Arboricultural Impact Assessment





Pontfaen Road, Lampeter

15th November 2021

Our Ref: 13550_R05a_LS_CW

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Summary

- S.1. This Arboricultural Impact Assessment has been prepared by Tyler Grange Group Limited (TG). Aldi Stores Limited and University of Wales Trinity Saint David have submitted planning application for the erection of a Class A1 retail Aldi foodstore, the refurbishment of a Grade II listed sports pavilion, the installation of three pre-fabricated wooden exhibition pods, and a nature and biodiversity area with associated access, car parking and landscaping to Ceredigion County Council. The application also includes Listed Building Consent involved with the refurbishment of the listed pavilion. This is Located off Pontfaen Road, Lampeter, Ceredigion SA48 7JL. This report assesses the impact of the proposals on the existing surveyed tree stock and is informed by a baseline BS5837:2012 Tree Quality Survey of the site.
- S.2. The tree survey identified one tree and two groups of trees of high value (Category A); 21 trees, one group of trees and one hedgerow which are of moderate value (Category B); five trees of low value (Category C) and one tree recommended for removal (Category U).
- S.3. Most individual trees on site are subject to a Tree Preservation Order, as shown on the Tree Constraints Plan. The site is not covered by a Conservation Area or Ancient Woodland designation. One veteran tree (T25) was identified during the survey.
- S.4. The loss of two northern boundary trees (T4 and T5) and two sections of hedgerow (H1) totalling 35 metres is required to facilitate the new pedestrian and vehicular accesses into the site. These are considered to be moderate value features and the horse chestnut trees are suffering from bleeding canker.
- S.5. With the implementation of the new tree and hedgerow planting as part of the development's soft landscaping scheme, this will result in a net gain in tree cover of improved diversity to that of the current scenario. The proposals are therefore considered to accord with local and national planning policy as it relates to trees.



Section 1: Introduction

Purpose

- 1.1. This Arboricultural Impact Assessment has been prepared by TG on behalf of Aldi Stores Ltd and University of Wales Trinity Saint David to accompany a planning application at Land off Pontfaen Road, Lampeter, Ceredigion, SA48 7JL (hereby referred to as 'the site').
- 1.2. Full planning permission is sought for the erection of a Class A1 retail Aldi foodstore, the refurbishment of a Grade II listed sports pavilion, the installation of three pre-fabricated wooden exhibition pods, and a nature and biodiversity area with associated access, car parking and landscaping. The application also includes Listed Building Consent involved with the refurbishment of the listed pavilion. The layout of the proposed development is shown on the Proposed Site Plan included at **Appendix 1** to the rear of this report.
- 1.3. The application is to be submitted to Ceredigion County Council. Local planning policy pertinent to trees and new development is set out at **Appendix 2** alongside the relevant national planning policy.
- 1.4. This report:
 - Provides the findings of a tree survey and the associated tree constraints towards the proposed development; and
 - Evaluates the effects of the proposed development on existing trees.
- 1.5. The tree survey and assessment has been guided by the recommendation set out within the British Standard 5837:2012 'Trees in relation to design, demolition and construction recommendations' (BS5837) to accord with industry best practice.

Site Description

- 1.6. The site is located towards the west of the town of Lampeter and is centred on National Grid Reference SN 57266 48161. The site boundary is demarcated by the red line as shown on the **Tree Constraints Plan** (TCP) located to the rear of the report.
- 1.7. The site currently comprises a cricket pavilion, built for St David's College now known as UWTSD, access, from the north-eastern corner extending along the eastern boundary and a car park to the east of the pavilion.



Section 2: Baseline Information

- 2.1 The tree survey was completed by a suitably qualified Arboricultural Surveyor of Tyler Grange on 10th March 2021. The survey was completed in accordance with BS5837 and the methodology as detailed at **Appendix 3**. A measured topographical survey (supplied by others) was used to inform the location of trees and their surrounding context.
- 2.2 The distribution of the trees surveyed is illustrated on the TCP to the rear of this report together with details of their constraints to new development in accordance with BS5837, including:
 - Tree Quality Gradings¹;
 - Root Protection Areas² (RPAs);
 - Tree Canopy Spreads³; and
 - Tree Shading⁴.
- 2.3 Findings for each of the trees surveyed are detailed in the Tree Survey Schedule (see **Appendix 4**). This provides a tabulated record of the trees surveyed, including; reference numbers, species composition, tree dimensions, life stage, physiological and structural condition, and the arboricultural value of each survey entry.

Tree Survey Summary

- 2.4 A total of 29 individual trees, two tree groups and two hedgerows were identified during the BS5837 Tree Quality Survey site visit. Findings for each of the trees are detailed in the Tree Survey Schedule found in Appendix 2 and their distribution is illustrated on the Tree Constraints Plan (TCP) located to the rear of this report.
- 2.5 The site is predominantly enclosed by mature vegetation at its boundaries. A linear row of mature Horse Chestnut trees (T1-T12) are scattered along the northern boundary, with a flailed hedgerow (H1) forming the site boundary itself. To the west, a native woodland is established on the banks of the stream extending to the south (G2). Bordering the western boundary, a row of mature Lombardy and Black Poplar trees (T14-T20) are established.
- 2.6 The southern boundary is formed by a mature hedgerow (G3) and scattered mature trees (T21-T25), included one veteran Ash tree (T25) directly to the south of the pavilion. The eastern boundary vegetation is limited to 4 trees (T26-T29) which form a cohesive canopy.

⁴ Shade cast by existing trees which may affect the availability of sunlight and daylight within a new development. See further explanation at Appendix 3.



¹The value of arboricultural features surveyed in accordance with the methodology set-out in Appendix 3.

² A layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority. See further explanation at Appendix 3.

³ Dimensions of the trees crown spread and clearance from ground level. See further explanation at Appendix 3.

Tree Grading Summary

- 2.7 The trees surveyed have been categorised using the 'cascade chart for tree quality assessment' (see Appendix 4) recommended by the BS5837. The grading system allows informed decisions to be made concerning the design and impact of the development in relation to the arboricultural value of the trees surveyed.
- 2.8 The category gradings for each survey is detailed in the table below:

Table 1: Category grading of arboricultural features

| | Category U | Category C | Category B | Category A |
|---------------------|------------|---------------------------|---|------------|
| Individual Trees | Т8 | T6, T10, T12, T13, T17 | T1, T2, T3, T4, T5, T7, T9, T11, T14, T15, T16, T18, T19, T20, T21, T22, T23, T25, T26, T27, T28, T29 | T25 |
| Groups of Trees | None | None | G1 | G2, G3 |
| Hedgerows | None | None | H1 | None |

Tree-related Designations

2.9 Following a background check of available online mapping, the presence or absence of treerelated designations is detailed in the table below:

Table 2: Tree-related designations / tree reference numbers

| | <u> </u> |
|--------------------------------------|--|
| Designation Type | TG Tree Reference Number (s) |
| Tree Preservation Order ¹ | Shown on Tree Constraints Plan (reference unknown) |
| Conservation Area² | None |
| Ancient Woodland³ | None |
| Woodland Habitat⁴ | None |

⁴ Spatial data of woodlands identified under the Priority Habitat Inventory (England) Published by Natural England. The Magic Maps website https://magic.defra.gov.uk/MagicMap.aspx has been used to search for woodland on or adjacent to a site.



¹ A Tree Preservation Order is an order made by a local planning authority in England to protect specific trees, groups of trees or woodlands in the interests of amenity. An Order prohibits the any works and damage to trees (with some exceptions) without the local planning authority's written consent. More information can be found online

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

Trees in a conservation area that are not protected by an Order are protected by the provisions in section 211 of the Town and Country Planning Act 1990. These provisions require people to notify the local planning authority, using a 'section 211 notice', 6 weeks before carrying out certain work on such trees, unless an exception applies. More information can be found online

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

Ancient woods are areas of woodland that have persisted since 1600 in England and Wales, and 1750 in Scotland. The Magic Maps website https://magic.defra.gov.uk/MagicMap.aspx has been used to search for ancient woodland on or adjacent to a site.

Section 3: Arboricultural Impact Assessment

3.1. This Arboricultural Impact Assessment has been undertaken to address the development proposals in relation to existing trees. The assessment is informed by a composite overlay of the tree survey information and proposed site plan which is shown on the **Tree Retention and Removal Plan** (Ref: 13550/P11) located to the rear of this report.

Proposed Tree Removals

3.2. The removal of trees T4 and T5 alongside the partial removal of a section of hedgerow (H1) is required to facilitate the pedestrian and vehicular access into the site. The trees were categorised as moderate value as they are mature trees within the setting (protected by a TPO); however, they are come into disrepair due to poor management adjacent to the telephone wires to the north, as well as suffering from horse chestnut bleeding canker which has impacted its physiological and structural condition. These trees display evidence of decline with visible dieback in the upper crown and decay forming within the stems.

Opportunities for New Tree Planting

3.3. The trees proposed to be lost will be replaced with a native tree species that is fitting with the surrounding area and therefore the nature of the site will be preserved. Additional trees and hedgerows within the soft landscaping scheme will bolster this tree planting to form a strong landscape framework and create points of interest within the car park, events area and near the entrance. The species identified have been chosen to give annual amenity interest as well as beneficial effects for pollinators to increase the biodiversity level of the site. The planting scheme is illustrated on the Soft Landscape Proposals that accompany the application (TG Ref: 13550/P13 and P14 - See appendix 1). 26 extra heavy standard trees are proposed alongside 529 native hedgerow specimens around the car parking area to form linear connectivity for wildlife and aesthetic value and structure.

Construction Mitigation for Retained Trees

- 3.4. It is necessary to demonstrate how the above and below ground structures of retained tree cover will be protected during the site preparation and construction phases of development in accordance with BS5837. Therefore, an Arboricultural Method Statement (AMS) is recommended to discharge an applicable and suitably worded planning condition, should consent be granted.
- 3.5. The AMS will set out a practical and robust methodology for the protection of retained trees for the site preparation and construction of the proposed development. It includes:
 - Specification for tree protection fencing and ground protection;
 - Procedures for specialist construction techniques and sensitive excavation methods within the RPA's of trees T1, T2, T3, T15, T26, T27 and T28 (summarised below);
 - Phasing of Work; and
 - An auditable system of site monitoring



- 3.6. Should resurfacing work be required within the RPAs of T1, T2, T3, T25, T26, T27 and T28, the following procedures will be adopted to avoid damage to tree roots potentially present beneath the top layer surface:
 - The top surface layer will be shattered by a small machine or hand-held breaker. No excavation using machines will surpass the top surface layer and into the sub-base where roots may be present.
 - The sub-base will be retained in-situ for the new surfacing. Where the existing sub-base requires minor re-levelling or to be 'made-good', this must be undertaken by hand using hand-held tools only.
 - All tree roots (if encountered) must be retained and not damaged where possible in the first instance.
 - Where single roots smaller than 25mm require removal, they will be cleanly pruned back using a suitable sharp hand tool.
 - Roots found over 25mm and where occurring as clumps will be not be immediately pruned back, the advice of the LPAs Tree Officer or a suitably qualified Arboriculturist must be sought to determine the roots' significance to tree health, and specify proceedings accordingly.
 - Any exposed roots will be covered with top soil or a hessian sack to avoid root desiccation.

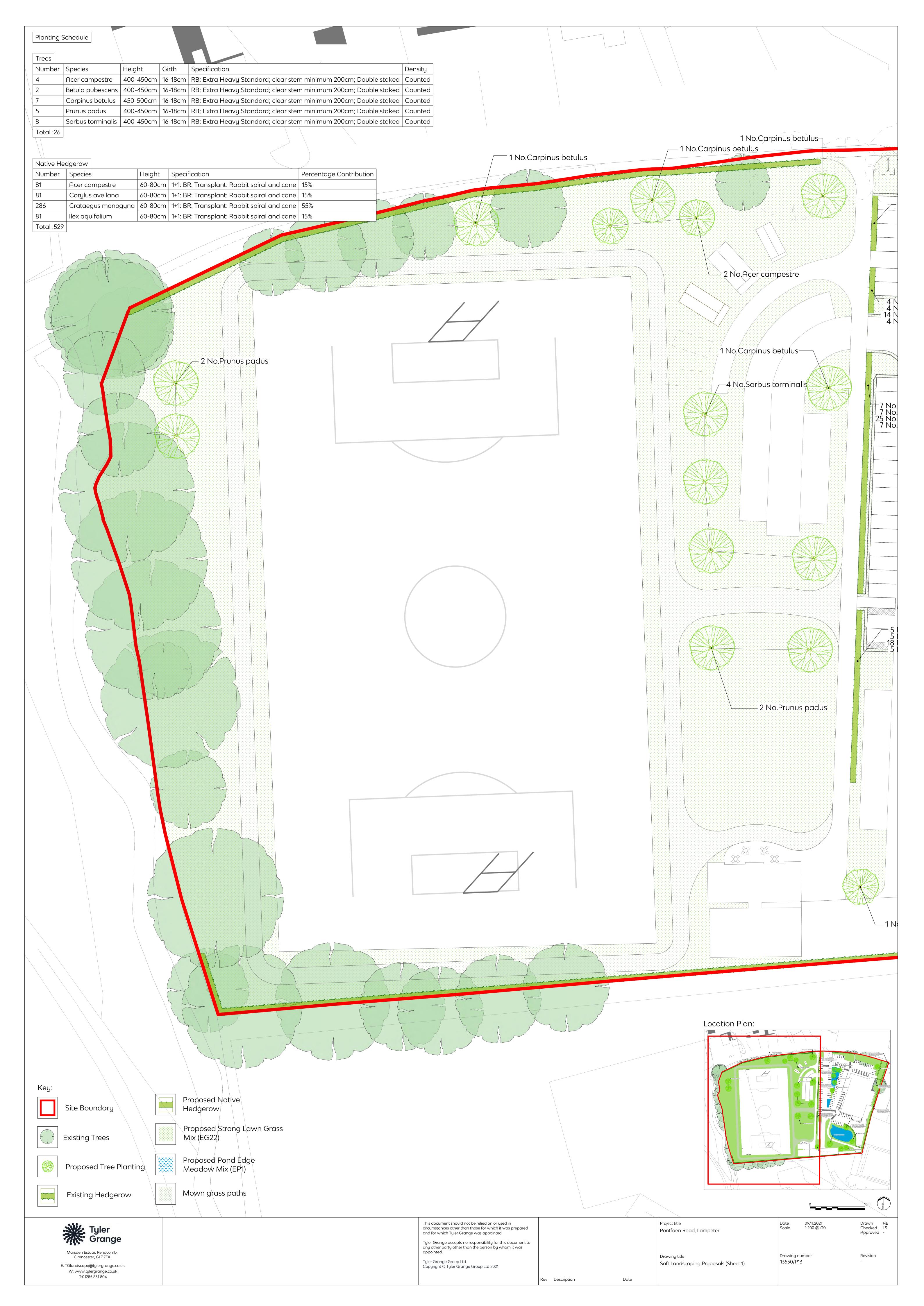
Conclusion

- 3.7. The site's tree cover is relatively typical of an urban setting and comprises mature trees to the boundaries of the site. The tree stock is predominantly of low to moderate value with three high value features to the site's western and southern boundaries. Visible defects are evident within the mature tree cover to the north of the site with signs of horse chestnut bleeding canker.
- 3.8. T4, T5 and two sections of H1 totalling 35 metres are proposed to be removed to facilitate the pedestrian and vehicular accesses into the site. Loss of this vegetation will be compensated for by the provision of new tree and shrub planting within the soft landscape scheme to form a diverse GI network within the site, in line with local planning policy relevant to enhancing biodiversity interests and trees. This includes the provision of 26 extra heavy standard trees and 529 native hedgerow specimens within large buffers that allow space for the trees to establish and hit full maturity.
- 3.9. An Arboricultural Method Statement and Tree Protection Plan could be secured by a suitably worded planning condition. This would set out tree protection methodology for the retained tree stock on the outskirts of the site during construction stages.
- 3.10. Given the limited extent of removal of moderate value vegetation and the opportunity for new tree and hedgerow planting within ample space, a net-gain in vegetation cover will likely be achieved through the development.



Appendix 1: Proposed Soft Landscape Proposals





SPECIFICATION NOTES GENERAL Proposals to be read in conjunction with Architects and Engineers Drawings; All landscape operations to be in accordance with all relevant and current British Standard Codes; All stock (other than container grown) shall be planted between November 30th and 28th February. Planting operations shall be carried out in suitable open weather and all plants re-firmed if lifted by frost during the contract. No planting shall take place in dry, hot and sunny weather or indeed of frost and snow are present, or in cold east winds, regardless of the stock specified Any plant material planted outside the recognised planting season (Nov-Feb), to be containerised stock and supplied at the sizes specified; SOIL AND MULCH On site topsoil shall be as close as possible to BS3882:2015, but free from subsoil, clay and debris. Where a landscape subcontractor has concerns about the 4 No.Acer campestre15% 4 No.Corulus avellana15% 12 No.Crataeaus monogyna55% 4 No.llex aquifolium15% quality of on-site topsoil supplied by others, a representative sample should be sent to the Landscape Architect for comment; Topsoil shall be evenly and thoroughly cultivated to depths as follows incorporating any specified ameliorates to full depths of cultivation; - Extra Heavy Standard trees - Pits generally 1.2 x 1.2 metres square and 1 metres deep; -2 No.Acer campestre15% 2 No.Corulus avellana15% 6 No.Crataeaus monogyna55% -2 No.llex aquifolium15% - Shrubs & Hedge Planting - 400mm deep; - Seeded or Turfed Areas - 150mm deep; Backfill for trees with suitable topsoil mixed with 50 Litres of suitable non-peat based compost and slow release fertiliser as per manufacturers instruction. Fill to within 85mm of surface (soil level of grass adjacent); All planting areas to be covered with a 75mm depth of medium grade bark 1 No Carpinus betulus mulch. -1 Ņo.Beţula pubescens PLANT MATERIAL TREATMENT All trees and shrubs are to be supplied from nurseries in the UK or other 1 No.Carpinus betulus member countries of the EEC. The Landscape Architect is to approve the nursery selected by the Landscape Subcontractor for the supply of plants. The Landscape 4 No.Acer campestre 15% 4 No.Corulus avellana 15% 14 No.Crataeaus monogyna 55% 4 No.llex aquifolium 15% Subcontractor is responsible for the protection of plant material being hardened off or grown at their nursery and shall make good defects; Tree Stakes and Ties - Stakes to be pressure treated larch poles with ACQ by "Permawood" or other similar and approved. The stakes shall be 700mm apart (each side of the root ball, taking care to avoid the root ball), with a half rounded cross brace positioned at the top of the posts (level and horizontal), nailed to the stakes with 2 No. galvanised nails at each end. Secure the stem to the tree using a rubber tie -2 No.Sorbus torminalis with spacing device or sackcloth (and several turns to form a good spacing knot) positioned 25mm maximum from the top of the post. **EXISTING TREES AND SHRUBS** Existing trees to be retained shall be protected in accordance with the requirements and specifications set out in BS5837:2012 paragraph 6.2.2 figure 3 and BS1722 : Part 4 7 No.Acer campestre15% 7 No.Corulus avellana15% 25 No.Crataeaus monogyna55% 7 No.llex aquifolium15% 2 No.Acer campestre15% 2 No.Corulus avellana15% 5 No.Crataeaus monogyna55% 2 No.llex aquifolium15% **PROPOSED TREES** Contractor to ascertain the location of all sewers and services prior to tree 1 No.Betula pubescens planting; No trees to be planted within 3 metres of sewers or services or other easement recommended by the relevant statutory undertaker without the use of tree root barriers. All tree pits with root barriers are subject to engineer's approval; Extra Heavy Standard Trees to be underground guyed and fixed in accordance with the tree pit detail. Where necessary increase tree pit dimensions to ensure that tree pits are at least 75mm deeper and 150mm wider than the rootball. Break up bottom of pits to a depth of 150mm. Compacted glazed sides of pits should be roughened; Cut back any broken or damaged roots to sound growth; Plant trees upright, in the centre of the pit and at original soil depth; SHRUBS Plant shrubs exactly in accordance with the landscape drawings. All non-perishable containers shall be removed and any damaged roots carefully pruned. Excavate planting holes 75mm wider than the root spread. Each plant shall be planted at it's correct depth, to the original soil or nursery mark, to BS4428:1989. Compost and sand additives shall be worked well into backfill whilst backfilling is in progress, taking care not to raise general levels of the soil so that bed edges are less than 65-80mm below the adjacent pavement edges; Where native whip and shrub planting are shown in mixes, the numbers of each species for the groups is specified on the planting list on the drawing (and will be inspected by the Landscape Architect). 21 No.Acer campestre 15% 21 No.Corulus avellana 15% 74 No.Crataeaus monoayna 55% 21 No.llex aquifolium 15% Gaps around the root ball shall be filled to half its depth and firmed by hand, but avoiding damage to the roots. Further soil can then be used to fill the voids to the surface and firmed by treading, taking care not to over firm and damage roots; Water in all plants within 2 hours of planting with 25 litres minimum per metre 5 No.Acer campestre15% 5 No.Corulus avellana15% 18 No.Crataeaus monogyna55% 5 No.llex aquifolium15% squared; Prune back leggy growth immediately after planting; Approved bark mulch to a depth of 75mm. HEDGING EXTRA HEAVY STANDARD TREES IN SOFT LANDSCAPE AREAS Plant hedging in trenches 400mm depth and large enough to take the full -1 No.Acer campestre/ Set out plants evenly as scheduled; planted in groups of 3-7 of the same species; Backfill with excavated topsoil/shrub planting mix; Prune back native hedging hard at the appropriate season in year one (and 6 No.Acer campestre15% 6 No.Corulus avellana15% 22 No.Crataeaus monoayna55% 6 No.llex aquifolium15% outside of the bird nesting season). RABBIT GUARDS Where specified, install rabbit guards supported by canes around each transplant (to supplier specification); PREPARATION OF WILDFLOWER GRASS AREAS Grade areas to be seeded until the surface is evened and the level is or the required height, and is further flush with any paved area (max tolerance 0 to -10mm), — 1 No.Prunus padus to receive run off, but not so low as to damage mower blades on cutting the edges. Fully cultivate existing and imported topsoil to a depth of 150mm and rake surface to ~~1 No.Carpinus betulus form a fine tilth. Remove all stones, twigs, logs and other debris. Stone rake repeatedly until all stones greater then 20mm in any one direction are removed. After 6 weeks (minimum time), but not later than 12 weeks, spray all weed with a suitable translocated systemic and approved herbicide; SEEDING OF WILDFLOWER GRASS AREAS No seed is to be sown until the cultivation and preparatory works have been approved by the Landscape Architect; Sowing rates for seed mixes as recommended in the Key; Carefully rake in thoroughly to ensure that the seed is a few millimetres below surface. 'RUBBER LOCK' TREE TIES AND SPACERS Roll using a very light roller, (or cylindrical mower) Ensure surface is even and 2No. TIES PER TREE, ONE level IMMEDIATELY BELOW THE OTHER. 75mm DIAMETER, 1200mm LONG SOFTWOOD ESTABLISHMENT OF WILDFLOWER GRASS AREAS 2 No.Sorbus torminalis TIMBER STAKE. LOWER END TREATED Strim once in late October to a height of 125mm and once in mid-March to a WITH/PRESERVATIVE. POSITION OF STAKES DEPENDANT ON SIZE OF ROOTBALL height of 150mm. Strim again at the end of August or early September to a height of -1 No.Acer campestre 75mm. MULCH TO 70mm DEPTH WATERING BACKFILL MATERIAL TO BE TOPSOIL MIXED WITH 20% PEAT FREE ORGANIC Maintenance watering shall be carried out by a contracted maintenance TREE PLANTING COMPOST AND 120g company. 'SIERRABLEN FLORA' SLOW RELEASE **FERTILISER** WEEDING BASE OF PIT BROKEN UP TO Remove all weed growth by hand as necessary to ensure weed free and tidy 150mm MIN DEPTH planting beds. Take great care not to disturb sheet or bark mulch. All weeds shall be removed from the site. Two visits are required per growing season where sheet mulch is specified, and 6 visits per growing season are required where no sheet mulch is specified. Visits should occur approximately monthly, subject to weather conditions. Location Plan: SHRUBS, TREES & TIDYING BEDS Remove all litter and debris at each visit, leaving the site clean and tidy. Firm in and straighten out plants loosened and prune out dead, leggy and broken branches, without damage to natural habit of the plant. In the case of trees, a suitably skilled and qualified arboriculturalist shall carry out such pruning. Tree stakes and ties shall be checked, adjusted and replaced as necessary. Prune hedges back to an even hedge line to encourage thickening, twice within the first growing season after planting. Key: Proposed Native Site Boundary Hedgerow Proposed Strong Lawn Grass **Existing Trees** Mix (EG22) Proposed Pond Edge Proposed Tree Planting Meadow Mix (EP1) Mown grass paths Existing Hedgerow This document should not be relied on or used in Project title 09.11.2021 Drawn Tyler Grange 1:200 @ A0 circumstances other than those for which it was prepared Scale Checked Pontfaen Road, Lampeter Approved and for which Tyler Grange was appointed. Tyler Grange accepts no responsibility for this document to any other party other than the person by whom it was appointed. Marsden Estate, Rendcomb, Drawing number Revision Cirencester, GL7 7EX Drawing title Tyler Grange Group Ltd 13550/P14 Soft Landscaping Proposals (Sheet 2) E: TGlandscape@tylergrange.co.uk Copyright © Tyler Grange Group Ltd 2021 W: www.tylergrange.co.uk T:01285 831 804 Rev Description Date

Appendix 2: Planning Policy Context

A2.1. Under the Town and Country Planning Act 1990 (as amended) the requirement to consider trees as part of development is a material planning consideration and will be taken into account in the determination of planning applications. Applicable arboricultural planning policy that relates to the site is set out below at a National and Local level.

National Planning Policy

Planning Policy Wales (PPW) Edition 11

- A2.2. Chapter 6 of the PPW (Distinctive and Natural Places) includes the following commitments and what they relate to where they are applicable to this site:
 - 6.2: Green Infrastructure The planning system should protect and enhance green infrastructure assets and networks because of [their] multi-functional roles. The protection and enhancement of biodiversity must be carefully considered as part of green infrastructure provision...The quality of the built environment should be enhanced by integrating green infrastructure into development.
 - 6.4: Biodiversity and Ecological Networks Promoting biodiversity by enhanced biodiversity
 and resilience of ecosystems duty (as set out in The Environment (Wales) Act 2016. The
 Nature Recovery Action Plan supports this legislative requirement to reverse the decline in
 biodiversity, address the underlying causes of biodiversity loss and increase the resilience of
 ecosystems.
- A2.3. Development plan strategies, policies and development proposals must consider the need to:
 - Trees, woodlands and hedgerows Planning authorities should protect trees, hedgerows, groups of trees/...woodland where they have ecological value, contribute to the character or amenity...or perform a beneficial...green infrastructure function.

Local Planning Policy

Ceredigion Local Development Plant 2007-2022 (Adopted April 2013)

- A2.4. Policy DM20: Protection of Trees, Hedgerows and Woodlands
- A2.5. Development will be permitted providing: 1. it would not remove, damage or destroy trees, hedgerows or woodlands of visual, ecological, historic, cultural or amenity value unless the need of the proposed development outweighs these values; 2. it is able to mitigate or if necessary compensate for any negative impacts of the loss or damage; 3. it would achieve appropriate biodiversity gain; and 4. compensation and enhancement measures are mainly native species of local provenance and are not non-native invasive species.



Appendix 3: Methodology, Constraints, Mapping and Limitations

Field Work

- A3.1 In accordance BS5837, the tree survey included all trees within / in influence of the site and the site boundaries that were over 75mm diameter at breast height (1.5m). Measured topographical survey data (supplied by others) was used to inform tree locations their surrounding context. Any trees not identified on the topographical survey are prefixed with (*) and their locations have been approximated using measurements during the tree survey and further informed by aerial photography where required.
- A3.2 The trees surveyed were visually inspected from ground level only. No invasive investigations or climbing inspections were necessary to confirm visual or audible signs of defect or debility and no tissue or soil samples were undertaken. For further clarification please refer to the tree survey explanatory notes in below.

Tree Numbers

'T' prefixes have been used to identify individual trees and commence with 'T1'.

'G' prefixes have been used to identify groups of trees.

'H' prefixes have been used to identify hedgerows.

'W' prefixes have been used to identify woodlands.

Species

A3.3 Species are listed by their common name, both in the schedule and in the report text.

Height and Stem Diameter

A3.4 The stem diameter is measured at 1.5m above ground level and given in millimetres (mm). Tree heights are measured in metres (m) using a clinometer where access and land typography allowed. In instances where access to tree's stem and height measurements were not possible, the dimensions have been estimated by eye.

Crown Spread and Height of Crown Clearance

- A3.5 Radial crown spread is measured in metres and is listed for each of the four cardinal points where access has been possible to obtain a measurement. Where access was not possible to measure the spread of the canopy, such distances have been estimated by eye or informed by aerial photography.
- A3.6 The measured canopy shapes have been plotted on the **Tree Constraints Plan** at the four cardinal points. For groups of trees, the extent of the canopy has been measured as an average across the group and plotted using the topographical survey mapping. In some instances, Tyler Grange will use aerial photography to inform the canopy spread of larger tree groups and woodlands where topographical data is limited for such features.



A3.7 The distance between the ground level and the first significant branch or radial tree crown, whichever is the lower, has been measured in metres.

Age Class

A3.8 The age of each tree is defined as follows:

Young - within the first third of reaching full maturity;

Semi-Mature - within the second third of reaching full maturity;

Early-Mature - within the last third of reaching full maturity;

Mature - specimen at full maturity; and

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

Physiological and Structural Condition

- A3.9 The physiological or structural condition of each tree is defined as either; good, fair, poor or dead. For each tree, where appropriate, notes on the structural integrity are provided on form, taper, forking habit, storm damage, decay, fungi, pests, etc.
- A3.10 An assessment of a tree's physiological condition is defined as:

Good - fully functioning biological system showing expectant vitality for the species i.e. normal bud growth, leaf size, crown density and wound closure.

Fair – fully functioning biological system showing below average vitality i.e. reduced bud growth, smaller leaf size, lower crown density and reduced wound closure.

Poor – a biological system with limited functionality showing clear physiological decline, disease or significantly below average vitality i.e. limited bud growth, small and chlorotic leaves, low crown density and limited wound closure.

Dead - tree observed to fully dead with no living parts.

A3.11 An assessment of a tree's structural condition is defined as:

Good - no significant structural defects.

Fair – structural defects which could be alleviated through remedial tree surgery or arboricultural management practices

Poor - structural defects which cannot be alleviated through tree surgery or arboricultural management practices.



Tree Quality Gradings

A3.12 The value of trees have been assessed in accordance with the BS5837 Cascade Chart for Tree Quality Assessment (See **Appendix 4**). Grading subcategories (1, 2 and 3) reflect arboricultural, landscape and cultural values, respectively.

Root Protection Areas

- A3.13 The **Tree Constraints Plan** shows the approximate extent of Root Protection Areas (RPAs). The RPAs have been plotted and calculated in accordance with the methodology set out in Appendices C and D of BS5837, using the tree stem diameter dimensions obtained during the site visit.
- A3.14 Plotted RPAs serve as a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.
- A3.15 Where pre-existing site conditions or other factors indicate that rooting may occur asymmetrically, a polygon of equivalent area should be produced. Modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution observed on-site. Any deviation in the RPA from the original circular plot should take account of the following factors whilst still providing adequate protection for the root system:
 - a) the morphology and disposition of the roots, when influenced by past or existing site conditions (e.g. the presence of roads, structures and underground apparatus);
 - b) topography and drainage;
 - c) the soil type and structure; and
 - d) the likely tolerance of the tree to root disturbance or damage, based on factors such as species, age, condition and past management.
- A3.16 The plotted RPAs have therefore informed the design of the proposed development where possible. While developing within RPAs should be avoided, special working methods can be adopted to alleviate the RPA disturbance for cases where the development is considered necessary and unavoidable.

Tree Canopies and Shading

- A3.17 The distribution of tree canopy cover on and within influence of the site is illustrated on the **TCP**. Canopies have been plotted at cardinal points for individual and groups of trees. The Tree Survey Schedule included at **Appendix 5** to the rear of this report lists the vertical clearance from site ground level to significant tree branching of individual trees. This measurement informs the impacts of accessibility and development beneath tree canopies.
- A3.18 The principal tree shadow constraints are shown on the **TCP** and have been plotted in accordance with BS5837 using the current height of surveyed trees. The indicative shade cast by existing surveyed trees signifies the area within which the amenity interests of shading, available daylight and the proximity of trees to any future site uses may be impacted upon should a tree be retained as part of development.



A3.19 Where shading is unavoidable, the potential adverse impact of shadowing should also be reviewed on balance with the positive aspects of retaining a degree of canopy shade. BS5837:2012 (para. 5.3.4, a) NOTE 1) states that "shading can be desirable to reduce glare or excessive solar heating, or to provide comfort during hot weather. The combination of shading, wind speed/turbulence reduction and evapotranspiration effects of trees can be utilised in conjunction with the design of buildings and spaces to provide local microclimatic benefits".

Limitations

- A3.20 The comments made are based on observable factors present at the time of inspection. Although the health and stability of trees in their current context is an integral part of their suitability for retention, it must be understood that this report is not a tree risk assessment and should not be construed as such. While every attempt has been made to provide a realistic and accurate assessment of the trees' condition at the time of inspection, it may have not been appropriate, or possible, to view all parts or all sides of every tree to fulfil the assessment criteria of a risk assessment.
- A3.21 No tree can be considered entirely safe, given the possibility that exceptionally strong winds could damage or uproot even a mechanically 'perfect' specimen. It is therefore usually accepted that hazards are only recognisable from distinct defects or from other failure-prone characteristics of the tree or the site. An assessment of the potential influence of trees upon existing buildings or other structures resulting from the effects of trees upon shrinkable load-bearing soils or the effects of incremental root or branch growth, are specifically excluded from this report.

Un-assessable Risks

- A3.22 Any alteration to the application site or development proposals could change the current circumstances and may invalidate this report and any recommendations made.
- A3.23 The Wildlife and Countryside Act (WCA) 1981 (as amended) makes it an offence to disturb nesting birds or recklessly endanger a bat or its roost. Bats are also a European protected species and are additionally protected under the Conservation (Habitats & c) Regulations 1994 and 2010 (as amended). The survey findings, constraints, opportunities and design or mitigation recommendations included within that report must be read alongside this document.
- A3.24 A lack of recommended work does not imply that a tree does not pose an unacceptable level of risk and likewise, it should not be implied that a tree will present an acceptable level of risk following the completion of any recommended work.



Appendix 4: BS5837 Cascade Chart for Tree Quality Assessment



Appendix 4: BS5837 Cascade Chart for Tree Quality Assessment

| TREES FOR REMOVAL | | | | | | | | | |
|---|--|---|--|---------------------------|--|--|--|--|--|
| Category and Definition | Criteria | | | Identification on Plan | | | | | |
| 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 (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). 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 (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). 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 (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). 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 (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). 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 (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). Trees that have a serious, irremediable after removal of other category U trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). Trees that have a serious, irremediable after removal of other category U trees (i.e. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). | | | | | | | | | |
| TREES TO BE CONSIDERED FOR | RETENTION | | | | | | | | |
| | | Identification | | | | | | | |
| Category and Definition | 1. Mainly Arboricultural Values | 2. Mainly Landscape Values | Mainly Cultural Values, including Conservation | on Plan | | | | | |
| 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 woodpasture) | LIGHT GREEN | | | | | |



| Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years | Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remedial 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 benefits. | MID BLUE |
|--|--|---|--|----------|
| 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 150mm | 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 temporary/transient landscape benefit. | Trees with no material conservation or other cultural value. | GREY |



Appendix 5: Tree Survey Schedule (Ref: 13892/TSS01)



| Tree Number | Common Species Name | Height (m) | Trunk Diameter (mm) | | | oread (r | , | Height of Crown Clearance | Age Class | Overall health | | Comments/Preliminary Management Recommendations | RPA Radius (m) | Root Protection Area (m2) |
|----------------|------------------------|---------------|---------------------------|------|------|----------|------|---------------------------------|-----------|----------------|----|--|-------------------|---------------------------------|
| | | | (, | Ν | E | S | W | (m) | | | | | | |
| T1 | Horse chestnut | 14m | 780 | 5.5 | 8.5 | 9.5 | 7.5 | 4.00 | Mature | Fair | B2 | Long lower-lateral limbs. Cavity in vertical stem at 7m. Early symptoms of Horse chestnut bleeding canker. Suspended cables 4.5m to north. | 9.4 | 275 |
| T2 | Horse chestnut | 14m | 650 | 5.50 | 8.00 | 7.50 | 4.00 | 5.00 | Mature | Fair | B2 | Old bark wound on trunk at 1.2m. Long lower-lateral limbs. Early symptoms of Horse chestnut bleeding canker. Suspended cables 4.5m to north. | 7.8 | 191 |
| Т3 | Horse chestnut | 14m | 590 | 5.00 | 6.50 | 5.50 | 5.00 | 5.00 | Mature | Fair | B2 | Old bark wound on trunk at 1m. Long lower-lateral limbs. Early symptoms of Horse chestnut bleeding canker. Suspended cables 4.5m to north. | 7.1 | 157 |
| T4 | Horse chestnut | 17m | 840 | 4.50 | 8.50 | 6.00 | 6.00 | 4.00 | Mature | Fair | B2 | Vertical bark splits and bark exudations on the trunk and main limbs (typical symptoms of Horse chestnut bleeding canker). Long lower lateral limbs. Suspended cables 3.5m to north. | ; 10.1 | 319 |
| T5 | Horse chestnut | 14m | 530 | 4.00 | 5.50 | 5.00 | 5.00 | 4.00 | Mature | Fair | B2 | Basal shoot growth. Early symptoms of Horse chestnut bleeding canker. Suspended cables 4.5m to north. | 6.4 | 127 |



| Tree Number | Common Species Name | Height (m) | Trunk Diameter (mm) | Cı N | rown Sp E | oread (r S | n) W | Height of Crown Clearance (m) | Age Class | Overall health | BS5837 Category | Comments/Preliminary Management Recommendations | RPA Radius (m) | Root Protection Area (m2) |
|----------------|------------------------|---------------|---------------------------|---------|--------------|---------------|---------|--|-----------|----------------|--------------------|--|-------------------|---------------------------------|
| Т6 | Horse chestnut | 16m | 670 | 4.50 | 6.50 | 5.50 | 5.00 | 4.00 | Mature | Fair | C2 | Large strip of dead bark on the trunk. Cavity in central leader at 5m. Another stem has snapped off at 7m. Early symptoms of Horse chestnut bleeding canker. Suspended cables 4.5m to north. | 8.0 | 203 |
| Т7 | Horse chestnut | 19m | 690 | 4.50 | 5.00 | 4.50 | 4.50 | 6.00 | Mature | Fair | B2 | Tall tree. Basal shoot growth. Early symptoms of Horse chestnut bleeding canker. Suspended cables 4.5m to north. | 8.3 | 215 |
| T8 | Horse chestnut | 13m | 650 | 4.50 | 6.50 | 4.50 | 5.00 | 5.00 | Mature | Poor | U | Epicormic shoot growth on the trunk. Vertical bark splits and bark exudations on the trunk and main limbs (typical symptoms of Horse chestnut bleeding canker). One dead crown stem. Unlikely to survive a further 10 years. Suspended cables 5.5m to north. | 7.8 | 191 |
| Т9 | Horse chestnut | 13m | 480 | 4.00 | 5.50 | 4.00 | 4.00 | 4.00 | Mature | Fair | B2 | Epicormic shoot growth on the trunk. No obvious significant defects. Suspended cables 4.5m to north. | 5.8 | 104 |
| T10 | Horse chestnut | 16m | 690 | 5.00 | 7.00 | 5.00 | 4.50 | 7.00 | Mature | Fair | C2 | Sapwood decay on trunk with bootlace hyphae of honey fungus clearly visible. Scar from recent branch tear out in main union at 4m. Suspected weakness in the primary fork. Early symptoms of Horse chestnut bleeding canker. Suspended cables 5m to north. | 8.3 | 215 |



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| Tree Number | Common Species Name | Height (m) | Trunk Diameter (mm) | Cı N | rown Sp E | oread (r S | n) W | Height of Crown Clearance (m) | Age Class | Overall health | | Comments/Preliminary Management Recommendations | RPA Radius (m) | Root Protection Area (m2) |
|----------------|------------------------|---------------|---------------------------|---------|--------------|---------------|---------|--|-----------|----------------|----|---|-------------------|---------------------------------|
| T11 | Horse chestnut | 16m | 640 | 5.00 | 7.00 | 5.00 | 6.00 | 4.00 | Mature | Fair | B2 | No obvious significant defects. Early symptoms of Horse chestnut bleeding canker. Suspended cables 5m to north. | 7.7 | 185 |
| T12 | Horse chestnut | 12m | 460 | 4.50 | 4.50 | 3.50 | 5.00 | 5.00 | Mature | Poor | C2 | Vertical bark splits and bark exudations on the trunk and main limbs (typical symptoms of Horse chestnut bleeding canker). Scar from recent branch tear out in main union at 2.5m. Other scars and stubs in the crown. Suspended cables 5m to north. | 5.5 | 96 |
| T13 | Red horse chestnut | 9m | 570 | 1.00 | 6.50 | 6.00 | 2.00 | 5.00 | Mature | Fair | C1 | Crown suppressed by larger trees to the north. | 6.8 | 147 |
| T14 | Poplar | 31m | 1130 | 10.00 | 6.00 | 11.00 | 6.00 | 8.00 | Mature | Good | B2 | Tall tree. Arboreal ivy. No obvious significant defects. | 13.6 | 577 |
| T15 | Poplar | 30m | 920 | 5.00 | 7.00 | 11.00 | 6.00 | 9.00 | Mature | Good | B2 | Tall tree. Arboreal ivy. No obvious significant defects. | 11.0 | 383 |
| T16 | Poplar | 30m | 1110 | 7.00 | 6.00 | 14.00 | 8.00 | 6.00 | Mature | Good | B2 | Tall tree. Arboreal ivy. No obvious significant defects. | 13.3 | 557 |
| T17 | Lombardy poplar | 30m | 490 | 1.00 | 1.00 | 1.00 | 1.00 | 7.00 | Mature | Good | C2 | Tall tree. Arboreal ivy. Narrow crown. | 5.9 | 109 |



| Tree Number | Common Species Name | Height (m) | Trunk Diameter (mm) | Cı N | rown S _l E | oread (r S | m) W | Height of Crown Clearance (m) | Age Class | Overall health | | Comments/Preliminary Management Recommendations | RPA Radius (m) | Root Protection Area (m2) |
|----------------|------------------------|---------------|---------------------------|---------|--------------------------|---------------|---------|--|------------------|----------------|----|--|-------------------|---------------------------------|
| T18 | Poplar | 30m | 1240 | 7.00 | 9.00 | 13.00 | 8.00 | 7.00 | Mature | Good | B2 | Tall tree. No obvious significant defects. | 14.9 | 695 |
| T19 | Lombardy poplar | 30m | 830 | 3.50 | 3.50 | 3.50 | 3.50 | 6.00 | Mature | Good | B2 | Tall tree. No obvious significant defects. | 10.0 | 311 |
| T20 | Poplar | 30m | 1100 | 8.00 | 9.00 | 13.00 | 8.00 | 12.00 | Mature | Good | B2 | Tall tree. Codominant crown stems. No obvious significant defects. | 13.2 | 547 |
| T21 | Ash | 17m | 950 | 9.50 | 9.00 | 9.00 | 9.00 | 8.00 | Fully- Mature | Good | B2 | Large old tree on a hedgebank. No obvious significant defects. | 11.4 | 408 |
| T22 | Ash | 17m | 950 | 9.50 | 9.00 | 8.00 | 7.00 | 5.00 | Fully- Mature | Good | B2 | Large old tree on a hedgebank. No obvious significant defects. | 11.4 | 408 |
| T23 | Alder | 15m | 900 | 6.50 | 6.00 | 4.00 | 7.00 | 4.00 | Fully- Mature | Good | B2 | Large old tree on a hedgebank. No obvious significant defects. | 10.8 | 366 |
| T24 | Crab apple | 11m | 550 | 6.50 | 6.00 | 4.00 | 6.00 | 5.00 | Fully- Mature | Good | B2 | Large old tree on a hedgebank. No obvious significant defects. | 6.6 | 137 |



| Tree Number | Common Species Name | Height (m) | Trunk Diameter (mm) | Cı N | rown Sp E | oread (r S | n) W | Height of Crown Clearance (m) | Age Class | Overall health | | Comments/Preliminary Management Recommendations | RPA Radius (m) | Root Protection Area (m2) |
|----------------|---------------------------------------|---------------|---------------------------|---------|--------------|---------------|---------|--|-----------|----------------|----|--|-------------------|---------------------------------|
| T25 | Ash | 21m | 1800 | 8.00 | 10.00 | 12.00 | 12.00 | 8.00 | Veteran | Good | A3 | Large old tree on a hedgebank. Very wide trunk indicating great age. Decay associated with past pruning wounds. Old prefabricated hut beneath the crown. | 15.0 | 707 |
| T26 | Poplar | 18m | 650 | 2.50 | 6.50 | 6.50 | 5.50 | 5.00 | Mature | Good | B2 | Situated beyond a wall on adjacent land. Tall tree. Arboreal ivy. No obvious significant defects. | 7.8 | 191 |
| T27 | Poplar | 18m | 690 | 1.00 | 6.00 | 8.00 | 8.00 | 6.00 | Mature | Good | B2 | Tall tree. Arboreal ivy. No obvious significant defects. Rooting beneath the tarmac driveway. | 8.3 | 215 |
| T28 | Poplar | 19m | 590 | 4.00 | 1.00 | 5.00 | 7.00 | 9.00 | Mature | Good | B2 | Tall tree. Arboreal ivy. No obvious significant defects. Rooting beneath the tarmac driveway. | 7.1 | 157 |
| T29 | Poplar | 19m | 660 | 7.00 | 0.50 | 5.00 | 9.00 | 4.00 | Mature | Good | B2 | Tall tree. Arboreal ivy. No obvious significant defects. Rooting beneath the tarmac driveway. | 7.9 | 197 |
| G1 | Ash and beech | 20m | 700 | 8.00 | 8.00 | 8.00 | 8.00 | 5.00 | Mature | Good | B2 | These are large hedgerow trees that have grown up close together. | 8.4 | N/A |
| G2 | Beech, ash, silver birch and alder | 16m | 300 | 3.00 | 3.00 | 3.00 | 3.00 | 5.00 | Mature | Good | A3 | These trees are beside the stream. The beech appear to have been planted on the hedge bank at the edge of the sports field. | 3.6 | N/A |



| Tree Number | Common Species Name | Height (m) | Trunk Diameter (mm) | Crown Spread (m) | | | | Height of Crown Clearance | Age Class | Overall health | | Comments/Preliminary Management Recommendations | RPA Radius (m) | Root Protection Area (m2) |
|----------------|--|---------------|---------------------------|------------------|------|------|------|---------------------------------|------------------|----------------|----|---|-------------------|---------------------------------|
| | | | | N | E | S | W | (m) | | | | | | 11100 (1112) |
| G3 | Holly, blackthorn, ash, alder, field maple and hawthorn | 4m | 150 | 2.00 | 2.00 | 2.00 | 2.00 | - | Fully- Mature | Good | A2 | Growing on top of a hedge bank. This appears to be a very old feature because there are some very old trees growing on top of the hedgebank. No signs of recent management. | 1.8 | N/A |
| H1 | Beech, hazel, hawthorn, holly and spindle | 1m | 50 | 1.00 | 1.00 | 1.00 | 1.00 | - | Mature | Good | B2 | Planted on top of a hedge bank. It is regularly flailed to give it a neat profile. | .6 | N/A |



Plans:

Tree Constraints Plan (Ref: 13550/P10)

Arboricultural Method Statement (Ref: 13550/P11)



