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ARBORICULTURAL REPORT

for proposed development at

SULLY TO COSMESTON ACTIVE TRAVEL ROUTE

Client:	Arcadis
Site Address:	Land between Sully and Cosmeston, Vale of Glamorgan
Our Reference:	S230621.2
Author:	John Mitchener
Report Date:	October 2024

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1 INTRODUCTION

1.1 INSTRUCTIONS

- 1.1.1. TR33 Environments have been instructed by Arcadis to provide this report in support of a planning application for the development of land between Sully and Cosmeston, Vale of Glamorgan (hereafter referred to as 'the Site').
- 1.1.2. The purpose of this report is to provide the information necessary for Vale of Glamorgan Council to meet the duty placed upon them by s.197 of the Town and Country Planning Act 1990. This duty requires that local planning authorities '*ensure, whenever it is appropriate, that in granting planning permission for any development adequate provision is made, by the imposition of conditions, for the preservation or planting of trees*'.
- 1.1.3. This report assesses the potential effects of development on trees and puts forward proposals for mitigation where appropriate. In order to avoid additional, or otherwise unforeseen adverse arboricultural impacts, it is essential that the mitigatory measures described within this report are implemented in full during site clearance and construction.

1.2 SCOPE OF REPORT

- 1.2.1. This report provides information on the arboricultural baseline and the likely arboricultural impacts associated with the construction of a shared footway/cycleway between Sully and Cosmeston (hereafter referred to as the 'Proposed Scheme'). Details of the Proposed Scheme are provided in **Appendix C: Tree Retention / Removal Plan**.
- 1.2.2. The scope of this report has been determined with reference to British Standard BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations*¹(BS 5837). It includes reference to the following:
- A tree survey schedule.
 - An Arboricultural Impact Assessment.
 - An Arboricultural Method Statement.
 - A Tree Retention / Removal Plan.
- 1.2.3. Root protection areas (RPAs) have been identified and represent the minimum area around a tree (m²) deemed to contain sufficient roots and rooting volume to maintain a tree's viability. The RPA, initially plotted as a circle, has been adjusted to account for constraints to root growth such as retaining walls, carriageways and building foundations.

¹ British Standards Institute. 2012. *BS 5837: 2012 Trees in relation to design, demolition and construction – Recommendations*. London: BSI.

- 1.2.4. The BS 5837 gives recommendations and guidance on the relationship between trees and the design, demolition and construction process. It sets out the principles and procedures to be applied to achieve a harmonious and sustainable relationship between trees and structures. These recommendations and guidance have been applied throughout this report and form the basis of the Arboricultural Impact Assessment (AIA), Arboricultural Method Statement (AMS) and Tree Protection Plan (TPP).

1.3 VALIDITY PERIOD

- 1.3.1. Trees are dynamic organisms which are influenced by a variety of environmental variables and whose health and condition can rapidly change. Because of this any recommendations made within this report are valid for a period of 24 months from the date of survey or when any site conditions change or pruning or other works unspecified in this report are carried out to, or affecting, the subject trees, whichever is sooner.

2 BASELINE ARBORICULTURAL RESOURCE

2.1 BASELINE DATA COLLECTION

Desktop Study

- 2.1.1. A desktop study was undertaken in November 2023. The purpose of the desktop study is to identify the presence of statutory and environmental designations which may apply to arboricultural features within the study area.
- 2.1.2. The desktop study reviewed existing information available in the public domain. The sources of information presented in **Table 1** were consulted to inform the desktop study.

Table 1: Data sources used to inform the desktop study

Source	Summary
Vale of Glamorgan Council	Tree Preservation Orders and conservation areas ²
Ancient Tree Forum	Ancient and veteran trees
Natural Resources Wales	Ancient woodland

Tree Survey

- 2.1.3. The tree survey was undertaken in November 2023. The survey was conducted by John Mitchener (Arboricultural Consultant) with topographical survey data, Ordnance Survey MasterMap and aerial imagery used as base mapping.
- 2.1.4. The results of the tree survey are presented in **Appendix B: Tree Survey Schedule** and **Appendix C: Tree Retention / Removal Plan**.
- 2.1.5. The tree survey has been undertaken with reference to BS 5837. The tree survey was undertaken without reference to any site layout proposals; tree quality assessments account for health, condition and an estimated remaining contribution based on current site conditions.
- 2.1.6. Further details on the methodology used to obtain tree survey data are provided in **Appendix B: Tree Survey Methodology**.

² Vale of Glamorgan Council , 2023 . *My Maps* . [online] Available at: <https://myvale.valeofglamorgan.gov.uk/myCouncil.aspx> [Accessed 02 November 2023].

2.2 BASELINE ARBORICULTURAL RESOURCE

Desktop Study

- 2.2.1. Findings from the desktop study indicate that the Site does not include any ancient and veteran trees or ancient woodland. Also, there are no conservation areas which occur wholly or partially within the Site.
- 2.2.2. The presence of a single Tree Preservation Order (TPO) was identified. This TPO is referenced as 'TPO 008-1952-006' and comprises one individual tree, eight tree groups and two areas of woodland. The approximate location and extent of each protected feature is shown in **Appendix C: Tree Retention / Removal Plan**.

Tree Survey

- 2.2.3. The baseline arboricultural resource comprises 146 individual trees, 31 tree groups and nine hedges. This includes a single high-quality English oak tree (*Quercus robur*) which is positioned to the south of the disused railway line and to the west of St Mary's Well Bay Road. This tree, referenced as T84, is a mature specimen which is of interest from both an arboricultural and landscape perspective. It has been identified as high-quality on the basis that it is a good example of the species given its size and age.
- 2.2.4. The baseline arboricultural resource also includes 68 moderate-quality trees and eight moderate-quality tree groups together with 70 low-quality trees, 22 low-quality tree groups and eight low-quality hedges. An additional seven individual trees, one tree group and one hedge were identified as of very-low quality with anticipated retention spans of less than 10 years under current site conditions.
- 2.2.5. The tree survey includes eight trees (T79, T80, T107, T122, T123, T130, T132 and T145), five tree groups (G164, G177, G178, G179 and G180) and one hedge (H175) which intersect, in whole or in part, with TPOs. This means that, in respect of these trees, tree groups and hedge, at least some of the trees contained therein, may be afforded statutory protection by virtue of TPO 008-1952-006.

3 ARBORICULTURAL IMPACT ASSESSMENT

- 3.1.1. The scope of this Arboricultural Impact Assessment (AIA) has been established with reference to BS 5837 Clause 5.4 '*Arboricultural Impact Assessment*'. The scope of assessment is defined as including an evaluation of the direct and indirect arboricultural effects of the Proposed Scheme.
- 3.1.2. This AIA includes specific reference to the effects of any tree loss and other potentially damaging activities which would foreseeably occur in the vicinity of retained trees. Further reference is made concerning recommendations for mitigation, including those matters which require inclusion within an Arboricultural Method Statement (AMS).
- 3.1.3. The spatial relationship between surveyed trees and the Proposed Scheme is presented within **Appendix C: Tree Retention / Removal Plan**.

3.2 PROPOSED SCHEME

- 3.2.1. This AIA has been developed with reference to specific known aspects of the Proposed Scheme. These are matters which are of direct relevance to the assessment of arboricultural impacts and the specification of suitable tree protection measures. These include:
- The shared footway/cycleway will vary in width from between 2.5m and 4.0m along its length.
 - At its westernmost end the shared footway/cycleway will have a width of 2.5m-3.0m and will incorporate both the existing footway and the grassed verge which exists adjacent to the carriageway.
 - As the shared footway/cycleway progresses along the disused railway line its width will vary from between 3.0m to 4.0m with a proposed 0.5m wide verge to either side. The verge will accommodate sections with lighting bollards and in places its outer edge will be delineated with a proposed fence.

3.3 ASSUMPTIONS AND LIMITATIONS

- 3.3.1. This AIA is subject to the following assumptions and limitations.

Assumptions

- That where the proposed footway/cycleway is constructed using an existing paved pedestrian footway, that construction activities will not occur at a depth below the level of the existing sub-base. This means that construction work can occur without any adverse impact to roots which may be present beneath any existing pedestrian footway.
- That where the proposed pedestrian footway/cycleway includes an area of grass verge between an existing pedestrian footway and the carriageway, the overall depth of construction is unlikely to encounter any substantial roots. Substantial roots are defined as those which are of importance to the health and stability of individual trees.

This assumption is based on the fact that verges alongside a carriageway will be formed from a layer of relatively compacted topsoil which will also be subject to seasonal applications of de-

icing salt. This presents a sub-optimal rooting environment within which, whilst the presence of tree roots cannot be discounted, roots will generally only proliferate at greater depths and with lesser frequency than would otherwise occur.

- That where the construction of the proposed pedestrian footway/cycleway occurs on areas of disused railway line, there will no, or minimal, root disturbance to nearby trees within the area occupied by the previously removed railway tracks. This is because the tracks would have been constructed on top of a substantial depth of compacted stone ballast, the majority of which appears to remain. This ballast represents a less-than-optimal rooting environment meaning that any tree roots which may be present are likely to occur below the anticipated depth of construction. Tree roots beneath the ballasted area are therefore unlikely to significantly be damaged or disturbed by construction work.
- That where cabling for bollard lighting is to be installed alongside the proposed pedestrian footway/cycleway potential significant impacts to tree roots can be avoided through a construction methodology which includes non-mechanical excavation and the retention, and protection, of important tree roots. It is envisaged that, where necessary, excavation for cabling will be undertaken at minimal depth using 'tree friendly' techniques such as hand tools, compressed air or compressed water to remove soil.

Limitations

- Until such time as a contractor is appointed, the exact details of how work will be undertaken remain unknown. This includes elements which are of relevance to trees including items such as specific working practices, the space needed for access and materials storage and the size and type of machinery which is to be used.

3.4 POTENTIAL ARBORICULTURAL IMPACTS

3.4.1. An assessment of potential arboricultural impacts and likely arboricultural effects associated with the Proposed Scheme is provided in **Table 1**.

Table 2: Assessment of potential arboricultural impacts and likely arboricultural effects

Activity	Potential impact and proposed mitigation	Likely effect
<p>Construction of proposed footway/cycleway</p>	<p>Tree removal due to:</p> <ul style="list-style-type: none"> Positioning of individual trees within the alignment of the proposed footway/cycleway, The proposed footway/cycleway encroaches substantially into the RPA of individual trees such that sustainable retention is not viable. <p>Potential adverse impacts include the loss of five moderate-quality trees (T59, T65, T131, T134 and T136) and one moderate-quality tree group (G162), seven low-quality trees (T54, T60-T63, T66 and T73) and an additional two very-low quality trees (T47 and T48).</p> <p>Potential adverse effects also include the partial removal of two moderate-quality tree groups (G163 and G165) and nine low-quality tree groups (G152-G155, G157-G159, G161 and G169).</p> <p>Potential adverse impacts shall be mitigated through a review of the requirement to remove trees during detailed design and contractor engagement. Where reasonably practicable tree removal shall be avoided.</p> <p>The review shall be supported by a topographical survey of individual trees within the tree groups identified as having the potential to be partially removed. This will permit the collection of additional tree survey data, particularly in relation to stem locations and the RPAs of individual trees. Once tree survey data has been collected, and constraints mapped, the following actions shall be undertaken:</p> <ul style="list-style-type: none"> Impacts to RPAs will be assessed by an arboriculturist. This assessment shall consider the degree of encroachment into the RPA and the likely impacts to roots, In instances where significant root loss can be discounted, then trees shall be retained. The assessment of likely impacts to roots will be supported by site investigation, such as hand dug trial pits, where appropriate, In instances where significant root loss cannot be discounted then a specification the completion of specific work such as coppicing or pollarding, will be explored in instance where this may facilitate retention, The results of the assessment shall be incorporated into the provision of a revised AMS. The AMS shall be revised to reflect the presence of retained trees and the tree protection measures that will be required to adequately protect them during construction. <p>The results of the assessment shall be incorporated into the provision of a revised AMS. The AMS shall be revised to reflect the presence of retained trees and the tree protection measures that will be required to adequately protect them during construction.</p>	<p>Tree removals will generate some adverse effects, primarily from a visual perspective.</p> <p>Notwithstanding, these adverse effects are unlikely to be significant due to the following:</p> <ul style="list-style-type: none"> The loss of individual trees is spread along the majority of length of the Proposed Scheme meaning that there is no single area where all trees will potentially be removed. With the exception of tree group G162, tree groups will only be removed in part, specifically the areas which abut the proposed footway/cycleway. This means that the majority of tree groups will be retained with obvious benefits in terms of visual amenity and landscape integrity. <p>It is anticipated that opportunities to minimise areas of likely tree removal will become available during detailed design and contractor engagement. This will facilitate the lessening of likely adverse effects prior to construction.</p> <p>Adverse effects can be mitigated through proposals for new tree. Adverse effects will therefore be transitional in nature and will not persist once new planting becomes established.</p>

Activity	Potential impact and proposed mitigation	Likely effect
<p>Construction of proposed footway/cycleway</p>	<p>Individual trees deemed to be ‘at risk’ during construction.</p> <p>For the purposes of this assessment ‘at risk’ trees are defined as those which may be subject to some adverse impacts during construction, but which are unlikely to require removal. Potential adverse impacts will generally arise due to a risk of root damage during construction and may include, but not be limited to, a temporary or permanent loss of vigour and/or a reduction in quality and value together with a corresponding reduction in life-expectancy.</p> <p>A total of 17 moderate-quality trees (T35, T57, T58, T67, T69, T70, T72, T75, T76, T86, T93, T94, T124, T126, T128, T138 and T142) and six low-quality trees (T34, T36, T56, T64, T71 and T95) have been identified as ‘at risk’.</p> <p>Potential adverse impacts to ‘at risk’ trees shall be mitigated through a review of the construction methodology during detailed design and contractor engagement. Where reasonably practicable adverse impacts to these trees shall be avoided, or minimised.</p> <p>The avoidance, or minimisation, of potential adverse impacts shall be addressed in the following manner:</p> <ul style="list-style-type: none"> • Impacts to RPAs will be assessed by an arboriculturist. This assessment shall consider the degree of encroachment into the RPA and the likely impacts to roots, • The arboriculturist shall liaise with the engineer to identify any design changes which could be adopted as a means of reducing the likelihood of significant root damage. These shall be adopted wherever reasonably practicable, • A task specific construction methodology shall be identified for each ‘at risk’ tree. This shall specify the tree protection measures which shall be adopted during construction and may reasonably include items such as non-mechanical excavation, arboricultural supervision and the sympathetic treatment of any tree roots which may be found. <p>The results of the assessment shall be incorporated into the provision of a revised AMS. The AMS shall be revised to reflect the presence of retained trees and the tree protection measures that will be required to adequately protect them during construction.</p>	<p>Adverse effects associated with ‘at risk’ trees cannot be discounted but are unlikely to be significant.</p> <p>It is anticipated that adverse effects will include a loss of quality and value to some of the trees. This may be permanent in nature but in some cases will also be transitory.</p> <p>Permanent adverse effects will only occur in instances where trees are subject to substantial root disturbance such that they cannot fully recover. Transitory adverse effects are more likely and will generally occur in instances where root disturbance is less severe and where, over time, trees recover and re-grow.</p> <p>Where desirable, permanent adverse effects can be mitigated through proposals for new tree. Permanent adverse effects will therefore be transitional in nature and will not persist once new planting becomes established.</p>
<p>Ash Dieback Disease</p> <p>Tree groups G160, G166, G167 and G168</p>	<p>These four low-quality tree groups all exhibit a species composition which includes a substantive proportion of common ash (<i>Fraxinus excelsior</i>). In all instances the majority of the common ash exhibit symptoms associated with infection with ash dieback disease (<i>Hymenoscyphus fraxinea</i>). This is a disease which has severe consequences for the health of infected trees and where, in an estimated 80-90% of cases, the long-term prognosis for an infected tree is physiological decline and death.</p> <p>The presence of ash dieback disease means that tree groups G160, G166, G167 and G168 have limited future viability as cohesive units and that they will be predisposed to a loss of both quality and value irrespective of any future development.</p> <p>The Proposed Scheme offers the possibility to mitigate the adverse effects of ash dieback through the removal of infected trees and the establishment of new trees in the form of replacement planting.</p>	<p>The Proposed Scheme provides an opportunity to secure beneficial arboricultural effects through the removal of diseased trees and the establishment of replacement planting.</p> <p>Beneficial effects can be enhanced by ensuring that new tree planting utilises native species of local provenance and seeks to improve the diversity of tree species within the baseline arboricultural resource.</p>

Activity	Potential impact and proposed mitigation	Likely effect
Access during construction	<p>Tree removal associated with the provision of access for personnel, plant, materials and storage during construction.</p> <p>Tree removal shall be avoided wherever this is reasonably practicable. Construction access shall, wherever possible, utilise areas outside the RPA of retained trees or areas where tree removal has already occurred.</p> <p>Robust tree protection measures shall be deployed during construction. These will include the use of tree protection fencing, temporary ground protection and the direct arboricultural supervision of work within, or adjacent to, the RPA of any retained tree.</p> <p>Tree protection measures shall be specified within the AMS. This document shall be reviewed and updated prior to the commencement of construction and, where applicable, be reviewed and approved by Vale of Glamorgan Council.</p>	<p>There is no foreseeable reason why additional tree removal is likely to be required, subject to appropriate controls on access and the deployment of robust tree protection measures.</p> <p>Significant additional adverse arboricultural effects shall be avoided.</p>
Post-construction operation	<p>Alterations to land-use arising from public access will require the assessment of trees from a health and safety perspective. Some additional tree removal or pruning may be required in order to address any risk factors which may be identified, and to ensure public safety.</p> <p>A schedule of proposed health and safety work will be compiled by an arboriculturist prior to the commencement of construction. All work shall be specified in accordance with British Standard BS3998:2010 <i>Tree work – Recommendations</i>³. (BS 3998)</p> <p>The schedule of proposed health and safety work shall be incorporated into the AMS and will be subject to approval by Vale of Glamorgan Council, as appropriate.</p>	<p>Adverse effects cannot be discounted but are unlikely to be significant. This is because, typically, safety related felling and pruning work only relates to individual trees and will not be extensive. Also, it will only occur where an identified defect places a tree at foreseeable risk of breakage or collapse, such trees are generally those with a limited estimated remaining contribution, irrespective of any formal intervention.</p> <p>All mitigatory work shall be specified in accordance with BS 3998. This will ensure that work is undertaken without undue detriment to tree health or longevity.</p>

³ British Standards Institute. 2010. *BS 3998: 2010 Tree work – Recommendations*. London: BSI.

3.5 SUMMARY OF ARBORICULTURAL IMPACTS AND LIKELY EFFECTS

- 3.5.1. The Proposed Scheme is likely to result in a slight adverse effect on the overall arboricultural baseline. This will arise due to the requirement to remove some trees and tree groups, in whole or in part, in order to facilitate construction.
- 3.5.2. Likely adverse effects will be mitigated, wherever reasonably practicable, during detailed design and contractor engagement.
- 3.5.3. Adverse effects associated with tree removals can be mitigated through the planting of new trees. Adverse effects will therefore be transitional in nature with an overall neutral effect anticipated at the point in time where new tree and hedge planting becomes fully established within the landscape.
- 3.5.4. The removal and replacement of common ash trees infected with ash dieback disease provides an opportunity for the Proposed Scheme to provide identifiable arboricultural benefits.
- 3.5.5. It is unlikely that there will be any additional significant adverse arboricultural effects during construction. Adverse effects shall be avoided through the use of appropriate tree protection measures, to be specified in a revised version of the AMS.
- 3.5.6. Changes in land use will necessitate that trees not currently near, or within, the public realm be subject to potentially more stringent health and safety requirements. The results of this assessment are currently unknown but the possibility that some safety related pruning or felling works are required cannot be discounted. However, the effect of this health and safety related work on the baseline arboricultural resource is likely to be negligible.

4 ARBORICULTURAL METHOD STATEMENT

- 4.1.1. This Arboricultural Method Statement (AMS) describes, in principle, the tree protection measures that shall be applied during site clearance and construction.
- 4.1.2. This AMS is a 'living document.' This means that it shall be reviewed, and where necessary updated, in response to changes to the design and/or construction methodology. It is envisaged that this AMS will be reviewed at the following stages of design and construction:
- Detailed design.
 - Contractor engagement.
 - Pre-commencement.
 - Prior to any instance where the overarching site clearance or construction methodology is amended.
- 4.1.3. This AMS must be read in conjunction with **Appendix C: Tree Retention / Removal Plan**.

PHASING OF TREE PROTECTION MEASURES

- 4.1.4. It is essential that tree protection measures are phased correctly during construction. Tree protection measures shall be phased in the following manner:

1. Review likely tree removals during detailed design and contractor engagement, reduce wherever reasonably practicable.
2. Undertake tree removals.
3. Install tree protection fencing and ground protection, as specified within the AMS.
4. Site clearance and construction.
5. Remove tree protection and ground protection once all construction activities have ceased.
6. Undertake mitigatory tree planting.

ARBORICULTURAL MONITORING AND SUPERVISION

- 4.1.5. Arboricultural monitoring and supervision shall be implemented in accordance with the following details.

Nominated Persons

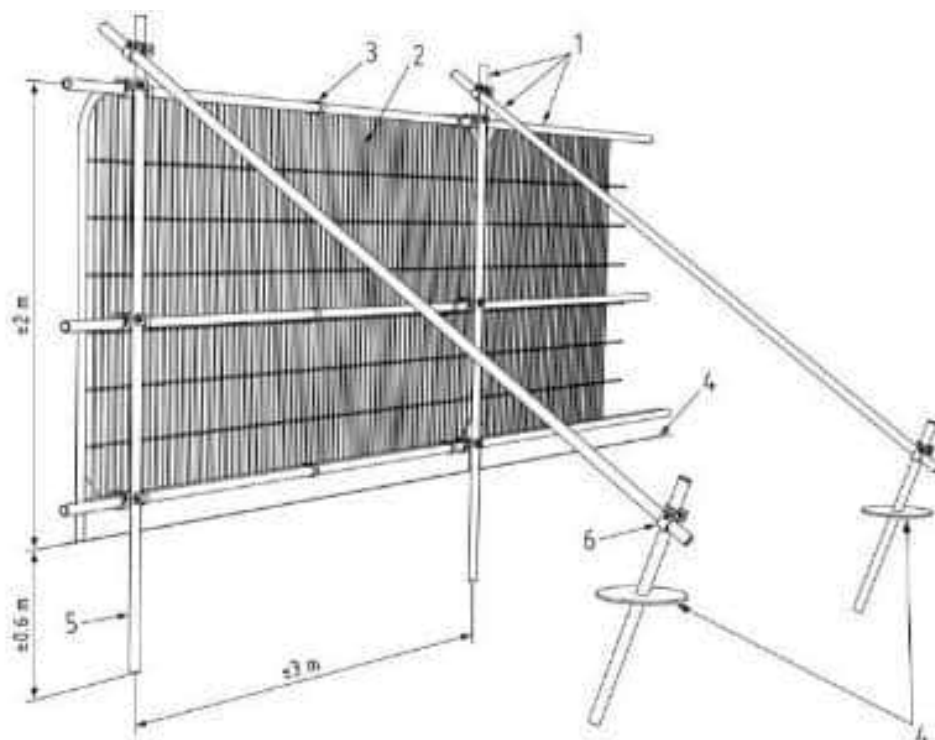
- 4.1.6. The client/contractor shall appoint a Project Arboriculturist. This person shall be suitably qualified and experienced in the field of trees in relation to construction, and shall be available to:
- Attend an initial pre-commencement meeting and supervisory visits as required.
 - Undertake site monitoring.
 - Advise on all ad-hoc arboricultural matters which may arise.

- 4.1.7. The client/contractor shall further nominate a person to be responsible for all arboricultural matters onsite. This person must:
- Be present on site whenever work which has the potential to cause damage to retained trees is being undertaken.
 - Be aware of their arboricultural responsibilities.
 - Have the authority to stop any work that is causing or has the potential to cause harm to any retained tree.
 - Be responsible for ensuring that all site operatives are aware of their responsibilities toward retained trees and the consequences of any failure to observe those responsibilities.
 - Make immediate contact with the Project Arboriculturist and/or Vale of Glamorgan Council in the event of any tree related problems occurring, whether actual or potential.
- 4.1.8. Once works commence the project arboriculturist will undertake a programme of monitoring. This may include phone and email contact with the site manager, regular site visits and the direct supervision of work which has the capacity to cause damage to retained trees. The frequency of any monitoring will be determined by the intensity and proximity of works to trees and will be flexible enough to accommodate changes in the scheduling of tasks as they occur.
- 4.1.9. The project arboriculturist will maintain a record of the arboricultural monitoring. This will provide a record of compliance with any agreed tree protection measures and will assist in the efficient discharge of planning conditions where required. The Project Arboriculturist shall provide Vale of Glamorgan Council with a written record of any monitoring within five working days of it having taken place.

TREE PROTECTION FENCING

- 4.1.10. Tree protection fencing will be erected in order to create a vertical barrier which prevents damage occurring to retained trees. It shall be fit for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained tree(s). Tree protection fencing shall be adequately maintained to ensure that it remains rigid and complete.
- 4.1.11. Once erected, tree protection fencing shall not be altered or removed without the explicit approval from the Project Arboriculturist and authorisation from Vale of Glamorgan Council.
- 4.1.12. A suggested specification for the tree protection fencing is provided in **Figure 1**.

Figure 1: Suggested specification for tree protection fencing



Key to Figure 1

1. Standard scaffold poles.
2. Heavy gauge 2m tall, galvanised tube and welded mesh infill panels.
3. Panels secured to uprights and cross-members with wire ties.
4. Ground level.
5. Uprights driven into the ground until secure (minimum depth 0.6m).
6. Standard scaffold clamps.

TEMPORARY GROUND PROTECTION

- 4.1.13. Temporary ground protection shall be installed in any instance where construction access is required within the RPA of any retained tree, tree group or hedge. Its purpose is to create a horizontal barrier which prevents rutting or additional compaction of the underlying soil thereby protecting tree roots and the rooting environment.

4.1.14. Temporary ground protection shall adhere to the following specification as advised in BS 5837 paragraph 6.2.3.4:

- 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., 100mm depth of woodchip) laid onto a geotextile membrane.
- For pedestrian-operated plant up to a gross weight of 2t, 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.
- For wheeled or tracked construction traffic exceeding 2t 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 subject.

4.1.15. Temporary ground protection shall be installed as follows:

1. Where necessary, dismantle tree protection fencing and re-erect in a secondary location around the edge of the proposed ground protection.
2. Clear the area within which the ground protection is to be installed. Shrubs and other woody vegetation should be cut to ground level.
3. Install ground protection to the specification provided in paragraph 4.1.14. Obtain confirmation from the Project Arboriculturist that the ground protection is acceptable.
4. Ground protection shall be retained in-situ until all construction work is complete.

CONSTRUCTION OF PROPOSED FOOTWAY/CYCLEWAY WITHIN AND ADJACENT TO RPAS

4.1.16. All construction work shall comply with the following requirements:

- All work shall be subject to an agreed programme of arboricultural monitoring and supervision.
- No site preparation or construction activity shall take place until an appropriate AMS has been compiled and approved. Thereafter, all work shall be conducted in accordance with the AMS and shall not be varied without approval from the Project Arboriculturist and written consent from Vale of Glamorgan Council.

APPENDIX A: TREE SURVEY METHODOLOGY

METHODOLOGY

The tree survey was undertaken in accordance with the following methodology:

- Arboricultural features have been recorded as tree groups or wooded areas where this has been deemed appropriate. Tree groups have been recorded on the basis that they form distinct arboricultural features either aerodynamically, visually or because they contain trees of similar cultural and biodiversity value.
- The trees have been inspected using the Visual Tree Assessment methodology as developed by Mattheck and Breoler⁴.
- The tree survey was carried out from ground level only.
- No tissue samples were taken nor was any internal investigation of the subject trees undertaken.
- Tree heights and crown spreads have been estimated to the nearest 1m.
- Notes have been recorded where they relate to the quality of the arboricultural feature. Management recommendations have been provided where work is necessary for the abatement of a hazard which presents an unacceptable or intolerable level of risk to persons or property.
- Stem diameters have been measured in accordance with Annex C of BS 5837. Diameters of single stem trees on level ground have been measured at 1.5m above ground level. The combined stem diameters for multi-stemmed trees have been calculated in accordance with BS 5837 paragraph 4.6.1.
- By default, Root Protection Areas (RPAs) are calculated as an area equivalent to a circle with a radius 12 times the stem diameter and are capped at a distance of 15 metres.

QUALITY ASSESSMENT

The quality of arboricultural features has been determined in accordance with BS 5837 Table 1, a summary of which is provided in **Table 1**. The purpose of the quality assessment is to enable informed decisions to be made regarding site layout, land use and design. The quality assigned to each survey item is recorded within **Appendix B: Arboricultural Survey Schedule**.

⁴ Mattheck, C., Breloer, H., 2006. *The body language of trees*. Norwich: The Stationary Office

Table 3: BS 5837:2012 Table 1 – Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)		
Trees unsuitable for retention			
Category U 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	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		
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g., the dominant and/or principal trees within an avenue)	Trees, groups, or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 40 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value
Category C Trees of low quality with an estimated remaining life expectancy of at least 40 years	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value

LIMITATIONS

Arboricultural survey data is typically valid for a period of two years unless otherwise stated. Significant environmental events (such as extreme weather conditions) or changes to the Site may render it invalid within a shorter timescale.

The survey has only been undertaken from land within the client's ownership, from public land or from areas where formal access has been arranged.

The position of arboricultural features not recorded on a topographical survey has been estimated using aerial imagery.

Whilst arboricultural surveys are not seasonally limited it is the case that certain pests and diseases may be more or less evident at different times of the year. This is especially true of certain wood decaying fungi such as the Giant Polypore (*Meripilus giganteus*) where fruiting bodies are short-lived, and the early stages of root decay may not result in other identifiable symptoms. Walkover survey data is therefore based upon observations made at the time of the site visit and may be subject to change should further or more detailed inspections be undertaken.

Health and Safety

This report in no way constitutes a health and safety survey. Where concerns for tree health and safety exist the necessary and appropriate tree inspections should be carried out.

Arboricultural survey data is of a preliminary nature and has been collected based on a walkover survey. Only defects visible from the ground have been noted and each individual feature may not have been inspected closely due to access difficulties, the presence of dense ivy or vegetation or safety constraints. Safety related features have recorded on the basis that the arboricultural features will be subject to a normal programme of tree hazard assessment and only those features which materially affect the quality of the feature or pose a real and immediate safety concern have been recorded.

Wildlife and Conservation

Trees have the capacity to provide habitat for species such as bats, birds, and mammals some of which may be protected under UK or European Legislation. It is a statutory offence to injure, kill or disturb any protected species or to damage or destroy their breeding site or resting place. It is also an offence to disturb any nesting bird.

Wildlife and conservation matters are beyond the scope of this report although incidental comments may be made where these are of direct relevant to the arboricultural survey or subsequent assessments. It is advised that specialist ecological advice is sought prior to any tree removal or maintenance activities; these recommendations contained within this report should be reviewed in light of any ecological constraints which may be identified.

APPENDIX B: TREE SURVEY SCHEDULE

Details of the surveyed trees are presented in **Table 2**; a key to the table is provided in **Table 3**.

Table 4: Tree survey schedule

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
1	T	Fraxinus excelsior (common ash)	9.0	-	-	275	-	-	3.0	2.0	2.0	SM	10+	C	2	-	3.3
2	T	Prunus avium (wild cherry)	9.0	-	-	500	-	-	6.0	2.0	2.0	M	20+	B	2	-	6.0
3	T	Betula pendula (silver birch)	10.0	-	-	325	-	-	4.0	0.5	2.0	EM	20+	B	2	-	3.9
4	T	Acer platanoides (Norway maple)	8.0	-	-	275	-	-	3.0	2.0	2.0	SM	10+	C	2	-	3.3
5	T	Acer platanoides (Norway maple)	8.0	-	-	325	-	-	3.0	2.0	2.0	SM	10+	C	2	-	3.9
6	T	Crataegus monogyna (common hawthorn)	4.0	-	-	175	-	-	1.5	2.0	2.0	EM	10+	C	2	-	2.1
7	T	Acer platanoides (Norway maple)	6.0	-	-	325	-	-	2.5	2.0	2.0	EM	10+	C	2	-	3.9

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
8	T	Betula pendula (silver birch)	12.0	-	-	400	-	-	4.0	1.0	3.0	M	20+	B	2	-	4.8
9	T	Prunus avium (wild cherry)	3.0	-	-	200	-	-	2.0	2.0	2.0	EM	10+	C	2	-	2.4
10	T	Crataegus monogyna (common hawthorn)	4.5	-	-	250	-	-	2.5	2.0	2.0	EM	10+	C	2	-	3.0
11	T	Acer platanoides (Norway maple)	12.0	-	-	450	-	-	5.0	3.0	3.0	EM	20+	B	2	-	5.4
12	T	Crataegus monogyna (common hawthorn)	4.0	-	-	250	-	-	1.5	2.0	2.0	EM	10+	C	2	Tightly pruned crown	3.0
13	T	Fagus sylvatica (common beech)	11.0	-	-	375	-	-	5.0	4.0	4.0	EM	20+	B	2	-	4.5
14	T	Sorbus aucuparia (Rowan)	4.5	-	-	250	-	-	2.0	2.0	2.0	SM	10+	C	2	-	3.0
15	T	Acer pseudoplatanus (sycamore)	5.0	-	-	500	-	-	1.5	2.0	2.0	M	<10	U	-	Topped at 2.5m	6.0
16	T	Sorbus aucuparia (Rowan)	7.0	-	-	275	-	-	3.0	2.0	2.0	SM	10+	C	2	Multi-stemmed	3.3
17	T	Acer pseudoplatanus (sycamore)	7.0	-	-	300	-	-	3.0	2.0	2.0	EM	10+	C	2	Historically topped	3.6

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
18	T	Sorbus aucuparia (Rowan)	6.0	-	-	300	-	-	3.0	2.0	2.0	SM	10+	C	2	Multi-stemmed	3.6
19	T	Betula pendula (silver birch)	3.5	-	-	250	-	-	1.5	-	-	EM	10+	C	2	Historically topped	3.0
20	T	Acer pseudoplatanus (sycamore)	6.0	-	-	260	-	-	2.5	2.0	2.0	SM	10+	C	2	Historically topped	3.1
21	T	Acer platanoides (Norway maple)	5.0	-	-	280	-	-	2.0	2.0	2.0	SM	10+	C	2	Historically topped	3.4
22	T	Acer platanoides (Norway maple)	14.0	-	-	650	-	-	8.0	2.0	2.0	M	20+	B	2	-	7.8
23	T	Alnus glutinosa (common alder)	9.0	-	-	400	-	-	3.0	2.0	2.0	M	10+	C	2	Historically topped; Dense ivy to stem	4.8
24	T	Acer platanoides (Norway maple)	6.0	-	-	275	-	-	2.0	2.0	2.0	EM	10+	C	2	Dieback to upper crown	3.3
25	T	Betula pendula (silver birch)	12.0	-	-	450	-	-	4.0	2.0	3.0	M	20+	B	2	-	5.4
26	T	Acer platanoides (Norway maple)	6.0	-	-	450	-	-	3.0	2.0	2.0	M	10+	C	2	Crown reduced	5.4

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
27	T	Sorbus aucuparia (Rowan)	6.0	-	-	250	-	-	2.0	2.0	2.0	SM	10+	C	2	-	3.0
28	T	Prunus avium (wild cherry)	5.0	-	-	300	-	-	3.0	2.0	1.0	EM	10+	C	2	-	3.6
29	T	Acer platanoides (Norway maple)	7.0	-	-	350	-	-	2.5	2.0	2.0	EM	10+	C	2	Dieback to upper crown	4.2
30	T	Chamaecyparis lawsoniana (Lawson cypress)	5.0	-	-	225	-	-	1.5	2.0	2.0	EM	10+	C	2	-	2.7
31	T	Acer pseudoplatanus (sycamore)	8.0	-	-	275	-	-	3.0	3.0	3.0	EM	10+	C	2	-	3.3
32	T	Acer pseudoplatanus (sycamore)	10.0	-	-	500	-	-	5.0	2.0	2.0	EM	20+	B	2	Multi-stemmed	6.0
33	T	Acer pseudoplatanus (sycamore)	9.0	-	-	400	-	-	4.0	2.0	2.0	EM	20+	B	2	Multi-stemmed	4.8
34	T	Sorbus sp. (whitebeam)	9.0	-	-	400	-	-	4.0	2.0	3.0	M	10+	C	2	-	4.8
35	T	Fraxinus excelsior (common ash)	10.0	-	-	500	-	-	5.0	4.0	4.0	EM	20+	B	2	Appears free of ash dieback	6.0

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
36	T	Crataegus monogyna (common hawthorn)	5.5	-	-	275	-	-	2.5	2.0	2.0	EM	10+	C	2	-	3.3
37	T	Fraxinus excelsior (common ash)	9.0	-	-	300	-	-	4.0	3.0	3.0	SM	10+	C	2	-	3.6
38	T	Fraxinus excelsior (common ash)	9.0	-	-	425	-	-	6.0	2.0	3.0	EM	20+	B	2	Twin-stemmed	5.1
39	T	Fraxinus excelsior (common ash)	8.0	-	-	250	-	-	3.0	2.0	2.0	SM	10+	C	2	-	3.0
40	T	Fraxinus excelsior (common ash)	8.0	-	-	300	-	-	4.0	1.0	3.0	SM	10+	C	2	-	3.6
41	T	Acer campestre (field maple)	5.0	-	-	400	-	-	4.0	1.0	1.0	M	10+	C	2	-	4.8
42	T	Quercus robur (English oak)	5.0	-	-	250	-	-	3.0	2.0	2.0	SM	10+	C	2	-	3.0
43	T	Acer campestre (field maple)	5.0	-	-	300	-	-	3.0	0.0	1.0	EM	10+	C	2	-	3.6
44	T	Crataegus monogyna (common hawthorn)	35.0	-	-	150	-	-	2.0	1.0	1.0	EM	10+	C	2	-	1.8

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
45	T	Crataegus monogyna (common hawthorn)	35.0	-	-	150	-	-	2.0	1.0	1.0	EM	10+	C	2	-	1.8
46	T	Crataegus monogyna (common hawthorn)	35.0	-	-	150	-	-	2.0	1.0	1.0	EM	10+	C	2	-	1.8
47	T	Salix caprea (goat willow)	5.0	-	-	100	-	-	1.5	2.0	2.0	SM	<10	U	-	Bark loss to stem base	1.2
48	T	Salix caprea (goat willow)	5.0	-	-	100	-	-	1.5	2.0	2.0	SM	<10	U	-	Bark loss to stem	1.2
49	T	Salix caprea (goat willow)	5.0	-	-	100	-	-	1.5	2.0	2.0	SM	10+	C	2	Multi-stemmed	1.2
50	T	Crataegus monogyna (common hawthorn)	35.0	-	-	150	-	-	2.0	1.0	1.0	EM	10+	C	2	-	1.8
51	T	Salix caprea (goat willow)	5.0	-	-	250	-	-	2.5	2.0	2.0	SM	10+	C	2	-	3.0
52	T	Salix caprea (goat willow)	9.0	-	-	550	-	-	5.0	2.0	2.0	M	10+	C	2	-	6.6
53	T	Salix caprea (goat willow)	5.0	-	-	250	-	-	2.5	2.0	2.0	SM	10+	C	2	Multi-stemmed	3.0
54	T	Crataegus monogyna (common hawthorn)	4.0	-	-	250	-	-	3.0	2.0	2.0	M	10+	C	2	-	3.0
55	T	Quercus robur (English oak)	8.0	-	-	300	-	-	5.0	2.0	2.0	EM	20+	B	2	-	3.6
56	T	Salix caprea (goat willow)	9.0	-	-	550	-	-	5.0	2.0	2.0	M	10+	C	2	-	6.6

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
57	T	Quercus robur (English oak)	8.0	-	-	375	-	-	5.0	2.0	2.0	EM	20+	B	2	-	4.5
58	T	Quercus robur (English oak)	8.0	-	-	300	-	-	5.0	1.0	2.0	EM	20+	B	2	Partially suppressed	3.6
59	T	Acer pseudoplatanus (sycamore)	9.0	-	-	300	-	-	4.0	2.0	3.0	EM	20+	B	2	-	3.6
60	T	Salix caprea (goat willow)	9.0	-	-	400	-	-	5.0	4.0	4.0	EM	10+	C	2	-	4.8
61	T	Salix caprea (goat willow)	9.0	-	-	400	-	-	5.0	4.0	4.0	EM	10+	C	2	-	4.8
62	T	Salix caprea (goat willow)	11.0	-	-	300	-	-	4.0	3.0	4.0	EM	10+	C	2	-	3.6
63	T	Salix caprea (goat willow)	10.0	-	-	500	-	-	4.0	4.0	4.0	EM	10+	C	2	Twin-stemmed	6.0
64	T	Salix caprea (goat willow)	10.0	-	-	550	-	-	5.0	3.0	3.0	M	10+	C	2	Multi-stemmed	6.6
65	T	Acer pseudoplatanus (sycamore)	15.0	-	-	550	-	-	6.0	2.0	2.0	M	20+	B	2	-	6.6
66	T	Salix caprea (goat willow)	10.0	-	-	550	-	-	5.0	3.0	3.0	M	10+	C	2	Multi-stemmed	6.6
67	T	Acer pseudoplatanus (sycamore)	12.0	-	-	425	-	-	5.0	3.0	4.0	M	20+	B	2	Twin-stemmed	5.1

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
68	T	Acer pseudoplatanus (sycamore)	9.0	-	-	425	-	-	3.0	2.0	2.0	EM	10+	C	2	Squirrel damage to stem and branches	5.1
69	T	Acer pseudoplatanus (sycamore)	12.0	-	-	575	-	-	5.0	1.0	2.0	EM	20+	B	2	Twin-stemmed	6.9
70	T	Acer pseudoplatanus (sycamore)	14.0	-	-	700	-	-	5.0	2.0	2.0	M	20+	B	2	-	8.4
71	T	Salix caprea (goat willow)	8.0	-	-	375	-	-	4.0	3.0	3.0	SM	10+	C	2	Twin-stemmed	4.5
72	T	Acer pseudoplatanus (sycamore)	14.0	-	-	700	-	-	6.0	2.0	2.0	M	20+	B	2	-	8.4
73	T	Salix caprea (goat willow)	10.0	-	-	500	-	-	5.0	4.0	4.0	M	10+	C	2	-	6.0
74	T	Acer pseudoplatanus (sycamore)	9.0	-	-	300	-	-	3.0	2.0	2.0	SM	10+	C	2	Multi-stemmed	3.6
75	T	Acer pseudoplatanus (sycamore)	14.0	-	-	780	-	-	6.0	2.0	2.0	M	20+	B	2	Twin-stemmed	9.4
76	T	Acer pseudoplatanus (sycamore)	16.0	-	-	500	-	-	5.0	8.0	8.0	M	20+	B	2	-	6.0

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
77	T	Quercus robur (English oak)	11.0	-	-	500	-	-	5.0	3.0	3.0	EM	20+	B	2	-	6.0
78	T	Acer pseudoplatanus (sycamore)	13.0	-	-	550	-	-	5.0	1.0	2.0	EM	20+	B	2	Multi-stemmed	6.6
79	T	Acer pseudoplatanus (sycamore)	11.0	-	-	400	-	-	4.0	5.0	5.0	EM	20+	B	2	-	4.8
80	T	Acer pseudoplatanus (sycamore)	11.0	-	-	400	-	-	4.0	5.0	5.0	EM	20+	B	2	Multi-stemmed	4.8
81	T	Acer pseudoplatanus (sycamore)	11.0	-	-	400	-	-	4.0	5.0	5.0	EM	20+	B	2	Multi-stemmed	4.8
82	T	Acer pseudoplatanus (sycamore)	11.0	-	-	400	-	-	4.0	5.0	3.0	EM	20+	B	2	-	4.8
83	T	Acer pseudoplatanus (sycamore)	11.0	-	-	400	-	-	4.0	5.0	3.0	EM	20+	B	2	-	4.8
84	T	Quercus robur (English oak)	14.0	-	-	750	-	-	8.0	4.0	5.0	M	40+	A	1/2	-	9.0
85	T	Acer pseudoplatanus (sycamore)	13.0	-	-	550	-	-	5.0	1.0	2.0	EM	20+	B	2	Multi-stemmed	6.6

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
86	T	Acer pseudoplatanus (sycamore)	13.0	-	-	550	-	-	5.0	1.0	2.0	EM	20+	B	2	Multi-stemmed	6.6
87	T	Quercus robur (English oak)	11.0	-	-	600	-	-	6.0	3.0	4.0	EM	20+	B	2	-	7.2
88	T	Quercus robur (English oak)	9.0	-	-	550	-	-	5.0	2.0	3.0	EM	20+	B	2	-	6.6
89	T	Quercus robur (English oak)	11.0	-	-	600	-	-	6.0	3.0	4.0	EM	20+	B	2	-	7.2
90	T	Fraxinus excelsior (common ash)	12.0	-	-	725	-	-	7.0	4.0	5.0	M	20+	B	2	Multi-stemmed	8.7
91	T	Quercus robur (English oak)	11.0	-	-	600	-	-	6.0	3.0	4.0	EM	20+	B	2	-	7.2
92	T	Quercus robur (English oak)	12.0	-	-	550	-	-	6.0	5.0	6.0	EM	20+	B	2	-	6.6
93	T	Acer pseudoplatanus (sycamore)	11.0	-	-	650	-	-	5.0	4.0	4.0	EM	20+	B	2	Multi-stemmed	7.8
94	T	Quercus robur (English oak)	14.0	-	-	500	-	-	7.0	7.0	7.0	M	20+	B	2	Swept/leaning stem	6.0

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
95	T	Salix caprea (goat willow)	10.0	-	-	-	-	-	4.0	6.0	6.0	M	10+	C	2	-	-
96	T	Quercus ilex (holm oak)	12.0	-	-	450	-	-	6.0	3.0	2.0	EM	20+	B	2	Non-native and potentially invasive species	5.4
97	T	Quercus ilex (holm oak)	12.0	-	-	550	-	-	6.0	3.0	2.0	EM	20+	B	2	Non-native and potentially invasive species	6.6
98	T	Acer campestre (field maple)	9.0	-	-	550	-	-	5.0	3.5	2.0	M	20+	B	2	-	6.6
99	T	Acer campestre (field maple)	9.0	-	-	520	-	-	5.0	3.5	2.0	M	20+	B	2	Multi-stemmed	6.2
100	T	Acer campestre (field maple)	9.0	-	-	735	-	-	5.0	3.5	2.0	M	20+	B	2	Multi-stemmed	8.8
101	T	Acer campestre (field maple)	9.0	-	-	475	-	-	5.0	3.5	2.0	M	20+	B	2	-	5.7
102	T	Fraxinus excelsior (common ash)	9.0	-	-	300	-	-	5.0	4.0	5.0	EM	<10	U	-	Infected with ash dieback	3.6

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
103	T	Fraxinus excelsior (common ash)	11.0	-	-	325	-	-	4.0	-	-	EM	20+	B	2	No obvious indicators of infection with ash dieback	3.9
104	T	Fraxinus excelsior (common ash)	11.0	-	-	350	-	-	4.0	-	-	EM	20+	B	2	No obvious indicators of infection with ash dieback	4.2
105	T	Pinus nigra ssp. Laricio (Corsican pine)	10.0	-	-	350	-	-	3.5	6.0	6.0	SM	20+	B	2	Emerging tree	4.2
106	T	Fraxinus excelsior (common ash)	7.0	-	-	300	-	-	5.0	3.5	3.5	EM	10+	C	2	Poor form	3.6
107	T	Acer pseudoplatanus (sycamore)	9.0	-	-	650	-	-	5.0	4.0	3.0	M	20+	B	2	Multi-stemmed	7.8
108	T	Tilia cordata (small-leaved lime)	8.0	-	-	300	-	-	4.0	1.0	2.0	SM	10+	C	2	-	3.6
109	T	Salix caprea (goat willow)	11.0	-	-	400	-	-	5.0	2.0	2.0	SM	10+	C	2	-	4.8

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
110	T	Acer pseudoplatanus (sycamore)	13.0	-	-	580	-	-	5.0	4.0	3.0	EM	20+	B	2	Multi-stemmed	7.0
111	T	Acer pseudoplatanus (sycamore)	13.0	-	-	360	-	-	3.0	4.0	2.0	EM	20+	B	2	Twin-stemmed	4.3
112	T	Acer pseudoplatanus (sycamore)	11.0	-	-	350	-	-	3.0	4.0	4.0	SM	10+	C	2	-	4.2
113	T	Acer pseudoplatanus (sycamore)	8.0	-	-	275	-	-	3.0	1.5	2.0	SM	10+	C	2	-	3.3
114	T	Chamaecyparis lawsoniana (Lawson cypress)	5.0	-	-	225	-	-	1.5	-	-	EM	10+	C	2	-	2.7
115	T	Acer pseudoplatanus (sycamore)	6.0	-	-	250	-	-	2.0	-	-	SM	10+	C	2	-	3.0
116	T	Chamaecyparis lawsoniana (Lawson cypress)	6.0	-	-	250	-	-	2.0	-	-	EM	10+	C	2	-	3.0
117	T	Fraxinus excelsior (common ash)	6.0	-	-	300	-	-	3.0	-	-	SM	<10	U	-	-	3.6

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
118	T	Cupressus macrocarpa (Monterey cypress)	13.0	-	-	425	-	-	5.0	3.0	3.0	M	10+	C	2	-	5.1
119	T	Acer pseudoplatanus (sycamore)	14.0	-	-	755	-	-	6.0	4.0	4.0	M	20+	B	2	Multi-stemmed	9.1
120	T	Cupressus macrocarpa (Monterey cypress)	13.0	-	-	425	-	-	5.0	3.0	3.0	M	10+	C	2	-	5.1
121	T	Acer pseudoplatanus (sycamore)	13.0	-	-	450	-	-	5.0	-	-	EM	20+	B	-	Twin-stemmed; Tight union between stems	5.4
122	T	Acer pseudoplatanus (sycamore)	9.0	-	-	600	-	-	5.0	-	-	EM	20+	B	2	Multi-stemmed	7.2
123	T	Acer pseudoplatanus (sycamore)	11.0	-	-	575	-	-	5.0	3.0	4.0	M	20+	B	2	-	6.9
124	T	Acer pseudoplatanus (sycamore)	13.0	-	-	575	-	-	6.0	2.0	3.0	M	20+	B	2	-	6.9
125	T	Tilia sp. (lime)	4.5	-	-	275	-	-	3.0	2.5	2.5	EM	10+	C	2	-	3.3
126	T	Acer pseudoplatanus (sycamore)	13.0	-	-	600	-	-	6.0	2.0	2.0	M	20+	B	2	-	7.2

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
127	T	Prunus lusitanica (Portuguese laurel)	4.0	-	-	300	-	-	2.5	-	-	M	10+	C	2	-	3.6
128	T	Acer pseudoplatanus (sycamore)	13.0	-	-	425	-	-	5.0	4.0	3.0	M	20+	B	2	-	5.1
129	T	Acer pseudoplatanus (sycamore)	9.0	-	-	250	-	-	3.0	1.0	3.0	SM	10+	C	2	-	3.0
130	T	Acer pseudoplatanus (sycamore)	11.0	-	-	600	-	-	5.0	3.0	3.0	M	20+	B	2	-	7.2
131	T	Acer pseudoplatanus (sycamore)	13.0	-	-	575	-	-	5.0	3.0	3.0	M	20+	B	2	-	6.9
132	T	Acer pseudoplatanus (sycamore)	12.0	-	-	350	-	-	4.0	4.0	5.0	EM	10+	C	-	Multi-stemmed	4.2
133	T	Sambucus nigra (elder)	5.0	-	-	200	-	-	1.5	1.5	1.5	EM	10+	C	2	-	2.4
134	T	Acer pseudoplatanus (sycamore)	10.0	-	-	350	-	-	5.0	2.0	2.0	M	20+	B	2	-	4.2
135	T	Acer pseudoplatanus (sycamore)	7.0	-	-	250	-	-	3.0	3.0	3.0	SM	10+	C	2	-	3.0

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
136	T	Acer pseudoplatanus (sycamore)	13.0	-	-	650	-	-	6.0	4.0	3.0	M	20+	B	2	-	7.8
137	T	Acer pseudoplatanus (sycamore)	10.0	-	-	500	-	-	4.0	3.0	3.0	M	20+	B	2	Twin-stemmed	6.0
138	T	Acer pseudoplatanus (sycamore)	11.0	-	-	450	-	-	4.0	4.0	3.0	M	20+	B	2	-	5.4
139	T	Sambucus nigra (elder)	6.0	-	-	250	-	-	2.0	-	-	M	<10	U	-	Poor physiological condition	3.0
140	T	Acer pseudoplatanus (sycamore)	11.0	-	-	750	-	-	5.0	3.0	3.0	M	20+	B	2	Multi-stemmed	9.0
141	T	Tilia cordata (small-leaved lime)	5.0	-	-	85	-	-	1.5	1.5	1.5	Y	10+	C	2	-	1.0
142	T	Acer pseudoplatanus (sycamore)	11.0	-	-	400	-	-	5.0	3.0	2.0	M	20+	B	2	-	4.8
143	T	Acer pseudoplatanus (sycamore)	9.0	-	-	300	-	-	3.0	2.0	2.0	EM	10+	C	2	-	3.6

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
144	T	Aesculus hippocastanum (horse chestnut)	5.0	-	-	250	-	-	3.0	2.0	2.0	SM	<10	U	-	Poor physiological condition; Multi-stemmed	3.0
145	T	Pinus nigra (Austrian pine)	14.0	-	-	750	-	-	7.0	6.0	6.0	M	20+	B	2	-	9.0
146	T	Acer saccharum (sugar maple)	12.0	-	-	750	-	-	8.0	3.0	4.5	M	20+	B	2	-	9.0
147	H	Chamaecyparis lawsoniana (Lawson cypress)	-	3.0	3.0	-	100	200	0.5	0.5	0.5	EM	10+	C	2	Maintained	2.4
148	H	Chamaecyparis lawsoniana (Lawson cypress)	-	4.0	4.0	-	100	200	0.5	0.5	0.5	EM	10+	C	2	Maintained	2.4
149	H	x Cupressocyparis leylandii (leylandii)	-	5.0	5.0	-	150	250	0.5	2.0	2.0	SM	10+	C	2	Maintained	3.0

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
150	G	Crataegus monogyna (common hawthorn); Acer campestre (field maple); Prunus spinosa (blackthorn)	-	5.0	7.0	-	75	150	3.0	1.0	1.0	EM	10+	C	2	-	1.8
151	H	Chamaecyparis lawsoniana (Lawson cypress)	-	2.0	2.0	-	100	150	0.5	-	-	EM	10+	C	2	Tightly trimmed	1.8
152	G	Acer pseudoplatanus (sycamore); Corylus avellana (common hazel)	-	5.0	8.0	-	150	300	3.0	1.0	1.0	EM	10+	C	2	-	3.6
153	G	Crataegus monogyna (common hawthorn)	-	3.0	5.0	-	75	150	2.0	1.0	1.0	EM	10+	C	2	Occasional young English oak and common ash	1.8
154	G	Crataegus monogyna (common hawthorn)	-	3.0	5.0	-	75	150	2.0	1.0	1.0	EM	10+	C	2	-	1.8
155	G	Crataegus monogyna (common hawthorn)	-	3.0	5.0	-	75	150	2.0	1.0	1.0	EM	10+	C	2	-	1.8

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
156	G	Crataegus monogyna (common hawthorn)	-	3.0	5.0	-	75	150	2.0	1.0	1.0	EM	10+	C	2	-	1.8
157	G	Crataegus monogyna (common hawthorn)	-	3.0	5.0	-	75	150	2.0	1.0	1.0	EM	10+	C	2	-	1.8
158	G	Crataegus monogyna (common hawthorn)	-	3.0	5.0	-	75	150	2.0	1.0	1.0	EM	10+	C	2	Occasional young English oak and common ash	1.8
159	G	Crataegus monogyna (common hawthorn)	-	3.0	5.0	-	75	150	2.0	1.0	1.0	EM	10+	C	2	Occasional young English oak and common ash	1.8
160	G	Salix caprea (goat willow); Acer pseudoplatanus (sycamore); Acer campestre (field maple); Fraxinus excelsior (common ash); Crataegus monogyna (common hawthorn)	-	5.0	10.0	-	75	350	3.0	1.0	1.0	EM	10+	C	2	Self-set trees: Larger trees are frequently common ash many of which show symptoms of infection with ash dieback	4.2

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
161	G	Crataegus monogyna (common hawthorn); Sambucus nigra (elder); Acer pseudoplatanus (sycamore); Salix caprea (goat willow)	-	3.0	7.0	-	75	250	3.0	1.0	1.0	EM	10+	C	2	-	3.0
162	G	Acer pseudoplatanus (sycamore)	-	11.0	14.0	-	200	400	3.0	2.0	2.0	SM	20+	B	2	Predominately multi-stemmed trees; Collective value	4.8
163	G	Acer pseudoplatanus (sycamore)	-	11.0	14.0	-	200	400	3.0	2.0	2.0	SM	20+	B	2	Predominately multi-stemmed trees; Collective value	4.8
164	G	Acer pseudoplatanus (sycamore)	-	11.0	14.0	-	200	400	3.0	2.0	2.0	SM	20+	B	2	Predominately multi-stemmed trees; Collective value	4.8

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
165	G	Acer pseudoplatanus (sycamore)	-	11.0	14.0	-	200	400	3.0	2.0	2.0	SM	20+	B	2	Predominately multi-stemmed trees; Collective value	4.8
166	G	Fraxinus excelsior (common ash); Acer pseudoplatanus (sycamore); Salix caprea (goat willow)	-	8.0	12.0	-	100	400	3.0	1.0	1.0	SM	10+	C	2	Abundant common ash in varying stages of infection with ash dieback	4.8
167	G	Fraxinus excelsior (common ash); Acer pseudoplatanus (sycamore); Salix caprea (goat willow)	-	8.0	12.0	-	100	400	3.0	1.0	1.0	SM	10+	C	2	Abundant common ash in varying stages of infection with ash dieback	4.8

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
168	G	Fraxinus excelsior (common ash); Acer pseudoplatanus (sycamore); Salix caprea (goat willow)	-	8.0	12.0	-	100	400	3.0	1.0	1.0	SM	10+	C	2	Abundant common ash in varying stages of infection with ash dieback	4.8
169	G	Crataegus monogyna (common hawthorn); Corylus avellana (common hazel); Fraxinus excelsior (common ash); Quercus ilex (holm oak)	-	7.0	12.0	-	75	300	3.0	1.0	1.0	EM	10+	C	2	Self-set trees; Mostly poor form; Frequent common ash and holm oak in certain areas	3.6
170	G	Pinus nigra ssp. Laricio (Corsican pine); Quercus robur (English oak); Acer pseudoplatanus (sycamore); Crataegus monogyna (common hawthorn)	-	5.0	12.0	-	100	300	3.0	1.0	1.0	EM	20+	B	2	Established highway planting	3.6

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
171	G	Quercus robur (English oak); Crataegus monogyna (common hawthorn); Acer pseudoplatanus (sycamore); Corylus avellana (common hazel); Prunus avium (wild cherry)	-	4.0	8.0	-	100	250	2.5	1.0	1.0	SM	10+	C	2	-	3.0
172	G	Crataegus monogyna (common hawthorn); Betula pendula (silver birch); Acer pseudoplatanus (sycamore); Fraxinus excelsior (common ash)	-	5.0	11.0	-	100	300	2.0	0.0	1.0	EM	10+	C	2	Understorey of dense bramble and ivy	3.6

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
173	G	Acer pseudoplatanus (sycamore); Prunus avium (wild cherry); Acer campestre (field maple); Fraxinus excelsior (common ash); Crataegus monogyna (common hawthorn)	-	5.0	11.0	-	100	500	3.0	0.0	1.0	EM	20+	B	2	Includes some sycamore which are establishing as overstorey; Common ash is occasional	6.0
174	G	Fraxinus excelsior (common ash)	-	12.0	12.0	-	200	325	3.0	2.0	2.0	SM	10+	C	2	Generally poor form	3.9
175	H	Crataegus monogyna (common hawthorn); Ulmus sp. (elm); Acer campestre (field maple); Fraxinus excelsior (common ash)	-	3.0	6.0	-	100	200	2.0	0.0	1.0	EM	10+	C	2	Un-managed hedgerow	2.4

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
176	H	<i>Crataegus monogyna</i> (common hawthorn)	-	3.0	5.0	-	100	200	1.0	0.0	0.5	M	10+	C	2	Partially maintained field/roadside hedge; Some low-level screening value	2.4
177	G	<i>Fraxinus excelsior</i> (common ash); <i>Tilia cordata</i> (small-leaved lime); <i>Prunus avium</i> (wild cherry)	-	8.0	10.0	-	250	500	3.0	2.0	2.0	EM	20+	B	2	-	6.0
178	G	<i>Acer pseudoplatanus</i> (sycamore)	-	11.0	11.0	-	200	400	4.0	1.0	2.0	EM	10+	C	2	Group of approximately 8 trees; Probably self-set	4.8

Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
179	G	Acer pseudoplatanus (sycamore); Corylus avellana (common hazel); Tilia sp. (lime); Fraxinus excelsior (common ash); Crataegus monogyna (common hawthorn)	-	4.0	7.0	-	75	150	3.0	1.0	2.0	EM	10+	C	2	-	1.8
180	G	Acer pseudoplatanus (sycamore); Corylus avellana (common hazel); Tilia sp. (lime)	-	4.0	9.0	-	75	300	3.0	1.0	2.0	EM	10+	C	2	Intermittent trees separated by scrubby understorey	3.6
181	H	Crataegus monogyna (common hawthorn); Sambucus nigra (elder); Chamaecyparis lawsoniana (Lawson cypress)	-	4.0	6.0	-	100	200	1.5	0.0	1.0	EM	10+	C	2	Field boundary hedge	2.4

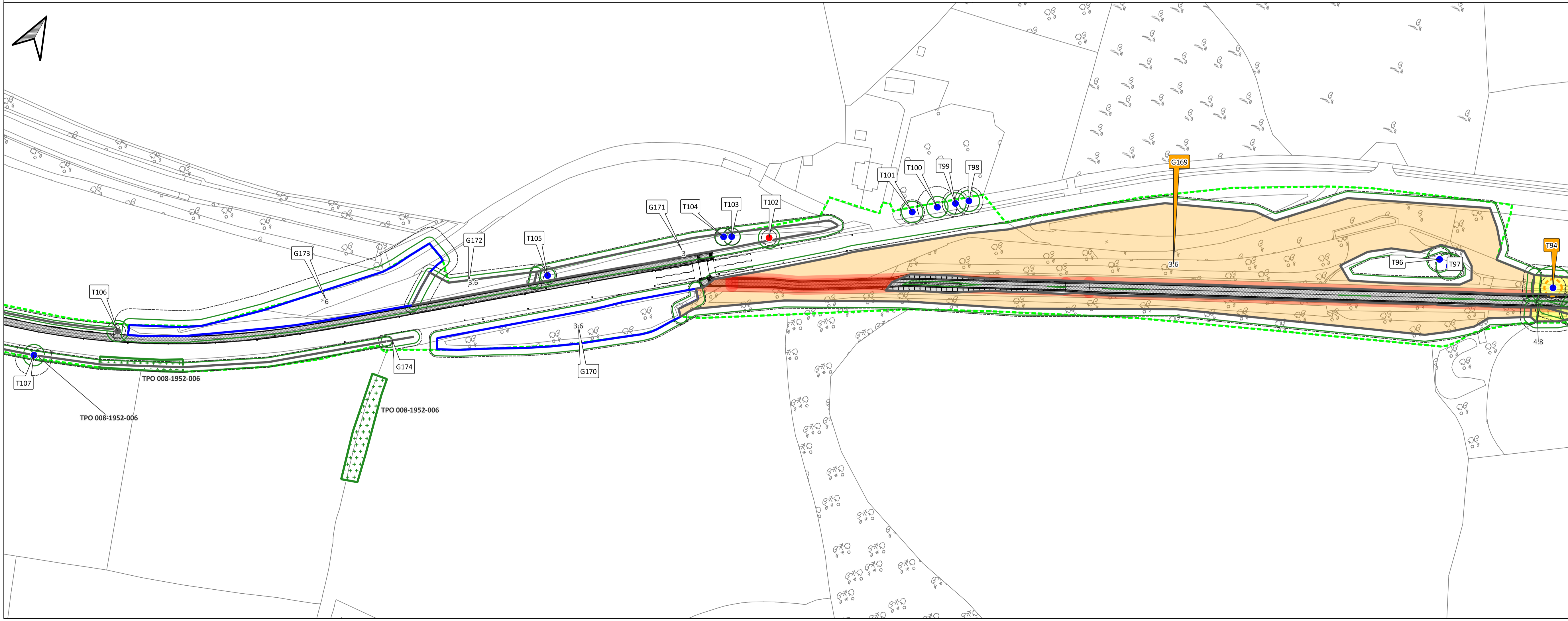
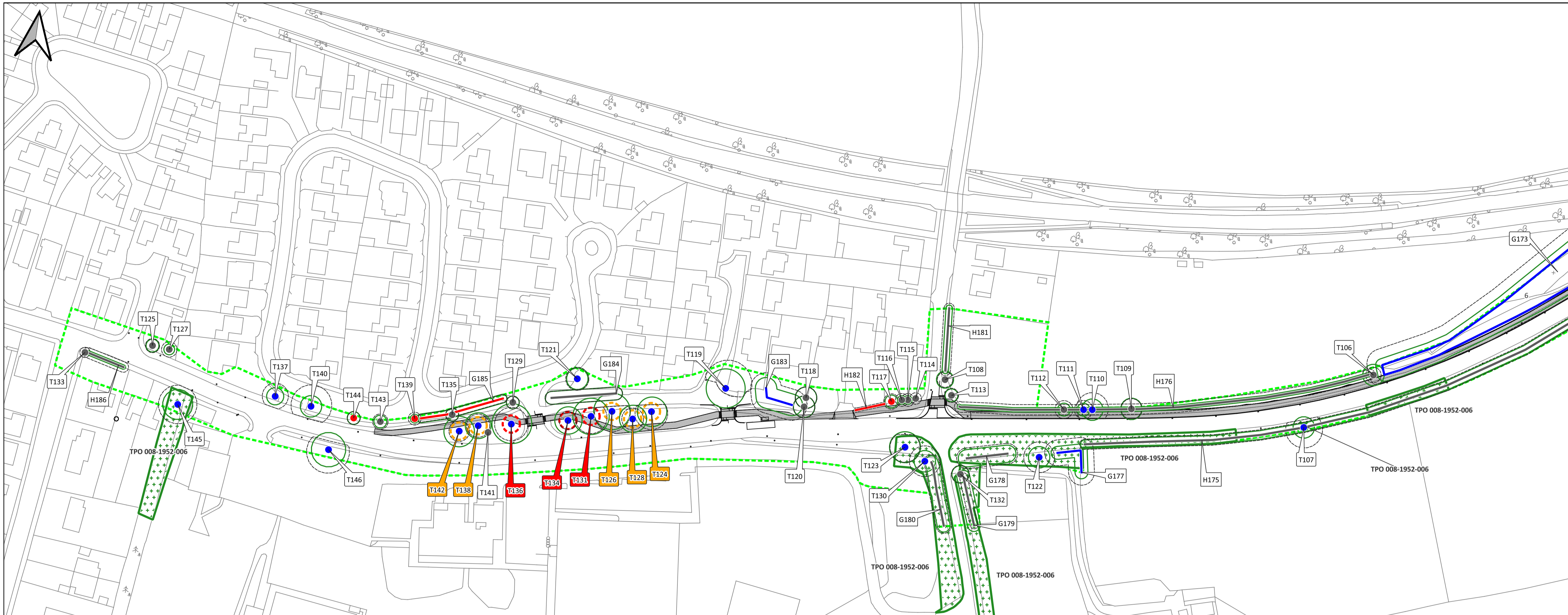
Reference Nos.	Type	Species	Height	Minimum Height	Maximum Height	DBH	DBH (Maximum)	DBH (Minimum)	Crown Spread	LCH	LBH	Life Stage	Estimated Remaining Contribution	Category	Sub-Category	General Observations	RPA Radius
182	H	x Cupressocyparis leylandii (leylandii)	-	2.0	2.0	-	50	75	0.5	-	-	SM	<10	U	-	-	0.9
183	G	Acer pseudoplatanus (sycamore)	-	14.0	14.0	-	400	600	5.0	3.0	3.0	M	20+	B	2	Group of 5 trees	7.2
184	G	Acer pseudoplatanus (sycamore)	-	8.0	11.0	-	75	250	3.0	4.0	4.0	SM	10+	C	2	-	3.0
185	G	Crataegus monogyna (common hawthorn); Prunus spinosa (blackthorn)	-	3.0	5.0	-	75	150	2.0	0.0	0.0	M	<10	U	-	Poor physiological condition	1.8
186	H	Chamaecyparis lawsoniana (Lawson cypress)	-	4.0	4.0	-	100	200	1.0	-	-	M	10+	C	2	Maintained hedge	2.4

Table 5: Key and relevant descriptors

Key:	Description:
Reference Nos	Individual reference number
Type:	T - tree; G - tree group; W - wooded area; H - hedge
Species:	Botanical name (common name); Only the most frequently occurring species within a tree group, wooded area or hedge are recorded
Height:	Overall height (m) – maximum and minimum heights are recorded for tree groups, wooded areas and hedges
DBH:	Stem diameter (mm) - calculated in accordance with BS 5837 paragraph 4.6.1. Maximum and minimum diameters are provided for tree groups, wooded areas, and hedges
Crown Spread:	Spread of crown(m) - based upon the maximum lateral dimension
LCH:	Lowest crown height (m); Where an arboricultural feature abuts the edge of the site then only the portion of the crown within, or overhanging the site has been assessed
LBH:	Height of lowest significant branch (m); Where an arboricultural feature abuts the edge of the site then only the portion of the crown within, or overhanging the site has been assessed
Life Stage:	Y - Young; SM - Semi-Mature; EM - Early Mature; M – Mature Young: recently planted and yet to fully establish; Semi-Mature: established but yet to attain mature stature (<25% life expectancy); Early Mature: Almost full height although crown still developing (<50% life expectancy); Mature: Full height and crown spread (>50% life expectancy)
Estimated Remaining Contribution:	Estimated life expectancy (under current site conditions) - <10 years, 10+ years, 20+ years, 40+ years
Category:	BS 5837 Category - A (high-quality) B (moderate-quality) C (low-quality) U (very-low quality/unsuitable for retention) Refer to Table 1 for detailed descriptions
Sub-Category:	BS 5837 Sub-Category - the primary area of value - 1) Arboricultural 2) Visual 3) Cultural/Conservation
Notes:	General observations, particularly where relevant to the assigned BS 5837 category

Key:	Description:
RPA Radius:	Root Protection Area Radius (m). The radius of the circular Root Protection Area associated with the tree as measured from the centre of the stem. For tree groups, wooded areas and hedges the RPA radius is calculated using the maximum stem diameter.

APPENDIX C: TREE RETENTION / REMOVAL PLAN



LEGEND:

Tree Survey

- Tree (Individual)
 - High-Quality / BS 5837 Category A
 - Moderate-Quality / BS 5837 Category B
 - Low-Quality / BS 5837 Category C
 - Very-Low Quality / BS 5837 Category U
- Tree Group / Wooded Area (Polygon)
 - Moderate-Quality / BS 5837 Category B
 - Low-Quality / BS 5837 Category C
- Tree Group / Hedge (Linear)
 - Moderate-Quality / BS 5837 Category B
 - Low-Quality / BS 5837 Category C
 - Very-Low Quality / BS 5837 Category U

Arboricultural Constraints

- Root Protection Area
- Crowns

Desktop Study Findings

- TPO Tree - TPO 008-1952-006
- TPO Tree Group - TPO 008-1952-006

Other

- Arboricultural Study Area
- No Access for Survey (Private Residence)

Arboricultural Impact Assessment

- Individual Tree - Removed
- Individual Tree - 'At Risk'
- Tree Group - Removed and/or Area of Potential Tree Removal
- Tree Group - Some Potential Tree Removal
- Tree Group - Tree Removal Due To Ash Dieback Disease

Proposed Scheme

- Proposed - Pavement
- Proposed - Verge
- Proposed - Earthworks

0 10 20 30 40 50 m

DRAWING TITLE:
TREE RETENTION / REMOVAL PLAN

CLIENT:
ARCADIS

PROJECT:
SULLY TO COSMESTON ACTIVE TRAVEL ROUTE

DATE:
07/10/2024

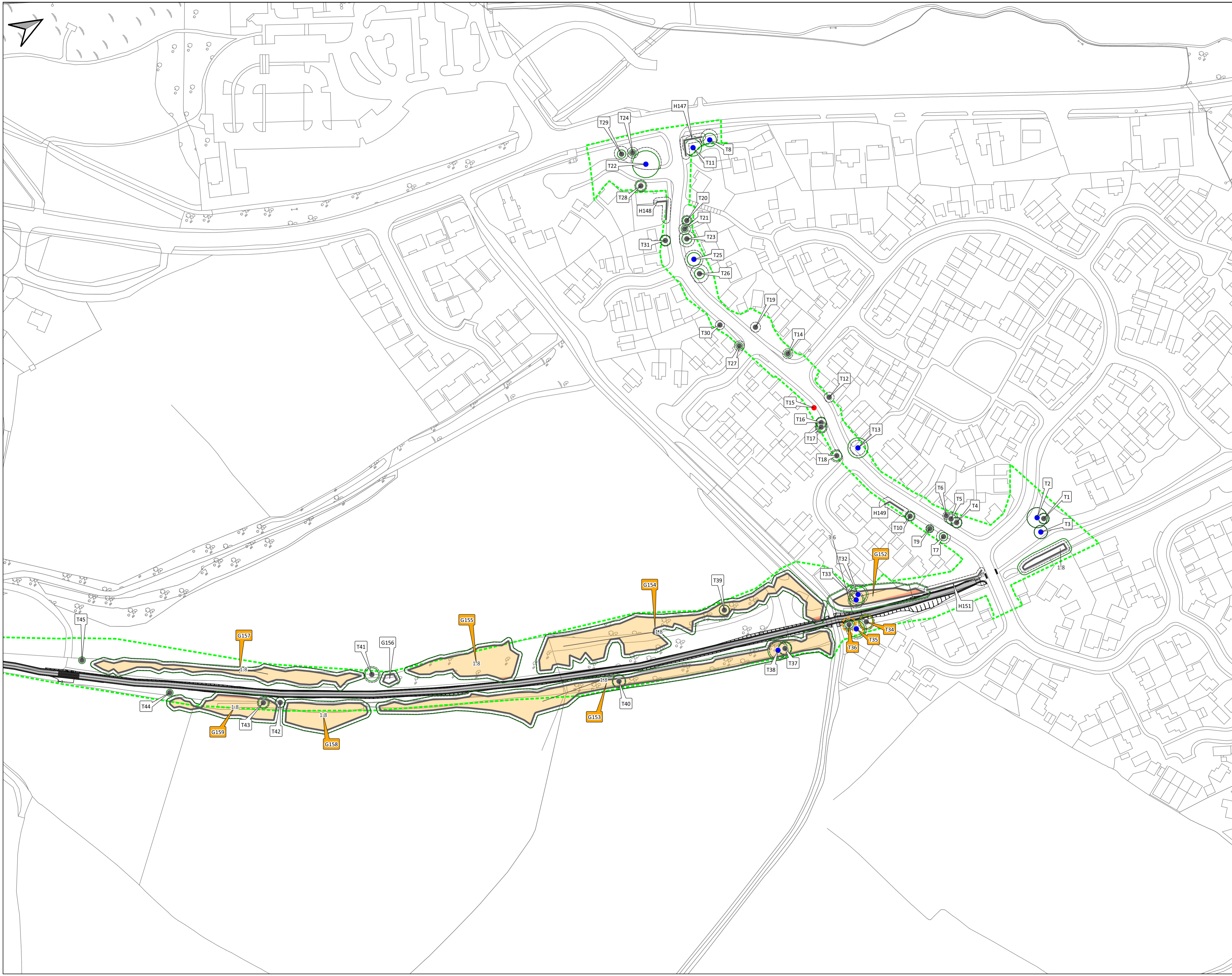
SCALE @ A1:
1:1,000

DRAWING REF:
FIGURE 6

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LEGEND:

Tree Survey

Tree (Individual)

- High-Quality / BS 5837 Category A
- Moderate-Quality / BS 5837 Category B
- Low-Quality / BS 5837 Category C
- Very-Low Quality / BS 5837 Category U

Tree Group / Wooded Area (Polygon)

- Moderate-Quality / BS 5837 Category B
- Low-Quality / BS 5837 Category C

Tree Group / Hedge (Linear)

- Moderate-Quality / BS 5837 Category B
- Low-Quality / BS 5837 Category C
- Very-Low Quality / BS 5837 Category U

Arboricultural Constraints

- Root_Protection_Area
- Crowns

Desktop Study Findings

- ✕ TPO Tree - TPO 008-1952-006
- TPO Tree Group - TPO 008-1952-006

Other

- Arboricultural Study Area
- No Access for Survey (Private Residence)

Arboricultural Impact Assessment

- Individual Tree - Removed
- Individual Tree - 'At Risk'
- Tree Group - Removed and/or Area of Potential Tree Removal
- Tree Group - Some Potential Tree Removal
- Tree Group - Tree Removal Due To Ash Dieback Disease

Proposed Scheme

- Proposed - Pavement
- Proposed - Verge
- Proposed - Earthworks

0 10 20 30 40 50 m

DRAWING TITLE:
TREE RETENTION / REMOVAL PLAN

CLIENT:
ARCADIS

PROJECT:
SULLY TO COSMESTON ACTIVE TRAVEL ROUTE

DATE:
07/10/2024

SCALE @ A1:
1:1,000

DRAWING REF:
FIGURE 8

TR33
ENVIRONMENTAL

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