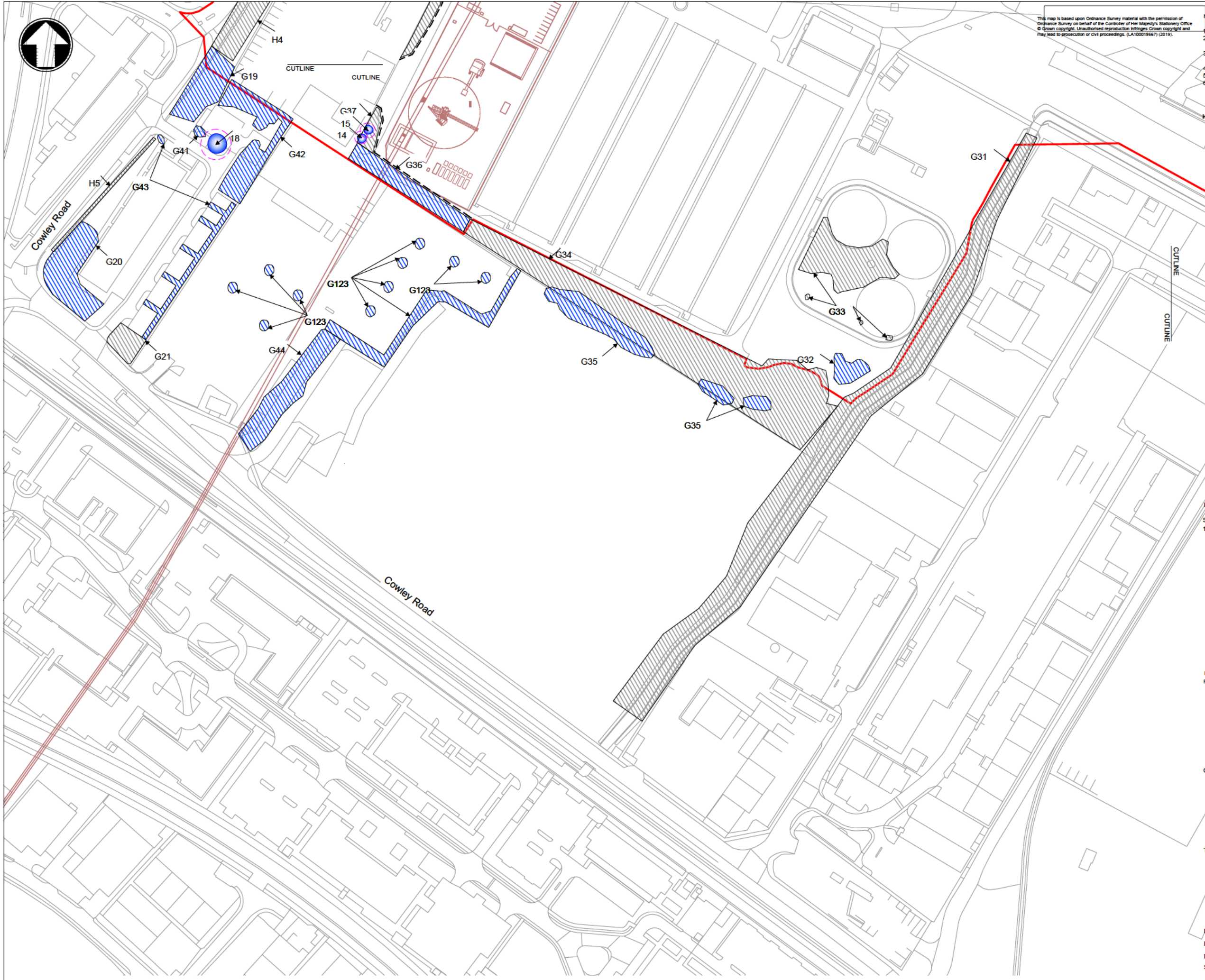


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**Key**

2/G2/H2 Tree/Tree Group/Hedge Reference

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- ▨ Category C Trees
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— Design

— Red Line Boundary

■ Conservation Area

**Reference drawings**

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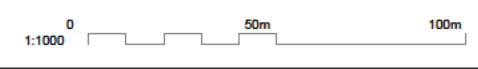
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Sheet 2 of 15**

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2/G2/H2 Tree/Tree Group/Hedge Reference

○ Approximate extent of canopy

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○ Tree to be removed

--- Temporary Tree Protection Barrier

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**Tree Groups**

- Category A Trees
- Category B Trees
- Category C Trees
- Tree Group to be removed

— Design

— Red Line Boundary

■ Conservation Area

Reference drawings  
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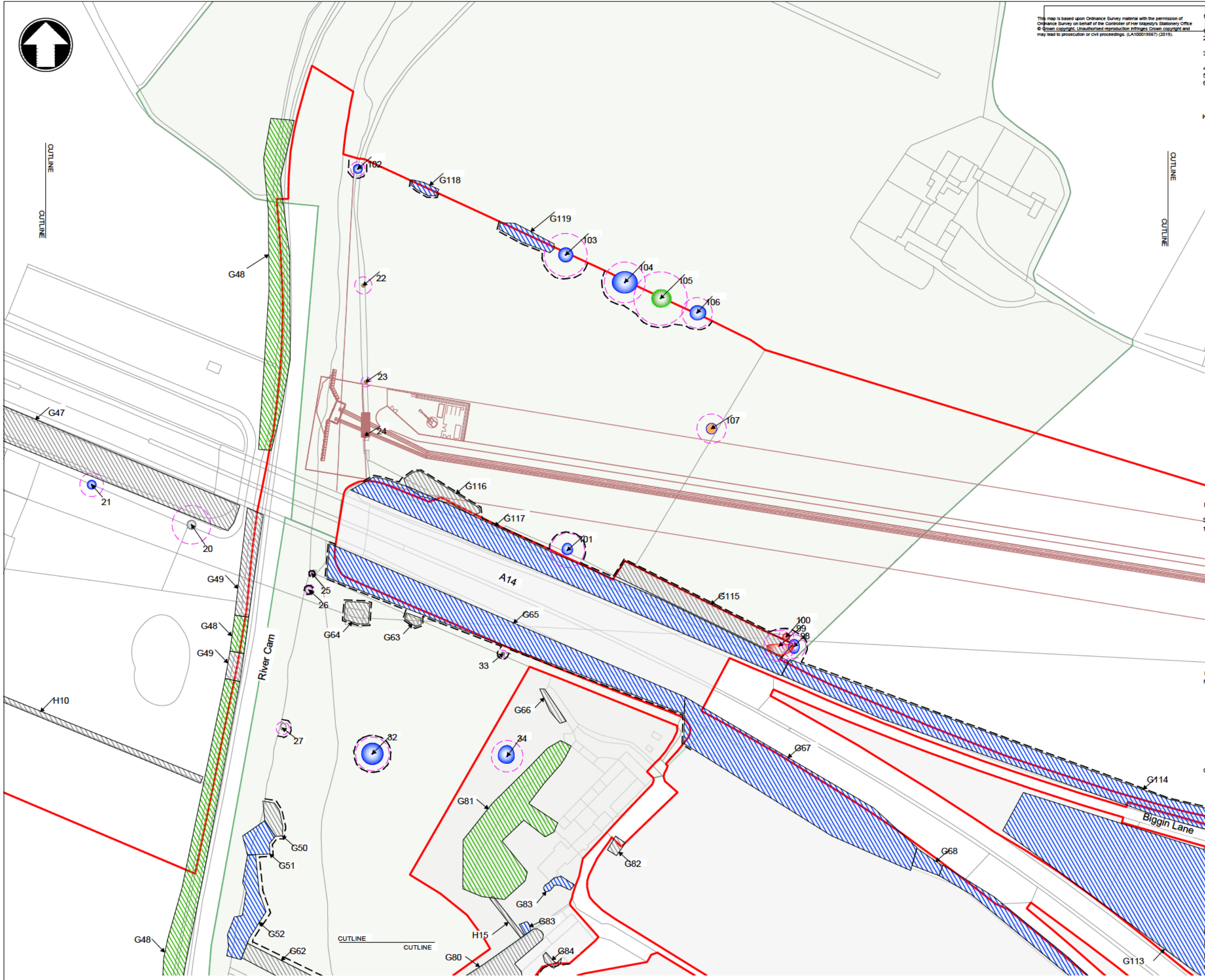
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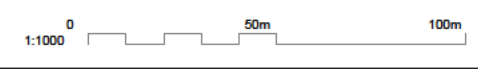


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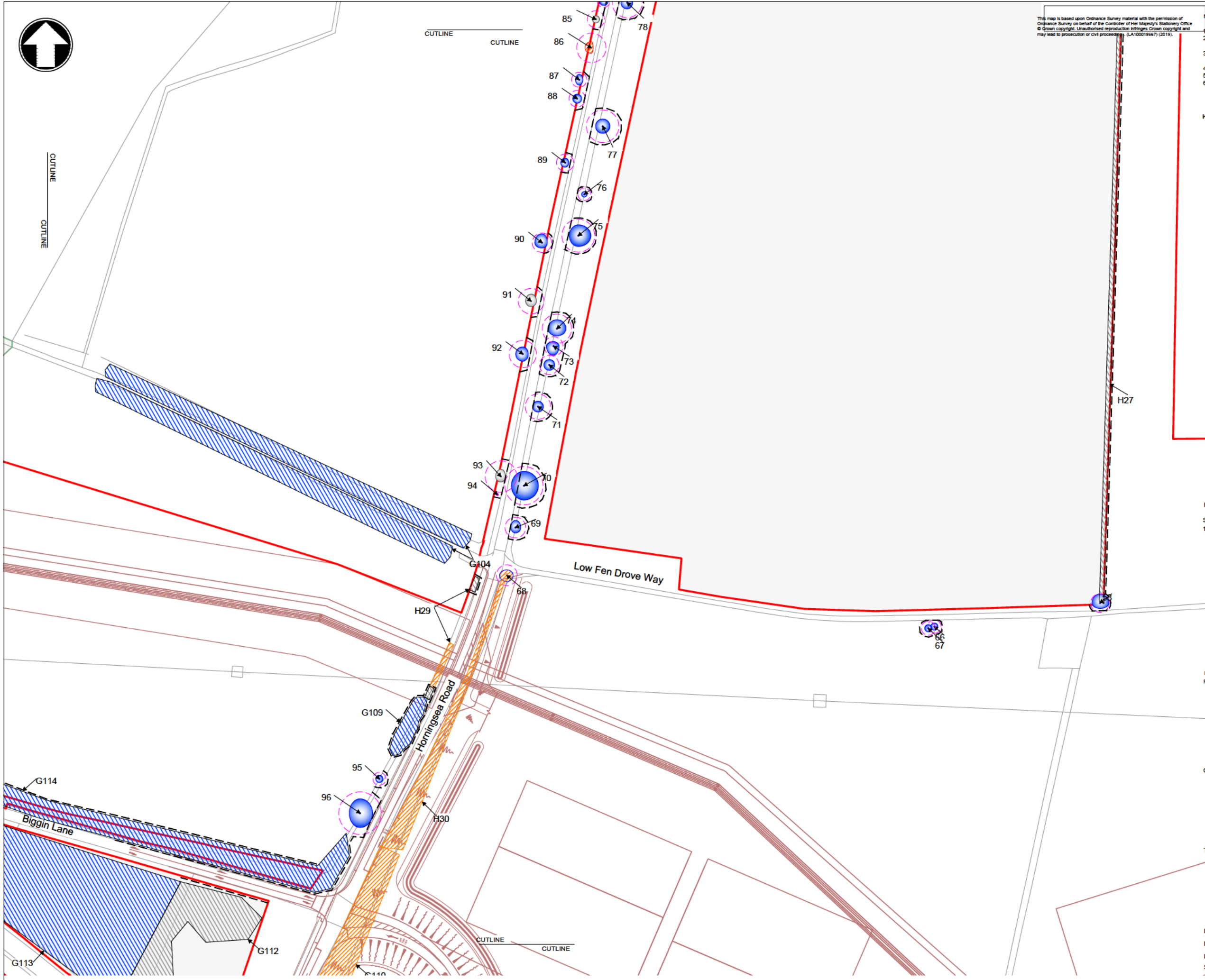
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**Key**

2/G2/H2 Tree/Tree Group/Hedge Reference

○ Approximate extent of canopy

○ Tree Root Protection Area (RPA)

○ Tree to be removed

--- Temporary Tree Protection Barrier

**Individual Trees**

- Category A Trees
- Category B Trees
- Category C Trees
- Category U Trees to be removed for reasons of sound arboicultural management

**Tree Groups**

- ▨ Category A Trees
- ▨ Category B Trees
- ▨ Category C Trees
- ▨ Tree Group to be removed

— Design

— Red Line Boundary

□ Conservation Area

Reference drawings

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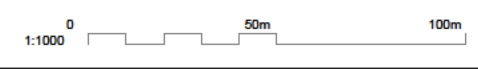
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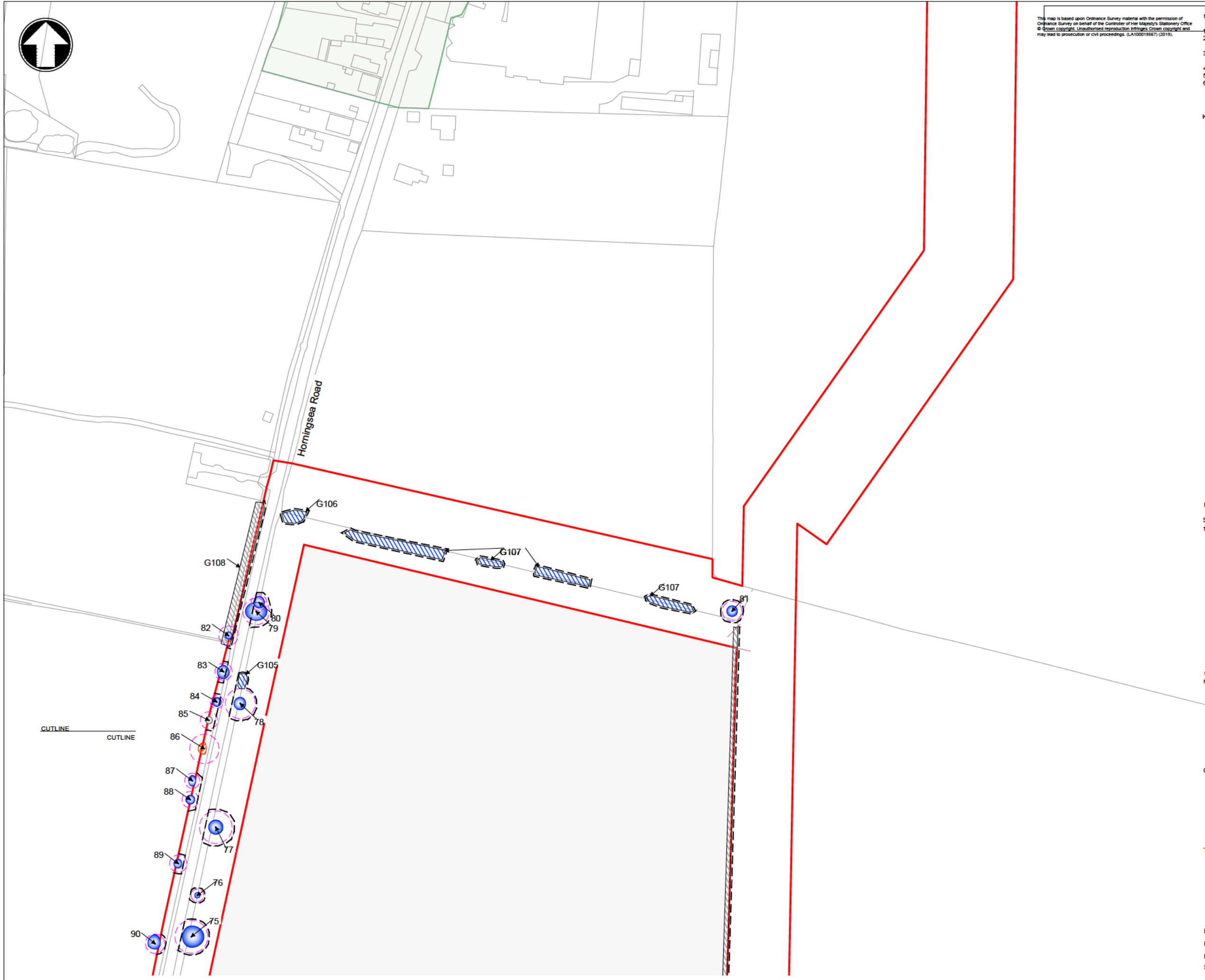
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Tree Protection Plan  
Sheet 5 of 15

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**Key**

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○ Approximate extent of canopy

○ Tree Root Protection Area (RPA)

○ Tree to be removed

--- Temporary Tree Protection Barrier

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— Design

— Red Line Boundary

■ Conservation Area

Reference drawings

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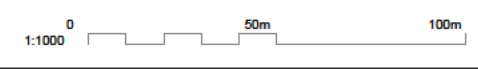
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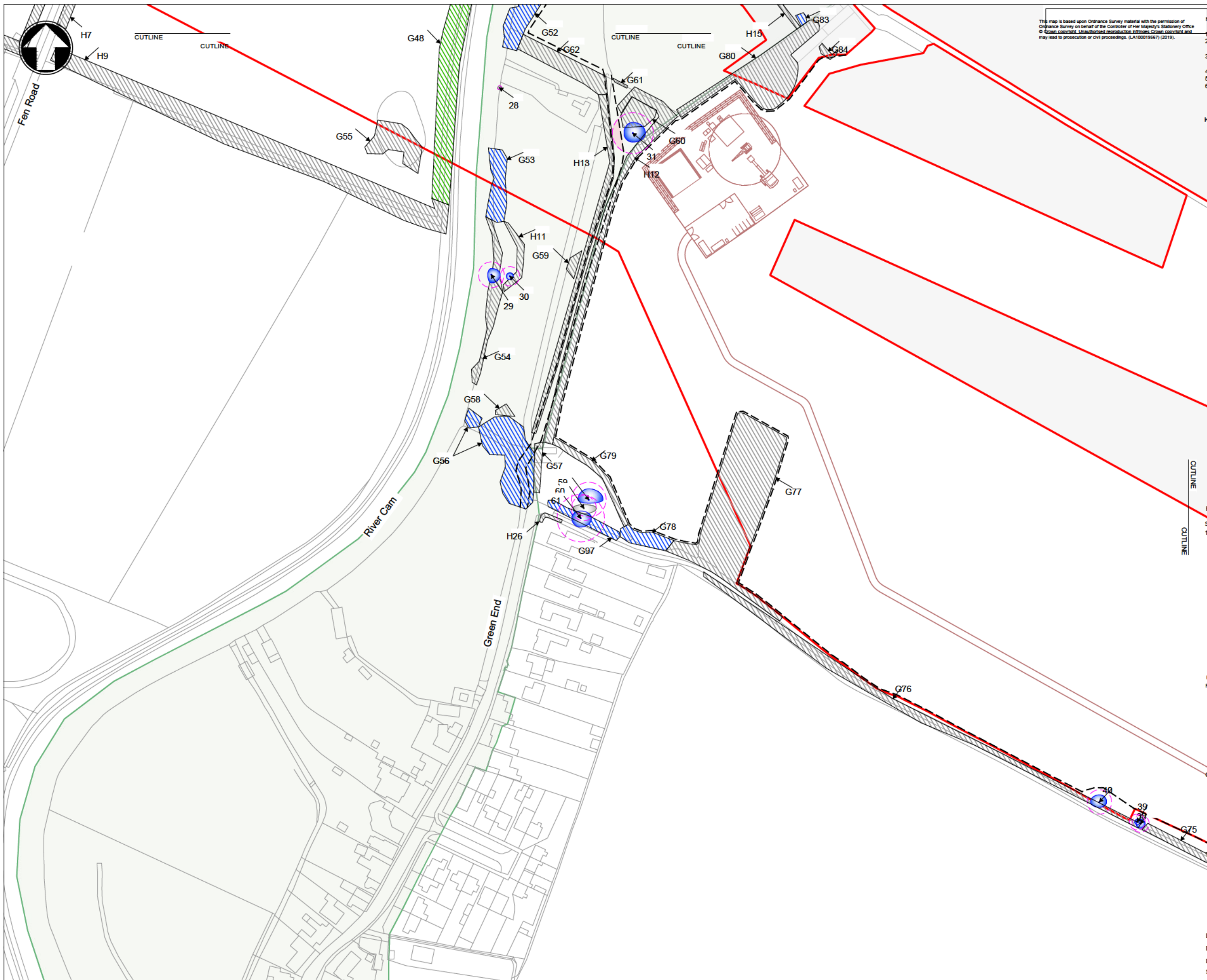
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- Category C Trees
- Category U Trees to be removed for reasons of sound arboricultural management

**Tree Groups**

- Category A Trees
- Category B Trees
- Category C Trees
- Tree Group to be removed

— Design  
 — Red Line Boundary  
 — Conservation Area

**Reference drawings**

Sheet Layout  
 100415458-MML-XX-00-DR-Z-0201021

Rev	Date	Drawn	Description	Chkd	App'd
P1	21/08/22	JL	Final Issue	JL	RL

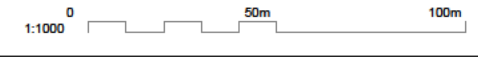
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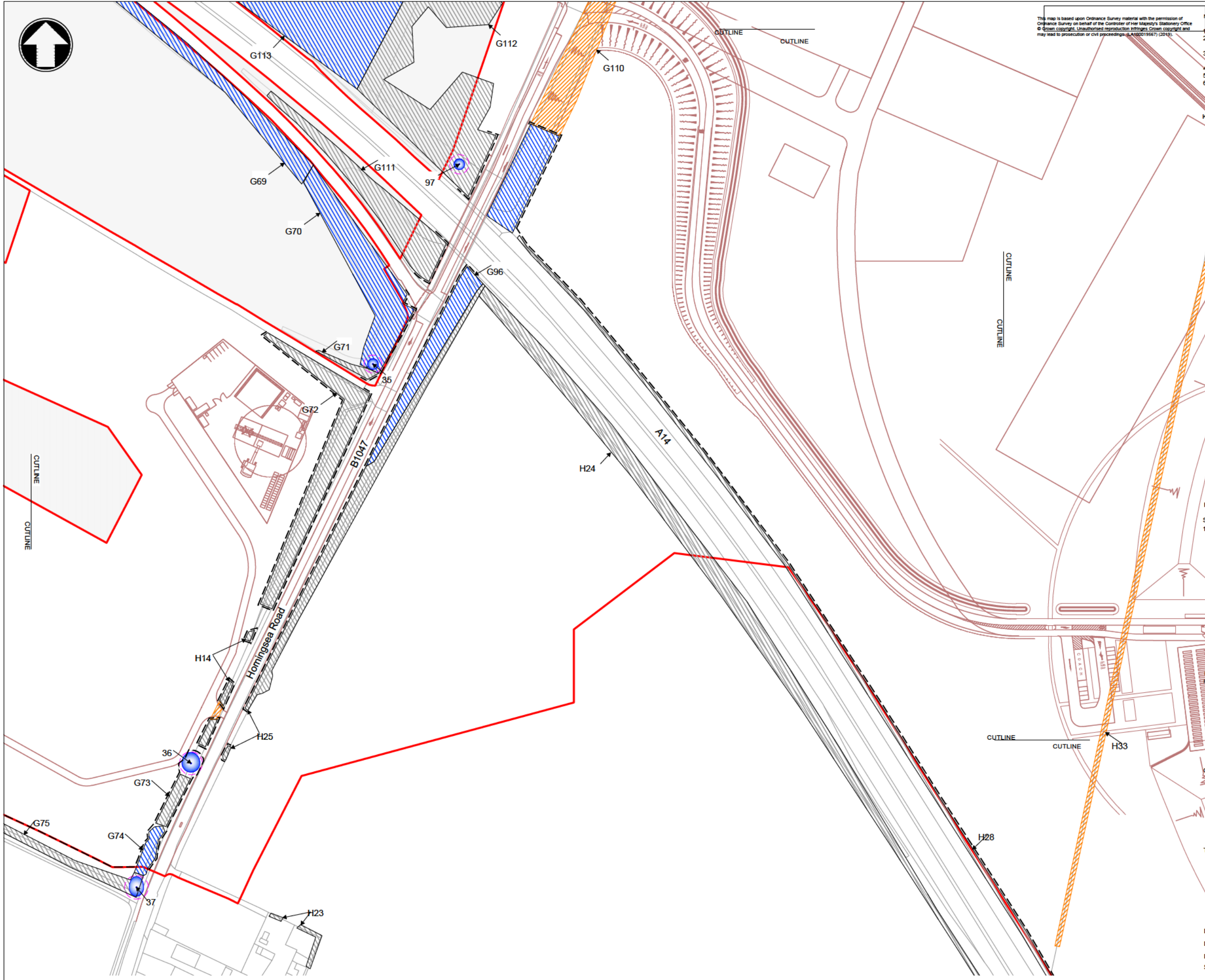


**Cambridge WWTPR  
 Tree Protection Plan  
 Sheet 7 of 15**

Designed	M Kingston	AK	Eng check	-
Drawn	D Lee	DL	Coordination	M Kingston AK
Dwg check	J Sothcott	JS	Approved	R Lennon RL
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 5. Drawing must be read in colour.  
 6. To be read in conjunction with Cambridge WWTPR Arboicultural Report, Ref. 100415458-MML-XX-00-RP-EN-0201004 (August 2022).

**Key**

2/G2/H2 Tree/Tree Group/Hedge Reference

- Approximate extent of canopy
- Tree Root Protection Area (RPA)
- Tree to be removed
- Temporary Tree Protection Barrier

**Individual Trees**

- Category A Trees
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- Category C Trees
- Category U Trees to be removed for reasons of sound arboicultural management

**Tree Groups**

- ▨ Category A Trees
- ▨ Category B Trees
- ▨ Category C Trees
- ▨ Tree Group to be removed

Design  
 Red Line Boundary  
 Conservation Area

Reference drawings  
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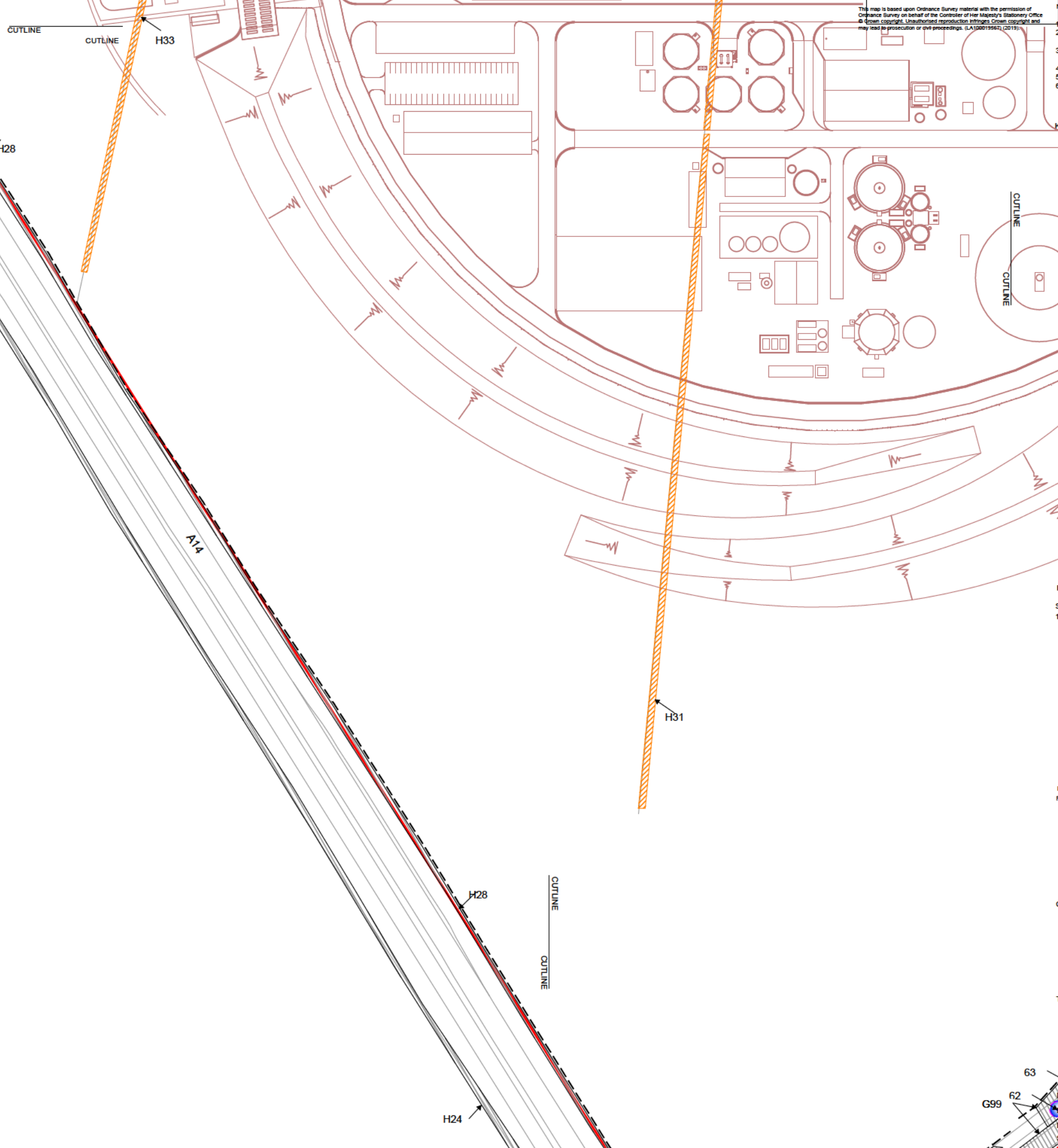


**Cambridge WWTPR  
 Tree Protection Plan  
 Sheet 8 of 15**

Designed	M Kingston	MK	Eng check	-
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Dwg check	J Sothcott	JS	Approved	R Lennon RL
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2/G2/H2 Tree/Tree Group/Hedge Reference

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- Category C Trees
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**Tree Groups**

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- Category B Trees
- Category C Trees
- Tree Group to be removed

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— Red Line Boundary  
□ Conservation Area

**Reference drawings**

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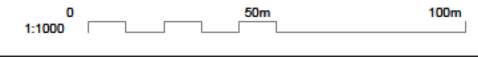
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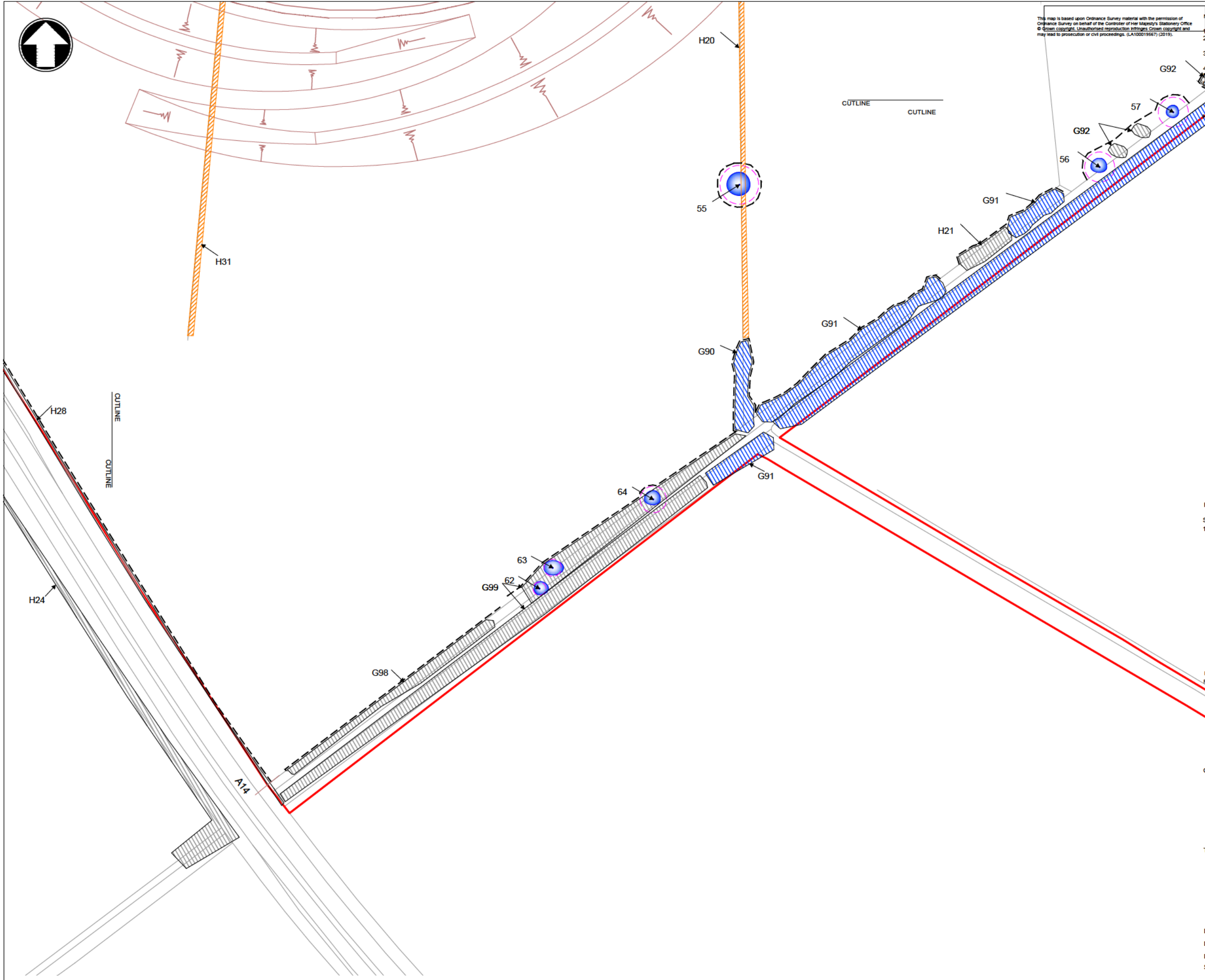
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**Title**  
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Tree Protection Plan  
Sheet 9 of 15

Designed	M Kingston	AK	Eng check	-
Drawn	D Lee	DL	Coordination	M Kingston
Dwg check	J Sothcott	JS	Approved	R Lennon
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**2/G2/H2 Tree/Tree Group/Hedge Reference**

- Approximate extent of canopy
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- ▨ Category C Trees
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— Design  
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Reference drawings  
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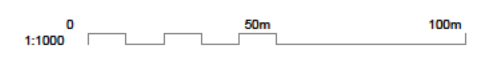
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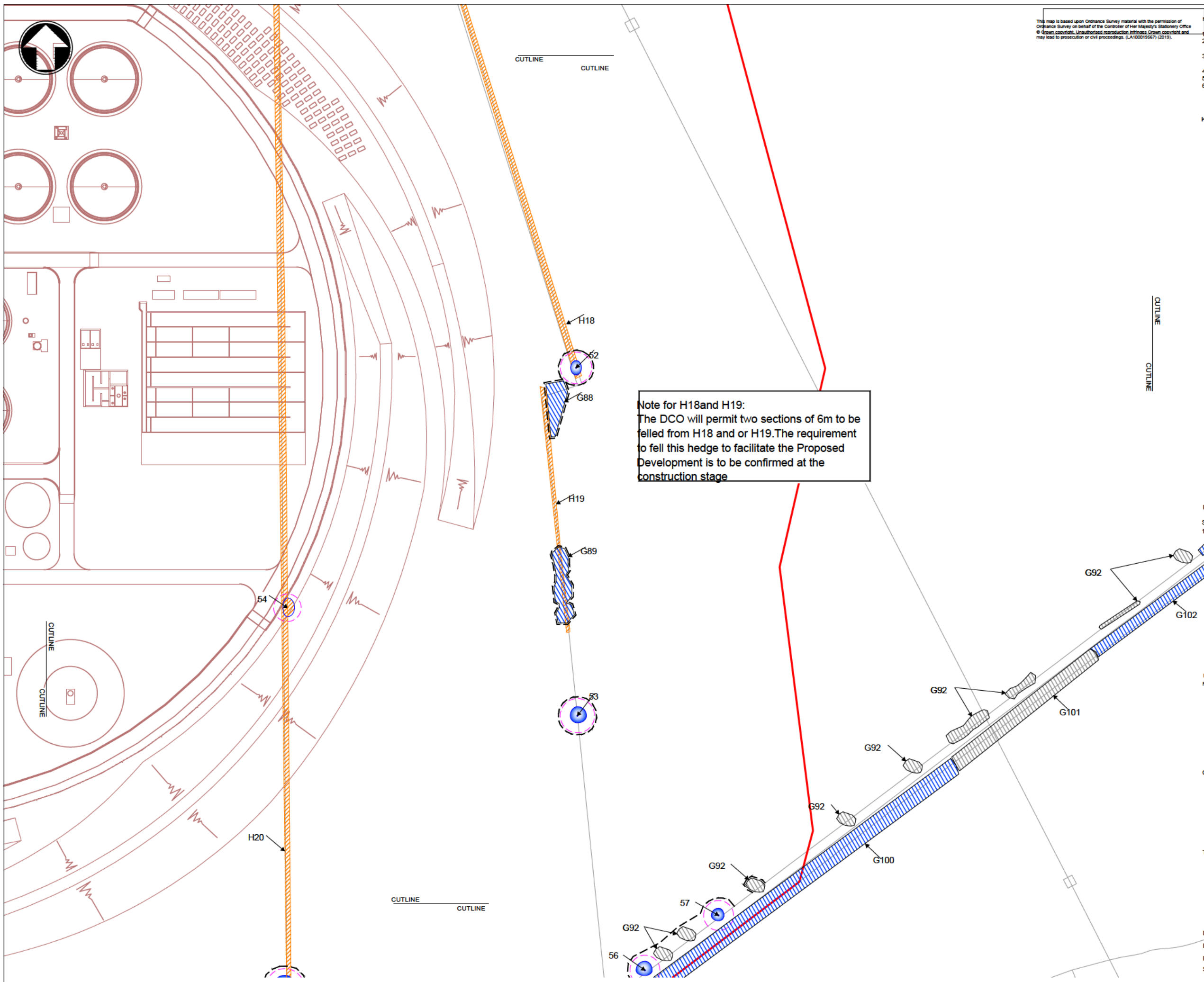


**Cambridge WWTPR  
Tree Protection Plan  
Sheet 10 of 15**

Designed	M Kingston	AK	Eng check	-
Drawn	D Lee	DL	Coordination	M Kingston AK
Dwg check	J Sothcott	JS	Approved	R Lennon AL
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Note for H18 and H19:  
 The DCO will permit two sections of 6m to be felled from H18 and or H19. The requirement to fell this hedge to facilitate the Proposed Development is to be confirmed at the construction stage

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**Key**

2/G2/H2 Tree/Tree Group/Hedge Reference

- Approximate extent of canopy
- Tree Root Protection Area (RPA)
- Tree to be removed
- Temporary Tree Protection Barrier

**Individual Trees**

- Category A Trees
- Category B Trees
- Category C Trees
- Category U Trees to be removed for reasons of sound arboicultural management

**Tree Groups**

- Category A Trees
- Category B Trees
- Category C Trees
- Tree Group to be removed

— Design  
 — Red Line Boundary  
 □ Conservation Area

Reference drawings

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 100415458-MML-XX-00-DR-Z-0201021

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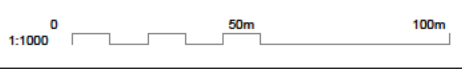
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**Title**  
 Cambridge WWTP  
 Tree Protection Plan  
 Sheet 11 of 15

Designed	M Kingston	AK	Eng check	-
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**2/G2/H2 Tree/Tree Group/Hedge Reference**

- Approximate extent of canopy
- Tree Root Protection Area (RPA)
- Tree to be removed
- Temporary Tree Protection Barrier

**Individual Trees**

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- Category C Trees
- Category U Trees to be removed for reasons of sound arboicultural management

**Tree Groups**

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- Category B Trees
- Category C Trees
- Tree Group to be removed

— Design  
 — Red Line Boundary  
 □ Conservation Area

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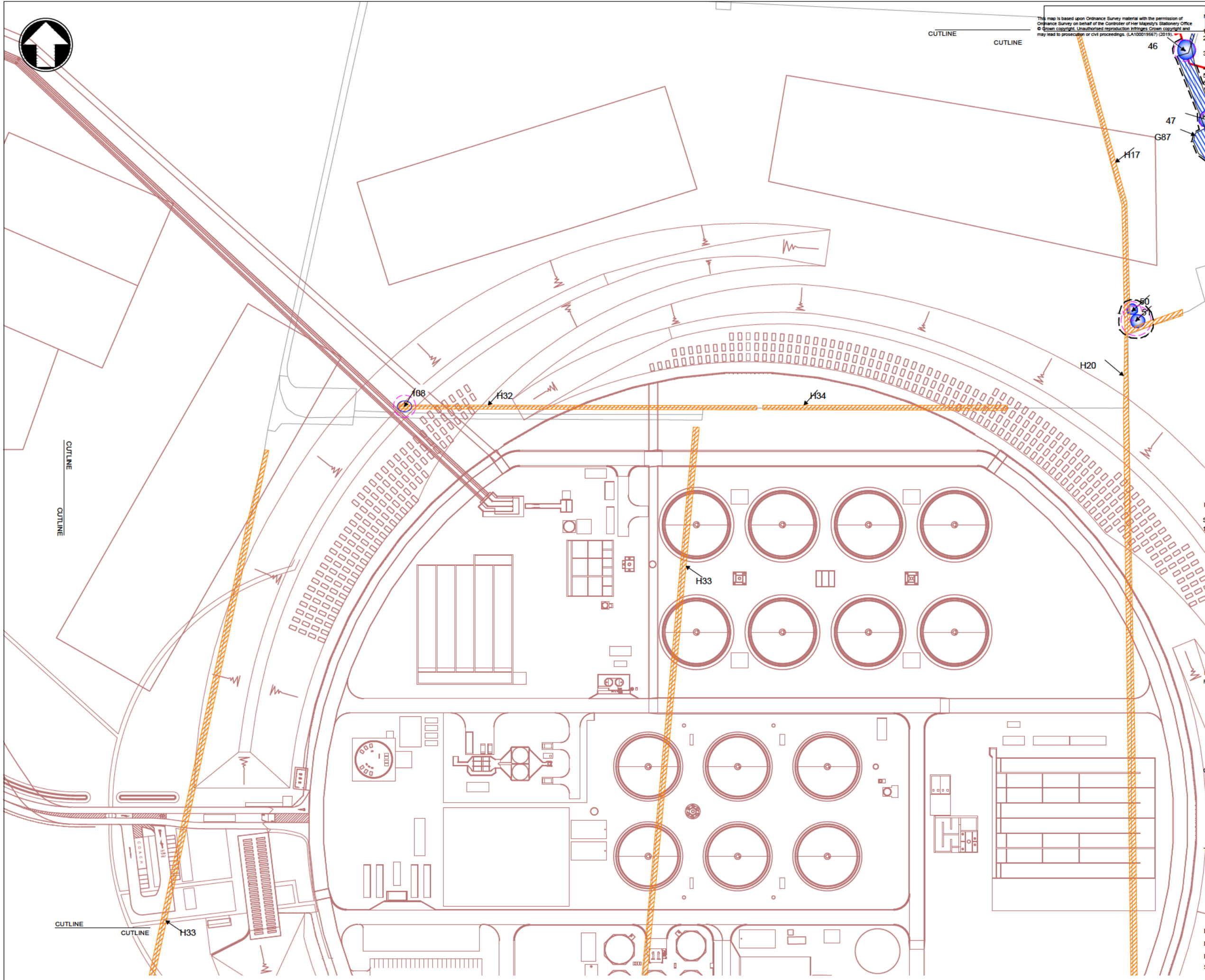
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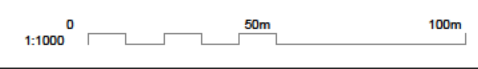
**Cambridge WWTPR  
 Tree Protection Plan  
 Sheet 12 of 15**

Designed	M Kingston	AK	Eng check	-
Drawn	D Lee	DL	Coordination	M Kingston AK
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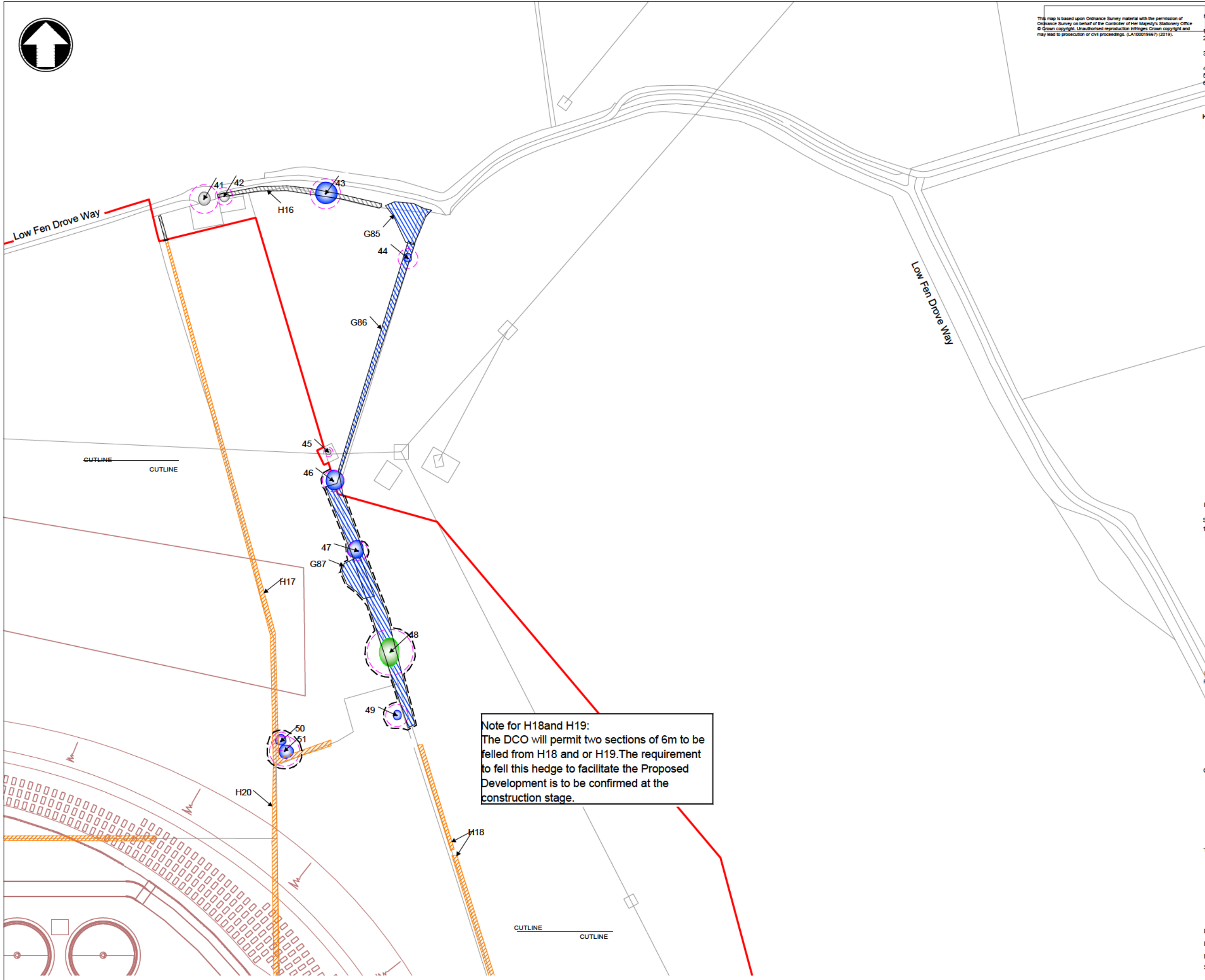






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**Key**

2/G2/H2 Tree/Tree Group/Hedge Reference

- Approximate extent of canopy
- Tree Root Protection Area (RPA)
- Tree to be removed
- Temporary Tree Protection Barrier

**Individual Trees**

- Category A Trees
- Category B Trees
- Category C Trees
- Category U Trees to be removed for reasons of sound arboicultural management

**Tree Groups**

- Category A Trees
- Category B Trees
- Category C Trees
- Tree Group to be removed

— Design

— Red Line Boundary

□ Conservation Area

Reference drawings

Sheet Layout

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**Title**

Cambridge WWTPR  
Tree Protection Plan  
Sheet 13 of 15

Designed	M Kingston	AK	Eng check	-
Drawn	D Lee	DL	Coordination	M Kingston AK
Dwg check	J Sothcott	JS	Approved	R Lennon AL
Scale at A1	Status	Rev	Security	
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Drawing Number **Figure A.1**

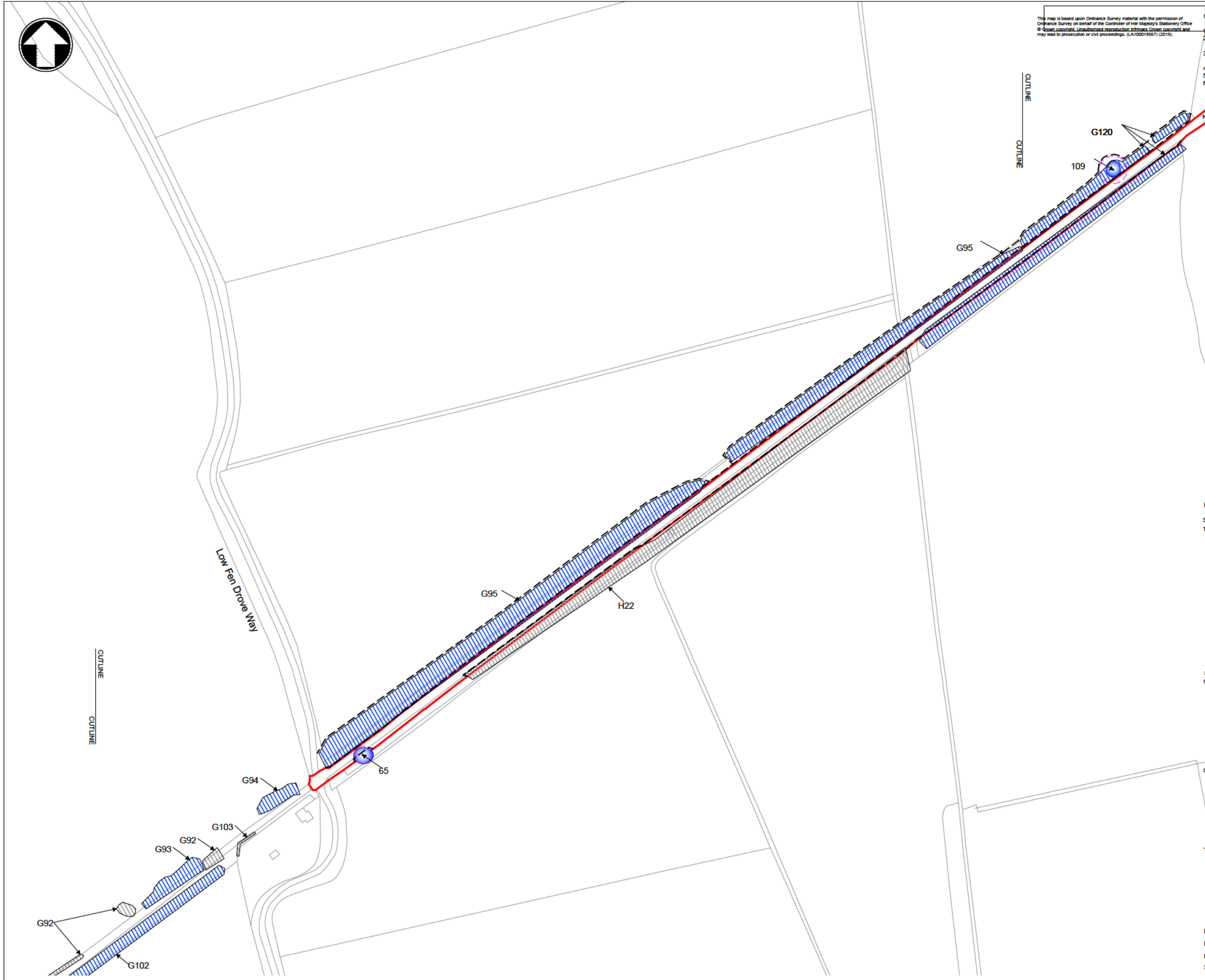
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The DCO will permit two sections of 6m to be felled from H18 and or H19. The requirement to fell this hedge to facilitate the Proposed Development is to be confirmed at the construction stage.





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**Key**

2/G2/H2 Tree/Tree Group/Hedge Reference

○ Approximate extent of canopy

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○ Tree to be removed

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Reference drawings

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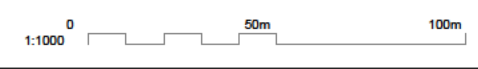
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**Title**

Cambridge WWTPR  
Tree Protection Plan  
Sheet 14 of 15

Designed	M Kingston	AK	Eng check	-
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Dwg check	J Sothcott	JS	Approved	R Lennon
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■ Conservation Area

Reference drawings

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100415458-MML-XX-00-DR-Z-0201021

Rev	Date	Drawn	Description	Chkd	App'd
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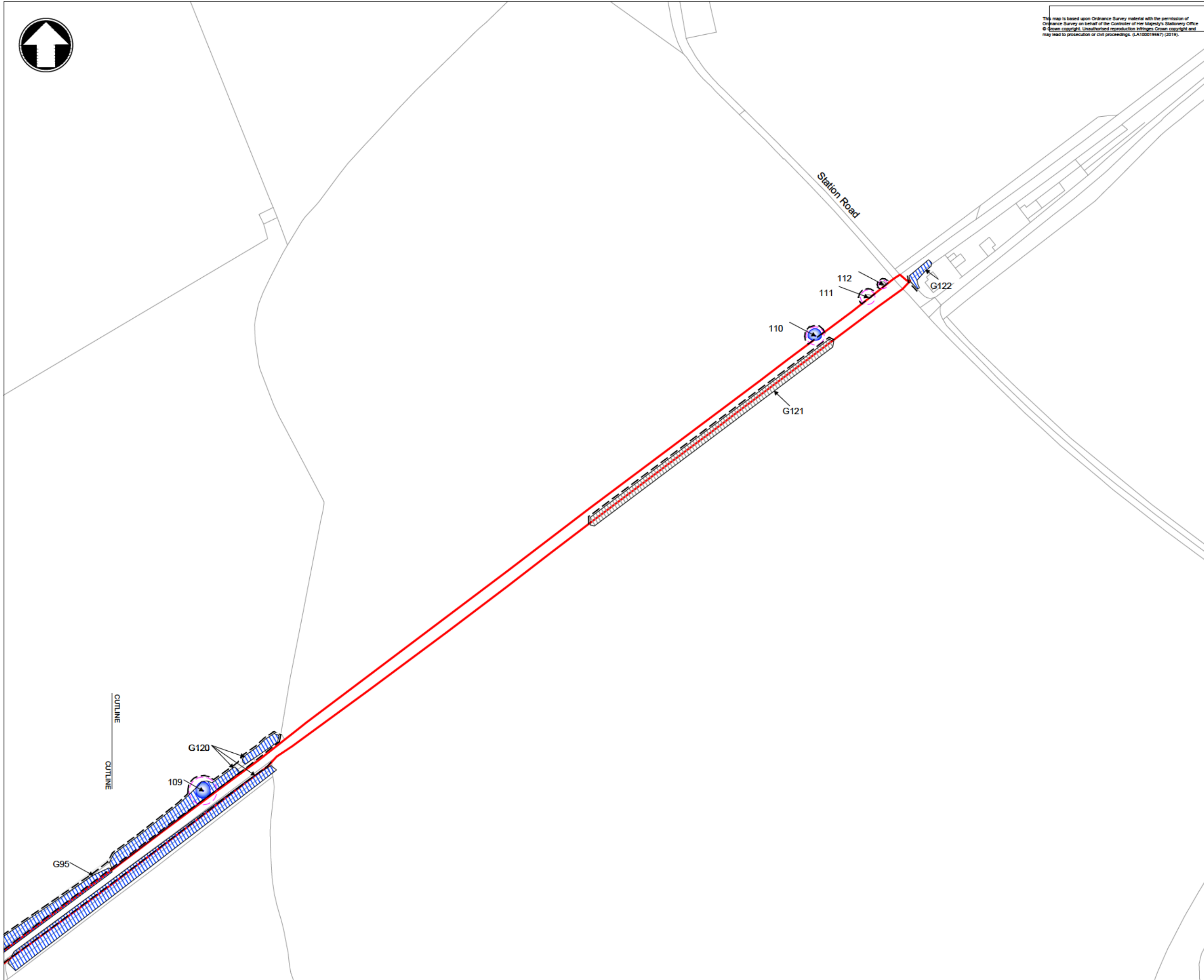
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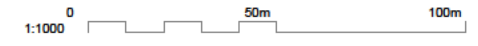
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Title  
**Cambridge WWTPR  
Tree Protection Plan  
Sheet 15 of 15**

Designed	M Kingston	AK	Eng check	-
Drawn	D Lee	DL	Coordination	M Kingston AK
Dwg check	J Sothcott	JS	Approved	RL Lennon RL
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## 4.1 Tree survey schedule definition of terms

<b>Tree Referencing</b>	<b>Individual Trees: Number</b> <b>Grouped Trees: G (+number)</b> <b>Hedgerows: H (+number)</b> <b>Woodlands: W (+number)</b>	
Life stage	Young	Usually <15 years
	Semi-mature	Significant growth expected, approximately one third of life expectancy complete
	Early-mature	Full height achieved with further significant growth possible, up to two thirds of life expectancy complete
	Mature	Full height has been achieved with possible spreading of the canopy, usually past two thirds of overall life expectancy
	Veteran	Usually a tree of significant age with characteristics that give additional cultural, landscape and conservation benefits
	Over-mature	A tree declining due to age as indicated by deterioration in the health and condition of its crown and trunk
Species	Botanical Name	Conforming to the International Code of Nomenclature for algae, fungi, and plants (ICN). For universal plant recognition.
	Common Name	Commonly used names usually on a local and national scale.
Tree Height	The vertical distance between the base of the tree (where soil and buttress meet) and the tip of the highest branch on the tree.	
Crown Height	Measured from ground level to the height at which the main crown begins.	
Stem Diameter	Stem diameter is measured in mm at 1.5m above ground level, in accordance with Annex C of BS 5837:2012.	
Crown Spread: Crown	Measurements taken from all four cardinal points in metres.	
Crow, Stem and Basal Condition	Good	Usually healthy with no symptoms of poor health or disease.
	Fair	Exhibiting signs of poor health or minor disease infections that are not considered to be hazardous.
	Poor	Disease present in considerable quantities or with very poor physiological vigour.
	Very Poor	Tree is in a moribund state in extremely poor condition, usually with little chance of recovery.
General Physical Condition	Good	A tree with no significant structural defects.
	Fair	Minor defects may have been observed but are not considered to be immediately hazardous.
	Poor	Significant defects found. Tree requires monitoring or remedial works.
	Very Poor	Major defects that require immediate remedial work or the removal of the tree.
Life Expectancy	The estimated number of years before the tree may require removal should no unexpected mechanical or environmental impacts occur to the tree.	
Retention Category	Please refer to Cascade Chart for tree quality assessment table in Appendix C.	
Comments	Notes are made to inform of any possible defects, peculiarities or points of interest that may relate to the trees position, physiology, safety and possible effects on developments.	

## 4.2 BS 5837:2012 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)		
Trees unsuitable for retention (see note)			
<p><b>Category U</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.</p>	<p>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). Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline. 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. Note: Where trees would otherwise be categorized as U, but have identifiable conservation, heritage or landscape value, even though only for the short term, they may be upgraded, although they might be suitable for retention only where issues concerning their safety can be appropriately managed.</p>		
	1. Mainly arboricultural reason.	2. Mainly landscape qualities	3. Mainly cultural values, including conservation
Trees to be considered for retention:			
<p><b>Category A</b> Trees of a high quality, with an estimated life expectancy of at least 40 years</p>	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).
<p><b>Category B</b> Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.</p>	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.

<p>Category C 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.</p>	<p>Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories</p>	<p>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.</p>	<p>Trees with no material conservation or other cultural value.</p>
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### 4.3 Tree Survey Schedule

Tree Ref	Tree Type	Life Stage	Height (m)	Av Crown Spread (m)					1st branch	Average crown height	No of Stems or trees	Stem Diameter (mm)	Root Protection Area (RPA)		Condition				BS5837 Category		Useful remaining contribution (years)	Comment
				N	E	S	W	RPA Radius (m)					RPA (m <sup>2</sup> )	Crown	Stem	Basal Area	General Physical	Category	Sub Category			
1	Horse Chestnut	Mature	15	3	3	4	5	2n	2.5	1	860	10.3	335	Poor	Poor	Poor	Poor	U		<10	Significant die back with less than 25 percent live canopy remaining. Bark damage on the western side and the stem appears to have less than 30 percent holding wood. Deadwood over 50mm diameter in the canopy. Powerline and road west. Previously reduced.	
2	Common Lime	Early Mature	16	3.5	3	3	3	3n	3	1	600	7.2	163	Good	Good	Good	Good	B	2	40+	Good form. 3m from the western fence screening the site office and road. Power line 7m west.	
3	Grey Poplar	Semi Mature	8	2	3	4	4	0.4s	1	1	305	3.7	42	Fair	Good	Fair	Fair	B	2	10+	Tree growing with a 75 degree lean south and a possible phoenix tree falling over or snapping off near to the ground to regrow from adjacent poplar. In the garden of the site office.	
4	Horse Chestnut	Mature	14	3.5	7	4	5	1n	3.8	1	665	8	200	Good	Good	Good	Good	B	2	40+	Burring on the eastern lower union of the first scaffold. Old wound and compression form creating a possible weak point. Previously pruned to avoid northern pipeline. Girdled roots with mechanical damage.	
5	Giant Sequoia	Early Mature	16	4	3	3	2.5	3.5	3.5	1	900	10.8	366	Ivy	Fair	Fair	Fair	B	2	20+	Giant sequoia. Heavily ivy covered visibility is poor. Minor deadwood in the canopy due to self-pruning. 80 degree lean north. 2.5m from western fence boundary.	
6	Grey Poplar	Mature	20	8	8	7	8	1w	2	2	650	10.6	350	Good	Fair	Good	Good	A	2	40+	No access surveyed from a distance measurement estimated. 2m from southern boundary fence. Southern scaffold	

Tree Ref	Tree Type	Life Stage	Height (m)	Av Crown Spread (m)				1st branch	Average crown height	No of Stems or trees	Stem Diameter (mm)	Root Protection Area (RPA)		Condition				BS5837 Category		Useful remaining contribution (years)	Comment
				N	E	S	W					RPA Radius (m)	RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category		
7	Apple	Early Mature	5	4	3	3	3	3n	1.8	1	260	3.1	31	Good	Good	Good	Good	C	2	40+	has snapped out and is leaning on a telephone cable. Prune hanging deadwood. Minor cavities on the southern stem providing good habitat potential.
8	Leylandii	Mature	11	5	5	5	5	1s	1.4	1	650	7.8	191	Good	Good	Good	Good	B	2	40+	Good form. Ornamental planting. Growing into adjacent leylandii.
9	Horse Chestnut	Mature	18	7	7	6	7	2e	2.5	1	1050	12.6	499	Fair	Good	Good	Good	A	2	40+	Leylandii. Fair form. Northern canopy overhanging the car park.
10	Scots' Pine	Early Mature	14	1	1	2	2	9n	9	1	550	6.6	137	Good	Good	Good	Good	B	2	40+	Deadwood over 50mm in the canopy. Heavily ivy covered visibly is poor. Minor epicormic growth. Codominant stem. Cavity on the lower northern stem showing good adaptive growth and providing good habitat potential.
11	Scots' Pine	Early Mature	8	2	3	2	1.5	3.5e	4.3	1	450	5.4	92	Good	Good	Good	Good	B	2	40+	80 degree lean south. 3m from southern hardcore access track. Telephone cable 0.5 below eastern canopy. Good form.
12	Goat Willow	Early Mature	5	3.5	4	2	3.5	4n	4	1	440	5.3	88	Good	Fair	Fair	Fair	B	2	40+	Upper canopy distorted by tare out. 3m from hardstanding access track. 80 degree lean east. Understory of elder and goat willow.
13	Pine Spec	Mature	750	4	4	4	4	1s	2.5	1	750	9	255	Good	Good	Good	Good	B	2	40+	Upper canopy distorted by adjacent pine. 2m from southern hardcore access track. Crossing, fused, branches in lower southern canopy.
																					2m from the western pavement and 0.3m from the western fence. Good form. Hawthorn understory.



Tree Ref	Tree Type	Life Stage	Height (m)	Av Crown Spread (m)				1st branch	Average crown height	No of Stems or trees	Stem Diameter (mm)	Root Protection Area (RPA)		Condition				BS5837 Category		Useful remaining contribution (years)	Comment
				N	E	S	W					RPA Radius (m)	RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category		
14	Black pine	Early Mature	12	2	3	3	2	6e	7	1	300	3.6	41	Good	Fair	Fair	Fair	B	2	20+	2m from the western shipping container building providing a screen. In later maturity the tree could conflict with the building. Canopy distorted to the west by the structure.
15	Black pine	Early Mature	14	3	3	2	2	6n	6	1	350	4.2	55	Good	Fair	Fair	Fair	B	2	20+	2m from the western shipping container building providing a screen. In later maturity the tree could conflict with the building. Canopy distorted to the west by the structure.
16	Sycamore	Mature	14	4	4	4	3.5	1e	4	1	500	6	113	Good	Good	Fair	Good	B	2	20+	Hard standing to the south and west 2 to 2.5m from the stem. Screening the WWTP. No access, surveyed from a distance, measurement estimated. Telephone cables to the south will be in conflict with the canopy as it reaches maturity.
17	Sycamore	Mature	18	7	6	6	6	2.5n	3.1	1	760	9.1	261	Good	Good	Good	Good	B	2	40+	Codominant stem. Minor deadwood. Western branches overhanging the car park. Understory of elder. 3m from the western fence.
18	Sycamore	Mature	15	6	6	5	4.5	3.5n	4.1	1	710	8.5	228	Good	Good	Good	Good	B	2	40+	Hard standing 2m south and east. Deadwood over 50mm in the canopy to remove. Good form. Minor pruning wounds. Amenity planting.
19	Common Lime	Mature	15	5.5	5	5	3.5	1n	2.3	1	670	8	203	Fair	Good	Fair	Fair	B	2	40+	Basal damage and damage to the southern lower stem with poor adaptive growth. Vehicle tracking on the southern RPA will be compacting roots. Minor dead wood in the canopy.

Tree Ref	Tree Type	Life Stage	Height (m)	Av Crown Spread (m)				1st branch	Average crown height	No of Stems or trees	Stem Diameter (mm)	Root Protection Area (RPA)		Condition				BS5837 Category		Useful remaining contribution (years)	Comment
				N	E	S	W					RPA Radius (m)	RPA (m <sup>2</sup> )	Crown	Stem	Basal Area	General Physical	Category	Sub Category		
20	Hybrid black poplar	Mature	8	2.5	3	3	2.5	2.5n	2.5	1	900	10.8	366	Poor	Fair	Poor	Poor	C	2	<10	Hybrid black poplar. Topped in height by over 30 percent with very poor adaptive growth around the stem wound. Bark stripped on the north western and lower eastern stem. Deadwood present in the main stem however over 30 percent holding wood likely present. Small canopy reduced in weight and vitality is fair. 0.2m from the northern access track.
21	Hybrid black poplar	Early Mature	15	2.5	3	3	2.5	2n	2	1	550	6.6	137	Fair	Fair	Fair	Fair	B	2	10+	Hybrid black poplar. Topped in height by over 30 percent. Adaptive growth is poor with 1m wound in the upper stem and peeling bark. 0.3m from the northern access track.
22	Hawthorn	Semi Mature	2	1	1	1	1	0.3n	0.3	1	400	4.8	72	Fair	Fair	Fair	Fair	C	2	40+	Self-seeded hawthorn.
23	Hawthorn	Semi Mature	2.5	1	1	1	1	0.1n	0.1	3	130 110 150	2.8	24	Fair	Fair	Fair	Fair	C	1	40+	Self-seeded hawthorn.
24	Hawthorn	Semi Mature	2	1	1	1	1	0.1n	0.1	1	100	1.2	5	Fair	Fair	Fair	Fair	C	2	40+	Self-seeded hawthorn. Heavily ivy covered.
25	Elder	Semi Mature	2.5	0.5	1	1	0.5	1n	1	1	100	1.2	5	Fair	Fair	Fair	Fair	C	1	10+	Self-seeded elder.
26	Goat Willow	Semi Mature	5	2	2	2	2	0.4n	0.4	5	100	2.6	22	Fair	Fair	Fair	Fair	C	2	40+	Self-seeded goat willow. Good form. Multi stemmed.
27	Crack Willow	Semi Mature	5	3	2	1	1	2n	2	1	300	3.6	41	Fair	Fair	Fair	Fair	C	2	<10	40 degree lean north. Wind thrown. Will likely fail when it reaches maturity. Directly underneath a power line.
28	Elder	Semi Mature	2	1	1	1	1	0.1n	0.1	1	100	1.2	5	Fair	Fair	Fair	Fair	C	2	40+	No access, surveyed from a distance, measurement estimated. Self-seeded on the riverbank.

Tree Ref	Tree Type	Life Stage	Height (m)	Av Crown Spread (m)					1st branch	Average crown height	No of Stems or trees	Stem Diameter (mm)	Root Protection Area (RPA)		Condition				BS5837 Category		Useful remaining contribution (years)	Comment
				N	E	S	W	RPA Radius (m)					RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category			
29	Common ash	Mature	16	3.5	5	5	2	2n	2.3	1	600	7.2	163	Fair	Fair	Fair	Fair	B	2	10+	Previously reduced by 30 percent. Various cavities within the main stem providing habitat potential. No access surveyed, from a distance, measurement estimated. No signs of die back but will likely succumb.	
30	Lombardy Poplar	Early Mature	19	2	2	2	2	1.5n	1.5	2	350 280	5.4	92	Fair	Good	Fair	Fair	B	2	40+	Farm debris in the RPA. No access, surveyed from a distance, measurement estimated. Canopy appears healthy. Stem has low visibility. Codominant stem.	
31	Common ash	Mature	17	6	7	5	5	1n	1	1	950	11.4	408	Ivy	Fair	Good	Fair	B	2	10+	Heavily ivy covered visibly is poor. Early stages of common ash die back surveyed. Ivy has been severed. Understory of bramble elder and hawthorn.	
32	Horse Chestnut	Mature	14	6	6	6	6	1n	1	1	780	9.4	275	Fair	Good	Good	Good	B	2	40+	Black seepage on the western lower stem. Canopy vitality however is good. Symmetric form. Pruning wounds in the upper canopy however showing fair adaptive growth. Power lines above the upper western canopy.	
33	Field Maple	Semi Mature	3.5	1	1	1	1	0.5n	0.5	1	170	2	13	Fair	Fair	Fair	Fair	C	1	40+	Field maple growing from the fence line.	
34	Walnut	Mature	16	6	4	4	5	5n	5	1	730	8.8	241	Fair	Fair	Fair	Fair	B	2	10+	Canopy with over 50 percent die back. Deadwood over 50mm diameter in the canopy. Hanging deadwood. Swing attached to a dying branch. Vehicular damage around the whole basal area. Suspected compaction within the RPA. Cavities providing good habitat	

Tree Ref	Tree Type	Life Stage	Height (m)	Av Crown Spread (m)				1st branch	Average crown height	No of Stems or trees	Stem Diameter (mm)	Root Protection Area (RPA)		Condition				BS5837 Category		Useful remaining contribution (years)	Comment
				N	E	S	W					RPA Radius (m)	RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category		
																					potential on the southern mid stem.
35	Lombardy Poplar	Early Mature	16	3	3	3	3	3n	3	1	420	5	80	Good	Fair	Good	Good	B	2	20+	Minor deadwood in the canopy. On a 70-degree gradient.
36	Norway Maple	Early Mature	10	6	5	5	5	1n	1.8	1	530	6.4	127	Good	Good	Good	Good	B	2	40+	Norway maple screening the road from the field. Hanging dead branch in the western canopy. Facilitation pruning east. Good form.
37	Field Maple	Mature	12	6	4	5	4	2n	2	1	550	6.6	137	Ivy	Fair	Fair	Fair	B	2	40+	Heavily ivy covered, visibly is poor. Canopy growing into eastern telephone line. Good vitality in the canopy despite dense ivy. Agricultural works up to 3.5m from the stem and evidence of severed roots in the ploughed ground.
38	Field Maple	Mature	7	2.5	3	3	2.5	1n	1	1	400	4.8	72	Ivy	Fair	Fair	Fair	B	2	40+	Heavily ivy covered, visibility is poor. Canopy vitality is fair despite the ivy. 2m from the northern agricultural works.
39	Field Maple	Mature	6	1.5	2	2	1.5	1n	1	1	370	4.4	62	Ivy	Fair	Fair	Fair	B	2	40+	Heavily ivy covered visibility is poor. Canopy vitality is fair despite the ivy. 2m from the northern agricultural works. Main leader appears to have snapped out.
40	Common ash	Mature	14	4	4	3	5	2n	2	4	320 300 310 180	6.8	147	Fair	Fair	Fair	Fair	B	2	40+	2m from the northern access track. Minor deadwood in the canopy. Telephone lines obstructing the southern canopy. No sign of die back.

Tree Ref	Tree Type	Life Stage	Height (m)	Av Crown Spread (m)					1st branch	Average crown height	No of Stems or trees	Stem Diameter (mm)	Root Protection Area (RPA)		Condition				BS5837 Category		Useful remaining contribution (years)	Comment
				N	E	S	W	RPA Radius (m)					RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category			
41	Common ash	Mature	13	4	4	4	3	4n	4	2	510 440	8	203	Poor	Fair	Fair	Fair	C	1	<10	Bark wounds extending up the eastern stems from historic tare outs showing fair adaptive growth, however approximately 50 percent rot in the main stems. Canopy vitality is fair however likely to succumb to ash die back. 1.5m from the northern access track and southern concrete car park.	
42	Common ash	Early Mature	12	2	3	3	2.5	4s	6	1	410	4.9	76	Ivy	Fair	Fair	Fair	C	1	40+	Ivy covered. distorted canopy to the south. 2m from the southern farm building. Deadwood in the canopy and early signs of ash die back. 50 percent live canopy.	
43	Common ash	Early Mature	14	6.5	7	6	5.5	1w	2.4	1	700	8.4	222	Good	Good	Good	Good	B	1	40+	Good form. No sign of die back. Minor deadwood in the canopy. Facilitation pruning in the northern canopy. 3.5m from the northern access track. Screening function.	
44	Common ash	Early Mature	8	3	2	2	2	2n	2.9	2	420 180	5.5	96	Fair	Fair	Fair	Fair	B	1	10+	Individually plotted due to distance from other trees. Heavily pruned with 40 percent of the canopy remaining. Ditch 0.1 m from the stem. Early signs of common ash die back.	
45	Elder	Early Mature	2.5	1.5	2	2	1.5	1n	1	5	100 100 100 100	2.6	22	Fair	Fair	Fair	Fair	C	1	10+	Self-seeded under the electricity pylon.	
46	Common ash	Mature	12	6	6	5	4	2.5w	4	1	500	6	113	Ivy	Fair	Fair	Fair	B	1	10+	Common ash showing early signs of ash die back. Ditch 0.1m from the stem west. Heavily ivy covered visibly is poor. No access, surveyed from a distance,	

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				N	E	S	W					RPA Radius (m)	RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category		
																					measurement estimated. Nest in the canopy union.
47	Pedunculate Oak	Mature	15	6	3	4	6	4w	6	1	450	5.4	92	Ivy	Fair	Fair	Fair	B	2	40+	No access, surveyed from a distance, measurement estimated. Deadwood over 25mm diameter in the canopy. Minor broken branches and bark wounds associated with the broken branches on the southern canopy. Ivy covered. Ditch 0.1m west and agricultural track 1m east.
48	Pedunculate Oak	Mature	16	8	5	8	6	3s	4.5	1	1070	12.8	518	Ivy	Good	Fair	Good	A	1	40+	Good form and size. Heavily ivy covered visibly is poor. 0.1m from the western ditch with agricultural works a further 2m away compromising the roots to the east and west. Deadwood over 50mm diameter in the northern canopy. Growing out of the side of the ditch.
49	Common ash	Semi Mature	10	3	3	3	2	1n	1	3	315 300 290	6.2	122	Fair	Fair	Fair	Fair	B	2	10+	Codominant stem. Early signs of ash die back due to age it will likely succumb. Agricultural track has been diverted west to avoid the RPA.
50	Field Maple	Early Mature	8	4	3	2	3	1n	1	1	435	5.2	86	Good	Good	Good	Good	B	1	40+	Canopy distorted by adjacent tree and pruning works for agricultural vehicle access. 1.5m from the eastern agricultural works. Ditch 2m west. Understory of hawthorn and young common ash.
51	Field Maple	Mature	9	3.5	5	4	3	1n	1	3	440 500 230	8.4	222	Good	Good	Good	Good	B	1	40+	Canopy distorted by adjacent tree and pruning works for agricultural vehicle access. 1.5m from the

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				N	E	S	W					RPA Radius (m)	RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category		
52	Common ash	Early Mature	11	4	3	4	3	3n	3	6	730	8.8	241	Fair	Fair	Fair	Fair	B	2	10+	eastern agricultural works. Ditch 2m west. Understory of hawthorn and young common ash. Multi stemmed former coppice 0.1m from the western ditch. Minor deadwood. 2m from eastern agricultural works. Minor pruning wound from access facilitation pruning showing good occlusion.
53	Common ash	Mature	14	5	5	4	4	1s	3.8	1	800	9.6	290	Good	Fair	Fair	Fair	B	1	10+	No access, surveyed from a distance, measurement estimated due to a ditch. Growing on the eastern bank of the ditch. Agricultural works 1m west of the stem. Codominant stem. Hanging deadwood western canopy. Early stages of ash die back but still 90 percent live canopy. Deadwood over 100mm diameter. Dead branch upper northern canopy and wound from a tear out showing fair adaptive growth. Hawthorn understory
54	Common ash	Mature	5.5	5.5	4	5	2.5	2n	3.8	1	640	7.7	185	Good	Fair	Fair	Fair	B	2	40+	Ditch 0.2m to the west. 2m from the eastern agricultural works. Tear out on the western main scaffold leaving a 1.5m x 30cm cavity with poor adaptive growth. Over 30 percent holding wood still present in the stem. 1m cavity on the eastern scaffold showing fair adaptive growth. Remaining canopy vitality is fair.
55	Sycamore	Mature	17	7	6	6	7	2n	4.3	4	530 410	10.8	366	Good	Good	Fair	Good	B	2	40+	Agricultural works up to 2m east. Ditch 0.1m

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				N	E	S	W	RPA Radius (m)					RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category			
											500 330											west. Agricultural access facilitation pruning on the eastern and western canopies. Good form and size.
56	Common ash	Early Mature	15	5	4	3	5	2w	4.3	7	340 340 275 280 180 260 190	8.4	222	Good	Fair	Fair	Fair	B	2	10+	Multiple stemmed. Deadwood over 25mm diameter in the lower eastern canopy. Early stages of ash die back surveyed. Screening the southern track. 2m from the northern agricultural works. 1m from the southern track.	
57	Common ash	Early Mature	16	4	3	3	4	5n	5	4	460 340 380 150	8.4	222	Good	Fair	Fair	Fair	B	2	10+	1m from the southern track, 2m from the northern agricultural works. Minor deadwood in the canopy. Vehicle damage to the southern leader bark. Fibre buckling on the eastern stem.	
58	Sycamore	Early Mature	12	5	5	3	4.5	2.5n	2.5	1	430	5.2	84	Good	Good	Fair	Fair	B	2	40+	Agricultural track 2m from the stem. Agricultural works 1 to 2m from the northern eastern and western side. Epicormic growth around the lower stem. 2 dead branches in the lower southern canopy due to vehicular damage.	
59	Crack Willow	Mature	18	6	8	2	6	5n	6.8	1	810	9.7	297	Poor	Fair	Fair	Poor	B	2	<10	Tree has been ring barked and stripped of bark from the basal area up to the first 2m of the stem due to horse damage. Canopy however appears healthy with no significant visible defects. Heavily ivy covered visibly is poor. Southern canopy distorted by adjacent trees.	



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60	Crack Willow	Mature	16	2	7	3	6	6n	6	1	580	7	152	Poor	Poor	Poor	Poor	C	2	<10	Tree has been ring barked and stripped of bark from the basal area up to the first 2m due to horse damage. Broken branch which is hanging in adjacent tree lower canopy. 3m from the southern fence. Dead branch in the northern canopy hanging in adjacent tree.
61	Crack Willow	Mature	14	4	6	5	5	3n	3	1	1100	13.2	547	Fair	Fair	Fair	Fair	B	2	40+	Pollard crack willow growing within the fence. Regrowth from the pollard is good. Heavily ivy covered visibly is poor. 2.5m from the southern public footpath
62	Field Maple	Mature	13	4	5	4	3	1n	1	15+	300	3.6	41	Fair	Fair	Fair	Fair	B	1	40+	Multi stemmed former coppice on the bank of the disused railway. Access facilitation pruning north and south. 3m from the northern agricultural works.
63	Sycamore	Early Mature	14	4	6	4	5	2w	3.8	9	400	4.8	72	Fair	Fair	Fair	Fair	B	2	40+	Multi stemmed former coppice on the bank of the disused railway. Access facilitation pruning north and south. 3m from the northern agricultural works.
64	Common ash	Early Mature	8	5	4	3	5	1w	3.5	2	410 460	7.4	174	Good	Good	Fair	Good	B	2	10+	Codominant stem. Good form. Access facilitation pruning north and south. 3m from the northern agricultural works.
65	Common ash	Mature	17	4	6	5	5	2e	3.3	7	400	4.8	72	Good	Fair	Fair	Fair	B	2	40+	Early stages of common ash die back. Access facilitation pruning north. 2m from the northern hard-core track. Deadwood over 25mm diameter in the canopy.
66	Sycamore	Semi Mature	5	2	2	2	2	1.5n	1.5	1	305	3.7	42	Good	Good	Good	Good	B	2	40+	4m from the northern access track. Good form.

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				N	E	S	W					RPA Radius (m)	RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category		
67	Sycamore	Semi Mature	5	2	2	2	2	1.5n	1.5	1	325	3.9	48	Good	Good	Good	Good	B	2	40+	Minor broken branch lower northern canopy. 4m from the northern access track. Good form. Minor cavity in the lower northern stem showing fair adaptive growth.
68	Common ash	Early Mature	14	3	4	4	4	4n	4	1	480	5.8	104	Good	Fair	Fair	Fair	B	2	10+	1m from the access track bell mouth north. Bus stop 2m south. Cars parked 2m east. Access facilitation pruning north and minor broken branch in the northern lower canopy.
69	Red maple	Early Mature	14	4	3	3	2.5	4n	4	1	480	5.8	104	Good	Good	Good	Good	B	2	40+	Planted for amenity purposes. Epicormic at the base. 3m from western road with ditch in-between. Agricultural works 2m east.
70	Common ash	Mature	18	8	8	8	7	3n	4	1	890	10.7	358	Ivy	Fair	Fair	Fair	B	2	10+	Heavily ivy covered visibly is poor. 2m from the agricultural works, 1.5m from the road with ditch in-between. Epicormic growth around the lower stem. Deadwood over 25mm diameter in the canopy overhanging the road. Minor pruning wounds.
71	Sycamore	Early Mature	12	3	3	3	3	3n	3.5	1	590	7.1	157	Good	Fair	Fair	Good	B	2	40+	2m from eastern agricultural works and 2m from western road with ditch between. Minor deadwood from poor tree surgery practice on the lower eastern canopy.
72	Common ash	Early Mature	13	3	3	3	3	2s	3.8	1	450	5.4	92	Good	Fair	Fair	Fair	B	2	10+	2m from the eastern agricultural works and 2m from the western road. Growing in the ditch. Epicormic growth around the lower stem. Minor deadwood in the canopy and early signs of

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73	Common ash	Early Mature	13	2.5	3	5	4	2n	3.5	1	440	5.3	88	Good	Fair	Fair	Fair	B	2	10+	common ash die back in the canopy. 2m from eastern agricultural works and 2m from the western road. Growing in the ditch. Minor deadwood in the canopy and early signs of ash die back in the canopy. Old bracket believed to be <i>Innonotus hispidus</i> growing on the mid-western stem.	
74	Common ash	Mature	17	5	5	4	5	1n	3	1	680	8.2	209	Ivy	Fair	Fair	Fair	B	2	10+	Heavily ivy covered visibly is poor. 2m from eastern agricultural works and 2m from the western road with a ditch in-between. Epicormic growth around the lower stem. Minor deadwood in the canopy. Southern canopy distorted by adjacent trees.	
75	Common ash	Mature	18	6	7	6	5	1s	3.5	2	580 150	9.2	268	Good	Good	Fair	Good	B	2	10+	Codominant stem. 3m from the western road and 2m from the eastern agricultural works. Mechanical damage to the eastern buttress however good adaptive growth.	
76	Field Maple	Semi Mature	5	1.5	2	2	1.5	2n	2	5	180 170 100 75 80	3.5	38	Fair	Fair	Fair	Fair	B	2	40+	Fair form. 2m from eastern agricultural works and 3m from the western road. Blackthorn understory. Minor pruning wounds.	
77	Horse Chestnut	Mature	15	4	4	4	4	1n	3.3	1	760	9.1	261	Fair	Good	Fair	Good	B	2	40+	Mechanical damage to the southern lower stem showing poor adaptive growth. Epicormic growth around the lower stem. 3m from the western road and 2m	

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78	Horse Chestnut	Mature	12	3.5	3	4	3.5	1n	3.3	3	360 430 420	8.4	222	Fair	Fair	Fair	Fair	B	2	10+	from the eastern agricultural works. Hanging branch in eastern lower canopy.  2m lateral bark wound from a tear out on the lower eastern leader with over 50 percent holding wood still present. Fair adaptive growth. Epicormic growth around the lower stem. 3m from western road. 2m from eastern agricultural works.	
79	Common ash	Mature	16	5	6	5	6	2s	4.8	1	620	7.4	174	Good	Fair	Fair	Fair	B	2	10+	Crossing branches in the lower southern canopy. 2m from the eastern agricultural works. 3m from western road with bank in-between. Minor deadwood in the canopy. Old bracket on the southern mid stem believed to be <i>Inonotus hispidus</i> however canopy appears healthy with no significant visible loss.	
80	Common ash	Early Mature	10	3.5	3	3	3	2s	3.3	1	370	4.4	62	Fair	Fair	Fair	Fair	B	2	10+	2m from the eastern agricultural works and 2m from the western road with bank in-between. Epicormic growth around the lower stem and signs of ash die back in the canopy which is distorted to the south by adjacent common ash. Deadwood over 25mm diameter in the canopy. 60 percent live canopy remaining.	
81	Common ash	Early Mature	11	3	3	3	3	2n	2	1	455	5.5	94	Good	Fair	Fair	Fair	B	2	10+	2m from the south western agricultural works. Early stages of common ash die back surveyed within the	

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82	Horse Chestnut	Early Mature	8	2	2	2	2	2.5n	2.5	2	340 300	5.4	92	Ivy	Fair	Fair	Fair	B	2	10+	canopy. Minor deadwood in the canopy. Access facilitation pruning northern lower canopy. Heavily ivy covered visibly is poor. 1m from eastern pavement. Access facilitation pruning east. Codominant stem.
83	Common ash	Early Mature	13	3.5	3	4	3.5	1n	2.5	1	400	4.8	72	Good	Good	Good	Good	B	2	10+	2m from the eastern pavement. Canopy starting to hang over the cycle path and will require pruning. Minor deadwood
84	Common ash	Semi Mature	4	2.5	3	3	2.5	1n	1.5	2	230 190	3.6	41	Fair	Good	Fair	Good	B	2	10+	Codominant stem. Vehicular damage on the lower western stem showing fair adaptive growth. 2.5m from the eastern pavement.
85	Horse Chestnut	Early Mature	6	2	2	2	2	1n	1	1	400	4.8	72	Fair	Poor	Fair	Poor	C	2	<10	2.5m from the eastern pavement. Late stages of horse chestnut bleeding canker with old bleeding surveyed and the stem has been almost entirely stripped of bark. Canopy however still appears healthy.
86	Horse Chestnut	Early Mature	8	3.5	1	3	3.5	3w	3.3	4	330 290 380 360	8.2	209	Poor	Poor	Poor	Poor	U		<10	1m from the eastern pavement. late stages of bleeding cancer. Bleeding and peeling bark around the entirety of the stem surveyed and the eastern scaffold has failed. Tree should be removed for health and safety reasons as it is close to the road.
87	Horse Chestnut	Early Mature	7	3	2	3	2	2.5n	2.5	1	350	4.2	55	Fair	Good	Fair	Fair	B	2	10+	2m from the eastern pavement. Epicormic growth around the lower stem and climbing species in the northern canopy.

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88	Horse Chestnut	Early Mature	6	2.5	3	3	2.5	2.5n	2.5	1	380	4.6	65	Fair	Good	Fair	Fair	B	2	10+	Early stages of bleeding canker with peeling bark and epicormic growth around the lower stem. 2m from the eastern pavement.
89	Hawthorn	Early Mature	3	2.5	2	3	2.5	1n	1.5	5	290 180 140 100 130	4.8	72	Fair	Fair	Fair	Fair	B	2	40+	Pruning wounds from access facilitation lower canopy east. 2m from the eastern pavement. Bird's nest upper southern canopy.
90	Field Maple	Mature	11	5	3	3	4	4n	4	1	450	5.4	92	Ivy	Fair	Fair	Fair	B	2	40+	Epicormic growth around the lower stem. No access, surveyed from a distance, measurement estimated. Heavily ivy covered visibly is poor. 2.5m from the eastern pavement. Deadwood over 25mm in the canopy.
91	Common ash	Early Mature	12	4	3	3	3	4n	4	4	400 230 280 240	7.1	157	Fair	Poor	Fair	Fair	C	2	<10	Early stages of ash die back surveyed within the canopy. Crossing branches and one crossing stem in the northern canopy. Stub cuts eastern canopy. 1m from the eastern pavement. Monitor.
92	Horse Chestnut	Mature	14	4	3	4	4	1n	2	1	630	7.6	180	Fair	Fair	Fair	Fair	B	2	40+	Early stages of bleeding cancer with peeling bark. Epicormic growth around the lower stem. 2.5m from the eastern pavement. Bird's nest northern upper canopy.
93	Horse Chestnut	Mature	16	4	3	3	3	2n	2.5	3	340 390 510	8.8	241	Poor	Fair	Fair	Fair	C	2	10+	Early stages of bleeding canker with peeling bark and staining in the northern canopy. Stub cuts eastern canopy. 0.5m from the pavement east.
94	Horse Chestnut	Young	1	0.5	1	1	0.5	0.5n	0.5	1	50	0.6	1	Good	Good	Good	Good	C	2	40+	Newly planted young tree with guard.

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95	Field Maple	Semi Mature	5	2	2	2	2	0.5n	0.5	1	300	3.6	41	Fair	Fair	Fair	Fair	B	2	40+	Fair form with a bramble understory. 2.5m from the eastern cycle path
96	Sycamore	Mature	20	8	7	8	6	1n	2.8	2	820 550	11.9	443	Fair	Good	Fair	Fair	B	2	40+	No access, surveyed from a distance, measurement estimated due to embankment. Agricultural works west. Screening function provided. Codominant western lower stem with included bark. Crossing branches south. Minor deadwood
97	Common ash	Early Mature	16	3	3	3	3	3n	3	1	450	5.4	92	Fair	Fair	Fair	Fair	B	2	10+	60 degree lean north on the lower stem which has corrected. Stub cuts on the upper eastern canopy. Early stages of ash die back surveyed.
98	Field Maple	Mature	14	4	3	4	3	3n	3	2	410 360	6.6	137	Fair	Fair	Fair	Fair	B	2	10+	5m from the western pylon unlikely to be suitable for its location so close to the pylon. Canopy is fair.
99	Crack Willow	Over Mature	15	1	8	5	7	3s	3.5	3	410 410 430	8.6	235	Poor	Poor	Poor	Poor	U		<10	2m from the pylon south and growing into the pylon presenting a health and safety issue. Unsuitable for its location.
100	Hawthorn	Mature	7	2	2	2	2	2n	2	1	350	4.2	55	Poor	Poor	Poor	Poor	U		<10	Heavily ivy covered visibly is poor. 2m from the pylon. Unsuitable for its location.
101	White Willow	Mature	17	4	3	3	3	3n	6	1	800	9.6	290	Fair	Fair	Fair	Fair	B	2	40+	White willow with a 75 degree lean north. Minor deadwood in the canopy. Bramble understory. 4.5m from the north agricultural works.
102	Walnut	Semi Mature	5	2.5	3	3	2.5	1n	1	2	240 230	4	49	Fair	Fair	Fair	Fair	B	1	40+	Self-seeded walnut 2m east of the footpath. Growing out of the drainage ditch bank.

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103	Common ash	Over Mature	6	4	4	4	4	2n	2	1	1000	12	452	Poor	Fair	Fair	Fair	B	2	10+	Designated Category B for its veteran qualities and habitat potential however species will likely succumb to ash die back so not given Category A. Reduced canopy and the stem has significant cavity in the southern side. Heavily ivy covered visibly is poor. Understorey of blackthorn.
104	Common ash	Mature	16	6	7	6	7	2e	3.5	5	750 300 310 290 280	11.4	408	Ivy	Poor	Fair	Poor	B	2	<10	Designated Category B due to its habitat potential however showing advanced stages of die back with less than 50 percent live canopy. Heavily ivy covered visibly is poor. No works should be in striking distance of the trees. Ditch 1m north.
105	White Willow	Over Mature	18	5	6	5	5	1n	1	1	1240	14.9	696	Good	Fair	Fair	Fair	A	2	40+	Tree of significant age and size. 2 broken branches in the eastern canopy 100mm diameter plus. Large 500mm diameter pruning wound in the southern lower canopy. Good habitat potential. 1m from northern river. Blackthorn understorey.
106	Common ash	Mature	17	4	5	4	4	2e	4.3	3	550 400 190	8.5	228	Fair	Fair	Fair	Fair	B	2	10+	Early signs of ash die back surveyed however over 90 percent live canopy remaining. Codominant stem. Blackthorn understorey. 1m from the northern ditch.
107	Common ash	Over Mature	4	3	3	3	3	1n	1	3	500 350 300	8.2	209	N/A	Poor	Fair	Poor	B	1	<10	Given Category B due to its habitat potential. Heavily ivy covered visibly is poor. Ivy will eventually kill the tree. Common ash die back surveyed within the



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108	Sycamore	Early Mature	13	3	4	3	4	2.5e	3.3	1	515	6.2	120	Good	Fair	Fair	Fair	B	2	40+	canopy. Underneath phone lines. Unsuitable for its location as a large tree. Track infringing within the southern RPA by 2m and the northern RPA by 3m. Access facilitation pruning north and south. Minor vehicle damage southern lower stem.
109	Grey Poplar	Mature	16	5	4	4	4	2e	4.5	1	640	7.7	185	Good	Good	Good	Good	B	2	40+	80 degree lean north east. Track 3m to south. Agricultural works up to 1m from the north. Stub cuts to the south.
110	Common ash	Semi Mature	13	4	4	3	4	2e	4	3	265 295 150	5	80	Fair	Fair	Fair	Fair	B	2	10+	1m from the southern track. 2m from northern agricultural works. Stub cuts south. No sign of die back yet.
111	Hawthorn	Mature	3	1.5	2	0	2	0.3n	0.3	4	150 180 160 170	4	49	Fair	Fair	Fair	Fair	C	2	40+	Self-seeded hawthorn. Vehicle damage to the southern stem. 1m from the southern track.
112	Hawthorn	Mature	3	1.5	2	1	1.5	2n	2	1	200	2.4	18	Fair	Fair	Fair	Fair	C	2	40+	Self-seed hawthorn. 2m from the southern track.
G1	Mixed species	Early Mature	10 to 14	2	2	2	2	3n	3	25+	300av	3.6	41	Good	Good	Good	Good	B	2	40+	Leylandii hedge delineating access track to the site office. Screening the WWTP. 1m from hardstanding access track.
G2	Mixed species	Semi Mature	1 to 3	2	2	2	2	1n	1	10+	200av	2.4	18	Fair	Fair	Fair	Fair	C	2	40+	Amenity planted species including prunus, apple and hawthorn within the site office garden.
G3	Mixed species	Semi Mature	8 to 3	2	2	2	2	1n	1	10+	207av	2.5	19	Fair	Fair	Fair	Fair	C	9	40+	Amenity planted species including prunus, apple and hawthorn within the site office garden.

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G4	Mixed species	Early Mature	12 to 16	4	4	4	4	1 to 3n	2	25+	450av	5.4	92	Good	Good	Good	Good	B	2	40+	Mixed broadleaved and coniferous trees. Highway's planting excluding the area in the garden's west. Species including predominantly semi mature oak, common ash, elm, grey poplar, Lombardy poplar, crack willow, common ash, Scots pine, leylandii and an elder and hawthorn understory. Occasional mature grey poplar. 1 to 2m from the southern access track. Roots will be compacted south. Significant screen provided from road and WWTP.
G5	Mixed species	Semi Mature	5 to 8	3	3	3	3	1.5n	1.5	1	250av	3	28	Fair	Fair	Fair	Fair	B	2	40+	Predominantly elm with horse chestnut goat willow and elder screening the residential property. Larger trees have been individually plotted.
G6	Mixed species	Semi Mature	2 to 3	1	1	1	1	1n	1.5	10+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Elder screening the residential property from the access track.
G7	Mixed species	Early Mature	16 to 20	4	4	4	4	1 to 3n	2	25+	500av	6	113	Good	Good	Good	Good	B	2	40+	Leylandii with black pine. Understory of elder. Screening WWTP from the car park. Stems 1 to 1.5m from the hardstanding.
G8	Scots' Pine	Mature	16 to 18	4	4	4	4	4w	6.5	3	510av	6.1	118	Good	Good	Good	Good	B	2	40+	Three Scots pine 3.5m centres. Good condition. 2 to 3m from the western hard standing. 0.5m from the western power line.
G9	Mixed species	Semi Mature	1 to 3	1	1	1	1	0.1n	0.1	25+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Ornamental planting consisting of box elder, laurel, hawthorn and other ornamental tree species providing amenity value to the site.

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G10	Mixed species	Semi Mature	2 to 4	1.5	2	2	1.5	0.2n	0.2	100+	150av	1.8	10	Fair	Fair	Fair	Fair	C	1	20+	Self-seeded elder, bramble, dogwood and hawthorn. No access, surveyed from a distance, measurement estimated.
G11	Mixed species	Mature	14 to 18	5	5	5	5	3n	3	100+	500av	6	113	Good	Good	Good	Good	B	2	40+	Predominantly lime, sycamore, elm with occasional horse chestnut, silver maple and yew.
G12	Elder	Early Mature	2 to 3	1	1	1	1	0.5n	0.5	10	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Amenity planted elder for ornamental purposes.
G13	Mixed species	Mature	2 to 4	2	2	2	2	0.3n	0.3	25+	350av	4.2	55	Fair	Fair	Fair	Fair	B	2	40+	Ornamental planting consisting of mature apple and goat willow on the northern half of the group at 3m centres with dense elder and young eucalyptus at 1.5 centres to the south of the group. Screening the residential.
G14	Mixed species	Mature	14 to 16	3	3	3	3	3.5n	3.5	16	400av	4.8	72	Good	Good	Good	Good	B	2	40+	Leylandii 1 to 3.5m from the northern car park screening the WWTP. Canopy raised to facilitate the car park. 1.5m centres.
G15	Silver Birch	Semi Mature	10 to 12	2.5	3	3	2.5	1.5n	1.5	6	340av	4.1	52	Good	Good	Good	Good	B	2	40+	Amenity planted with 3m centres, good form. 1 to 1.5 m from the western hard standing.
G16	Mixed species	Early Mature	4 to 14	3	3	3	3	2.5n	2.5	25+	320av	3.8	46	Good	Good	Good	Good	B	2	40+	10 trees consisting of hornbeam, common ash and silver birch at 3 to 5m centres with 25+ understory shrubbery of elder, hawthorn and other shrubbery. Screening the WWTP.
G17	Mixed species	Early Mature	2.5	1	1	1	1	0.1n	0.1	5	150av	1.8	10	Good	Good	Good	Good	C	2	40+	Five viburnums planted for amenity purposes. Surrounded by hard standing 1m from stems.
G18	Mixed species	Semi Mature	12	3	2	3	3	3.5n	3.5	10	300av	3.6	41	Fair	Fair	Fair	Fair	B	2	40+	Leylandii with young eucalyptus. 10 stems at 0.5m centres. Screening

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																					residential property from the road.	
G19	Common ash	Semi Mature	9 to 13	5	5	5	5	3n	3	10+	350av	4.2	55	Fair	Fair	Fair	Fair	B	2	10+	4m centres. Unlikely to live more than 10 years due to ash die back. Hawthorn elder and ivy understory.	
G20	Mixed species	Semi Mature	8 to 12	3	3	3	3	1n	1	50+	300av	3.6	41	Fair	Fair	Fair	Fair	B	2	40+	Field maple and Himalayan pine at 2m centres screening the retail building. One dead Category U pine to the north of this group otherwise condition is fair. 3 to 4m from the western cycle path.	
G21	Mixed species	Semi Mature	2 to 5	2	3	3	2.5	2n	2	8	200av	2.4	18	Fair	Fair	Fair	Fair	C	2	10+	Elder with young to semi mature field maple with a bramble understory providing amenity value to the northern car park.	
G22	Mixed species	Semi Mature	2 to 4	2	2	2	2	0.5n	0.5	50+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	10+	Elder and hawthorn screening various areas of the WWTP site. 2 to 3m from the hard standing access track.	
G23	Mixed species	Semi Mature	2 to 3	2	3	3	2.5	1n	1	25+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Self-seeded goat willow, hawthorn and elder on the western side of the stream and road bridge providing a minor screen from the site.	
G24	Mixed species	Semi mature	1 to 2.5	1	2	2	1.5	1n	1	5	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	10+	Self-seeded sporadic elder and goat willow.	
G25	Mixed species	Mature	16 to 20	7	7	7	7	5 to 6n	5.5	10	500av	6	113	Good	Good	Good	Good	B	2	40+	Linear group of mature grey poplar. Various deadwood and snapped branches in the canopies. Chicken of the woods fungi surveyed. 2 to 3m from the western access track roots will be compacted. Understory of elder and bramble. Branches overhanging access track however	

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G2 6	Hawthorn	Semi Mature	2 to 3	1	1	1	1	0.1n	0.1	10+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Hawthorn with goat willow.
G2 7	Grey Poplar	Mature	14 to 18	7	7	7	7	3n	3	10+	450av	5.4	92	Good	Good	Good	Good	B	2	40+	Linear group of mature grey poplar. Various deadwood and snapped branches in the canopies. Chicken of the woods fungi surveyed. 2 to 3m from the western access track, roots will be compacted. Understory of elder, alder, hawthorn and bramble. 6m centres.
G2 8	Common ash	Early Mature	7	4	4	4	4	1n	1	2	450av	5.4	92	Fair	Fair	Fair	Fair	B	2	10+	Two multi stemmed common ash with good symmetric form, however signs of ash die back present. Trees unlikely to live more than 10 years.
G2 9	Grey Poplar	Mature	14 to 18	7	7	7	7	3n	3	4	450av	5.4	92	Good	Good	Good	Good	B	2	40+	Stems centred 5 to 7m. Four mature grey poplar and one alder of semi maturity. Screening various WWTP equipment. Linear group of mature grey poplar. Various deadwood and snapped branches in the canopies. Chicken of the woods fungi surveyed. 2 to 3m from the western access track, roots will be compacted. Understory of elder and bramble.
G3 0	Mixed species	Semi Mature	2 to 4	1.5	2	2	1.5	0.1n	0.1	100+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Goat willow, elder and hawthorn with bramble either side of the stream self-seeded.

Tree Ref	Tree Type	Life Stage	Height (m)	Av Crown Spread (m)				1st branch	Average crown height	No of Stems or trees	Stem Diameter (mm)	Root Protection Area (RPA)		Condition				BS5837 Category		Useful remaining contribution (years)	Comment
				N	E	S	W					RPA Radius (m)	RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category		
G3 1	Mixed species	Semi Mature	3 to 8	2	2	2	2	1n	1	100+	200av	2.4	18	Fair	Fair	Fair	Fair	C	2	40+	Linear group screening the WWTP with species including predominantly goat willow and silver birch.
G3 2	Hawthorn	Early Mature	2 to 3	2	3	3	2.5	1n	1	7	250av	3	28	Good	Good	Good	Good	B	2	40+	Predominantly hawthorn with alder and elder. Good habitat value.
G3 3	Mixed species	Semi Mature	3 to 4	2	2	2	2	0.5n	0.5	50+	200av	2.4	18	Fair	Fair	Fair	Fair	C	1	40+	Goat willow with white willow providing good habitat value to the STW.
G3 4	Mixed species	Early Mature	2 to 5	2	3	3	2.5	1n	1	100+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Linear group of shrubs with species including predominantly elder, hawthorn and blackthorn screening the STW. 1.5 to 2m from the northern hard standing access track. Mature trees grouped to the south of the group.
G3 5	Mixed species	Mature	12 to 18	7	7	7	7	4n	4	8	600av	7.2	163	Good	Good	Good	Good	B	2	40+	Early mature to mature species including seven crack willows and one Norway spruce on the southern extent of the linear group. Screening the WWTP.
G3 6	Mixed species	Semi Mature	3 to 7	2	3	3	2.5	0.1 to 2n	1	8	250av	3	28	Good	Good	Good	Good	B	2	40+	Silver birch 3 to 5m from the northern access track. Understory of hawthorn with field maple. screening the WWTP.
G3 7	Mixed species	Semi Mature	3 to 6	2	3	3	2.5	0.1n	0.1	25+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	20+	Self-seeded sycamore with goat willow, dogwood and young silver birch screening the WWTP. 1 to 5m from the eastern hard standing track.
G3 8	Mixed species	Semi Mature	3 to 5	2	3	3	2.5	0.1n	0.1	25+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Predominantly goat willow, dogwood and sycamore screening the WWTP.
G3 9	Mixed species	Semi Mature	2 to 4	2	2	2	2	0.1n	0.1	10+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	20+	Goat willow, elder and nettle screening the WWTP.

Tree Ref	Tree Type	Life Stage	Height (m)	Av Crown Spread (m)				1st branch	Average crown height	No of Stems or trees	Stem Diameter (mm)	Root Protection Area (RPA)		Condition				BS5837 Category		Useful remaining contribution (years)	Comment
				N	E	S	W					RPA Radius (m)	RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category		
G40	Black Poplar	Early Mature	16 to 20	8	8	8	8	2e	5.3	6	650av	7.8	191	Good	Good	Good	Good	B	2	40+	Multi stemmed, screening the WWTP. Eastern branches beginning to encroach on the eastern access track.
G41	Mixed species	Semi Mature	7 to 8	3	4	4	3.5	2.5n	2.5	3	310av	3.7	43	Good	Good	Good	Good	B	2	40+	Indian horse chestnut group, three planted for amenity purposes in a retail development car park. Good form. Central tree is being out competed by adjacent trees. Minor pruning wounds.
G42	Field Maple	Semi Mature	6 to 13	4	4	4	4	3.5n	3.5	100+	350av	4.2	55	Good	Good	Good	Good	B	2	40+	Predominantly field maple with stems every 2.5m, with occasional young birch and semi to early mature hybrid black poplars providing a screen from the WWTP and retail building. One fallen hybrid black poplar in the north western car park that requires removal.
G43	Mixed species	Semi Mature	6 to 7	2	3	4	5	4n	4	10+	270av	3.2	33	Good	Good	Good	Good	B	2	40+	Car park amenity planting with species including Italian alder and grey alder with Turkish hazel.
G44	Mixed species	Mature	8 to 14	5	5	5	5	3 to 5n	4	10+	500av	6	113	Good	Good	Good	Good	B	2	40+	Linear group with species including predominantly sycamore, leylandii and Italian alder providing a screen for the WWTP and golf club. No access surveyed from a distance measurement estimated.
G45	Mixed species	Mature	12 to 20	8	8	8	8	3n	3	21	650av	7.8	191	Good	Good	Good	Good	A	2	40+	Mixed residential planting around the residential lawn with 2 to 3m centres screening the residential property with species including predominantly Norway maple, hornbeam, sycamore, beech and spruce.

Tree Ref	Tree Type	Life Stage	Height (m)	Av Crown Spread (m)				1st branch	Average crown height	No of Stems or trees	Stem Diameter (mm)	Root Protection Area (RPA)		Condition				BS5837 Category		Useful remaining contribution (years)	Comment
				N	E	S	W					RPA Radius (m)	RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category		
G46	Mixed species	Semi Mature	3 to 7	1	2	3	4	1 to 2n	1.5	15	200av	2.4	18	Fair	Fair	Fair	Fair	C	2	20+	Species including predominantly hawthorn with oak, goat willow and lime. Heavily ivy-covered visibility is poor. 1m from the eastern access track.
G47	Mixed species	Semi Mature	2 to 6	2	2	2	2	2n	2	50+	200av	2.4	18	Fair	Fair	Fair	Fair	C	2	20+	Highways planting on a banked gradient with species including predominantly hawthorn with field maple, silver maple, dogwood, common ash and oak with a bramble understory. Hard standing track 1m south.
G48	Crack Willow	Mature	8 to 15	3	4	4	3.5	3n	3	25+	1000av	12	452	Fair	Fair	Fair	Fair	A	2	40+	Linear crack willow pollards on the eastern side of the stream, western side of the river. Good habitat potential. Multiple cavities. Heavily ivy covered. 2 to 8m centres. Understory of hawthorn, elder and bramble. Stream on the eastern side acting as a constraint to the RPAs. Providing amenity value to the site by screening the canal and public footpath.
G49	Mixed species	Semi Mature	2 to 3	1	1	1	1	0.1n	0.1	50+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Group delineating the boundary of the canal and providing screening. Species including predominantly common hawthorn with elder and bramble.
G50	Crack Willow	Young	2 to 3	0	1	1	0.5	1n	1	25	100av	1.2	5	Fair	Fair	Fair	Fair	C	1	40+	Young self-seeded willow.
G51	Crack Willow	Mature	8 to 12	5	5	5	5	2n	2	3	450av	5.4	92	Fair	Fair	Fair	Fair	B	2	40+	Three crack willow trees on the bank of the river. Heavily ivy covered visibility is poor. No access, surveyed from a distance, measurement estimated.



Tree Ref	Tree Type	Life Stage	Height (m)	Av Crown Spread (m)					1st branch	Average crown height	No of Stems or trees	Stem Diameter (mm)	Root Protection Area (RPA)		Condition				BS5837 Category		Useful remaining contribution (years)	Comment
				N	E	S	W	RPA Radius (m)					RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category			
G5 2	Mixed species	Semi Mature	2 to 5	2	3	3	2.5	1n	1	15+	200av	2.4	18	Fair	Fair	Fair	Fair	B	1	10+	Various failed and pollard stems. Good habitat value.	
G5 3	Crack Willow	Mature	5 to 16	4	4	4	4	2n	2	5	550av	6.6	137	Fair	Fair	Fair	Fair	B	2	40+	Willow pollard on the western canal bank. Heavily ivy covered. 3 to 8m centres. Understory of common hawthorn, alder, elder and self-seeded willow.	
G5 4	Mixed species	Semi Mature	2 to 6	2	3	3	2.5	1n	1	10+	150av	1.8	10	Fair	Fair	Fair	Fair	C	1	10+	Heavily ivy-covered hawthorn with willow, elder and goat willow lining the eastern riverbank.	
G5 5	Hawthorn	Semi Mature	1 to 3	1	2	2	1.5	1n	1	10+	150av	1.8	10	Fair	Fair	Fair	Fair	C	1	10+	Hawthorn and elder with a bramble understory.	
G5 6	Common ash	Mature	19 to 22	8	8	8	8	4n	4	7	900av	10.8	366	Fair	Fair	Fair	Fair	B	2	10+	Mature common ash heavily ivy covered, visibly is poor. 3 to 5m centres. Various cavities throughout the canopies providing good habitat value. Access track to the west. Downgraded to Category B due to likelihood of succumbing to ash die back. Understory of hawthorn, alder, bramble ivy and young common ash.	
G5 7	Mixed species	Semi Mature	2 to 3	1	2	2	1.5	1n	1	25+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Linear group of hawthorn, elder and ivy screening the western agricultural access track.	

Tree Ref	Tree Type	Life Stage	Height (m)	Av Crown Spread (m)					Average crown height	No of Stems or trees	Stem Diameter (mm)	Root Protection Area (RPA)		Condition				BS5837 Category		Useful remaining contribution (years)	Comment
				N	E	S	W	1st branch				RPA Radius (m)	RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category		
G58	Mixed species	Young	2 to 3	1	1	1	1	1n	1	9	100av	1.2	5	Poor	Poor	Poor	Poor	C	2	<10	Common ash newly planted showing signs of ash die back. Ring barked by the horses in the field. 2.5m centres.
G59	English Elm	Young	2 to 3	1	1	1	1	1n	1	10+	100av	1.2	5	Fair	Fair	Fair	Fair	C	2	<10	Young elm showing signs of Dutch elm disease and will likely succumb to it.
G60	Mixed species	Semi Mature	1.5 to 3	1.5	2	2	1.5	1n	1	11	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Orchard containing predominantly domestic apple with cherry.
G61	Mixed species	Young	2 to 3	1	1	1	1	1n	1	8	100av	1.2	5	Fair	Fair	Fair	Fair	C	2	10+	Willow with elm providing a minor screen.
G62	Common ash	Semi Mature	2 to 5	1	1	1	1	1n	1	25+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	10+	Common ash with hawthorn. Minor signs of ash die back. Within residential property outside the DCO boundary. Screening the residential property from the road bridge and field.
G63	Mixed species	Semi Mature	2 to 3	1.5	2	2	1.5	1n	1	6	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Field maple with dogwood and a bramble understory.
G64	Mixed species	Semi Mature	2 to 3	1.5	2	2	1.5	0.5n	0.5	5	100av	1.2	5	Fair	Fair	Fair	Fair	C	1	<10	Dogwood with bramble under a pylon. Unsuitable for its location.
G65	Mixed species	Semi Mature	9 to 12	2.5	3	3	2.5	1n	1	100+	250av	3	28	Fair	Fair	Fair	Fair	B	2	40+	Highways planting adjacent to the road with species including predominantly field maple, sycamore, common ash and hawthorn providing amenity value to the site by screening the residential property and agricultural field from the road.
G66	Mixed species	Semi Mature	2 to 5	1.5	2	2	1.5	2n	2	5	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	10+	Group of hawthorns and one small dead Lombardy poplar. Covered in a bramble layer which will be impacting the vitality of the group.

Tree Ref	Tree Type	Life Stage	Height (m)	Av Crown Spread (m)					1st branch	Average crown height	No of Stems or trees	Stem Diameter (mm)	Root Protection Area (RPA)		Condition				BS5837 Category		Useful remaining contribution (years)	Comment
				N	E	S	W	RPA Radius (m)					RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category			
G67	Mixed species	Mature	18	5	5	5	5	1n	1	1	600av	7.2	163	Good	Good	Good	Good	B	2	40+	Leylandii with sycamore 3m from the southern agricultural works which will be compromising the roots. Providing a screen from the road and the field.	
G68	Mixed species	Semi Mature	12 to 14	3	3	3	3	1n	1	7	450av	5.4	92	Good	Good	Good	Good	B	2	40+	Beech with sycamore 3m from the southern agricultural works which will be compromising the roots. Screening the road from the field. One young dead beech which has been out competed by adjacent trees.	
G69	Hawthorn	Early Mature	3 to 5	1.5	2	2	1.5	1n	1	100+	250av	3	28	Fair	Fair	Fair	Fair	B	2	40+	Predominantly hawthorn, densely planted with very occasional self-seeded semi mature common ash. 2 to 3m from the southern agricultural works which will be compromising the roots. Screening the road from the field.	
G70	Mixed species	Early Mature	2 to 14	3.5	4	4	3.5	1n	1	25+	450av	5.4	92	Good	Good	Good	Good	B	2	40+	Group consisting of predominantly beech at 5 to 8 centres with hawthorn. 2 to 3m from the southern and western agricultural works. On a gradient, screening the road from the agricultural field.	
G71	Common ash	Young	3 to 4	1.5	2	2	1.5	1n	1	4	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	10+	Common ash with goat willow and bramble. Self-seeded, minor screening provided.	
G72	Hawthorn	Early Mature	2 to 4	1.5	2	2	1.5	0.5n	0.5	100+	250av	3	28	Fair	Fair	Fair	Fair	C	2	40+	Predominantly hawthorn with occasional semi mature sycamore and common ash screening the agricultural field from the road. Agricultural works up to 2m from the stems compromising the roots.	

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				N	E	S	W					RPA Radius (m)	RPA (m <sup>2</sup> )	Crown	Stem	Basal Area	General Physical	Category	Sub Category		
G7 3	Mixed species	Semi Mature	2 to 4	1.5	2	2	1.5	0.1n	0.1	50+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Blackthorn, elder, field maple and elm screening the road from the field. 2m from the western agricultural works.
G7 4	Mixed species	Semi Mature	8 to 10	3.5	4	4	3.5	2n	2	10	300av	3.6	41	Good	Good	Good	Good	B	2	40+	Species including predominantly field maple and common ash. Common ash will likely succumb to common ash die back. Maples have a good life expectancy. Screening the road from the field. Agricultural works up to 2m from the stems. Understory of blackthorn, field maple and hawthorn.
G7 5	Mixed species	Young	2 to 4	1.5	2	2	1.5	0.1n	0.1	100+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Blackthorn, field maple and elm delineating boundary of a field. 2m from the northern agricultural works. Ditch through the centre.
G7 6	Mixed species	Semi Mature	2 to 5	1.5	2	2	1.5	1n	1	100+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Group delineating boundary of a field with species including predominantly common hawthorn with field maple, blackthorn, elder and oak.
G7 7	Mixed species	Semi Mature	2 to 3	2	2	2	2	0.3n	0.3	25+	200av	2.4	18	Fair	Fair	Fair	Fair	C	2	40+	Sporadic hawthorn, elder, blackthorn, elm, dogwood and field maple. Agricultural works 2m from the northern eastern and western sides.
G7 8	Mixed species	Early Mature	5 to 14	3.5	4	4	3.5	1n	1	5	350av	4.2	55	N/A	Fair	Fair	Fair	B	2	40+	Semi to early mature species of field maple, hawthorn and common ash screening the residential property to the south. 3 to 4m from the northern agricultural works.

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				N	E	S	W					RPA Radius (m)	RPA (m <sup>2</sup> )	Crown	Stem	Basal Area	General Physical	Category	Sub Category		
G79	Mixed species	Semi Mature	2 to 4	1.5	2	2	1	0.1n	0.1	50+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Hawthorn with elder and blackthorn 2 to 3m from northern agricultural works screening the farm structures from the field.
G80	Mixed species	Early Mature	3 to 7	3	3	3	3	1n	1	50+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Dense group consisting of predominantly hawthorn, elder, dogwood, blackthorn and field maple with sporadic semi mature self-seeded common ash.
G81	Mixed species	Mature	15 to 25	6	6	6	6	1n	1	10+	700av	8.4	222	Good	Good	Good	Good	A	2	40+	Mixed residential planting with species including predominantly leylandii, Robinia, giant sequoia, yew and common ash with elder ivy and a bramble understory. Outside of the DCO boundary and providing a screen from the residential property.
G82	Mixed species	Semi Mature	2 to 3	1	1	1	1	0.1n	0.1	10+	150av	1.8	10	Good	Good	Good	Good	C	2	40+	Mixed juniper and ivy hedge within a residential driveway.
G83	Mixed species	Early Mature	3 to 4	2	2	2	2	0.1n	0.1	6	300av	3.6	41	Fair	Fair	Fair	Fair	B	2	40+	Mixed residential planting outside the DCO boundary consisting of yew, holly and apple.
G84	Mixed species	Semi Mature	3 to 5	2	2	2	2	2n	2	3	350av	4.2	55	Fair	Fair	Fair	Fair	C	2	40+	One common ash with elder and holly growing into the adjacent farm buildings. Unsuitable for their location when mature.
G85	Mixed species	Early Mature	7 to 12	3	4	5	6	3n	3	20	400av	4.8	72	Good	Good	Good	Good	B	2	40+	Group consisting of predominantly field maple and common ash at 3m centres providing a screen from the track and the field. Ditch on the eastern side of the group.

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				N	E	S	W					RPA Radius (m)	RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category		
G86	Mixed species	Semi Mature	3 to 11	1	1	1	1	3n	3	25+	350av	4.2	55	Fair	Fair	Fair	Fair	B	1	20+	Group consisting of predominantly semi mature common ash, elm and field maple. 25+ stems at 3 to 6m centres with an early mature hawthorn, elder and rose understory. Ditch on the western side 0.5m from the group acting as a constraint to the roots. Agricultural track 1.5m from the eastern side of the group compacting the roots.
G87	Mixed species	Semi Mature	8 to 9	3	3	3	3	2n	2	6	300av	3.6	41	Good	Good	Good	Good	B	1	40+	Predominantly field maple with a common ash and elder understory. Agricultural works 2.5m north west and south. On a raised grass verge.
G88	Mixed species	Early Mature	8 to 12	3	3	3	3	1n	3.3	15	400av	4.8	72	Good	Good	Good	Good	B	1	40+	Group consisting of predominantly cherry, field maple, common oak and common ash at 2 to 3m centres. 2m from northern ditch. 2m from eastern and western agricultural works.
G89	Common ash	Semi Mature	9 to 11	2.5	3	3	2.5	2.5n	2.5	8	300av	3.6	41	Fair	Fair	Fair	Fair	B	1	10+	Group delineating boundary of a field. Ditch 1m west. Agricultural works 2m east. 3m centres. Understory of hawthorn.
G90	Common ash	Early Mature	8 to 14	4	4	4	4	3n	3	5	450av	5.4	92	Fair	Fair	Fair	Fair	B	1	10+	Five common ash at 2 to 5m centres with dense ivy coverage and an understory of hawthorn and elder. 0.1m from western ditch. 2m from eastern agricultural works. Delineating boundary of a field. Advanced stages of ash die back surveyed in the southern most tree with less than 50 percent live

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				N	E	S	W					RPA Radius (m)	RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category		
G9 1	Common ash	Early to Mature	16 to 18	6	4	4	4	4n	4	50+	600av	7.2	163	Good	Good	Good	Good	B	1	10+	canopy. Remaining common ash likely to succumb.
G9 2	Hawthorn	Early to Mature	3	2	2	2	2	1n	1	4	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Individually planted hawthorn with facilitation pruning to the north and south of the trees. 2m from the northern agricultural works and 1m from the track.
G9 3	Mixed species	Semi to Mature	13 to 16	3	3	3	3	4n	4	8	400av	4.8	72	Fair	Fair	Fair	Fair	B	2	10+	Field maple and common ash at 2 to 5m centres. Agricultural works 1.5m north. Track 0.5m south. Screening provided. Likely to succumb to ash die back and Dutch elm disease. Hawthorn understory.
G9 4	Common ash	Early to Mature	13 to 16	4	4	4	4	2w	5	3	500av	6	113	Fair	Fair	Fair	Fair	B	2	10+	1.5m from northern agricultural works. 0.5m from southern access track. Hanging deadwood in the canopy. Epicormic growth around the base. Minor cavities throughout. Three trees.

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				N	E	S	W	RPA Radius (m)					RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category				
																							Early stages of ash die back surveyed.
G95	Mixed species	Early to Mature	12 to 18	4	4	4	4	4n	4	100+	500av	6	113	Good	Fair	Fair	Fair	B	2	10+		Predominantly common ash with field maple and walnut and a hawthorn understory. 1m from the southern access track. Adjacent field not used for agricultural works recently. Trees at 1m centres. Planted on grass verge. Understory of hawthorn	
G96	Mixed species	Early to Mature	3 to 12	3	3	3	3	1.5n	1.5	25+	300av	3.6	41	Fair	Fair	Fair	Fair	B	2	40+		Predominantly semi mature horse chestnut with field maple and a hawthorn and blackthorn understory screening the agricultural field from the road. Approximately 2m from the western road. 3 to 5m centres.	
G97	Mixed species	Semi to Mature	5 to 7	3	3	3	3	2n	2	10+	300av	3.6	41	Fair	Fair	Fair	Fair	B	2	40+		Field maple pollard with common ash, cherry and hawthorn with a nightshade, elder and hawthorn understory screening the public footpath.	
G98	Hawthorn	Semi to Mature	1 to 3	1	2	2	1.5	0.1n	0.1	100+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+		Sporadic hawthorn individually plotted on the topographical survey.	
G99	Hawthorn	Mature	2 to 4	1	1	1	1	0.1n	0.1	100+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+		Linear hawthorn hedge delineating boundary of a field and disused railway.	
G100	Mixed species	Early to Mature	5 to 18	4	4	4	4	4n	4	100+	450av	5.4	92	Good	Good	Good	Good	B	2	40+		Linear group of common ash, field maple and elm with a hawthorn understory at 2 to 3m centres to the west of the group and 5 to 8m centres to the east of the group. On the southern bank of the disused railway.	



Tree Ref	Tree Type	Life Stage	Height (m)	Av Crown Spread (m)					1st branch	Average crown height	No of Stems or trees	Stem Diameter (mm)	Root Protection Area (RPA)		Condition				BS5837 Category		Useful remaining contribution (years)	Comment
				N	E	S	W	RPA Radius (m)					RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category			
G1 01	Hawthorn	Mature	3	1.5	2	2	1.5	0.1n	0.1	100+	150av	1.8	10	Good	Good	Good	Good	C	2	40+	Predominantly hawthorn, densely populating the bank of the disused railway. occasional field maple.	
G1 02	Mixed species	Mature	3 to 18	3	3	3	3	4n	4	100+	400av	4.8	72	Good	Good	Good	Good	B	2	40+	The south of the group contains hawthorn with common ash and field maple with 8m centres and the north contains field maple, common ash and elm with a hawthorn understory with 1m centres. Screening the disused railway.	
G1 03	Elder	Early Mature	3	1	1	1	1	1.5n	1.5	5+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	10+	Linear group of elder screening residential gardens and kennels. Fence already in place.	
G1 04	Norway Maple	Early Mature	12 to 15	5	5	5	5	3n	3	25+	400av	4.8	72	Good	Good	Good	Good	B	2	40+	Linear group either side of a hard standing private road. Outside the red line boundary.	
G1 05	Field Maple	Mature	16	4	4	4	4	5n	5	2	540av	6.5	132	Fair	Fair	Fair	Fair	B	2	40+	Two field maples at 1.5m centres with distorted northern and southern canopies. Epicormic growth around the lower stem. Minor deadwood in the canopy. Flush cuts on the lower stem showing poor adaptive growth.	
G1 06	Cherry Plum	Mature	4	2	2	2	2	0.3n	0.3	3	350av	4.2	55	Fair	Fair	Fair	Fair	B	2	40+	Two cherry plums with one hawthorn at 3m centres. Dense and bushy. Agricultural works up to 2m south. 3m from the western road.	
G1 07	Mixed species	Semi Mature	5 to 12	3.5	4	4	3.5	1 to 3n	2	25+	350av	4.2	55	Good	Good	Good	Good	B	2	10+	Linear group of amenity planted trees delineating boundary of a field with species including predominantly common ash with oak. 6 to 8m centres. Agricultural works up to 1.5m south.	

Tree Ref	Tree Type	Life Stage	Height (m)	Av Crown Spread (m)					1st branch	Average crown height	No of Stems or trees	Stem Diameter (mm)	Root Protection Area (RPA)		Condition				BS5837 Category		Useful remaining contribution (years)	Comment
				N	E	S	W	RPA Radius (m)					RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category			
G1 08	Mixed species	Semi Mature	1 to 5	1	2	2	1.5	0.1n	0.1	25+	200av	2.4	18	Fair	Fair	Fair	Fair	C	2	40+	Predominantly dead to low quality self-seeded young to semi mature elm with occasional field maple and an understory of blackthorn and bramble. 1m from the eastern pavement. Screening from the road.	
G1 09	Mixed species	Early Mature	7 to 13	3	3	3	3	3n	3	10+	400av	4.8	72	Fair	Fair	Fair	Fair	B	2	40+	Field maple and Norway maple with common ash screening the agricultural field from the road. Agricultural works west. cycle path east on an embankment. Minor access facilitation pruning. Common ash showing signs of common ash die back.	
G1 10	Mixed species	Semi Mature	3 to 10	3	3	3	3	0.5n	0.5	100+	300av	3.6	41	Fair	Fair	Fair	Fair	B	2	40+	Mixed highways planting at 1 to 5m centres with species including predominantly common hawthorn with common ash, field maple, Norway maple and occasional elm with dog rose. On an embankment. 1.5m from the western road.	
G1 11	Mixed species	Early Mature	3 to 16	4	4	4	4	4n	4	25+	400av	4.8	72	Fair	Fair	Fair	Fair	C	2	40+	No access, surveyed from a distance, measurement estimated. Mixed highways planting at 2 to 8m centres with species including predominantly common ash, sycamore, Norway maple, field maple, hawthorn, blackthorn and dog rose. 5 to 10m from the northern road.	

Tree Ref	Tree Type	Life Stage	Height (m)	Av Crown Spread (m)					Average crown height	No of Stems or trees	Stem Diameter (mm)	Root Protection Area (RPA)		Condition				BS5837 Category		Useful remaining contribution (years)	Comment
				N	E	S	W	1st branch				RPA Radius (m)	RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category		
G1 12	Mixed species	Semi Mature	1 to 8	2	2	2	2	0.5n	0.5	50+	200av	2.4	18	Fair	Fair	Fair	Fair	C	2	40+	Assorted mixed species including predominantly hawthorn, bramble, elder rose and common ash.
G1 13	Mixed species	Early Mature	5 to 16	4	4	4	4	3n	3	50+	400av	4.8	72	Fair	Fair	Fair	Fair	B	2	40+	Mixed highways planting on the central reservation with species including predominantly semi to early mature Scots pine, cherry, sycamore and common ash to the east with smaller sporadic hawthorn to the west. No access, surveyed from a distance, measurement estimated due to the road.
G1 14	Mixed species	Early Mature	2 to 16	3	3	3	3	1n	1	100+	400av	4.8	72	Fair	Fair	Fair	Fair	B	2	40+	Mixed highways planting at 2 to 10m centres with agricultural works up to 1m from the northern extent of the group. Species including predominantly common hawthorn with occasional common ash, sycamore and Norway maple with a mature elder hedge running parallel with the northern group. Existing fencing protecting the stems these trees north.
G1 15	Mixed species	Semi Mature	1 to 4	1	1	1	1	0.1n	0.1	100+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Dense elder and hawthorn with bramble and other low-lying scrub screening the road.
G1 16	Mixed species	Semi Mature	2 to 4	2	2	2	2	0.5n	0.5	10+	200av	2.4	18	Fair	Fair	Fair	Fair	C	2	40+	Elder with bramble and occasional elm and field maple easily replaceable with mitigation planting if necessary. 3m from the northern agricultural works.

Tree Ref	Tree Type	Life Stage	Height (m)	Av Crown Spread (m)					1st branch	Average crown height	No of Stems or trees	Stem Diameter (mm)	Root Protection Area (RPA)		Condition				BS5837 Category		Useful remaining contribution (years)	Comment
				N	E	S	W	RPA Radius (m)					RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category			
G1 17	Mixed species	Early Mature	10 to 18	4	4	4	4	4n	4	100+	450av	5.4	92	Fair	Fair	Fair	Fair	B	2	40+	Mixed highways planting at 3m centres with species including predominantly common ash and Scots pine with sycamore and a hawthorn elder understory providing a significant screen from road and the agricultural buildings.	
G1 18	Common ash	Mature	13 to 16	4	4	4	4	3n	3	2	850av	10.2	327	N/A	Poor	Fair	Poor	B	2	<10	Designated Category B due to their habitat potential however both showing advanced stages of die back with less than 50 percent live canopy. Heavily ivy covered visibly is poor. No works should be in striking distance of the trees. Ditch 1m north.	
G1 19	Mixed species	Mature	17 to 20	4	4	4	4	3n	3	3	800av	9.6	290	N/A	Poor	Fair	Poor	B	2	<10	One crack willow and two common ash showing signs of ash die back and reduced vitality and have less than 50 percent live canopy remaining. No works should be planned in striking distance of the trees. Heavily ivy covered, visibly is poor. 1m from the northern ditch.	
G1 20	Hawthorn	Mature	2 to 5	1.5	2	2	1.5	0.2n	0.2	100+	150av	1.8	10	Good	Good	Good	Good	B	2	40+	Group delineating boundary of a field and track. Track 2m south. Agricultural works 2m north. Consisting of predominantly hawthorn with field maple and grey poplar of semi maturity.	
G1 21	Hawthorn	Mature	2 to 3	1.5	2	2	1.5	0.3n	2.8	100+	250av	3	28	Fair	Fair	Fair	Fair	C	2	40+	Broken hawthorn delineating boundary of a field with species including predominantly common hawthorn with common ash coppice 1 to	

Tree Ref	Tree Type	Life Stage	Height (m)	Av Crown Spread (m)				1st branch	Average crown height	No of Stems or trees	Stem Diameter (mm)	Root Protection Area (RPA)		Condition				BS5837 Category		Useful remaining contribution (years)	Comment	
				N	E	S	W					RPA Radius (m)	RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category			
G1 22	Mixed species	Semi Mature	3 to 5	1.5	2	2	1.5	0.5n	0.5	10+	200av	2.4	18	Good	Good	Good	Good	B	2	40+	2m north of the track. agricultural works up to 2.5m. Holly, buddleia and leylandii screening the residential property from the track. 1.5m from the northern and western track.	
G1 23	Mixed species	Early Mature	No access	No access	No access	No access	No access	No access	No access	No access	No access	No access	No access	No access	No access	No access	No access	No access	No access	No access	No access	No access. To be surveyed at the earliest possible juncture.
H1	Mixed species	Early Mature	2 to 3	1	1	1	1	0.1n	0.1	25+	150av	1.8	10	Good	Good	Good	Good	C	2	40+	Privet laurel and elder screening residential property.	
H2	Hawthorn	Early Mature	2 to 3	1	1	1	1	0.3n	0.3	25+	150av	1.8	10	Good	Good	Good	Good	C	2	40+	Hawthorn with occasional cherry and elder screening the residential property. 1m from the cycle path hard standing.	
H3	Mixed species	Semi Mature	1 to 3	1	1	1	1	0.1n	0.1	50+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Hedge either side of the access road screening the site. 1m from the hard standing.	
H4	Mixed species	Mature	2 to 5	2	2	2	2	0.1n	0.1	50+	250av	3	28	Fair	Fair	Fair	Fair	C	2	40+	Dense hawthorn, goat willow and very occasional semi mature common ash and elder with ivy. Screening the development.	
H5	Hawthorn	Semi Mature	1 to 5	0.5	1	1	0.5	0.1n	0.1	100+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Hawthorn hedge delineating boundary of the retail developments. 1.5m from the cycle path.	
H6	Mixed species	Semi Mature	1 to 3	1	1	1	1	0.1n	0.1	100+	100av	1.2	5	Fair	Fair	Fair	Fair	C	2	40+	Linear hedge delineating boundary of a field with species including predominantly common hawthorn with elder, blackthorn and bramble.	

Tree Ref	Tree Type	Life Stage	Height (m)	Av Crown Spread (m)				1st branch	Average crown height	No of Stems or trees	Stem Diameter (mm)	Root Protection Area (RPA)		Condition				BS5837 Category		Useful remaining contribution (years)	Comment
				N	E	S	W					RPA Radius (m)	RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category		
H7	Mixed species	Early Mature	2	1	1	1	1	0.1n	0.1	100+	100av	1.2	5	Fair	Fair	Fair	Fair	C	2	40+	Hedge delineating boundary of a field with species including predominantly common hawthorn with elder.
H8	Portuguese Laurel	Early Mature	1	1	1	1	1	0.1n	0.1	100+	100av	1.2	5	Fair	Fair	Fair	Fair	C	2	40+	Hedge delineating boundary of a residential property.
H9	Mixed species	Semi Mature	2 to 4	2	2	2	2	0.1n	0.1	100+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Hedge delineating boundary of a field with species including predominantly common hawthorn with elder and bramble.
H10	Mixed species	Semi Mature	1 to 2.5	1	1	1	1	0.1n	0.1	100+	100av	1.2	5	Fair	Fair	Fair	Fair	C	2	40+	Broken hedge delineating boundary of a field with species including predominantly hawthorn with bramble.
H11	Mixed species	Semi Mature	2	1	1	1	1	0.5n	0.5	25+	100av	1.2	5	Fair	Fair	Fair	Fair	C	2	40+	Hedge consisting of hawthorn and maple, delineating the horse field boundary.
H12	Mixed species	Semi Mature	1 to 2	1	1	1	1	0.2n	0.2	100+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Predominantly hawthorn with elder delineating the boundary of an agricultural track.
H13	Mixed species	Semi Mature	2 to 3	1	1	1	1	0.3n	0.3	100+	100av	1.2	5	Fair	Fair	Fair	Fair	C	2	40+	Predominantly hawthorn with elder delineating the boundary of an agricultural track.
H14	Blackthorn	Semi Mature	1 to 2	1	1	1	1	0.1n	0.1	25+	100av	1.2	5	Fair	Fair	Fair	Fair	C	2	40+	Hedge delineating boundary of a field with species including predominantly blackthorn with elder screening the eastern road.
H15	Mixed species	Semi Mature	1 to 2	1	1	1	1	0.1n	0.1	10+	100av	1.2	5	Poor	Poor	Poor	Poor	C	2	<10	Bramble hedge with young self-seeded common ash delineating the residential property.
H16	Mixed species	Semi Mature	2 to 3.5	1	1	1	1	0.1n	0.1	100+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Hedge delineating boundary of a field and track with species including predominantly hawthorn, elder with self-seeded common ash

Tree Ref	Tree Type	Life Stage	Height (m)	Av Crown Spread (m)				1st branch	Average crown height	No of Stems or trees	Stem Diameter (mm)	Root Protection Area (RPA)		Condition				BS5837 Category		Useful remaining contribution (years)	Comment
				N	E	S	W					RPA Radius (m)	RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category		
																					and elm. 1 to 3m from northern track. Ditch 0.1m north.
H17	Mixed species	Early Mature	1	1	1	1	1	0.1n	0.1	100+	150av	1.8	10	Fair	Fair	Fair	Fair	C	1	40+	Predominantly hawthorn with elder delineating field boundary. Flailed. Ivy covered. Agricultural works 1m east and ditch 0.1m west.
H18	Mixed species	Early Mature	2	1	1	1	1	0.1n	0.1	100+	150av	1.8	10	Fair	Fair	Fair	Fair	C	1	40+	Hedge delineating boundary of a field with species including predominantly blackthorn and hawthorn. Ditch 0.1m west and agricultural works 2m east.
H19	Hawthorn	Early Mature	2.5	1	1	1	1	0.2n	0.2	100+	150av	1.8	10	Fair	Fair	Fair	Fair	C	1	40+	Hedge delineating boundary of a field. Ditch 0.1m west and agricultural works 2m east.
H20	Mixed species	Early Mature	2 to 5	1 to 3	1 to 3	1 to 3	1 to 3	0.1 to 4n	2	100+	200av	2.4	18	Fair	Fair	Fair	Fair	C	1	40+	Hedge delineating boundary of a field with species including predominantly common hawthorn with elder and dog rose with occasional young to semi mature self-seeded common ash. Ditch 0.1m from the hedge. Agricultural works up to 2m from the east. Heavily ivy covered.
H21	Hawthorn	Early Mature	2 to 3	2	2	2	2	0.1n	0.1	100+	200av	2.4	18	Fair	Fair	Fair	Fair	C	1	40+	Hawthorn hedge delineating boundary of a field and track. 1m from southern track. Screening function provided.
H22	Mixed species	Mature	2 to 3	0.5	1	2	1	0.1n	0.1	1000+	300av	3.6	41	Fair	Fair	Fair	Fair	C	2	10+	Linear hedge delineating boundary of a field and track with species including predominantly hawthorn with occasional pollarded oak and common ash. Telephone line above the hedge.

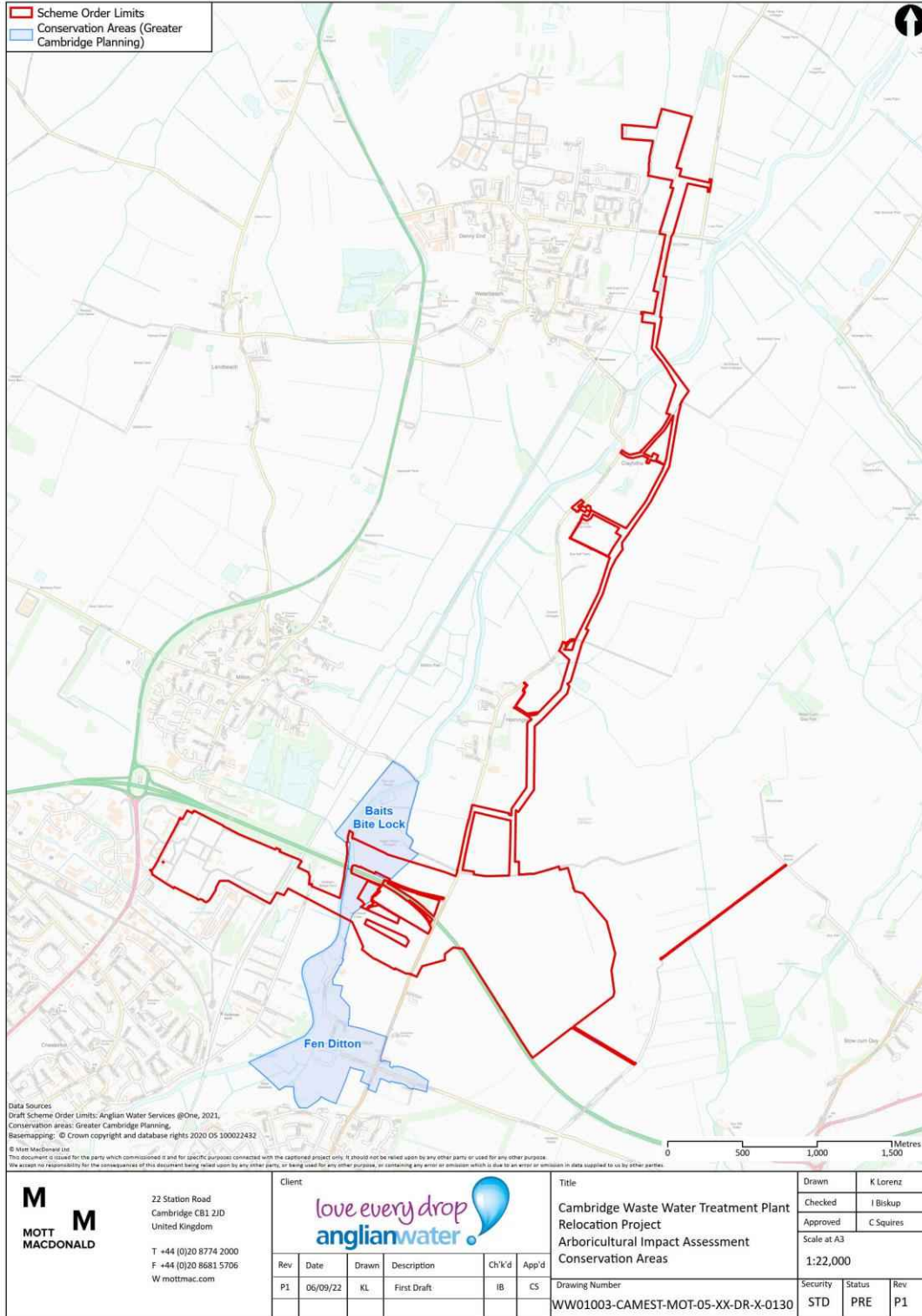
Tree Ref	Tree Type	Life Stage	Height (m)	Av Crown Spread (m)				1st branch	Average crown height	No of Stems or trees	Stem Diameter (mm)	Root Protection Area (RPA)		Condition				BS5837 Category		Useful remaining contribution (years)	Comment
				N	E	S	W					RPA Radius (m)	RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category		
H2 3	Mixed species	Semi Mature	1 to 3	1	1	1	1	0.3n	0.3	25+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	1.5m from northern track and southern agricultural works.
H2 4	Hawthorn	Early Mature	2 to 3	1	1	1	1	0.3n	0.3	100+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Hawthorn hedge delineating boundary of a field and screening the northern road with species including predominantly common hawthorn with young self-seeded common ash. 1 to 1.5m from the southern agricultural works.
H2 5	Mixed species	Early Mature	2 to 3	1	1	1	1	0.3n	0.3	100+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Hedge delineating boundary of a field with species including predominantly common hawthorn with elder screening the road from the agricultural field. 1 to 2m from the southern and eastern agricultural works.
H2 6	Mixed species	Semi Mature	1 to 2	1	1	1	1	0.1n	0.1	50+	150av	1.8	10	Good	Good	Good	Good	C	2	40+	Beech with box and other ornamental species planted for amenity purposes delineating boundary of residential property.
H2 7	Mixed species	Young	1 to 2	1	1	1	1	0.4n	0.4	100+	150av	1.8	10	Good	Good	Good	Good	C	2	40+	Newly planted young hedge delineating boundary of a field with species including predominantly oak with hawthorn and field maple. Tree guards still present.



Tree Ref	Tree Type	Life Stage	Height (m)	Av Crown Spread (m)				1st branch	Average crown height	No of Stems or trees	Stem Diameter (mm)	Root Protection Area (RPA)		Condition				BS5837 Category		Useful remaining contribution (years)	Comment
				N	E	S	W					RPA Radius (m)	RPA (m2)	Crown	Stem	Basal Area	General Physical	Category	Sub Category		
H28	Hawthorn	Early Mature	1 to 3	1	1	1	1	0.1n	0.1	100+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Hawthorn with dog rose and young self-seeded common ash delineating boundary of a field and road.
H29	Mixed species	Early Mature	1 to 2	1	1	1	1	0.1n	0.1	25+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Hedge delineating boundary of a field with species including predominantly elder, blackthorn, hawthorn and bramble.
H30	Mixed species	Semi Mature	1 to 3	1.5	2	2	1	0.3n	0.3	100+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Broken hawthorn hedge with bramble elder and blackthorn and young field maple. All low lying scrub.
H31	Hawthorn	Early Mature	1 to 2	0.5	1	1	0.5	0.2n	0.2	100+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Hedge delineating boundary of a field with species including predominantly hawthorn. Agricultural works east and west 1.5m.
H32	Hawthorn	Early Mature	1 to 2	1	1	1	1	0.2n	0.2	100+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Hedge delineating boundary of a field with species including predominantly common hawthorn with a southern ditch 0.2m and agricultural works up to 1.5m north.
H33	Hawthorn	Semi Mature	1 to 2	0.5	1	1	0.5	0.3n	0.3	100+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Hedge delineating boundary of a field with species including predominantly common hawthorn with an eastern ditch 0.2m and agricultural works up to 1m west.
H34	Mixed species	Early Mature	1 to 2	0.5	1	1	0.5	0.3n	0.3	100+	150av	1.8	10	Fair	Fair	Fair	Fair	C	2	40+	Hedge delineating boundary of a field with species including predominantly common hawthorn with a southern ditch 0.2m and agricultural works up to 1.5m north.

## 4.4 Conservation Area Designations

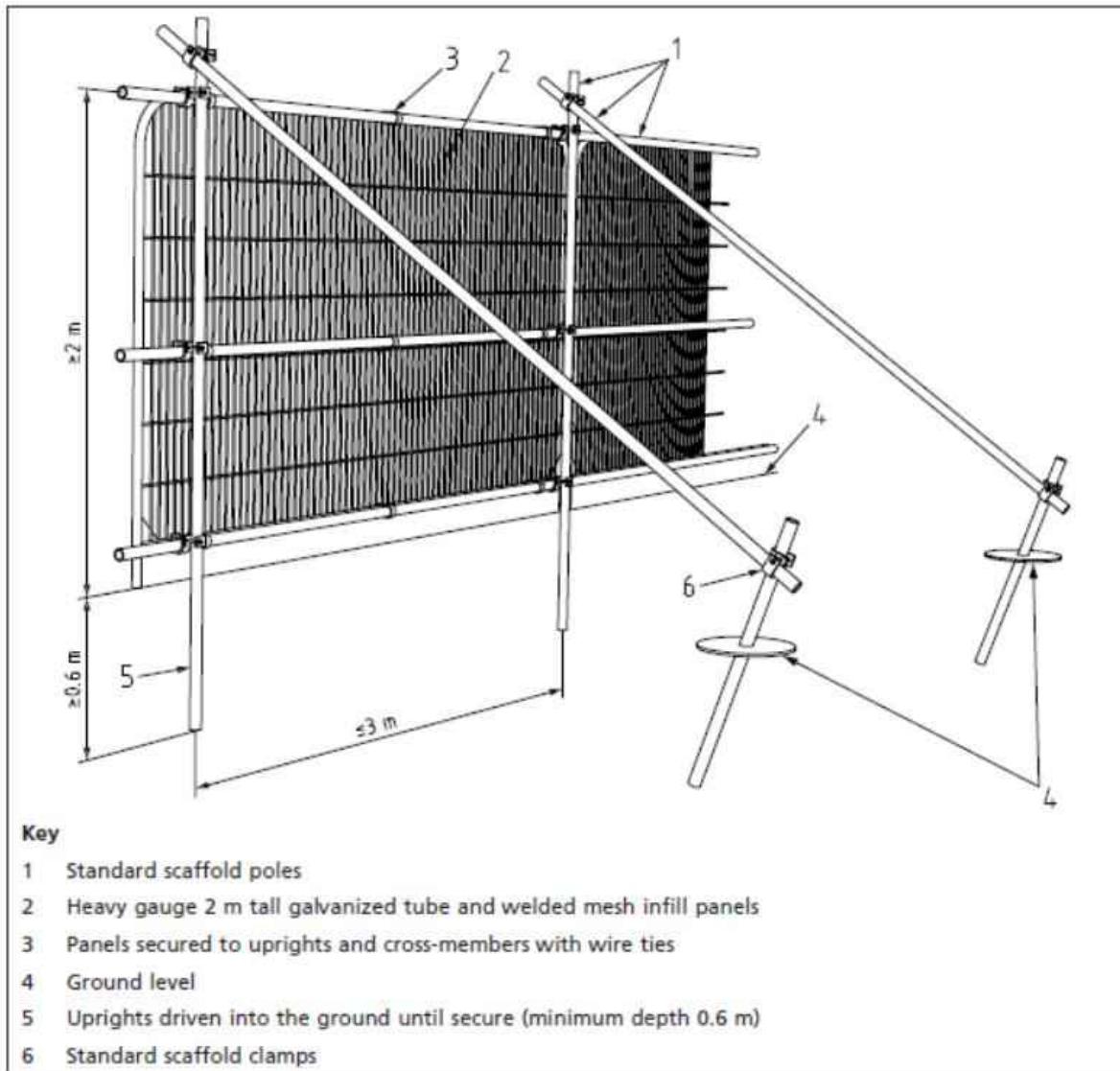
Figure A.5.1: Fen Ditton (south) and Baits Bite Lock Milton (north) Conservation Areas



## 4.5 Tree Protection Measures

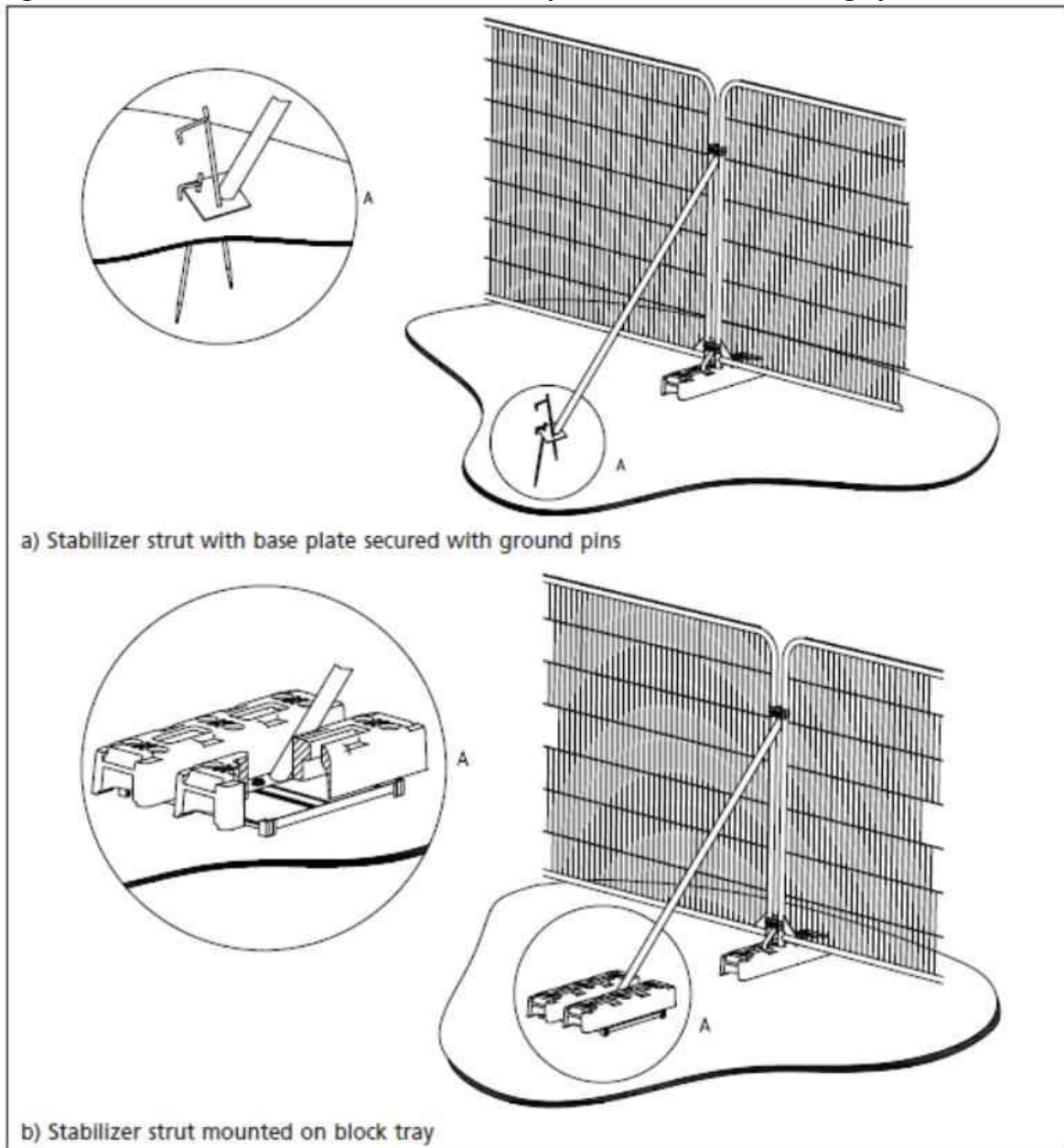
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**Figure A.6.1: Extract from BS5837:2012 Default specification for protection barrier**



Source 1: BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations.

**Figure A.6.2: Extract from BS5837:2012 Examples of Ground Stabilising systems**



Source 2: BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations.

**Figure A.6.3: Extract from BS 5837:2012 Ground Protection during Demolition and Construction**

**6.2.3.2** Where the set-back of the tree protection barrier would expose unmade ground to construction damage, new temporary ground protection should be installed as part of the implementation of physical tree protection measures prior to work starting on site.

**6.2.3.3** New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.

*NOTE The ground protection might comprise one of the following:*

- a) *for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane;*
- b) *for pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane;*
- c) *for wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.*

**6.2.3.4** The locations of and design for temporary ground protection should be shown on the tree protection plan and detailed within the arboricultural method statement (see 6.1).

**6.2.3.5** In all cases, the objective should be to avoid compaction of the soil, which can arise from the single passage of a heavy vehicle, especially in wet conditions, so that tree root functions remain unimpaired.

## Get in touch

You can contact us by:



Emailing at [info@cwwtpr.com](mailto:info@cwwtpr.com)




Calling our Freephone information line on **0808 196 1661**



Writing to us at **Freepost: CWWTPR**



Visiting our website at 

You can view all our DCO application documents and updates on the application on The Planning Inspectorate website:

<https://infrastructure.planninginspectorate.gov.uk/projects/eastern/cambridge-waste-water-treatment-plant-relocation/>