

Ynysarwed, Neath

Tree Survey Report

Document reference: MWTS-AEC-YN-XX-DR-Z -3000

The Coal Authority

July 2020

Quality information

Prepared by

Thomas Fairhurst
Senior Arboricultural
Consultant

Checked by

Edward Cole
Senior Arboricultural
Consultant

Verified by

Andy Wakefield
Associate Director

Approved by

Tim Benson
Associate Director

Revision History

Revision	Revision date	Details	Authorized	Name	Position
0	10/07/2020	First Issue	10.07.2020	Tim Benson	Associate Director

Distribution List

# Hard Copies	PDF Required	Association / Company Name

Prepared for:

The Coal Authority

Prepared by:

Thomas Fairhurst
Senior Arboricultural Consultant
T: +44 117 3150 786
M: +44 774 1568 471
E: thomas.fairhurst@aecom.com

AECOM Limited
3rd Floor, Portwall Place
Portwall Lane
Bristol BS1 6NA
United Kingdom

T: +44 117 901 7000
aecom.com

© 2020 AECOM Limited. All Rights Reserved.

This document has been prepared by AECOM Limited ("AECOM") for sole use of our client (the "Client") in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between AECOM and the Client. Any information provided by third parties and referred to herein has not been checked or verified by AECOM, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of AECOM.

Table of Contents

1.	Introduction.....	5
1.1	Background.....	5
1.2	Trees and the Planning Process.....	5
1.2.1	Local Policy Context.....	6
1.3	Methodology.....	7
2.	General Arboricultural Principles.....	8
2.1	General Principles.....	8
2.2	Below Ground Constraints.....	8
2.3	Soils.....	8
2.4	Above Ground Constraints.....	9
2.5	Trees and Risk in the Context of Development.....	9
2.6	Trees and Wildlife.....	9
2.7	Tree Works.....	9
3.	Field Work Observations.....	10
3.1	The Site.....	10
3.2	The Trees.....	10
3.3	Statutory and Non-Statutory Designations.....	11
3.3.1	Statutory Designations.....	11
3.3.2	Non-Statutory Designations.....	11
4.	Tree Related Constraints and Opportunities.....	12
4.1	Tree Categorisations as per BS5837:2012.....	12
4.2	Considerations.....	12
4.3	The Future Impact of Trees.....	13
4.4	Tree Protection.....	13
4.5	Tree Planting.....	14
5.	Summary and Conclusion.....	15
	References.....	16
	Appendix A Tree Constraints Plan.....	17
	Appendix B Tree Survey Schedule.....	18
	Key to Abbreviations Used in the Survey.....	31
	Appendix C Site Boundary.....	32
	Appendix D Site Photography.....	33

Tables

Table 1: BS5837:2012 Tree Categorisation process.....	7
Table 2 Summary of trees in each quality category.....	12

1. Introduction

1.1 Background

AECOM has been instructed by The Coal Authority (the Client) to carry out a Tree Survey to BS5837:2012 Trees in relation to design, demolition and construction – Recommendations (BS5837); to include trees with the potential to be affected by development works within or immediately adjacent to the predetermined area of the Site (hereafter referred to as ‘the Site’). This report identifies preliminary information in relation to the nature and level of constraints posed by existing trees on Site and is intended to inform the development of any design proposals and working methodologies to ensure that the potential impacts on significant trees are fully considered.

1.2 Trees and the Planning Process

Chapter 5 of Planning Policy Wales ‘Conserving and Improving Natural Heritage and the Coast’ Edition 9 (2016) identifies the importance of the natural environment and sustainable development.

Section 5.2.9 Trees and woodlands states:

‘5.2.9 Trees, woodlands and hedgerows are of great importance, both as wildlife habitats and in terms of their contribution to landscape character and beauty. They also play a role in tackling climate change by trapping carbon and can provide a sustainable energy source. Local planning authorities should seek to protect trees, groups of trees and areas of woodland where they have natural heritage value or contribute to the character or amenity of a particular locality. Ancient and semi-natural woodlands are irreplaceable habitats of high biodiversity value which should be protected from development that would result in significant damage.

5.2.10 Local planning authorities should, as appropriate, make full use of their powers to protect and plant trees to maintain and improve the appearance of the countryside and built up areas’.

Trees and woods:

5.5.13 Local authorities have a duty to ensure that adequate provision is made for the planting or preservation of trees by imposing conditions when granting planning permission and/or by making Tree Preservation Orders (TPOs).

5.5.14 Local authorities have a general power to make TPOs if it appears it is expedient to do so in the interests of amenity. They can make a provisional TPO which takes effect immediately, and it can remain effective for six months or until the TPO is confirmed.

5.5.15 In the case of a site recorded on the inventory of ancient woodland produced by the former Countryside Council for Wales, authorities should consult with Natural Resources Wales before authorising potentially damaging operations.

The Planning Policy Wales Technical Advice Note (2009) section 5: Nature Conservation and Planning states:

‘3.3.2 Where relevant, local development plans should include policies that: Protect ancient woodlands, veteran trees and other trees of nature conservation value’. Section 4.6 ‘The use of conditions on planning permissions’ recommends that Biodiversity Conservation can be achieved with the use of planning conditions requiring ‘the protection and planting of trees’.

Local Planning Authorities (LPA) in the UK have a statutory duty to consider both the protection and planting of trees when considering planning applications. The potential impact of development on all trees (including those not protected by a Tree Preservation Order or other statutory designation) is therefore a material consideration.

‘BS5837:2012 Trees in relation to design demolition and construction – Recommendations (BS5837)’ provides a framework which sets out how trees should be considered in this context and also explicitly applies to development where planning consent is not required.

BS5837 recommends that a tree survey is undertaken to identify the quality and benefits of trees and the spatial constraints associated with them. This is then used to produce a Tree Constraints Plan showing the above and below ground constraints associated with trees. This drawing is used to inform the design process and to allow the retention of good quality trees where appropriate.

An Arboricultural Impact Assessment is then developed to identify the likely direct and indirect impacts of the Proposed Development, and a Tree Protection Plan is prepared to identify trees to be removed or retained and to illustrate how retained trees are to be protected. An Arboricultural Method Statement is often required as a condition of planning consent to detail how sensitive operations are to be achieved in proximity to retained trees. These elements are the minimum normally required for a planning application and are intended to ensure both a sustainable and harmonious relationship between trees and new development.

1.2.1 Local Policy Context

The Neath Port Talbot County Borough Council Local Development Plan document identifies the importance of trees within the landscape and the importance of replacing trees that are lost to development. The council have produced a Proposals Map alongside the LDP. This map shows that the Site is located within a Green Wedge and partly within a Special Landscape Area (SLA).

Within the SLA: 5.3.14 Where approved, all developments will be expected to meet the highest design standards including use of appropriate materials and landscaping, careful attention to siting and retention as far as possible of important landscape features such as field boundaries, walls, hedges and trees to conserve and/or enhance the special qualities for which the SLA has been designated.

5.3.15 Policy EN3 Green Wedges:

5.3.18 Within the designated Green Wedges, inappropriate development will not be permitted except in very exceptional circumstances. 'Inappropriate development' is defined in Planning Policy Wales and relates to all types of development other than those for certain justified or essential activities that need to be located in the area and small-scale extensions or farm diversification

5.3.19 Apart from those forms of development which are specifically defined as appropriate, any other development which would prejudice the openness of the Green Wedge are considered to be inappropriate. Green Wedge designations can provide opportunities for recreation and countryside access, support biodiversity, agriculture and rural interests, improve derelict land, provide carbon sinks and mitigate the effects of urban heat islands.

5.3.36 Policy EN7 Important Natural Features:

Development proposals that would adversely affect ecologically or visually important natural features such as trees, woodlands, hedgerows / field boundaries, watercourses or ponds will only be permitted where:

- 1. Full account has been taken of the relevant features in the design of the development, with measures put in place to ensure that they are retained and protected wherever possible; or*
- 2. The biodiversity value and role of the relevant feature has been taken into account and where removal is unavoidable, mitigation measures are agreed.*

The following extract from Neath Port Talbot County Borough Council –Local Development Plan (LDP) Design, Supplementary Planning Guidance highlights the importance of retaining and enhancing the tree cover within a site:

4 . Implementation of Policy BE1 Design

4.5.8 Areas of a development site with biodiversity value should be retained and/or enhanced within the development proposals, and existing hedgerows, trees and natural features integrated within the site layout. This will not only enhance the biodiversity value of the area, but will also enhance the specific character of the site.

1.3 Methodology

The tree survey has been based on the topographical survey plan provided (ref: UAL3220_A by RPS).

A large number of trees were not included on the topographical survey plan and have been plotted indicatively with reference to site features and publicly available aerial photography. Such trees have been marked with an ‘*’ on the Tree Survey Schedule included as Appendix B. As such all positions for these trees must be considered to be indicative only and the relative distances of features must be measured out on the Site as required.

The survey was otherwise conducted in accordance with the requirements of BS5837.

The initial fieldwork was undertaken in June 2020, during which time dimensional data and observational information were collected. A diameter tape measure was used to measure stem diameters where feasible.

The fieldwork informing this report has comprised a preliminary, non-intrusive, visual survey undertaken from ground level with the specific intention of evaluating the quality and benefits of trees on the Site.

Where further inspection is deemed appropriate to ascertain the condition of the tree or other arboreal features, this has been identified within the preliminary management recommendations. Average dimensions or dimensional ranges have occasionally been used, where appropriate, to best describe features.

The Root Protection Area (RPA) is the notional extent of what is considered to be the key rooting area for tree health and function. This is generally depicted as a circle but can be amended to a polygon with an equivalent area in accordance with Section 4.6.2 of BS5837 where the RPA is likely to have developed asymmetrically. The RPA of all surveyed trees is depicted as a circle with the exception of tree T61 the RPA of which has been offset to reflect the proximal level changes identified.

A Tree Constraints Plan showing the position of trees and the spatial constraints associated with them is included as Appendix A of this report, which corresponds with the Tree Survey Schedule presented in Appendix B.

The tree categorisation process recommended by BS5837:2012 is summarised in the table below and corresponds with the tree canopy outline shown on the Tree Constraints Plan (Appendix A) and the information in the Tree Survey Schedule (Appendix B).

Table 1: BS5837:2012 Tree Categorisation process

Category	Definition
A	High quality, minimum of 40+ years remaining contribution
B	Moderate quality, minimum of 20+ years remaining contribution
C	Low quality, minimum of 10+ years remaining contribution
U	Unsuitable for retention, <10 years remaining contribution
1	Arboricultural value
2	Landscape value
3	Conservation or cultural value

2. General Arboricultural Principles

2.1 General Principles

Trees are dynamic living organisms which provide essential benefits to society and the wider environment. Any Proposed Development with the potential to impact on trees must take into consideration the value of trees on Site; the impact of any proposed activity along with any potential future conflicts on the Site. Suitable measures to safeguard retained trees or mitigate the loss of trees (to be removed) will need to be fully considered and may be subject to a condition of planning consent.

Tree branches and roots frequently grow across site boundaries and off-site trees can pose a significant constraint, and should be carefully considered when assessing the developable space within a site.

2.2 Below Ground Constraints

Below ground tree roots and the soil environment in which they grow need to be protected if the tree is to be retained. Trees grow in association with fungi and other soil organisms which are of key importance to tree health. Roots are essential for anchorage, the uptake of water and nutrients, and the storage of energy (carbohydrates) for the future growth and function of the tree.

Roots can be damaged by physical severance or wounding (e.g. following excavation of the soil) which can lead to the development of decay and a decline in vitality and/or instability. Raising the soil level can bury tree roots at a depth where suitable conditions for growth are less available. Toxic materials discharged into the soil (such as cement based aggregates, fuel and chemicals) can lead to root death and dysfunction. Soils can be compacted to levels inhospitable to tree growth with even a single pass of machinery, regular pedestrian traffic or the storage of plant and materials. Relieving compaction can be problematic and may require costly remedial works. Changes in drainage/water levels can also have significant long-term impacts for tree health.

The effects of these incursions may take many years to manifest, with a resulting decline in amenity value and potentially the death or failure of the tree. It should be noted that older trees are particularly sensitive to damage and changes in conditions.

The Root Protection Area (RPA) is a notional area considered to be the minimum zone that must be protected to avoid any adverse impacts on retained trees. This area is deemed to be particularly important for tree stability, growth, function and health. However, roots may extend far greater distances, with the distribution of the root system relating directly to the availability of suitable conditions for growth (namely oxygen, water and nutrients). It is generally accepted that tree roots are predominantly located in the upper 1000mm of soil; however, roots may develop at deeper levels where conditions allow.

RPAs are calculated as per BS5837: 2012 Annex C, D and Section 4.6 in the BS 5837 2012 Document.

The RPA of the existing tree stock is an important material consideration when considering site constraints and planning development activities. The RPA of significant trees on the Site is shown on the Tree Constraints Plan (Appendix A).

The default position must be that all development, including any associated services will occur outside the RPAs of retained trees. Where this is unavoidable, it may be appropriate to use special measures to install structures, services or surfacing within RPAs which allow the protection of roots and soil structure which are essential for tree growth and keep any incursion to a minimum.

Further steps to improve or increase the useable rooting area available to the tree may also be required.

2.3 Soils

On shrinkable clay soil, tree growth can lead to the differential movement of structures as moisture is removed from the soil during the growing season. Soils must be carefully assessed, and any foundations must be installed following the recommendations of National House Building Council (NHBC) Standards Chapter 4.2: *Building Near Trees* (2020) to avoid potential future damage. Where trees which predate existing structures are to be removed, this can result in heave as the soils are re-wet.

The advice of a suitably qualified engineer must be obtained to inform any potential issue of heave. Specific advice in relation to this issue is beyond the scope of this report.

2.4 Above Ground Constraints

Tree stems and branches can restrict available space on Site. Damage or wounding (including excessive pruning) can significantly reduce the amenity contribution of the tree and may lead to the development of dysfunction and decay, with significant long-term implications for tree health. The future impact of existing trees should be carefully considered, including individual species characteristics (such as potential future size, fruit fall, shade etc.) and how the tree will interact with any proposed development and future land use. Annual tree growth can lead to direct damage if stems/branches (or roots) come into physical contact with structures and this must also be taken into consideration.

2.5 Trees and Risk in the Context of Development

Tree owners/managers have a legal duty to prevent foreseeable harm. It is generally accepted that this duty can be fulfilled by undertaking proactive inspections of significant trees to identify obvious defects and by taking appropriate remedial action or gaining further advice as appropriate.

Further guidance is available from the National Tree Safety Group.

The tree survey carried out as the basis of this report is primarily for planning purposes, focusing on the quality and benefits of the trees and is not specifically designed to assess the safety of trees on Site. However, when obvious issues have been identified recommendations have been included in the Tree Survey Schedule.

The Construction (Design and Management) Regulations (2015) states that developers and contractors have responsibilities for health and safety as a result of their actions. Should trees be left in an unstable or hazardous condition the Health and Safety Executive (HSE) could seek to prosecute those responsible along with the potential for further Civil claims for damages.

2.6 Trees and Wildlife

Full consideration must be given to the presence of species protected under the Wildlife and Countryside Act (1981 - as amended), the Countryside Rights of Way Act (2000) and the Conservation of Habitats and Species Regulations (2017), in particular the presence of bats and nesting birds. It is recommended that wherever possible, significant tree/hedge works take place outside of the typical bird nesting season of March to September. The advice of a suitably qualified Ecologist is recommended in relation to any potential impacts on protected species.

2.7 Tree Works

Any tree surgery recommendations contained within this report are to be undertaken in accordance with BS3998: 2010 Tree work – Recommendations (BS3998) by suitably qualified and insured contractors. Significant pruning works are best undertaken when trees are dormant or outside periods of high functional activity to reduce the overall impact on energy available to the tree for growth and processes. In general, the optimum period for works is between November to February and July to August (subject to the presence of protected species) when the tree is less active and better placed to respond to wounding and a reduction in leaf area.

3. Field Work Observations

3.1 The Site

The Site boundary is shown on the Ynysarwed Proposed Red Line Boundary included within Appendix C of this report.

Ynysarwed Mine Water Treatment Scheme was constructed in 1997, by the local authority, following a mine water outbreak from the Ynysarwed adit associated with the former Blaenant and Ynysarwed mines.

Due to land constraints, the scheme was built in two distinct areas. Part of the scheme is located to the north of the A465 adjacent to the B4242. This area is bordered by a woodland to the north and west, Ynysarwed Farm & Camp Site to the east and livestock fields to the south. Approximately 1.2km to the south beyond the A465 lies the second parcel of land that is a passive treatment element comprising reed bed wetland. This area is bordered by the A465 to the north and west, the River Neath immediately to the south and arable fields beyond this and to the east. To the south west lies the small village of Clyne.

3.2 The Trees

A total of 91 tree features were identified in the survey. This includes 48 individual trees, 41 group features and two woodland group areas.

The trees at the southern part of the Site are predominantly semi to early mature and generally of fair to good condition; ranging from moderate (Category B) to very low (Category U) in value. They are established alongside the sole access road to the reed wetland area and surrounding footpaths of the wetland area in use for fishing points along the River Neath; typically formed as groups, some of which appear likely to have been planted due to their uniform pattern and spacing. The area is dominated by typical riparian species adapted to the wetland setting; dominated by varieties of alder (*Alnus*) and willow (*Salix*), with lower volumes of birch (*Betula* sp.), common ash (*Fraxinus excelsior*), field maple (*Acer campestre*), common oak (*Quercus robur*) and sycamore (*Acer pseudoplatanus*).

The most significant tree features in the southern area are group G24 and woodland group W43, both of which are categorised as moderate value, which through appropriate management could be enhanced to achieve high (Category A) value.

The northern part of the Site contains trees bordering the B4242 road, formed as dense continuous groups. This area collectively contains high volumes of common alder (*Alnus glutinosa*), common ash, common oak and sycamore ranging from high to very low in value. The southern side of the road is dominated by alder and ash, with an emerging sycamore understorey; all well adapted to the wetland setting of the River Neath at the south. The north side of the B4242 is bordered by a collective woodland group (W91), situated on a steep upwards slope setting and dominated for the most part by mature oak, with a hazel (*Corylus avellana*) understorey.

The most significant tree features in the northern area are tree T56, a prominent high-quality mature alder at the south side of the B4242 road, which is an exceptional example of its species. The woodland group W91 also has high collective value due to its uneven age composition and high biodiversity value.

Very low (Category U) value features are rife throughout the extents of the Site, predominantly due to the presence of ash dieback (*Hymenoscyphus fraxineus*) which was visibly recognised as either early or advanced in its onset as a disease symptom. In other instances, where access was possible, tree defects were visibly recognised that considered the ongoing operational and public use of the Site. Remedial works have been addressed in the management recommendations contained in the Tree Survey Schedule (Appendix B).

In addition to the widespread occurrence of ash dieback on the Site, a high volume of Japanese knotweed (*Fallopia japonica*) was also identified which is an invasive non-native species (INNS) listed in Schedule 9 of the Wildlife and Countryside Act 1981. Its presence is rife throughout both parts of the Site; colonising riverbed areas in bulk or forming small stands in areas further inland. Visible presence has been identified in the Tree Survey Schedule where applicable to each recorded tree, group or woodland feature. Management of INNS is subject to the specialist advice of an ecologist.

Collectively, the Site offers a good example of a riparian setting; typified by the well adapted emerging groups which (through appropriate management techniques) could achieve high collective value through general enhancement (i.e. selective thinning and encouraging riparian species) and control of the presence of tree disease and INNS.

Site photography can be found at Appendix D located to the rear of this report.

3.3 Statutory and Non-Statutory Designations

3.3.1 Statutory Designations

AECOM received written correspondence from Neath Port Talbot County Borough Council on 2nd April 2020 confirming that there were no Tree Preservation Orders or Conservation Area designations identified which could affect trees within or immediately adjacent to the Site.

Full planning consent is an exception from the need to apply for consent for the need to apply for a Felling Licence with Natural Resources Wales (to fell more than 5m³ per calendar quarter, works on designated public open space are also exempt regardless of planning consent). Prior to any tree works the status of trees to be removed must be verified with Natural Resources Wales as appropriate.

3.3.2 Non-Statutory Designations

A Review of Magic Map was undertaken on the 18th June 2020 and no non-statutory designations (e.g. ancient semi natural woodland or replanted ancient woodland) were identified within or immediately adjacent to the Site.

In addition, a review of the Ancient Tree Inventory was undertaken on the 18th June 2020 to identify the presence of any ancient, veteran or notable trees, none were identified within or immediately adjacent to the Site.

4. Tree Related Constraints and Opportunities

The Tree Constraints Plan (Appendix A) shows the area of constraints associated with the trees on the Site. As identified within the drawing key, the green shaded area shows the extent of tree canopies, the canopy outline colour indicates the quality category of the tree and the dashed black line is indicative of the RPA, which is the nominal area of tree roots which are generally considered essential to tree health and function. Roots are likely to extend outside of this point but beyond the RPA extent tree roots are not considered a significant constraint.

The default position is generally that all new features and associated works be located outside of areas where trees are to be retained.

4.1 Tree Categorisations as per BS5837:2012

The trees on Site have been assigned to a quality category as per BS5837:2012, which relates to their arboricultural, landscape and cultural/conservation value.

Category C trees are shown by a grey canopy outline on the Tree Constraints Plan (Appendix A). This means they are of relatively low quality and would not normally be considered a significant constraint to future development. However, these trees may still provide some useful value and should be considered for retention where they do not pose a significant constraint to the Proposed Development.

Category B trees (blue canopy outline) are described as being of moderate quality and it is generally desirable to retain trees of this standard and incorporate them within the Proposed Development where feasible.

Category A trees (green canopy outline) are classified as being of high quality and trees of this nature should be retained and incorporated into the design of the Proposed Development due to the high level of benefits they provide.

Category U trees (red canopy outline) are trees with less than ten years of reasonable useful life expectancy or those in such poor condition that they should be removed, regardless of any development activity. Trees of this nature represent no constraint to development.

The table below summarises the number of trees in each category recorded within or adjacent to the Site.

Table 2 Summary of trees in each quality category.

Quality Category	A	B	C	U
Number of trees	T56, W91	G7, T9, G10, G11, G20, G24, T26, T29, G33, G35, G38, G41, G42, W43, T47, T53, G57, T59, G62, G66, T76	G1, G2, T3, G4, T5, G6, T8, T12, G13, G14, T15, T16, G17, G18, T21, G22, G23, G25, T27, G28, T31, G32, G34, T36, G37, G39, G51, G52, T58, T61, G63, T65, T75, T81, T82, T90	G19, T30, T40, T44, T45, T46, T48, T49, T50, T54, T55, G60, T64, G67, T68, T69, T70, T71, T72, T73, T74, G77, T78, G79, G80, G83, T84, T85, T86, T87, G88, G89
Totals	1 individual tree, 1 woodland group	7 individual trees, 13 groups, 1 woodland group	17 individual trees, 19 groups	23 individual trees, 9 groups

4.2 Considerations

In planning terms lower quality trees can often be removed to facilitate development where their loss can be mitigated with replacement tree planting or where no replacement planting is necessary. This is likely to apply to Category C and Category U trees where there are no other constraints in place (e.g. ecological or heritage).

The default position must be that high and moderate quality trees (Category A and B) be retained and protected, however in some cases it may also be feasible to remove trees of this quality where there is no reasonable alternative or where the benefit of the development outweighs the impact of the loss of the tree/s. Should this be required pre-application discussions with Neath Port Talbot County Borough Council are recommended to manage the risk of refused consent.

If any of the trees are owned by third parties, prior consent must be in place before any tree works are carried out and it is recommended that this is secured prior to the submission of any planning application.

Where part of a group of trees is to be removed the resulting impact on adjacent retained trees must be carefully considered due to a risk of instability following a loss of companion shelter. Wherever possible trees forming the outer edge of groups and woodlands (particularly that side facing the prevailing wind which is typically from the south west) should be retained to reduce any impact on neighbouring trees.

Resurfacing or road widening works should ensure that exposed stems of retained trees are protected. This is typically achieved using chestnut pale fencing wrapped around the stems of trees. All machinery and construction activity should be positioned on pre-existing hard surfacing at all times to prevent the possibility of potential root disturbance. Machinery should reach towards retained trees and work backwards to reduce any potential for damage to stems or branches. No access onto soft/unmade ground within an RPA should be permitted.

Where works are to proceed within the RPAs of retained trees for changes to surfacing, the pre-existing surfacing should be removed by hand only and the subbase should be retained intact, ameliorated as required (by hand-tamping) and used as the base for resurfacing.

For areas proposing new surfacing within unmade RPAs, these should be built on top of existing ground levels (using no-dig techniques) and its construction should be engineer designed, adapted to the intended gross vehicle weight. This can be achieved using a proprietary raft or tile system such as Cellweb, ArborRaft or equivalent). All new installed surfacing should allow a minimum 0.5m distance from the base of retained trees. Any edging within RPAs must be installed without excavation and can utilise pinned methods including proprietary systems such as StableEDGE or equivalent such as a kerb cast directly into the raft.

Excavation to install services has the potential to result in unacceptable root severance which could result in instability, dysfunction or the death of trees. Repeated incursions are particularly damaging and must be avoided by bundling services wherever possible.

The default position should be that all services be routed outside of the RPA of retained trees; to achieve this, the principles of the National Joint Utilities Group (NJUG) Volume 4 guidance should be adhered to. All services should be bundled as far as possible and installed within RPAs using hand/compressed air excavation (e.g. for shallow service runs) or trenchless techniques such as impact moling (thrust boring) with all access pits and inspection chambers being located outside of the RPA. The route must run as far from the main stem of a retained tree as possible should be at a minimum depth so that the upper 1m of the soil profile is undisturbed. The depth of the run may also need to be adjusted to account for soil type and species variation and this is typically subject to the advice of an arboriculturist.

4.3 The Future Impact of Trees

The future impact of trees on Site must be considered in relation to any development proposals. Trees and groups to be retained must be afforded suitable space to ensure they remain viable in the long term. Trees which are currently not fully grown will increase in size and this must be considered in conjunction with development proposals and future usage.

4.4 Tree Protection

Trees to be retained in proximity to areas of development activity, including areas for new surfacing, services, work site compounds and storage will need to be protected to ensure they are not damaged. This is generally achieved with the use of robust, immovable temporary tree protection fencing, to prevent access within the RPA or canopy spread of trees. Where access is unavoidable, alternative protection arrangements such as ground protection (sufficient to protect the structure of the soil from compaction), and /or access facilitation pruning (to ensure a reasonable clearance for operations is provided) may be required. The advice of an arboriculturist should be sought to inform this assessment.

4.5 Tree Planting

Where trees are to be removed due to a conflict with the proposed design, mitigation planting is likely to be required to ensure a continuity of tree cover for the Site and to address any negative impact on local amenity and landscape character. Consideration should be given to the reasonable provision of space for new tree planting to offset any necessary tree loss.

Soil structure in areas for new planting will need to be maintained and may require protection during operation of the Proposed Development to ensure reasonable conditions for future tree growth are available.

New planting should consider the existing species mix present on site in relation to both arboricultural and ecological considerations. New planting also offers an opportunity to increase the species and age class diversity for a given area which can boost the resilience of the local tree stock in relation to pests, disease and climate change as well as providing a greater range of amenity and other benefits.

New trees should be planted in accordance with the guidance set out in BS8545:2014 Trees: from nursery to independence in the landscape - Recommendations (BS8545) and with the minimum distances from new structures, services and surfacing set out in Table A.1 of BS5837.

5. Summary and Conclusion

The survey area contains 91 tree features which range from high (Category A) to very low (Category U) in value and where in proximity to the River Neath, contribute significantly to the character of the Site as a collective riparian setting.

The trees on Site form a significant spatial constraint to any potential development works with the exception of the footprints of small operational areas and access roads that have already been established.

Where it is not possible to completely avoid the area of constraint associated with significant trees it may be possible to utilise special measures to facilitate the works.

No statutory or non-statutory tree related designations have been identified on or in proximity to the Site.

A key consideration for any development activity will be the protection of the surrounding trees including the structure of the soil in which they grow, including from indirect damage via the storage or discharge of materials and the movement and use of plant and machinery. The default position is that all RPA and canopies of retained trees be fenced off as exclusion zones with no access. Where this is not feasible limited access may be acceptable using fit for purpose ground protection or other protective measures in accordance with BS5837.

Outside of the canopy and RPA, development works are not likely to be significantly constrained by trees, however it is important not to significantly impact on ground water levels in proximity to trees and where this could be a potential impact specific arboricultural advice must be obtained.

Lower quality trees (Category C and U) are not likely to be significant constraint to development where they can be satisfactorily replaced with new tree planting (or where their loss will not have a significant impact - e.g. due to the retention of adjacent trees) and therefore some sections of lower quality tree cover may be feasible to remove from a planning perspective.

All moderate and high value trees should be afforded full protection. If the potential removal of these trees is unavoidable, this should be discussed in advance with Neath Port Talbot County Borough Council. As the design progresses, it is recommended that the advice of an arboriculturist is sought to inform this process, particularly in relation to new design in proximity to existing trees.

Draft layouts should be overlaid onto the Tree Constraints Plan to allow an assessment of the impact of the Proposed Development, including the identification of any trees which are to be removed.

An Arboricultural Impact Assessment is typically required to support a planning application, and this allows the identification and assessment of the direct and indirect effects of the Proposed Development along with appropriate mitigation measures where necessary.

References

British Standards Institution (BSI), BS5837:2012. Trees in relation to design, demolition and construction – Recommendations. BSI

British Standards Institution (BSI), BS3998:2010. Tree work – Recommendations. BSI

British Standards Institution (BSI) BS8545: 2014 Trees: from the nursery to independence in the landscape – Recommendations

DEFRA Magic Map (Sourced: 28 January 2020 at <https://magic.defra.gov.uk/MagicMap.aspx>)

Ministry of Housing, Communities and Local Government (MHCLG), 2019. National Planning Policy Framework (NPPF). MHCLG

National House Building Council (NHBC) Standards, (2020). Chapter 4.2: Building Near Trees

National Joint Utilities Group (NJUG) Volume 4, Issue 2, (2007). NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees.

National Tree Safety Group (NTSG), 2011. Common sense risk management of trees. Forestry Commission.

Neath Port Talbot County Borough Council – Local Development Plan (LDP) 2011 – 2026, Adopted January 2016

Neath Port Talbot County Borough Council – Local Development Plan (LDP) 2011 – 2026. Design, Supplementary Planning Guidance (July 2017)

Planning Policy Wales 'Conserving and Improving Natural Heritage and the Coast' Edition 9 (2016). Welsh Government

Planning Policy Wales Technical Advice Note (2009) section 5: Nature Conservation and Planning. Welsh Government

Woodland Trust Ancient Tree Inventory (Sourced: 18 June 2020 at: <https://ati.woodlandtrust.org.uk/>)

Appendix A Tree Constraints Plan

PROJECT

CLIENT

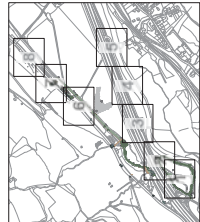
CONSULTANT

IECOM
Lumer House, Third Floor,
East Wing, Tallyour Road
Lymouth, PL6 5DH
tel +44(0)1752 676700
fax +44(0)870 238 6023
www.aecom.com

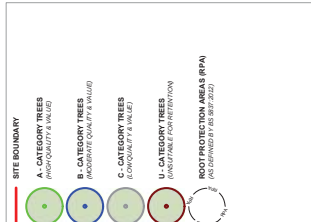
GENERAL NOTES

- THREE CATEGORIES AS DEFINED BY BS 3837:2012
THREE LOCATIONS ARE BASED ON THE TOPOGRAPHICAL
SURVEY AND GPS CO-ORDINATES FROM ON SITE WALKOVER.
* INDICATES A TREE / GROUP WHOSE POSITION IS
APPROXIMATE AS DEDUCED FROM AERIAL PHOTOGRAPHY AND
ON SITE OBSERVATIONS.
PLANTS SHOULD BE READ IN CONJUNCTION WITH THE AECOM
AGRICULTURAL REPORT.
THE ORIGINAL OF THIS DRAWING WAS PRODUCED IN COLOUR -
A MONOCHROME COPY SHOULD NOT BE RELIED UPON

KEY PLAN



KEY



ISSUE/REVISION

B	12-07-2020	Updated with new ref numbers
A	25-06-2020	First Issue
IR	DATE	DESCRIPTION

DRAWING STATUS

E155

PROJECT NUMBER

60624806

SHEET TITLE

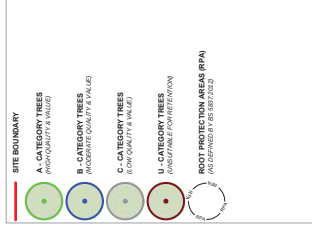
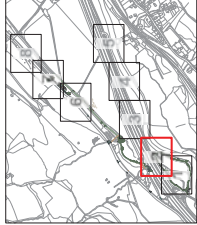
FREE CONSTRAINTS PLAN

SHEET 001

SHEET NUMBER

MWTS-AEC-YN-XX-DR-Z -3001





ISSUE/REVISION	DATE	DESCRIPTION
B	12/07/2020	Updated with new tree numbers
A	25/05/2020	First Issue





PROJECT
Ynysarwed, Neath

CLIENT
The Coal Authority

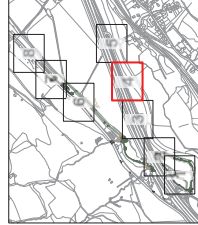
CONSULTANT

AECOM
Plumer House, Third Floor,
East Wing, Tallyour Road
Plymouth, PL6 5DH
Tel +44(0)1752 6767 00
Fax +44(0)870 238 6023
www.aecom.com

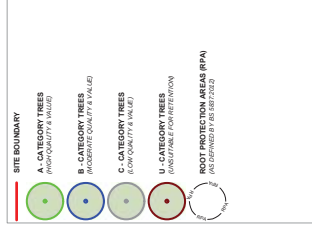
GENERAL NOTES

1. TREE CATEGORIES AS DEFINED BY BS 9307:2012
2. TREE LOCATIONS ARE BASED ON THE TOPOGRAPHICAL SURVEY AND GPS CO-ORDINATES FROM ON SITE WALKOVER.
3. * INDICATES A TREE / GROUP WHOSE POSITION IS APPROXIMATE AS BASED UPON AERIAL PHOTOGRAPHY AND ON SITE OBSERVATIONS.
4. PLANKS SHOULD BE READ IN CONJUNCTION WITH THE AECOM ARBORESCULTURAL REPORT.
5. THE ORIGINAL OF THIS DRAWING WAS PRODUCED IN COLOUR. A MONOCHROME COPY SHOULD NOT BE RELIED UPON.
6. DRAWING REFERENCES:
 "UL 3270, Amdt." "CS Irradiance Day"
 "Investment Protected Red Light Barrier with Access Barrier"

KEY PLAN



KEY



ISSUE/REVISION

B	12-07-2020	Updated with new ref numbers
A	25-06-2020	First Issue
IR	DATE	DESCRIPTION

DRAWING STATISTICS

31551

PROJECT NUMBER
60624806

SHEET TITLE

TREE CONSTRAINTS PLAN
SHEET 005

SHEET NUMBER	REV
MWTS-AEC-YN-XX-DR-Z -3005	B



AECOM

PROJECT
Ynysarwed, Neath

CLIENT
The Coal Authority

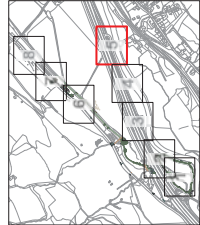
CONSULTANT

AECOM
Plumer House, Third Floor,
East Wing, Tallyour Road
Plymouth, PL6 5DH
Tel +44(0)1752 676700
Fax +44(0)870 238 6023
www.aecom.com

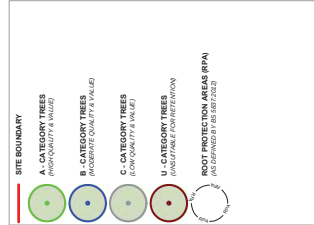
GENERAL NOTES

1. TREE CATEGORIES AS DEFINED BY BS 3837:2012
 2. TREE LOCATIONS ARE BASED ON THE TOPOGRAPHICAL SURVEY AND GPS CO-ORDINATES FROM ON-SITE WALKOVER.
 3. * INDICATES A TREE / GROUP WHOSE POSITION IS APPROXIMATE AS BASED UPON AERIAL PHOTOGRAPHY AND ON-SITE OBSERVATIONS.
 4. PLANS SHOULD BE READ IN CONJUNCTION WITH THE AECOM ARBORESCENT REPORT.
 5. THE ORIGINAL OF THIS DRAWING WAS PRODUCED IN COLOUR - MONOCHROME COPY SHOULD NOT BE RELIED UPON.
 6. DRAWING REFERENCES
- U4.3220 - Adwif - 50s landline 'dry'
 *Increased Proposed Bed 1 Boundary with Access Road 'dry'

KEY PLAN



KEY



ISSUE/REVISION

B	12-07-2020	Updated with new ref numbers
A	25-06-2020	First Issue
IR	DATE	DESCRIPTION

DRAWING STATUS

MISSILE

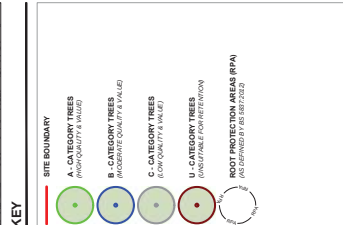
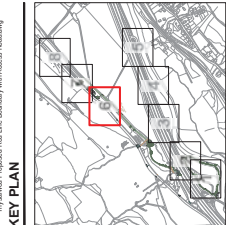
PROJECT NUMBER

60624806

SHEET TITLE

TREE CONSTRAINTS PLAN
SHEET 006

SHEET NUMBER	REV.
MWTS-AEC-YN-XX-DR-Z-3006	B



ISSUE/REVISION		
B	12-07-2020	Updated with new ref numbers
A	25-05-2020	First Issue
IR	DATE	DESCRIPTION
DRAWING STATUS		
ISSUE		
PROJECT NUMBER		
60624806		
SHEET TITLE		
TREE CONSTRAINTS PLAN		
SHEET 007		
SHEET NUMBER		REV.
MWT5-AEC-YN-XX-DR-2-3007		B





Appendix B Tree Survey Schedule

Tree ID	Species	Estimated Height (m)	Stem Diameter (mm)	Canopy Spread (N)	Canopy Spread (S)	Canopy Spread (E)	Canopy Spread (W)	First Significant Branch (m)	Canopy Clearance (m)	Physiological Condition	Life Stage	Structural Condition	Condition Comments	Preliminary Management Comments	Estimated Remaining Contribution	Category	Root Protection Area (m)
G1	Goat Willow (<i>Salix caprea</i>), Field Maple (<i>Acer campestre</i>)	10	150	3	3	3	3	0.5/S	1	Good	Y-SM	Fair	Co-dominant group on verge, unable to fully access due to dense emerging gorse, bramble, guelder rose, oak and ash understorey		10+	C2,3	77.74
G2	Goat Willow (<i>Salix caprea</i>), Field Maple (<i>Acer campestre</i>)	10	150	4	4	4	4	0.5/S	1	Good	Y-EM	Fair	Co-dominant group at top of verge, unable to fully access due to dense emerging understorey. Japanese knotweed at stream edge to east.		10+	C2,3	74.55
T3*	Field Maple (<i>Acer campestre</i>)	8	190,120,100	3	3	4	1	0.5/N	1	Good	EM	Good	Denotes first tree exceeding +7 SDBH of neighbouring vegetation northwards. Multi stem union at base.		10+	C1	27.36
G4	Common Alder (<i>Alnus glutinosa</i>), Field Maple (<i>Acer campestre</i>)	9	200	3.5	3.5	3.5	3.5	2/N	1.5	Good	SM-EM	Fair	Co-dominant forms at pond edge, unable to fully access due to dense bramble understorey.		10+	C2,3	33.01
T5*	Goat Willow (<i>Salix caprea</i>)	9	240,220,180,100,100,100	2	4	4	4	0.5/N	1	Good	M	Fair	On riverbank verge, multi stem form from base		10+	C1,2,3	66.6
G6	Sycamore (<i>Acer pseudoplatanus</i>), Goat Willow (<i>Salix caprea</i>)	9	160	3.5	3.5	3.5	3.5	1/E	1	Good	SM	Fair	Co-dominant forms at river edge, unable to fully access due to dense understorey and steep terrain.		10+	C2,3	50.6
G7*	Goat Willow (<i>Salix caprea</i>)	9	300	5	5	5	5	2/E	1	Good	M	Good - Fair	Co-dominant forms at river edge, unable to fully access due		20+	B2	92.8

T8*	Common Alder (<i>Alnus glutinosa</i>)	9	250,120	3	3.5	2	3.5	3	3	0.5/W	1	Fair	EM	Good	to J. knotweed established at base.	10+	C1,2	34.77
T9*	Common Oak (<i>Quercus robur</i>)	9	160	3.5	3.5	2	3.5	3	3	3.5/E	1	Good	SM	Good	Pond side of footpath, slightly north weighted form	20+	B1	11.58
G10*	Field Maple (<i>Acer campestre</i>), Silver Birch (<i>Betula pendula</i>)	10	290	3	3	3	3	3	3	1.5/S	2	Good	M	Good - Fair	Co-dominant forms at pond edge, 1x birch within	20+	B2,3	223.08
G11*	Crack Willow (<i>Salix fragilis</i>), Common Alder (<i>Alnus glutinosa</i>)	10	300	5	5	5	5	5	1	1/W	1	Good	SM-EM	Good - Fair	Co-dominant forms at river side, dominated by crack willow at footpath edge, younger alder at river side, dense bramble and small scattered stands of J. knotweed at base	20+	B2,3	383.95
T12*	Goat Willow (<i>Salix caprea</i>)	8.5	220,110	1.5	3.5	4	4	1	1.5/N	1.5	Good	EM	Fair	Fair	South weighted, base in contact with pontoon frame, compression fork at 0.5m	10+	C1,2	27.36
G13*	Goat Willow (<i>Salix caprea</i>), Common Alder (<i>Alnus glutinosa</i>)	11	260	4	4	4	4	4	2/N	1.5	Good	Y-EM	Good - Fair	Good - Fair	Co-dominant forms at river side, dominated by alder, dense bramble understorey restricting access	10+	C2,3	295.31
G14*	Common Oak (<i>Quercus robur</i>)	8	90	1	1	0	2	1.5/N	1.5	Good	Y	Good - Fair	Y	Good - Fair	At pond side, suppressed by riverside trees resulting in weighted forms	10+	C2,3	37.79
T15	Common Alder (<i>Alnus glutinosa</i>)	12	260	3	3	3	3	3	0.5/E	2	Good	M	Good - Fair	Good - Fair	Plank nailed to main stem south side; ivy clad main stem	10+	C1,2	30.57
T16*	Goat Willow (<i>Salix caprea</i>)	9	220,160,100	4	4	4	2	4	2.5/S	2	Good	EM	Good	Good	Main stem forks at 0.2m with weighted stems	10+	C1	37.99

G17*	Common Alder (<i>Alnus glutinosa</i>), Grey Alder (<i>Alnus incana</i>), Sycamore (<i>Acer pseudoplatanus</i>)	12	220		3	3	3	3	3	1.5/S	2	Good	Y-EM	Good - Fair	At riverside, co-dominant forms, dense bramble and J. knotweed understorey	10+	C2,3	115.8
G18*	Common Alder (<i>Alnus glutinosa</i>),	12	160		3.5	3.5	3.5	3.5	n/a	n/a	n/a	Good	SM	Good - Fair	At riverside, co-dominant forms, dense bramble at base	10+	C2,3	28.44
G19*	Common Alder (<i>Alnus glutinosa</i>),	9	160		1	3	1	1.5	n/a	n/a	n/a	Poor	SM	Fair	At riverside, ivy clad with significant dieback and minor deadwood	<10	U2,3	27.89
G20*	Common Alder (<i>Alnus glutinosa</i>), Silver Birch (<i>Betula pendula</i>), Sycamore (<i>Acer pseudoplatanus</i>), Goat Willow (<i>Salix caprea</i>)	9	320		4	4	4	4	n/a	n/a	n/a	Good	EM-M	Good	At riverside on verge, dense J. knotweed stand at base	20+	B2,3	133.93
T21*	Common Alder (<i>Alnus glutinosa</i>)	12	310,170,100		4	2	4	4	0.5/S	3	Good	M	Good - Fair	Multi stem union just above ground level, suppressed canopy form from dominant group at south	10+	C1,2,3	61.05	
G22*	Common Alder (<i>Alnus glutinosa</i>), Field Maple (<i>Acer campestre</i>), Sycamore (<i>Acer pseudoplatanus</i>), Goat Willow (<i>Salix caprea</i>)	9	220		3.5	3.5	3.5	3.5	n/a	n/a	Good	Y-SM	Good	Co-dominant forms at pond edge with part emerging into pond area, guelder rose understorey	10+	C2,3	310.69	
G23*	Common Alder (<i>Alnus glutinosa</i>),	10	360		4	4	4	4	n/a	n/a	Good	EM-M	Good - Fair	Co-dominant forms at riverside of footpath	10+	C2,3	102.58	
G24*	White Willow (<i>Salix alba</i>), Goat Willow (<i>Salix caprea</i>), Crack Willow (<i>Salix fragilis</i>),	10	350		5	5	5	5	n/a	n/a	Good	EM-M	Good - Fair	At riverside of footpath on downward slope to riverbed, good diversity of <i>Salix</i> sp., dominated by grey willow, some snags lodged in	20+	B2,3	517.56	

G25*	Common Alder (<i>Alnus glutinosa</i>), Goat Willow (<i>Salix caprea</i>)	9	180		3				3	3	3	3	n/a	n/a	Good		SM-EM	Good	neighbouring crowns Scattered along pond edge of footpath	10+		C2,3	106.54
T26	Common Alder (<i>Alnus glutinosa</i>)	10	250		2	2	2	2.5W	2	2	2	2	2	2	Good		EM	Good	Good upright form Sever ivy (When funds allow)	20+	B1		28.26
T27	Common Alder (<i>Alnus glutinosa</i>)	8	170		3	3	1.5	0.5	3.0/N	2.5	0.5	3	3	2.5	Good		SM	Good	Slightly weighted form with suppressed canopy development from neighbouring trees	10+	C1,2		13.07
G28*	Goat Willow (<i>Salix caprea</i>), Crack Willow (<i>Salix fragilis</i>), Common Alder (<i>Alnus glutinosa</i>)	7	80		2.5	2.5	2.5	2.5	n/a	n/a	2.5	2.5	2.5	n/a	Good		Y-SM	Good - Fair	Co-dominant forms, at river edge	10+	C2		180.45
T29*	Common Alder (<i>Alnus glutinosa</i>)	9.5	180,180,120		3.5	3.5	3.5	3.5	2.0/E	1.5		3.5	3.5	1.5	Good		M	Good - Fair	Ivy clad stems with ground level	20+	B1		35.81
T30*	Alder (<i>Alnus</i> sp)	10	500		0	0	0	0		0	0	0	0	0	Dead		M	Dead	Standing monolith, large deadwood over footpath Reduce crown deadwood to main stem, seek ecological advice (< 12 months)	<10	U1,2,3		113.05
T31*	Ash (<i>Fraxinus excelsior</i>)	7	75,75		3	0.5	2.5	2.5	3.0/N						Good		Y	Fair	Crossing main stems at 1.5m, deadwood lodged in crown	10+	C1		5.09
G32*	Common Alder (<i>Alnus glutinosa</i>), Crack Willow (<i>Salix fragilis</i>) Goat Willow (<i>Salix caprea</i>)	8	150		3	3	3	3	n/a	n/a	3	3	3	n/a	Good		Y-SM	Good - Fair	Co-dominant group on verge	10+	C2,3		342.15
G33*	Common Alder (<i>Alnus glutinosa</i>),	12	250		3.5	3.5	3.5	3.5	n/a	n/a	3.5	3.5	3.5	n/a	Good		Y-EM	Good - Fair	Dense group established in	20+	B2,3		2441.13

	Goat Willow (<i>Salix caprea</i>)															wetland setting at pond edge, inaccessible due to wire fencing and dense bramble understorey			
G34*	Common Alder (<i>Alnus glutinosa</i>), Goat Willow (<i>Salix caprea</i>), Crack Willow (<i>Salix fragilis</i>), Hazel (<i>Corylus avellana</i>)	10	150	2.5	2.5	2.5	2.5	2.5	n/a	n/a	Good	Y-SM	Good - Fair	Dense group established in at highway verge edge, dominated by drawn-up willow with some informal paths at west, inaccessible due to dense bramble understorey	10+	C2.3	804.49		
G35*	Sycamore (<i>Acer pseudoplatanus</i>), Goat Willow (<i>Salix caprea</i>), Crack Willow (<i>Salix fragilis</i>), Ash (<i>Fraxinus excelsior</i>)	14	250	4	4	4	4	4	n/a	n/a	Good	SM-EM	Good - Fair	Dense group established at highway verge edge, inaccessible due to fencing, dense bramble understorey and large stands of J. knotweed	20+	B2.3	1820.43		
T36*	Ash (<i>Fraxinus excelsior</i>)	10	240	2.8	2.8	2.8	2.8	2.8	3.0W	1.5	Good	EM	Fair	Unable to fully access, east weighted main stem at base with upright recovering form from 2m height	10+	C1.2	26.05		
G37*	Goat Willow (<i>Salix caprea</i>), Goat Willow (<i>Salix caprea</i>), Crack Willow (<i>Salix fragilis</i>), Ash (<i>Fraxinus excelsior</i>)	7	80	1.5	1.5	1.5	1.5	1.5	n/a	n/a	Good	Y	Good - Fair	Scattered emerging goat willow	10+	C2	108.54		
G38	Common Oak (<i>Quercus robur</i>)	8.5	250	3.5	3.5	3.5	3.5	3.5	n/a	n/a	Good	EM	Good	Co-dominant forms	20+	B2	53.19		
G39*	Common Alder (<i>Alnus glutinosa</i>), Goat Willow (<i>Salix caprea</i>), Ash (<i>Fraxinus excelsior</i>)	9	150	3	3	3	3	3	n/a	n/a	Good	Y-SM	Good - Fair	Drawn-up forms at river edge, unable to access due to dense bramble, young ash dieback symptoms within group	10+	C2.3	897.12		
T40*	Scots Pine (<i>Pinus sylvestris</i>)	7.5	120	1	1	1	1	1			Dead	SM	Dead	Dead tree	<10	U1	6.51		

G41	Soots Pine (<i>Pinus sylvestris</i>), Goat Willow (<i>Salix caprea</i>), Common Alder (<i>Alnus glutinosa</i>), Willow (<i>Salix</i> sp)	10	200	3	3	3	3	3	n/a	n/a	Good	SM-EM	Good - Fair	Dense group established at highway verge edge, inaccessible due to fencing, dense bramble understorey and small scattered stands of J. knotweed, some branch stubs to alder at main access point for height clearance pruning. Drive by review of A465 group edge suggests young ash dieback infected trees.	Fell and dispose of ash dieback infected trees at highway verge edge (< 12 months)	20+	B2	3660.5
G42*	Common Oak (<i>Quercus robur</i>), White Willow (<i>Salix alba</i>), Goat Willow (<i>Salix caprea</i>), Ash (<i>Fraxinus excelsior</i>)	14	250	4	4	4	4	4	n/a	n/a	Good	Y-EM	Good - Fair	Dense group established at river edge, largely inaccessible due to dense understorey		20+	B2.3	1525.15
W43*	Goat Willow (<i>Salix caprea</i>), Common Alder (<i>Alnus glutinosa</i>), Ash (<i>Fraxinus excelsior</i>), Sycamore (<i>Acer pseudoplatanus</i>)	14	500	4	4	4	4	4	n/a	n/a	Good	Y-M	Good - Fair	Group with riparian woodland characteristics at river edge, largely inaccessible due to dense understorey, some area of willow pollard stools, small stands of J. knotweed and ash with visible dieback symptoms	Consider thinning dense willow alder dominated areas and creating glade areas within, and selectively pollarding areas of willow (When funds allow)	20+	B2.3	9258.1
T44*	Sycamore (<i>Acer pseudoplatanus</i>)	7	90	1.5	1.5	1.5	1.5	1.5			Dead	Y	Dead	Dead tree		<10	U1	3.66
T45*	Sycamore (<i>Acer pseudoplatanus</i>)	8	90	1.5	1.5	1.5	1.5	1.5			Poor	Y	Poor	In advanced state of decline	Fell (< 12 months)	<10	U1	3.66

T46*	Ash (<i>Fraxinus excelsior</i>)	13	400	3	3	3	3	3	3		Poor	M	Poor	With advanced ash dieback symptoms	Fell (< 12 months)	<10	U1	72.35
T47*	White Willow (<i>Salix alba</i>)	16	500	6	4	3	3	4.0/W	3	3	Good - Fair	M	Good - Fair	North weighted branch fork at 3.5m. deadwood at upper crown	Pollard or crown reduce by 4m (< 12 months)	20+	B1.2	113.05
T48*	Norway Maple (<i>Acer platanoides</i>)	7	75	1.5	1.5	1.5	1.5		1.5	1.5	Poor	Y	Poor	Dying tree	Fell (< 12 months)	<10	U1	2.54
T49*	Norway Maple (<i>Acer platanoides</i>)	7	75	1.5	1.5	1.5	1.5		1.5	1.5	Poor	Y	Poor	Dying tree	Fell (< 12 months)	<10	U1	2.54
T50*	Common Alder (<i>Alnus glutinosa</i>)	12	400,300,150,150	4	4	4	4		4	4	Dead	M	Dead	Ivy clad dead tree, slightly south weighted, good habitat value	Create monolith subject to ecological advice (< 12 months)	<10	U1,2,3	133.4
G51*	Sycamore (<i>Acer pseudoplatanus</i>), Common Alder (<i>Alnus glutinosa</i>),	8.5	100	2	2	2	2	n/a	2	n/a	Good	Y-SM	Good - Fair	Co-dominant forms	Consider thinning dense willow alder dominated areas and creating glade areas within, and selectively pollarding areas of willow (When funds allow)	10+	C2	150.61
G52*	Ash (<i>Fraxinus excelsior</i>), Silver Birch (<i>Betula pendula</i>), Sycamore (<i>Acer pseudoplatanus</i>),	13	270	4	4	4	4	n/a	4	n/a	Good	SM-EM	Good - Poor	Denotes presumed boundary where trees are in proximity to a road sign. X1 Birch with north weighted form from ground	Fell ash dieback trees (< 12 months) Crown reduce by 2 north side of birch to encourage upright form (< 12 months)	10+	C2,3	18.12

T53*	Sycamore (<i>Acer pseudoplatanus</i>)	16	390,350	4	4	4	4	4	6.0/N	6	Good	M	Good	level. Behind are X2 trees with ash dieback symptoms neighbouring a south-weighted dead tree.	Create monolith Reduce upper crown of dead tree following ecological advice (< 12 months)	20+	B1,2	124.18
T54*	Unknown	8	250	0.5	0.5	0.5	0.5	0.5	6	6	Dead	M	Dead	Slight south weighted monolith buffered by hazel at north	Cut back Reduce to 4m height following ecological advice (< 12 months)	<10	U1,2,3	28.26
T55*	Common Alder (<i>Alnus glutinosa</i>)	14	320,250	2	4	3	3	2.0/S			Fair	M	Fair - Poor	Unable to fully assess upper canopy, south weighted fork union at base, main stem leader ivy clad with peeling bark, recovers upwards	Create monolith Subject to ecological advice (< 3 months)	<10	U1,2,3	74.57
T56*	Common Alder (<i>Alnus glutinosa</i>)	18	880	6	6	6	6	7.5/S	11	11	Good	M	Good	Dominant mature tree, large ivy clad main stem, previous lost stem north side from 1m height is managed, canopy showing signs of possible pest defoliation	Sever ivy (< 12 months)	40+	A1,2,3	350.19
G57*	Common Alder (<i>Alnus glutinosa</i>)	17	620	5	5	5	5	n/a	n/a	n/a	Good	M	Good	With upright forms and minor ivy at main stems, possible canopy defoliation from pest		20+	B2,3	291.53
T58*	Common Alder (<i>Alnus glutinosa</i>)	17	480	8	1	3	6	9.0/N	8	8	Good	M	Fair	North weighted form over highway, suppressed by neighbouring trees at south	Fell (When funds allow)	10+	C1,2	104.19

T59*	Common Oak (<i>Quercus robur</i>)	17	650	8	1	6	4	4.5	Good	M	Good - Fair	North weighted over highway, ivy at main stem, dominant tree, x1 lateral branch with cavity, minor deadwood	Crown reduce Reduce x2 lower lateral branches overhanging road, rebalance upper crown at north side to encourage optimised shape (< 12 months) Cut back branch with cavity at 8m height northwest side (< 3 months)	20+	B1,2	191.06
G60*	Common Alder (<i>Alnus glutinosa</i>)	9	350	3	4	2	2	n/a	Poor	M	Fair	Slight south weighted stems with significant crown dieback	Create monolith (< 12 months)	<10	U2,3	57.61
T61	Sycamore (<i>Acer pseudoplatanus</i>)	13	400	4.5	4	4.5	2.5	3.0/S	Good	M	Fair	Excavated pond at 1.5m east likely to compromise root plate stability as tree development progresses. J. knotweed stand at south. High value target south.	Fell (< 12 months)	10+	C1	72.35
G62*	Common Alder (<i>Alnus glutinosa</i>), Ash (<i>Fraxinus</i> sp.), Sycamore (<i>Acer pseudoplatanus</i>), Hazel (<i>Corylus avellana</i>)	12	300	3	3	3	3	n/a	Good	Y-M	Good - Fair	Group beside river, stands of J. knotweed at eastern end		20+	B2,3	2516.67
G63*	Common Alder (<i>Alnus glutinosa</i>), Goat Willow (<i>Salix caprea</i>), Sycamore (<i>Acer pseudoplatanus</i>), Silver Birch (<i>Betula pendula</i>)	11	150	3	3	3	3	n/a	Good	Y-SM	Good - Fair	Co-dominant forms beside river with canopies encroaching compound and main stems against boundary fencing, stands of J. knotweed within at east,	Cut back to clear structure and fell less well established of group (thinning) (When funds allow)	10+	C2,3	972.76
T64*	Ash (<i>Fraxinus excelsior</i>)	11	350	2.5	2.5	2.5	2.5	7.0W	Poor	M	Fair - Poor	With advanced ash dieback symptoms, stand of J. knotweed at base	Fell (< 3 months)	<10	U1	55.4

T65*	Hazel (<i>Corylus avellana</i>)	9	150		4.5	4.5	4.5	4.5	1.0/N		Good	M	Fair	Mature coppice stool with areas of necrotic bark on stems with live growth	Re-coppice down to a 1m height stool (< 12 months)	10+	C1,2,3	10.17
G66*	Common Oak (<i>Quercus robur</i>), Hazel (<i>Corylus avellana</i>), Sycamore (<i>Acer pseudoplatanus</i>), Ash (<i>Fraxinus excelsior</i>)	17	650		6	6	6	6	n/a	n/a	Good	Y-M	Good - Fair	Co-dominant forms between river and highway established at top of mounded area, stands of J. knotweed within at very east and west ends.	Cut back to clear structure and fell less well established group (thinning) (When funds allow)	20+	B2,3	5554.14
G67*	Ash (<i>Fraxinus excelsior</i>)	15	250		2.5	2.5	2.5	2.5	n/a	n/a	Poor	EM	Fair - Poor	With advanced ash dieback symptoms	Fell (< 3 months)	<10	U2	78.64
T68*	Ash (<i>Fraxinus excelsior</i>)	13	160		1.5	1.5	1.5	1.5			Dead	SM	Dead	Dead tree (red tape around main stem)	Fell (Asap)	<10	U1	11.58
T69*	Ash (<i>Fraxinus excelsior</i>)	16	360		2.5	2.5	2.5	2.5			Poor	M	Fair	With ash dieback symptoms	Fell (< 12 months)	<10	U1	58.61
T70*	Ash (<i>Fraxinus excelsior</i>)	16	400		4	4	4	4			Poor	M	Poor	With ash dieback symptoms, significant upper crown dieback. High value target south.	Fell (Asap)	<10	U1	72.35
T71*	Common Alder (<i>Alnus glutinosa</i>)	9	350,350		2	2	2	2			Dead	EM	Dead	Dead tree set back from road	Create monolith Reduce to a 5m height (< 3 months)	<10	U1	1 10.79
T72*	Ash (<i>Fraxinus excelsior</i>)	13	150,150		2.5	2.5	2.5	2.5			Fair - Poor	EM	Fair	With early ash dieback symptoms	Fell (< 12 months)	<10	U1	20.35

T73*	Ash (<i>Fraxinus excelsior</i>)	16		450,350,300,300	4	4	4	4	4	4	3,5/E	Poor	M	Fair - Poor	Old coppice stool with ash dieback symptoms	Re-coppice to a 2m height (< 3 months)	<10	U1,3	228.36
T74*	Ash (<i>Fraxinus excelsior</i>)	16		700,400	7	7	7	7	7	7		Poor	M	Fair - Poor	At top of embankment with J. knotweed surrounding base, ivy clad main stem forks at ground level, main leader with compressed 1.5m height union, ash dieback symptoms	Fell (< 12 months)	<10	U1,2,3	293.94
T75*	Scots Pine (<i>Pinus sylvestris</i>)	10		800	1	4	4	4	4	4		Fair	M	Fair	Unable to fully access, south weighted form with previous branch loss throughout, early signs of decline		10+	C1,2,3	289.41
T76*	Common Oak (<i>Quercus robur</i>)	14		460	4	4	4	4	4	4	6,0/S	Good	M	Good	Ivy at main stem, deadwood at lower crown	Sever ivy (< 12 months) Remove dead wood at lower crown (< 12 months)	40+	B1,2,3	95.69
G77*	Ash (<i>Fraxinus excelsior</i>)	13		400	4	4	4	4	4	4	n/a	Poor	M	Fair - Poor	Neighbouring trees with ash dieback symptoms, ivy clad stems	Fell (< 12 months)	<10	U2,3	93.07
T78*	Ash (<i>Fraxinus excelsior</i>)	13		350	3	3	3	3	3	3		Poor	M	Fair - Poor	On steep verge with ash dieback	Fell (< 3 months)	<10	U1	55.4
G79*	Ash (<i>Fraxinus excelsior</i>)	17		400	1.5	6	3	3	3	3	n/a	Fair - Poor	M	Fair - Poor	On steep slope with ash dieback	Fell (< 12 months)	<10	U2	300.04

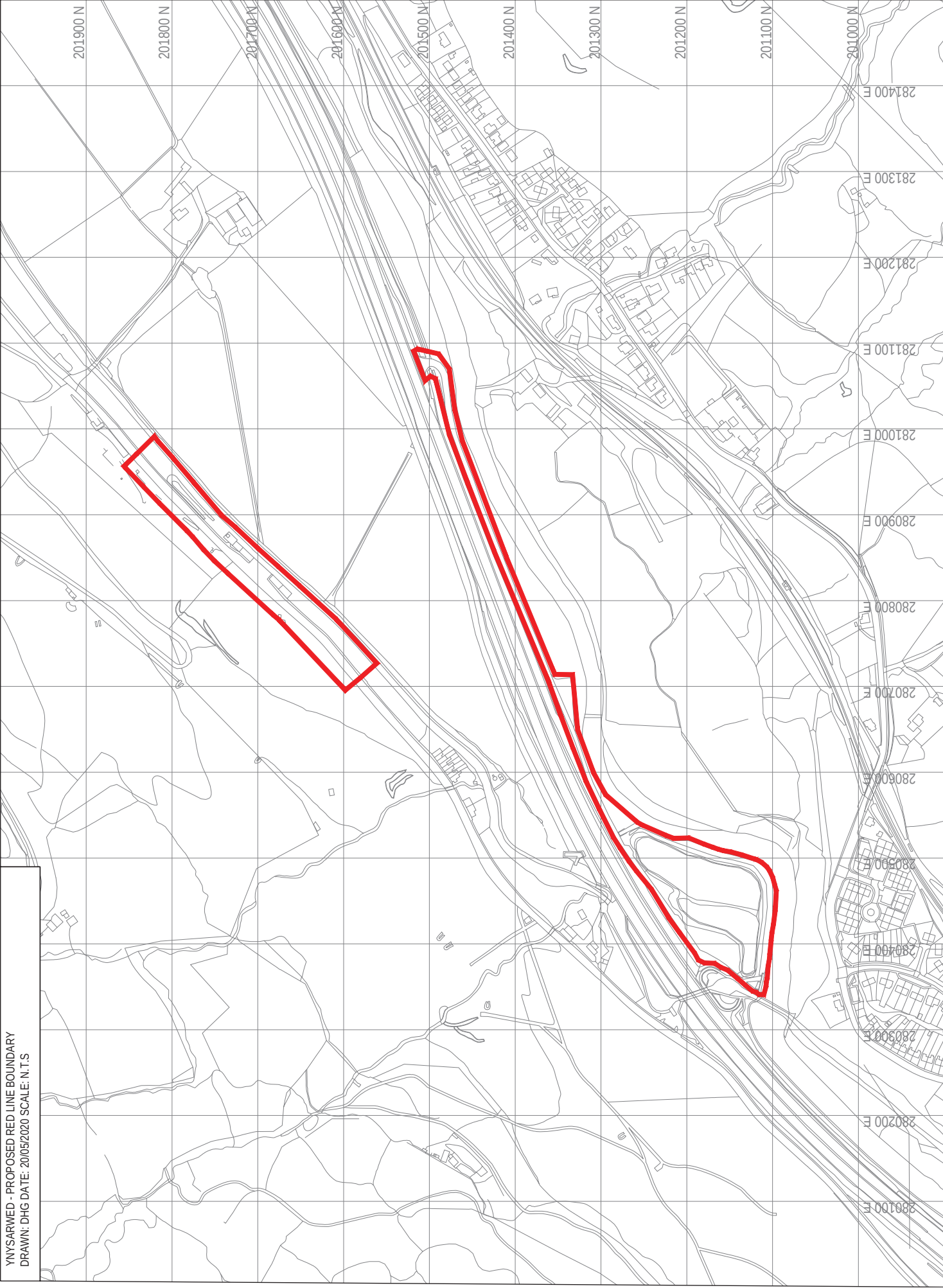
G80*	Ash (<i>Fraxinus excelsior</i>)	17	400		5	5	5	5	n/a	n/a	Fair - Poor	M	Fair - Poor	On slope with ash dieback	Fell (< 12 months)	<10	U2	117.06
T81*	Common Oak (<i>Quercus robur</i>)	11	480	0	7	3	3	3	6.0/S	4.5	Good	M	Fair	Unable to fully access, on slope with exposed buttress roots, previous pruning at lower crown upright main stem becomes strongly south weighted 8m	Crown reduce by 3m lower crown over road only (< 12 months)	10+	C1.2.3	104.19
T82*	Unknown	1	250	0.5	8	0.5	0.5	0.5		4.5	Dead	M	Dead	Fallen branch on slope	Make safe branch (Asap)	10+	C1.2.3	28.26
G83*	Ash (<i>Fraxinus excelsior</i>)	8	75	1.5	1.5	1.5	1.5	1.5	n/a	n/a	Fair - Poor	Y	Fair - Poor	Young trees with ash dieback symptoms	Fell (< 12 months)	<10	U2	27.9
T84*	Ash (<i>Fraxinus excelsior</i>)	8	75	1	1	1	1	1			Dead	Y	Dead	Dead tree	Fell (Asap)	<10	U1	2.54
T85*	Ash (<i>Fraxinus excelsior</i>)	10	150	1.5	1.5	1.5	1.5	1.5	7.0/N		Good - Fair	SM	Fair	On steep slope with strong south lean and early ash dieback symptoms	Fell (< 12 months)	<10	U1	10.17
T86*	Silver Birch (<i>Betula pendula</i>)	4	300	0	0	0	0	0			Dead	M	Dead	Fallen tree with crown lodged in neighbouring tree	Make safe (Asap)	<10	U1	40.7
T87*	(Refer to W91)		-	0	0	0	0	0			Dead	Y	Dead	Dead branch lodged in tree over road	Make safe (Asap)	<10	U1	-
G88*	Common Alder (<i>Alnus glutinosa</i>)	11	250	2.5	2.5	2.5	2.5	2.5	n/a	n/a	Fair - Poor	EM	Fair	Group of alder in decline	Fell (< 12 months)	<10	U2	43.37

G89*	Ash (<i>Fraxinus excelsior</i>)	8	75		1.5	1.5	1.5	1.5	1.5	n/a	n/a	n/a	Fair - Poor	Y	Fair - Poor	Group of young trees with varying ash dieback symptoms	Fell (< 12 months)	<10	U2	39.19
T90*	Ash (<i>Fraxinus excelsior</i>)	13	480		1.5	4	3	3	9.0/S	7	Fair	M	Good - Fair			Denotes presumed boundary extent, unable to fully access, ivy clad main stem, with very early tip dieback	10+	C1	104.19	
W91	Common Oak (<i>Quercus robur</i>), Sycamore (<i>Acer pseudoplatanus</i>), Common Alder (<i>Alnus glutinosa</i>), Sycamore (<i>Acer pseudoplatanus</i>)	25	600		6	6	6	6	n/a	n/a	Good - Fair	Y-M	Good - Fair			Largely inaccessible woodland group established on steep terrain, oak dominated with hazel understorey	Make safe dead branch in tree approximate location identified as T87* (Asap)	40+	A2.3	15778.35

Key to Abbreviations Used in the Survey

Ref No	Specific identification number given to each tree or group. T=Tree/H=Hedge/G=Group.	
Species	Common name followed by botanical name shown in <i>italics</i>	
RPA	Root Protection Area (As defined by BS5837)	
Stem diameter	Diameter of main stem, measured in millimetres at 1.5 m above ground level. (MS = Multi-stem tree measured in accordance with BS5837 Annexe C)	Av / Average: indicates an average representative measured dimension for the group or feature
Spread	The width and breadth of the crown. Estimated on the four compass points in metres.	
Crown clearance	The estimated height (in metres) above ground level of the lowest significant branch attachments.	
#	Estimated dimensions	
*	Indicates estimated position of tree (not indicated on topographical survey).	
Category	Categorisation of the quality and benefits of trees on Site as per Table 1 and 2 of BS5837:2012. 1=Arboricultural quality/value 2=Landscape quality/value 3=Cultural quality/value (including conservation)	
	A=High quality/value 40yrs+ (light green). B=Moderate quality/value 20yrs+ (mid blue) C=Low quality/value min 10yrs/stem diameter less than 150mm (grey). U=Unsuitable for retention (dark red).	
Life stage	Young (Y): Newly planted tree 0-10 years. Semi-Mature (SM): Tree in the first third of its normal life expectancy for the species (significant potential for future growth in size). Early Mature (EM): Tree in the second third of its normal life expectancy for the species (some potential for future growth in size) Mature (M): Tree in the final third of its normal life expectancy for the species (having typically reached its approximate ultimate size). Over Mature (OM): Tree beyond the normal life expectancy for the species. Veteran (V): Tree which is of interest biologically, aesthetically or culturally because of its condition, size or age.	
Structural condition	Good: No significant structural defects Fair: Structural defects which can be resolved via remedial works. Poor: Structural defects which cannot be resolved via remedial works. Dead: Dead.	
Physiological condition	Good: Normal vitality including leaf size, bud growth, density of crown and wound wood development. Fair: Lower than normal vitality, reduced bud development, reduced crown density, reduced response to wounds. Poor: Low vitality, low development and distribution of buds, discoloured leaves, low crown density, little extension growth for the species. Dead: Dead Fair/Good = Indicates an intermediate condition Fair – Good = Indicates a range of conditions (e.g. within a group)	
Preliminary management recommendations	Works identified during the tree survey as part of sound arboricultural management, based on the current context of the Site (where relevant reference has been made to tree management based on the potential future context of the site).	

Appendix C Site Boundary



YNYSARWED - PROPOSED RED LINE BOUNDARY
DRAWN: DHG DATE: 20/05/2020 SCALE: N.T.S

Appendix D Site Photography



Image D-1: Looking east at pond area with G33 left



Image D-2: Looking east towards T31 at River Neath



Image D-3: Sole access road to southern area



Image D-4: Looking west along the B4242 at the northern area



Image D-5: Looking east along the B4242 at the northern



Image D-6: Example of tree in proximity to site compound (T61)

