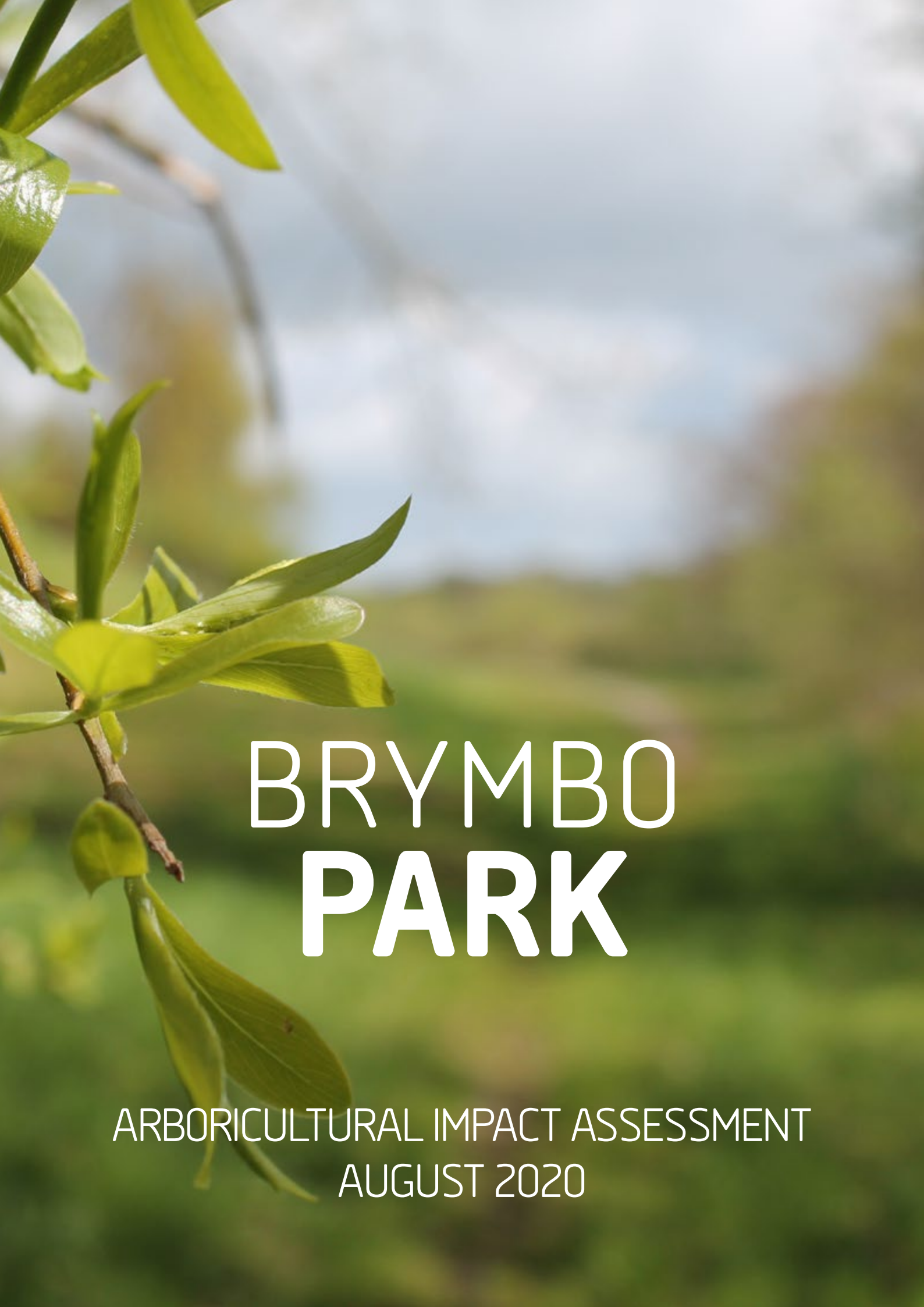




BRYMBO PARK

ARBORICULTURAL IMPACT ASSESSMENT
AUGUST 2020

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ENERGY AND CLIMATE CHANGE
ENVIRONMENT AND SUSTAINABILITY
INFRASTRUCTURE AND UTILITIES
LAND AND PROPERTY
MINING AND MINERAL PROCESSING
MINERAL ESTATES
WASTE RESOURCE MANAGEMENT



BRYMBO DEVELOPMENTS LTD

FORMER BYRMBO STEELWORKS

ARBORICULTURAL IMPACT ASSESSMENT

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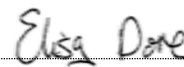
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PREPARED BY:

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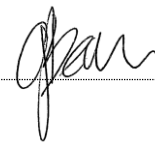
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DRAWINGS	TITLE	SCALE
ST16682-058 Rev. B	Tree Protection Plan	1:1,000@A1

1 INTRODUCTION

1.1 Brief

- 1.1.1 Wardell Armstrong LLP (WA) was commissioned by Brymbo Developments Ltd to undertake an arboricultural constraints and opportunities survey at a site (hereafter referred to as 'the Site') located in Brymbo, Wrexham at approximate Ordnance Survey Grid Reference SJ 296534. Following the completion of the arboricultural constraints and opportunities survey, report and plan, Brymbo Developments Ltd commissioned WA to carry out an Arboricultural Impact Assessment (AIA) for the proposed development described in this report.
- 1.1.2 The purpose of this report is to provide an AIA, in order to evaluate the direct and indirect effects of the proposed development masterplan/layout on the trees surveyed. These include trees identified within the Site, as well as those located off-site but within influencing distance. Where there are impacts from the development proposal, this report recommends, where feasible, mitigation measures to be taken to ensure that important trees are adequately considered during the design process. Where trees must be removed to enable the development, potential mitigation measures are proposed.
- 1.1.3 The BS5837 tree survey was undertaken by a WA arboriculturist during November 2018. This, in combination with the proposed layout, supporting documents/drawing and any liaison we have had with the design team, forms the basis of our assessment.
- 1.1.4 If planning permission is granted for the proposal assessed in this report, it is usual for the Local Planning Authority (LPA) to condition an Arboricultural Method Statement (AMS). An AMS would set out the specifications and methodologies for the tree protection measures implementation and would also provide a methodology for any proposed works that either encroach within the root protection areas (RPAs) or retained trees and/ or that have the potential to result in loss or damage to those trees.
- 1.1.5 This AIA report and attached Tree Protection Plan (TPP) accords with the methodologies and guidance set out in British Standard BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations (The British Standards Institution, 2012).

1.2 Site Context

- 1.2.1 The Site forms part of the wider land holding associated with the former Brymbo Steelworks, some of which has already been significantly redeveloped. The Site covers an area of approximately 13.41 hectares of former industrial land which has been remediated and regraded.
- 1.2.2 There are existing residential properties to the north, east and south, with the Site sitting centrally within the settlement of Brymbo. The Brymbo Enterprise Centre is located to the north of the site and provides facilities such as a community hub, sports hall, meeting rooms, café and post office. To the east are existing footpaths running adjacent to the site and Kent Road (B5101) and to the west there is agricultural land as well as a substation and a number of farmsteads.

1.3 Development Proposal

- 1.3.1 Outline planning permission is sought for up to 300 dwellings (Class C3 use), provision of a primary school (2-form entry), small district centre comprising up to 1,395sqm of Class A1 Retail, up to 372sqm of Class A3 Restaurant/Public House, up to 465sqm of Class D1 use, multi-functional green infrastructure, including informal open space, surface water attenuation, vehicle accesses, car parking, engineering works, public footpaths and hard and soft landscaping, underground services, and all ancillary and enabling works, with all matters reserved except for access.
- 1.3.2 In order to assess the impacts of the proposed developments the following plans have been overlaid to produce the Tree Protection Plan:
- Wardell Armstrong – Topographical Survey Plan Ref. ST16882-006 (Dated 14/08/2018);
 - Barton Wilmore – Land Use Plan Ref. 27968-RG-M-05-1 Rev. K (Dated 06/09/2018); and
 - Barton Wilmore – Site Boundary Ref. 27968-RG-M-04 Rev. B (Dated 06/09/2018).

1.4 Trees and the Planning Process

- 1.4.1 Under s197 of the Town & Country Planning Act 1990, LPAs have a legal duty to consider the protection of trees and the planting of new trees on development sites when granting planning permission. LPAs must also consider the potential effects, whether detrimental or positive, that proposed developments will have on retained trees, and the effect that these trees will have on the users of the development.

- 1.4.2 The Site is located within the administrative boundaries of Wrexham County Borough Council (WCBC). The adopted WCBC 'Unitary Development 1996 – 2011' includes a policy on trees and development, which is reproduced below. Additionally, WCBC has in place supplementary planning guidance on trees and development, Local Planning Guidance Note 17 (LPG 17), with relevant policies from that also reproduced below. Both UDP Policy EC4 and LPG 17 are a material consideration in the determination of planning applications by WCBC.

'Unitary Development Plan Policy EC4 - Hedgerows, Trees and Woodland

Development proposals should provide for the conservation and management of hedgerows, trees, orchards, woodland, wildlife and other natural landscape and water features, and include new planting in order to enhance the character of the landscape and townscape. Development which results in the loss or significant damage to valuable trees, important hedgerows or ancient woodland sites will not be permitted.

Local Planning Guidance Notes No 17 - Trees and Development

3.1 A: Development which would result in damage and/or inappropriate felling of significant trees (i.e. BS 5837 Category A & B trees) and hedgerows will not normally be permitted. Planning conditions and Tree Preservation Orders will be used to safeguard trees in appropriate cases.

3.1 B: Development proposed near to existing trees, woodlands or hedgerows must be in accordance with the design and protection principles set out in this Local Planning Guidance Note and British Standard 5837: 2012 "Trees in relation to design, demolition and construction" (or any subsequent revisions).

3.2 A: The planting of new trees, including the choice of species, planting locations and future maintenance needs and the integration of good quality existing trees and hedgerows is an integral part of the design process. Development must be planned around significant trees and hedgerows and where appropriate, to increase tree cover with new planting, thereby enhancing local amenity. For example, trees and hedgerows of considerable age, visual amenity, and ecological or historical value are not easily replaced and should be retained and safeguarded. Where development results in the loss of trees and hedgerows, new planting of at least equal number or canopy cover to those lost will usually be required to mitigate for the loss.

3.2 C: Development design must ensure that retained and planted trees do not cause unreasonable nuisance or inconvenience. Proposals which would result in trees causing

excessive shading or being overly dominant or oppressive, and/ or unduly encroach upon private amenity space or over residential properties, will not normally be permitted.

3.3 A: The type and level of protection required for retained trees and for areas to be planted will depend upon the scale and type of development. In the vast majority of cases, retained trees should be protected by well braced weld-mesh e.g. Heras or close boarded fencing. Further details can be found in BS5837.

3.3 B: The Construction Exclusion Zone for significant ancient, veteran and/ or historic champion trees (BS 5837 Category A3 trees) should be based on an area with a radius which is 15 times the diameter of the tree's stem (measured at 1.5 metres from ground level) or at a distance of 2 metres beyond the crown spread, whichever is the greater.

4.1 A: For most types of application where trees are present on or adjacent to proposed development sites, both land and tree surveys will be required (see 3.1.C).

4.1 C: Tree Survey – indicating the attributes, quality and value of all trees on site and those within influencing distance e.g. ref. number, species, height, stem diameter, age, condition, estimated lifespan, etc (refer to BS 5837 section 4.4.2.5 & Table 1), those proposed for removal and retention and containing a schedule of recommended works. The tree survey should be undertaken, independently of, and preferably, prior to design proposals being drawn up.

4.2 A: Development design should take into account the constraints and opportunities posed by existing quality trees, woodland and hedgerows and provide adequate space for new planting'.

- 1.4.3 National Planning Policy in Wales is detailed in Planning Policy Wales. The last revised version of the document (December 2018) includes the following three paragraphs on trees and development, with paragraph 6.4.26 giving specific protection to Ancient Woodland, Veteran and Ancient trees:

Paragraph 6.4.25 *Planning authorities should protect trees, hedgerows, groups of trees and areas of woodland where they have ecological value, contribute to the character or amenity of a particular locality, or perform a beneficial and identified green infrastructure function. Planning authorities should consider the importance of native woodland and valued trees, and should have regard, where appropriate, to local authority tree strategies or SPG. Permanent removal of woodland should only be permitted where it would achieve significant and clearly defined public benefits. Where*

woodland or trees are removed as part of a proposed scheme, developers will be expected to provide compensatory planting.

Paragraph 6.4.26 *Ancient woodland and semi-natural woodlands and individual ancient, veteran and heritage trees are irreplaceable natural resources, and have significant landscape, biodiversity and cultural value. Such trees and woodlands should be afforded protection from development which would result in their loss or deterioration unless there are significant and clearly defined public benefits; this protection should prevent potentially damaging operations and their unnecessary loss. In the case of a site recorded on the Ancient Woodland Inventory, authorities should consider the advice of NRW. Planning authorities should also have regard to the Ancient Tree Inventory.*

Paragraph 6.4.27 *The protection and planting of trees and hedgerows should be delivered, where appropriate, through locally specific strategies and policies, through imposing conditions when granting planning permission, and/or by making Tree Preservation Orders (TPOs). They should also be incorporated into Green Infrastructure Assessments and plans.*

- 1.4.4 Table B.1 taken from British Standard BS 5837:2012 gives guidance on the level of information required by LPAs in order to make an informed decision on the impact of development on trees. The production of an Arboricultural Constraints Report and Plan is the first stage of assessment in the context of the planning process.
- 1.4.5 An Arboricultural Constraints Report and Plan was completed for the client to assist in the layout design process. When the tree constraints have been considered and a layout designed, specific impacts on the trees proposed to be retained are considered in an Arboricultural Impact Assessment (AIA) and TPP. This report fulfils the requirement to present the impacts of the proposed layout on the trees on and immediately adjacent to the Site.
- 1.4.6 If the proposed scheme is approved, it is common for the LPA to condition the protection of the retained trees and hedgerows on Site during the proposed development. This will usually take the form of an AMS and an updated TPP. These will show how the trees and hedgerows will be protected and will provide a methodology for any works within the RPAs of retained woody vegetation. These steps accord with the recommendations in BS 5837:2012 as detailed in Table B.1 as shown in Figure 1.

Table B.1 Delivery of tree-related information into the planning system

Stage of process	Minimum detail	Additional information
Pre-application	Tree survey	Tree retention/removal plan (draft)
Planning application	Tree survey (in the absence of pre-application discussions)	Existing and proposed finished levels
	Tree retention/removal plan (finalized)	Tree protection plan
	Retained trees and RPAs shown on proposed layout	Arboricultural method statement – heads of terms
	Strategic hard and soft landscape design, including species and location of new tree planting	Details for all special engineering within the RPA and other relevant construction details
Reserved matters/ planning conditions	Arboricultural impact assessment	
	Alignment of utility apparatus (including drainage), where outside the RPA or where installed using a trenchless method	Arboricultural site monitoring schedule
	Dimensioned tree protection plan	Tree and landscape management plan
	Arboricultural method statement – detailed	Post-construction remedial works
	Schedule of works to retained trees, e.g. access facilitation pruning	Landscape maintenance schedule
	Detailed hard and soft landscape design	

Figure 1: BS 5837:2012 Table 1

1.5 Statutory Legal Protection

1.5.1 The two main sources of protection afforded to trees are i) Conservation Area (CA) control and ii) Tree Preservation Orders (TPO).

1.5.2 Trees within Conservation Areas are protected under the Town & Country Planning Act 1990 (as amended), which affords blanket¹ protection to trees with a stem diameter of 75 mm and above when measured at 1.5 m from ground level.

1.5.3 Trees may also be protected by a TPO under the Town & Country Planning Act 1990 (as amended) and the Town and Country Planning (Trees) Regulations 1999.

1.5.4 It is a criminal offence to carry out any unauthorised works to trees that are either protected by a TPO or located within a CA, including:

- Cutting down, uprooting or wilfully destroying a tree, or wilfully damaging, topping or lopping a tree in such a manner as to be likely to destroy it;
- Any works that contravene the provisions of a TPO; and/or

¹ Protection is similar to that afforded to trees protected by TPO.

- Any works in contravention to the regulations.
- 1.5.5 Penalties for non-compliance of a TPO and/or CA can be unlimited, if tried in a County Court, and up to £20,000 if tried in a Magistrates Court. Note, if the Local Planning Authority decides to also prosecute under the Proceeds of Crime Act 2002 in addition to prosecuting under the Town and Country Planning Act 1990, the fine can be unlimited in a Magistrates court.
- 1.5.6 It should be noted that the felling of trees prior to receiving full planning permission may also require a felling licence under the Forestry Act 1967. This requires that any persons wishing to fell 5 m³ of trees within any three-month period (i.e. January to March, April to June, July to September and October to December) apply for a felling licence from the Forestry Commission. There are a number of exemptions to this requirement, with some of the more relevant exemptions including:
- Pruning trees.
 - Felling fruit trees or trees growing in a garden, orchard, churchyard or designated public open space.
 - Felling trees that, when measured at a height of 1.3 m from the ground, have a diameter of 8 cm or less.
 - Felling trees immediately required for the purpose of carrying out development authorised by full planning permission.
 - Felling necessary for the prevention of danger or the prevention or abatement of a nuisance² (e.g. threat/danger to a third party); and
 - Felling necessary to prevent the spread of a quarantine pest or disease.
- 1.5.7 Other legislation that affords a lesser or indirect level of protection to trees includes the following:
- The Wildlife & Countryside Act 1981 (as amended).
 - Conservation of Habitats and Species (amendment) Regulations 2018; and
 - Hedgerow Regulations (1997).
- 1.5.8 All of the above provide for the identification and safeguarding of flora and fauna that may be found in association with trees and woodlands.

² NB - This only applies when a real and/or immediate danger is present.

1.6 Protected Species

- 1.6.1 Trees can contain features such as cavities, cracks, splits and loose bark which can offer potential habitat to species such as bats. Bats and their roosts are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) as well as the Conservation of Habitats and Species Regulations 2018 (as amended) and are also listed under Section 41 of the Natural Environment and Rural Communities Act 2006.
- 1.6.2 Trees provide potential nesting habitat for birds and all UK birds and their active nests are protected under the Wildlife & Countryside Act 1981 (as amended). Bird species that are listed on Schedule 1 of *The Act* are also protected against disturbance of their active nest(s).
- 1.6.3 The UK government has advised that following the exit of the UK from the EU, the EU Withdrawal Act 2018 will ensure that all existing EU environmental law will continue to operate in UK law³. The UK government and devolved administrations will “amend current legislation to correct references to EU legislation [...] and ensure we meet international agreement obligations”.

³ DEFRA (2018) Upholding Environmental Standards if there's no Brexit Deal [online]. Accessed 12.04.2019. Available at: <https://www.gov.uk/government/publications/upholding-environmental-standards-if-theres-no-brexit-deal/upholding-environmental-standards-if-theres-no-brexit-deal>

2 THE SURVEY

2.1 Desk Study – Legal Constraints

- 2.1.1 WA e-mailed the LPA (Wrexham Borough Council) on the 29th of November 2018 to ascertain whether any trees within and/or immediately adjacent to the Site are protected by TPO and/or CA status. The LPA confirmed by e-mail on the 29th of November that 'Tree Preservation Order No. 184, 1996' protects some trees located adjacent to the Site. Parts of the surveyed woodlands W4 and W5 (WA Ref.) are protected by TPO designated woodland W4.
- 2.1.2 The woodlands W4 and W5 (WA Ref.) are located outside of the Site red line boundary and thus will not be impacted by the development.
- 2.1.3 The Site is not within a Conservation Area. A copy of this TPO Schedule can be found in Appendix 6.
- 2.1.4 WA has conducted a search using the Woodland Trust's Ancient Tree Inventory⁴ and Natural Resources Wales Map Application⁵ on 20th February 2020 to ascertain whether any veteran trees or ancient woodlands are located within influencing distance of the Site.
- 2.1.5 No veteran trees were found on and immediately adjacent to the site. An Ancient Woodland Site of Unknown Category (AWSU) covering 0.62ha approximately in the area of land planted with trees in recent years, identified as WA surveyed woodlands W4 and W5, was found on the Ancient Woodland Inventory (AWI)⁶. This is located to the west of the Site boundary and is not within influencing distance of the Site. Due to the industrial usage on the Site and subsequent clearance and land reprofiling since the Brymbo Steelworks shut down, there are no remnants of ancient woodland trees left within the recorded AWSU. Natural Resources Wales (NRW) have stated⁷ that the Ancient Woodland site will be removed from the AWI.

⁴ <https://ati.woodlandtrust.org.uk/>

⁵ https://maps.cyfoethnaturiolcymru.gov.uk/Html5Viewer210/Index.html?configBase=https://maps.cyfoethnaturiolcymru.gov.uk/Geocortex/Essentials/REST/sites/External_Map_Browser/viewers/EMB_Address/virtualdirectory/Resources/Config/Default&locale=en-gb

⁶ <http://lle.gov.wales/map#m=-3.04799,53.0706,15&b=europa&l=60;>

⁷ Personal Communication E-mail dated 14/12/2018

2.2 Field Survey

- 2.2.1 The position of trees and hedgerows is based on the 'Wardell-Armstrong' Topographical Survey Plan Ref. ST16882-006 dated 14th August 2018. A small number of the tree positions were not included on the topographical survey plan; thus, their positions were manually plotted using GPS and aerial photography. Note, the GPS used to manually plot trees is not usually accurate to sub-metre levels.
- 2.2.2 The arboricultural survey was undertaken by a WA Arboriculturist during November 2018 using the methodology set out in BS5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations (see Appendices 2 and 3).
- 2.2.3 The arboricultural survey was undertaken on a wider area of the site. This data has been reused for this assessment and those trees outside the application area removed from the schedule. This means that the tree numbers are not sequential in the schedule.
- 2.2.4 Weather conditions during the survey were dry and cloudy, thus conducive for surveying.
- 2.2.5 Each individual surveyed tree (T), tree group (G) and woodland (W) was given a sequential reference number.
- 2.2.6 The surveyed trees and hedgerows were then identified by their common and/or Latin name. Where a number of surveyed trees formed a cohesive feature, such as groups, woodland compartments or whole woodlands, they were recorded, assessed and plotted as groups (G) or as woodland (W). Whilst not every tree within groups are surveyed, a representative sample of the largest edge trees were measured in order to be able to plot the group or woodland crown spreads and RPAs. Where detailed plans show development proposed within a group or woodland, all trees within influencing distance of the development proposals are recorded, plotted and assessed.
- 2.2.7 A series of measurements were taken where appropriate, including:
- Stem diameters measured at 1.5 m above ground level with a standard diameter measuring tape to enable RPAs to be calculated.
 - Tree height, crown height and height of first significant branch in the crown above ground level measured using a Truepulse 360R laser to inform on ground clearance, crown/stem ratio and shading; and

- Crown (branch) spreads measured with a Truepulse 360R at the four cardinal points (i.e. north, east, south and west) to enable an accurate representation of the crowns to be plotted on the TPP.

2.2.8 A description of the life stage of each surveyed tree is identified as follows:

- Young – Newly planted trees and self-seeded trees.
- Semi-mature – Large nursery stock that can be newly planted or self-seeded trees still in the early stages of establishment.
- Early mature – Trees in the first third of their life cycle which is characterised by their quickness of growth and subsequently significant increase in size.
- Mature – Trees in the second third of their life cycle, characterised by reaching their ultimate size and slowing of annual incremental growth.
- Late mature – Trees in the final third of their life cycle, often characterised by showing signs of decline; and
- Veteran – Trees that show ancient tree characteristics irrespective of their age, such as crown retrenchment and decaying wood habitat.

2.2.9 An assessment of each tree's physiological and structural condition is identified as G (good), F (fair), P (poor) or D (dead).

2.2.10 An estimated remaining contribution in years within the context of the current Site usage was identified as <10, 10+, 20+ or 40+.

2.2.11 The trees were then classified in accordance with the BS5837:2012 tree quality assessment categories 'A', 'B', 'C' and 'U' (see category criteria and grading within Appendix 3). 'A' and 'B' category trees are considered as 'high' and 'moderate' quality, respectively, and are considered as a constraint to development. As such, these trees should be retained and afforded appropriate protection during development. 'C' category trees are considered to be of 'lower' quality due to their condition or 'lower' amenity value and are, therefore not usually considered a constraint to development. 'U' category trees are those in such a 'poor' condition that they cannot usually be retained within the current Site context for longer than ten years. It should be noted that in some cases, category 'U' trees may have valuable habitat/ecological value despite being in poor condition. In such cases, where it is safe to do so, these trees may be recommended for retention and/or pruning works. Where relevant, we will bring such trees to your attention. Where trees are located outside of the red and blue

line Site boundaries, irrespective of their BS 5837 categorisation, these should be considered as a constraint during the Site layout design process and protected during construction, as such trees are not within the control of the Site owner.

- 2.2.12 Root Protection Areas (RPAs) are calculated for individual trees utilising the methodology set out in BS 5837:2012, which is calculated by multiplying the stem diameter (measured at 1.5 m from ground level) by twelve for single-stemmed trees and a variant on this for multi-stemmed trees. For surveys in England (and outside England where it is a Local Planning Policy requirement), individual veteran trees are given a standard BS 5837 RPA and also a secondary veteran tree RPA, to accord with government's standing advice 'Ancient woodland, ancient trees and veteran trees: protecting them from development'⁸ and local planning policy, which is based on a calculation of fifteen times the stem diameter or five metres beyond the crown spread, whichever is greater.
- 2.2.13 For tree groups and woodlands, the calculated RPAs are based on a set distance from the canopy edge of the tree groups and woodlands. This calculation is based on the largest stem diameter of the trees on the edge of the tree groups and woodlands and the crown spread measurement for these edge trees.
- 2.2.14 Further details for each tree, and the groups of trees surveyed are set out in the Arboricultural Survey Schedule (see Appendix 1) and on the Tree Protection Plan Ref. No. ST16882-058 Rev. B.

2.3 Report Limitations

- 2.3.1 Trees are influenced by a variety of environmental variables, which can affect the health of trees causing biomechanical and physiological changes. All comments made on tree health reflects their physical condition at the time of the survey. Due to the changeable nature of trees and other site/environmental conditions, which may influence trees, the preliminary management recommendations/ further works for the surveyed trees undertaken, which can be found in Appendix 1 of this report, are only valid for a period of 12 months from the date of the Site survey (November 2018). These recommendations relate specifically to the general maintenance of tree health and safety and do not affect the implications of this Arboricultural Impact Assessment and therefore, the results of the survey remain valid.

⁸ <https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences>

- 2.3.2 Although comments and recommendations on the safety of particular trees may have been made, this survey is not a Tree Risk Management Survey and thus should not be treated as such. All trees were surveyed from ground level only and in a solely visual nature. However, where trees have been identified as presenting an imminent safety risk due to structural defects, this has been brought to the attention of the client and treated as a separate matter. Should trees require further detailed assessment (decay detection, aerial inspections) and do not present an imminent safety risk, the information will be detailed within the survey schedules.
- 2.3.3 Any management recommendations have been made in accordance with BS3998: 2010 Tree Works – Recommendations; and/or industry best practice. Works have been recommended in accordance with any statutory obligations on the landowners or occupiers.
- 2.3.4 This survey did not include an ecological survey of vegetation or habitat areas. Any ecological issues incidentally observed during the survey are reported on in the tree schedule.
- 2.3.5 For the purpose of this report no samples were obtained from Site for analysis or any other reason.
- 2.3.6 The survey did not include soil sampling to determine whether the soil is shrinkable. Such analysis should be carried out by a specialist to ensure building foundations are adequate in accordance with current National House Building Council Guidelines (NHBC).

3 SURVEY RESULTS AND EVALUATION

3.1 Tree Population

- 3.1.1 The trees assessed and surveyed on and immediately adjacent to the Site included one individual tree, seven tree groups and three woodlands.
- 3.1.2 The only individual tree within the site has been categorised as Category 'C' quality.
- 3.1.3 In terms of combined tree groups and woodlands, 10% were classified as category 'B' quality and 90% were classified as category 'C' quality. None of the groups or woodlands were classified as category 'A' or 'U' during the assessment.
- 3.1.4 British Standard 5837:2012 states that category 'A' trees are the highest quality, 'B' trees are of moderate quality and 'C' trees are considered to be of low quality. Category 'U' trees are in such a poor structural and/ or physiological condition that they have a predicted life expectancy of less than ten years. Therefore, category 'A' and 'B' trees are considered a constraint to development, whilst 'C' category trees are usually not usually considered a constraint to development, whilst 'U' quality trees should not be considered a constraint to development unless the trees are either ancient or veteran or provide habitat for protected species such as bats.
- 3.1.5 The individual tree on site is semi-mature, whilst the groups range from young to early mature.
- 3.1.6 A detailed description of all trees and groups of trees surveyed and recommended works can be found in the Tree Survey Schedule in Appendix 1. Tables 1 and 2 below summarises the BS 5837 quality grading of the trees found on and adjacent to the Site.

Table 1: Individual Trees Quality Assessment Summary				
Tree Quality	A	B	C	U
Individual Trees Identification	None	None	T24	None
Total	0	0	1	0

Table 2: Tree Groups & Woodland Quality Assessment Summary				
Tree Quality	A	B	C	U
Tree Groups & Woodland Identification	None.	G18	G12, G13, G14, G15, G16, G17, W4, W5, W6	None
Total	0	1	9	0

3.2 General Tree Constraints

- 3.2.1 Trees impose a constraint to development in a variety of ways. These principally include their rooting areas, referred to as Root Protection Areas (RPAs), their current and future crown spread, and their species characteristics (e.g. branch and fruit drop, production of 'honey dew', density of foliage etc). Where located on shrinkable clay soils, trees can also contribute to subsidence damage to buildings.
- 3.2.2 Consideration should be given during the design stage for any incompatibilities between the design and tree retention. These include (but are not limited to) the effects on the amenity value provided by existing trees, working space required during construction, infrastructure/utility requirements, highway visibility requirements and foundation design to prevent the effects of subsidence.
- 3.2.3 The RPA is calculated using the tree's diameter at 1.5m and represents the minimum area which should be left undisturbed around each retained tree to enable its survival following development.
- 3.2.4 Tree root morphology is influenced by many factors including, but not limited to; past land use, the presence of roads, structures and underground services, drainage and soils. Any of these factors may result in non-uniform root growth and therefore result in an RPA represented as a polygon RPA that reflects suitable protection of the root system.
- 3.2.5 The majority of tree roots are generally found within the top 600mm of soil, depending on soil types and profiles. Any disturbance or sudden changes to the rooting environment can result in damage being caused to roots and alterations to the roots physiological ability to absorb water, nutrients and undertake gaseous exchange.
- 3.2.6 Where alterations have been made within the trees' rooting environment, the damage can often be observed within the crown of the trees, reduced vitality and increased deadwood production. Trees are likely to decline progressively, or in some circumstances may become a hazard where stability and structural integrity has been compromised by Site operations.
- 3.2.7 The RPA must be protected by the installation of tree protection fencing prior to the commencement of development work on Site. The fencing provides a physical barrier that is secured, to prohibit activities considered detrimental to the retention of healthy trees (e.g. excavations, soil stripping, discharge of substances harmful to trees, storage of materials, fires). In addition to this, it may be necessary to install specialist

temporary ground protection which enables access within the RPA, without causing long-term detriment to the health of the tree/s.

- 3.2.8 No traditional construction works should take place within the RPA of retained trees. However, in some circumstances and where there is an overriding requirement for construction and the retention of trees, it may be appropriate to employ techniques and use materials that allow trees to be retained, whilst enabling the construction. For hard surfacing, such as drives, roads and footways, utilising no-dig construction techniques and using three-dimensional geogrids and permeable wearing course materials may be appropriate. For built structures within RPAs, the use of pile and above ground level beam foundations and/or cantilevered engineering solutions can enable structures to be constructed within RPAs. The project arboriculturist should be consulted on the appropriateness of building within retained tree RPAs, as this is not appropriate for all trees and soil types.
- 3.2.9 Where aerial parts of the tree crowns extend beyond the edge of the RPA, consideration should be given to protection of these parts, allowing for protection during development processes including working space. It may be appropriate to consider pruning of aerial parts to allow construction clearances and future nuisance abatement, this however must be considered by the project arboriculturist and the LPA. Where development proposals identify a need for working within the RPA/crown spread of retained trees and it can be demonstrated that retained trees remain viable, then it is important that the project arboriculturist is contacted to advise and prepare an AMS and identify appropriate stages of supervision.

4 DEVELOPMENT IMPACT TO RETAINED TREES

- 4.1.1 Implementation of the proposed scheme will necessitate the removal of part of one tree group (G17) and part of one woodland (W6), as detailed in full in Table 3.
- 4.1.2 In assessing the impacts of the proposed development on the trees on and adjacent to the Site and in proposing mitigation for these impacts, the planning application for development of the Site accords with the requirements of British Standard 5837:2012 and local and national planning policies for trees and development.

Table 3: Overview of Arboricultural Impacts and Proposed Mitigation

Tree/ Group No.	Proposed Works	Impact	Mitigation/Compensation	BS 5837 Quality Categorisation
Part of G17, part of W6	The removal of trees to facilitate the proposed development	<u>Low Impact</u> In order to facilitate the proposed scheme, part of a tree group and of a woodland may need to be removed. Both are categorised as 'C' quality e.g. trees of low quality and value. G17: 85 m² removed of 416 m² total area, which is approximately 20% of the group. W6: 226 m² removed of 7839 m² total area, which is approximately 3% of the woodland. G17 is within the site and only part of the group may need to be removed, this will not create any gaps in the tree cover. The area of W6 to be removed is adjacent to an existing highway with further screen of trees beyond. The proposed removals will have a very low impact on local amenity values.	The fixed development layout should be designed to minimise the number of trees that will need to be removed. It is recommended that the AIA and TPP are updated to reflect the detailed design of the development. This can be conditioned by the LPA, if required.	C
N/A	Unassessed impacts	<u>Low Impact</u>		B, C

5 SUMMARY AND RECOMMENDATIONS

- 5.1.1 The requirements of BS 5837:2012 have been complied with during the initial tree survey and subsequently in assessing the arboricultural impacts arising from the proposed development in this report.
- 5.1.2 Parts of W4 and W5 (WA Ref.) are protected by TPO No. 184, 1996 designated W4. These areas are outside the red line boundary of the site and are not impacted by the development.
- 5.1.3 There are currently no trees within or immediately adjacent to the Site protected by CA status.
- 5.1.4 There are no veteran trees on and immediately adjacent to the Site. Natural Resources Wales have stated that they will remove the area listed to the west of the site as AWSU from the AWI, however if done or not, there will be no impact on these areas of trees from the proposed development.
- 5.1.5 Part of G17 may have to be removed to facilitate the proposed primary school. The exact area of removal can be minimised in the detailed design stage, but the removal of part of this group would have a very a low impact on local amenity.
- 5.1.6 Part of W6 may have to be removed to facilitate the proposed residential area to the north of the site. The exact area to be removed can be minimised in the detailed design stage for the residential development, but the removal of this area of the woodland would have a very a low impact on local amenity.
- 5.1.7 The masterplan is indicative at this stage of the planning process and may be subject to minor changes when the detailed site layout is submitted for the Reserved Matters application (subject to the Outline application being approved), therefore the positions of the Tree Protection Fencing as shown on the Tree Protection Plan Ref. ST16882-058 Rev. B is indicative at this stage in the planning process. A revised TPP is likely to be required for the submission of the Reserved Matters application.
- 5.1.8 The detailed layout of the residential areas may have further impacts on the adjacent trees which cannot be assessed at this stage. These impacts may occur from the layout, the detailed drainage strategy and changes to levels which may be required at the construction stage. It is recommended that the AIA and TPP are updated to reflect the detailed design including drainage and level changes and this is likely to be required for the submission of the Reserved Matters application.

- 5.1.9 Notwithstanding any changes to the final fixed site layout, the retained trees on and immediately adjacent to the site will be protected with tree protection fencing, as per the recommendations set out in BS 5837:2012. An example of the type of tree protection fencing required can be found in Appendix 4. Signage on the fencing would assist in ensuring compliance of the tree protection measures. An example of this can be found in Appendix 5.
- 5.1.10 An AMS and an updated TPP may be required by the LPA prior to commencement of the proposed development, to ensure tree protection measures are fully specified and implemented. This is typically conditioned by the LPA if required.

6 REFERENCES

- British Standard, BS 3998:2010 Tree work. Recommendations. (The British Standards Institution, 2010).
- British Standard, BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations. (The British Standards Institution, 2012).
- NJUG Volume 4 - Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees (Issue 2:16th November 2007).
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- Ministry of Housing, Communities and Local Government (2014) Tree Preservation Orders and Trees in Conservation Areas.
<https://www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas>
- Welsh Government (2018) Planning Policy Wales, Edition 10 (December 2018) available at: <https://gov.wales/sites/default/files/publications/2019-02/planning-policy-wales-edition-10.pdf> [accessed 20th February 2010]
- Welsh Government (2013) Protected Trees.
<https://gov.wales/sites/default/files/publications/2018-09/protected-trees-a-guide-to-tree-preservation-procedures.pdf>
- Forestry Commission (2007) Tree Felling – Getting Permission.
- Claus Mattheck (2007) Updated field guide for Visual Tree Assessment.
- Forestry Commission & Natural England (Updated 4th January 2018) Ancient Woodland and Veteran Trees: Protecting them from Development – Guidance.
<https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences#veteran-trees>

Appendix 1

Tree Survey Schedule

Tree/ Group Ref. No.	Previous Tree Survey No./ Tree Tag No. (Where Different from Tree No.)	Botanical Name	Height(m)	Crown Clearance (m) & compass direction	Crown Spread (m)				Stem Diameter @ 1.5m (mm)					Number of Stems	Age Class: Y (Young), SM (Semi-Mature), EM (Early-Mature), M (Mature), LM (Late-mature), V (Veteran)	Condition		Estimated Remaining Contribution: (<10, 10+, 20+, 40+)	BS5837 Categorisation Grading	Comments	Preliminary management recommendations/ further works	BS 5837 Root Protection Area (m²)	BS 5837 Root Protection Radius (m)	Veteran Tree Root Protection Area Radius (m)
					North	East	South	West								Physiological Condition: G (Good), F (Fair), P (Poor), D (Dead)	Structural Condition: G (Good), F (Fair), P (Poor)							
T24	N/A	Aspen	4.8	0	1.6	1.8	1.8	2.3	100					1	SM	G	G	20 +	C1	No significant visible defects.	No works required.	5	1.2	N/A
G12	N/A	Silver birch	5.9	0	Plotted using GPS.				100 #					1	SM	G	G	20 +	C1	Three small trees, with no significant visible defects.	No works required.	N/A	1.3 from canopy edge	N/A
G13	N/A	Silver birch	5.6	0	Plotted using GPS.				75 #					1	SM	G	G	20 +	C1	Three small trees, with no significant visible defects.	No works required.	N/A	1.5 from canopy edge	N/A
G14	N/A	Silver birch	5.4	0	Plotted using GPS.				80					1	SM	G	G	20 +	C1	Six small trees, with no significant visible defects.	No works required.	N/A	1.5 from canopy edge	N/A
G15	N/A	Alder, Scots pine, goat willow, silver birch.	5 #	0	Plotted using GPS.				75 #					1	SM	G	G	20 +	C1;2	No significant visible defects.	No works required.	N/A	0.6 from canopy edge	N/A
G16	N/A	Silver birch, alder, goat willow, Scots pine, larch.	6 #	0	Plotted using GPS.				80					1	SM	G	G	20 +	C1;2	Small trees along boundary embankment, with no significant visible defects.	No works required.	N/A	Set RPA at canopy edge	N/A
G17	N/A	Silver birch, alder, goat willow	5 #	0	Plotted using GPS.				75 #					1	SM	G	G	20 +	C1;2	Small trees along boundary embankment, no significant visible defects.	No works required.	N/A	Set RPA at canopy edge	N/A
G18	N/A	Ash, goat willow, sycamore.	10 #	0	Plotted manually, please align edges of canopy with aerial mapping.				250 #					1	EM	F	F	20 +	B2	Trees on inaccessible embankment, thus limiting the survey.	No works required.	N/A	1.0 from canopy edge	N/A

Tree/ Group Ref. No.	Previous Tree Survey No./ Tree Tag No. (Where Different from Tree No.)	Botanical Name	Height(m)	Crown Clearance (m) & compass direction	Crown Spread (m)				Stem Diameter @ 1.5m (mm)	Number of Stems	Age Class: Y (Young), SM (Semi-Mature), EM (Early-Mature), M (Mature), LM (Late-mature), V (Veteran)	Condition		Estimated Remaining Contribution: (<10, 10+, 20+, 40+)	BS5837 Categorisation Grading	Comments	Preliminary management recommendations/ further works	BS 5837 Root Protection Area (m²)	BS 5837 Root Protection Radius (m)	Veteran Tree Root Protection Area Radius (m)
					North	East	South	West				Physiological Condition: G (Good), F (Fair), P (Poor), D (Dead)	Structural Condition: G (Good), F (Fair), P (Poor)							
W4	N/A	Silver birch, ash, alder, goat willow, Scots pine.	5 #	0	Plotted using topographical plan and southern site boundary.				70 #	1	Y - SM	G	G	10+	C2	Planting on embankment. Many small trees.	No works required.	N/A	To canopy edge	N/A
W5	N/A	Silver birch, ash, alder, goat willow, Scots pine.	5 #	0	Plotted using topographical plan and manually following G10 boundary.				70 #	1	Y - SM	G	G	10+	C2	Planting on embankment. Many small trees.	No works required.	N/A	To canopy edge	N/A
W6	N/A	Silver birch, alder, goat willow, Scots pine, wild cherry,	8 #	0	Plotted using topographical plan, GPS and aerial photography for northern edge.				350 #	1	EM	G	F	20 +	C1,2	Embankment planting. Trees get slightly larger and more mature towards the northern end of woodland.	No works required.	N/A	To canopy edge	N/A

Appendix 2

Survey Methodology

Appendix 2: Survey Methodology

The following features of each tree, group of trees or woodland have been recorded in the Arboricultural Data Sheets:

- Species includes common names.
- Height measured in metres from the stem base. Where the ground has a significant slope, the higher ground is selected.
- Crown height is measured in metres and is an indication of the average height at which the main crown begins.
- Stem diameter is measured in millimetres at 1.5m above the adjacent ground level (upslope on sloping ground).
- Crown spread is measured in metres and taken at the four cardinal points to derive an accurate representation of the crown.
- Age class of the tree is described as young, semi-mature, early mature, late-mature, mature or veteran.
- Physiological condition is classed as good, fair, poor, or dead. This is an indication of the health of the tree and takes into account vitality, presence of disease and dieback.
- Structural condition is classed as good, fair or poor. This is an indication of the structural integrity of the tree and takes into account significant wounds, decay and quality of branch junctions.
- Life expectancy is classed as: less than 10 years (<10), at least 10 years (10+), at least twenty years (20+) or at least 40 years (40+). This is an indication of the number of years before the removal of the tree is likely to be required.
- Comments include a brief description of the tree with comments on the form, vitality, health and any significant defects that may be present.

Appendix 3

Tree Categorisation Method

Appendix 3: Tree Categorisation Method

Table 1 Cascade chart for tree quality assessment

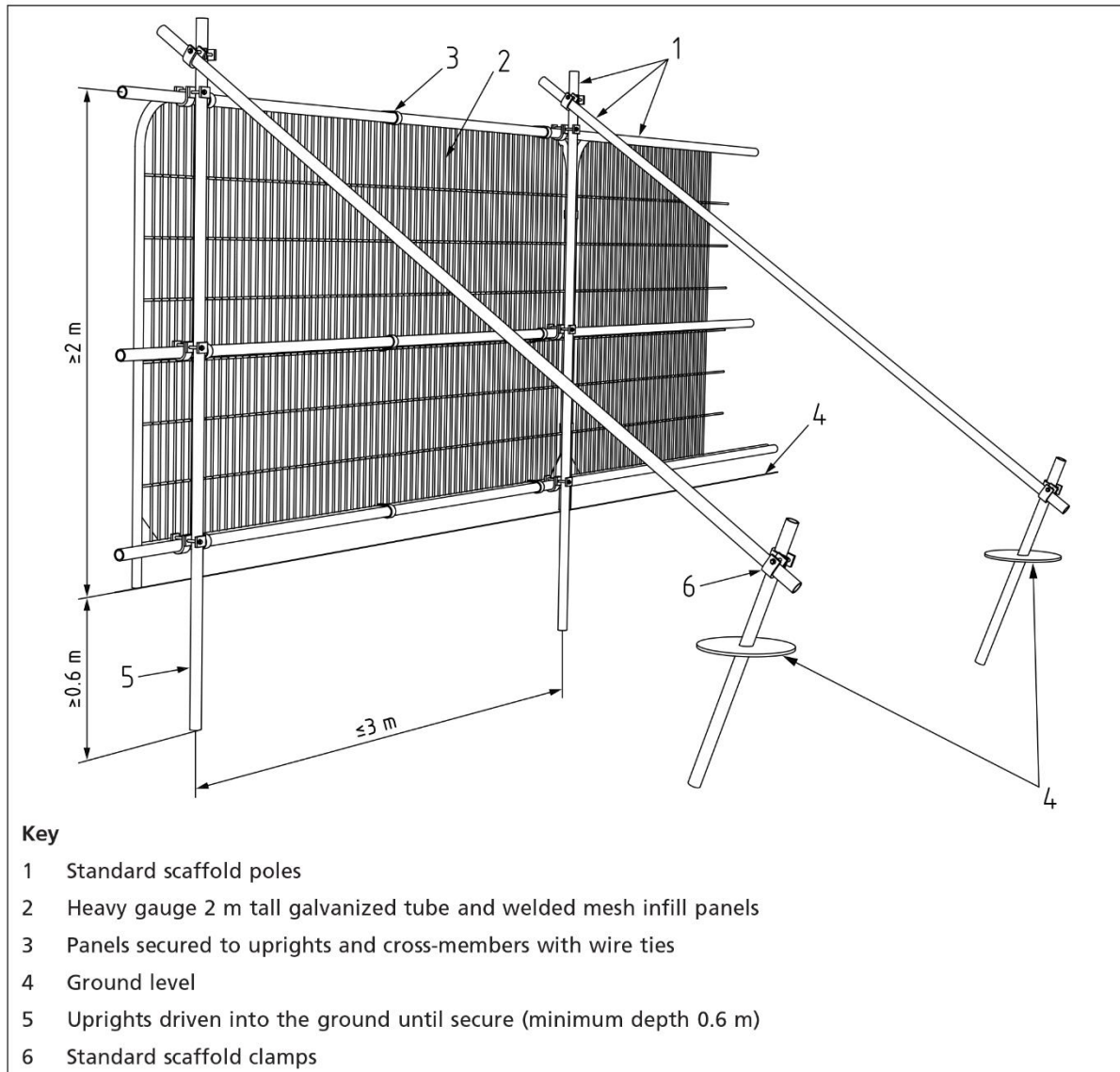
Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i>			See Table 2
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
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 remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

A single tree, group or woodland can come under one or more sub-headings. This does not confer on it a higher value than a tree with a single value. For the purposes of this report.

Appendix 4

Tree Protection Fencing

Appendix 4: Tree Protection Fencing



Appendix 5

Tree Protection Signage

Appendix 5: Tree Protection Signage



Appendix 6
Copy of TPO WMBC No. 184, 1996 Schedule

WS - to be revoked
Do not reveal for records
Tel on Alarthur
18/1/06

Confirmed

Steelworks
30596

Town and Country Planning Act 1990

Insert title of
Order

WREXHAM MAELOR BOROUGH COUNCIL (COMMUNITY OF BRYMBO)

TREE PRESERVATION ORDER, 19⁹⁶ . NO. 184

Insert name
of local
planning
authority

THE BOROUGH COUNCIL OF WREXHAM MAELOR

in this Order called "the authority", in pursuance of the powers conferred in that behalf by sections 198 and 199 [[and] 201*] [and] [300] of the Town and Country Planning Act 1990, and subject to the provisions of the Forestry Acts 1967 and 1979, hereby make the following Order:—

1. In this Order:—

"the Act" means the Town and Country Planning Act 1990;

"owner" means the owner in fee simple, either in possession or who has granted a lease or tenancy of which the unexpired portion is less than three years; lessee (including a sub-lessee) or tenant in possession, the unexpired portion of whose lease or tenancy is three years or more; and a mortgagee in possession; and

"the Secretary of State" means the [~~Secretary of State for the Environment~~] [Secretary of State for Wales].

2.—Subject to the provisions of this Order and to the exemptions specified in the Second Schedule hereto, no person shall, except with the consent of the authority and in accordance with the conditions, if any, imposed on such consent, cut down, top, lop, uproot, wilfully damage or wilfully destroy or cause or permit the cutting down, topping, lopping, uprooting, wilful damage or wilful destruction of any tree specified in the First Schedule hereto or comprised in a group of trees or in a woodland therein specified, the position of which trees, groups of trees and woodlands is defined in the manner indicated in the said First Schedule on the map annexed hereto[‡] which map shall, for the purpose of such definition as aforesaid, prevail where any ambiguity arises between it and the specification in the said First Schedule.

3.—An application for consent made to the authority[¶] under Article 2 of this Order shall be in writing stating the reasons for making the application, and shall by reference if necessary to a plan specify the trees to which the application relates, and the operations for the carrying out of which consent is required.

4.—(1) Where an application for consent is made to the authority under this Order, the authority may grant such consent either unconditionally, or subject to such conditions (including conditions requiring the replacement of any tree by one or more trees on the site or in the immediate vicinity thereof), as the authority may think fit, or may refuse consent:

Provided that where the application relates to any woodland specified in the First Schedule to this Order the authority shall grant consent so far as accords with the principles of good forestry, except where, in the opinion of the authority, it is necessary in the interests of amenity to maintain the special character of the woodland or the woodland character of the area, and shall not impose conditions on such consent requiring replacement or replanting.

NOTE: Where appropriate this Order has been updated to reflect statutory amendments which have resulted in the need to show substitutions or repeals of the prescribed form.

* Include only where Order contains a direction under section 201 of the Act.

‡ Map to be to a scale of not less than 25 inches to one mile (1:2500), except in the case of large woodlands when the scale shall be 6 inches to one mile (1:10000 or 1:10560).

¶ NOTE: If it is proposed to fell any of the trees included in this Order and the felling requires a licence under the Forestry Act 1967, an application should be made in the first place to the Forestry Commission.

(2) The authority shall keep a register of all applications for consent under this Order containing information as to the nature of the application, the decision of the authority thereon, any compensation awarded in consequence of such decision and any directions as to replanting of woodlands; and every such register shall be available for inspection by the public at all reasonable hours.

5.—Where the authority refuse consent under this Order or grant such consent subject to conditions they may when refusing or granting consent certify in respect of any trees for which they are so refusing or granting consent that they are satisfied—

- (a) that the refusal or condition is in the interests of good forestry; or
- (b) in the case of trees, other than trees comprised in a group of trees or in a woodland, that the trees have an outstanding or special amenity value; or
- (c) in the case of trees which are comprised in a group of trees or in a woodland, that the group of trees or the woodland, as the case may be, has an outstanding or special amenity value,

but a certificate shall not be given in the case of trees falling within (c) above if the application in respect of them has been referred by the Forestry Commissioners under section 15(1)(b) or 15(2)(a) of the Forestry Act 1967.

6.—(1) Where consent is granted under this Order to fell any part of a woodland other than consent for silvicultural thinning then unless—

- (a) such consent is granted for the purpose of enabling development to be carried out in accordance with a permission to develop land under Part III of the Act, or
 - (b) the authority with the approval of the Secretary of State dispense with replanting,
- the authority shall give to the owner of the land on which that part of the woodland is situated a direction in writing specifying the manner in which and the time within which he shall replant such land and where such a direction is given and the part is felled the owner shall, subject to the provision of this Order and section 204 of the Act, replant the said land in accordance with the direction.

(2) Any direction given under paragraph (1) of this Article may include requirements as to—

- (a) species;
- (b) number of trees per acre (hectare);
- (c) the erection and maintenance of fencing necessary for protection of the replanting;
- (d) the preparation of ground, draining, removal of brushwood, lop and top; and
- (e) protective measures against fire.

7.—On imposing any condition requiring the replacement of any tree under Article 4 of the Order, or on giving a direction under Article 6 of this Order with respect to the replanting of woodlands, the authority shall if such condition or direction relates to land in respect of which byelaws made by the National Rivers Authority, an internal drainage board, a water undertaker or a sewerage undertaker (as defined in the Water Act 1989) or any other authority whose functions are now exercised by the above bodies, restrict or regulate the planting of trees, notify the applicant or the owner of the land, as the case may be, of the existence of such byelaws and that any condition or direction has effect subject to the requirements of the byelaws, and the condition or direction shall have effect accordingly.

8.—The provisions set out in the Third Schedule to this Order, being provisions of Part III of the Act adapted and modified for the purposes of this Order, shall apply in relation thereto.

9.—Subject to the provisions of this Order, any person who has suffered loss or damage in consequence of any refusal (including revocation or modification) of consent under this Order or of any grant of any such consent subject to conditions, shall, if he makes a claim on the authority within the time and in the manner prescribed by this Order, be entitled to recover from the authority compensation in respect of such loss or damage:

Provided that no compensation shall be payable in respect of loss or damage suffered by reason of such refusal or grant of consent in the case of any trees the subject of a certificate in accordance with Article 5 of this Order.

10.—In assessing compensation payable under the last preceding Article account shall be taken of:

- (a) any compensation or contribution which has been paid whether to the claimant or any other person, in respect of the same trees under the terms of this or any other Tree Preservation Order under section 198 of the Act, or under the terms of any Interim Preservation Order made under section 8 of the Town and Country Planning (Interim Development) Act 1943, or any compensation which has been paid or which could have been claimed under any provision relating to the preservation of trees or protection of woodlands contained in an operative scheme under the Town and Country Planning Act 1932, and
- (b) any injurious infection to any land of the owner which would result from the felling of the trees the subject of the claim.

11.—(1) A claim for compensation under this Order shall be in writing and shall be made by serving it on the authority, such service to be effected by addressing the claim to the authority and leaving it at or sending it by post to the principal office of the authority.

(2) The time within which any such claim shall be made as aforesaid shall be a period of twelve months from the date of the decision of the authority, or of the Secretary of State, as the case may be, or where an appeal has been made to the Secretary of State against the decision of the authority, from the date of the decision of the Secretary of State on the Appeal.

12.—Any question of disputed compensation shall be determined in accordance with the provisions of section 205 of the Act.

13.—[(1) The provisions of section 201 of the Act shall apply to this Order and the Order shall take effect on 7th March, 1996 .]*

~~[(2) This Order shall apply to any tree specified in the First Schedule hereto, which is to be planted as mentioned therein, as from the time when that tree is planted.]†~~

NOTE: Any person contravening the provisions of this Order by cutting down, uprooting or wilfully destroying a tree, or by wilfully damaging, topping or lopping a tree in such a manner as to be likely to destroy it is guilty of an offence and liable on summary conviction to a fine not exceeding the prescribed sum^s or twice the sum which appears to the court to be the value of the tree, whichever is the greater, or on indictment to a fine. The penalty for any other contravention of this Order is a fine not exceeding Level 4 on the standard scale[‡] on summary conviction and, in the case of a continuing offence when the contravention is continued after conviction, a person is liable on summary conviction to an additional fine not exceeding £5 for every day on which the contravention is so continued.

If a tree is removed, uprooted or destroyed in contravention of an order or, except in the case of a tree to which the Order applies as part of a woodland, is removed, uprooted or destroyed or dies at a time when its cutting down or uprooting is authorised only by section 198(6)(a) of the Town and Country Planning Act 1990 relating to trees which are dying or dead or have become dangerous, it is the duty of the owner of the land, unless on his application the local planning authority dispense with the requirement, to plant another tree of appropriate size and species at the same place as soon as he reasonably can. Except in emergency, not less than 5 days previous notice of the removal, etc., should be given to the authority to enable the latter to decide whether or not to dispense with the requirement. In respect of trees in a woodland it is sufficient to replace the trees removed, uprooted or destroyed by planting the same number of trees either on or near the land on which the trees removed, uprooted or destroyed stood or on such other land as may be agreed between the authority and the owner of the land, and (in either case) in such places as may be designated by the authority.

* This provision is not to be included unless it appears to the authority that the Order should take effect immediately.

† This provision may be included in relation to trees to be planted pursuant to a condition imposed under section 197 of the Act.

§ This sum is currently £2000 but provision is made under the Planning and Compensation Act 1991 for a fine on summary conviction not exceeding £20,000. In addition the provision for daily fines for continuing offences will be abolished. These revised penalties will become operative on the coming into effect of section 23 of that Act.

‡ £1000 but subject to alteration by Order.

FIRST SCHEDULE
TREES SPECIFIED INDIVIDUALLY*

(encircled in black on the map)

<i>No. on Map.</i>	<i>Description.</i>	<i>Situation.</i>	
		<u>East</u>	<u>North</u>
T1	Ash (<i>Fraxinus excelsior</i>)	30000	52660
T2	Oak (<i>Quercus</i> - robur group)	29980	52690
T3	Oak (<i>Quercus</i> - robur group)	29960	52745
T4	Oak (<i>Quercus</i> - robur group)	30055	52810

TREES SPECIFIED BY REFERENCES TO AN AREA*

(within a dotted black line on the map)

<i>No. on Map.</i>	<i>Description</i>	<i>Situation.</i>
	None	

GROUPS OF TREES*

(within a broken black line on the map)

<i>No. on Map.</i>	<i>Description.</i>	<i>Situation.</i>
	None	

* The word "NONE" must be entered where necessary.

<u>No. on Plan</u>	<u>Description</u>	<u>East</u>	<u>North</u>
W2	A Woodland mainly comprising of Birch (Betula pendula), Alder (Alnus sp.), Poplar (Populus sp.), Sycamore (Acer pseudoplatanus) and Goat Willow (Salix caprea).	29950	53050
W3	A Woodland mainly comprising of Alder (Alnus sp.), Ash (Fraxinus excelsior), Oak (Quercus - robur group), Sycamore (Acer pseudoplatanus) and Goat Willow (Salix Capra).	24420	52750
W4	A Woodland comprising of Beech (Fagus sylvatica) and Sycamore (Acer pseudoplatanus).	29550	53300
W5	A Woodland mainly comprising of Poplar (Populus sp.), Oak (Quercus - robur group), Ash (Fraxinus excelsior), Sycamore (Acer pseudoplatanus) and Birch (Betula pendula).	29300	53500

WOODLANDS*

(within a continuous black line on the map)

No. on Map.	Description	Situation.	
		East	North
W1	A linear Woodland mainly comprising of Hawthorn (<i>Crataegus monogyna</i>), Sycamore (<i>Acer pseudoplatanus</i>), Ash (<i>Fraxinus excelsior</i>) and Goat Willow (<i>Salix caprea</i>).	29970	52700

* The word "NONE" must be entered where necessary.

SECOND SCHEDULE

This Order shall not apply so as to require the consent of the authority to

- (1) the cutting down of any tree on land which is subject to a forestry dedication covenant where
 - (a) any positive covenants on the part of the owner of the land contained in the same deed as the forestry dedication covenant and at the time of the cutting down binding on the then owner of the land are fulfilled;
 - (b) the cutting down is in accordance with a plan of operations approved by the Forestry Commission under such deed.
- (2) the cutting down of any tree which is in accordance with a plan of operations approved by the Forestry Commission under a grant scheme under section 1 of the Forestry Act 1979 except a scheme which applies to a forestry dedication covenant.
- (3) the cutting down, uprooting, topping or lopping of a tree
 - (a) by or at the request of the Post Office where the land on which the tree is situated is land which has been acquired for the purpose of the Post Office's undertaking and either works on such land cannot otherwise be carried out or the cutting down, uprooting, topping or lopping is for the purpose of securing safety in the operation of the undertaking; or the lopping in pursuance of the power conferred on any operator of a telecommunications code system by virtue of paragraph 19 of Schedule 2 to the Telecommunications Act 1984;
 - (b) by or at the request of
 - (i) a statutory undertaker or a holder of a licence under section 6(1) of the Electricity Act 1989 where the land on which the tree is situated is operational land as defined by the Act and either works on such land cannot otherwise be carried out or the cutting down, uprooting, topping or lopping is for the purpose of securing safety in the operation of the undertaking;
 - (ii) a licence holder within the meaning of Part I of the Electricity Act 1989, where such tree obstructs the construction by the licence holder of any electric line within the meaning of Part I of the said Act of 1989 or interferes or would interfere with the maintenance or working of any such line;
 - (iii) the National Rivers Authority or an internal drainage board established under the Water Act 1989, where the tree interferes or would interfere with the exercise of any of the functions of such authority or drainage board in relation to the maintenance, improvement or construction of water courses or of drainage works; or a water undertaker or sewerage undertaker appointed under section 11 of the Water Act 1989 in relation to their duties as such undertakers; or
 - (iv) the Secretary of State for Defence, the Secretary of State for Transport, the Civil Aviation Authority, or in relation to any airport managed by a company to which any property, rights or liabilities have been transferred in pursuance of a scheme made under section 1 or 15 of the Airports Act 1986, the person for the time being having the management of the airport, where in the opinion of such Secretary of State, Authority or person the tree obstructs the approach of aircraft to, or their departure from, any airport or hinders the safe and efficient use of aviation or defence technical installations;
 - (c) where immediately required for the purpose of carrying out development authorised by the planning permission granted on an application made under Part III of the Act, or deemed to have been so granted for any of the purposes of that Part;
 - (d) which is a fruit tree cultivated for fruit production growing or standing on land comprised in an orchard or garden.

THIRD SCHEDULE

Provisions of the following parts of Part III of the Town and Country Planning Act 1990 as adapted and modified to apply to this Order.

75.—(1) Without prejudice to the following provisions as to the revocation or modification of consents, any consent under the Order, including any direction as to replanting given by the authority on the granting of such consent, shall (except in so far as the consent otherwise provides), enure for the benefit of the land and of all persons for the time being interested in it.

77. Reference of applications to the Secretary of State.—(1) The Secretary of State may give directions to the authority requiring applications for consent under the Order to be referred to him instead of being dealt with by the authority.

(2) a direction under this section may relate either to a particular application or to applications of a class specified in the direction.

(3) Any application in respect of which a direction under this section has effect shall be referred to the Secretary of State accordingly.

(4) Where an application for consent under the Order is referred to the Secretary of State under this section, the provisions of Articles 4 and 5 of the Order shall apply as they apply to such an application which falls to be determined by the authority.

(5) Before determining an application referred to him under this section the Secretary of State shall, if either the applicant or the authority wish, give each of them an opportunity of appearing before, and being heard by, a person appointed by the Secretary of State for the purpose.

(7) The decision of the Secretary of State on any application referred to him under this section shall be final.

78. Appeals against decisions or in default of decision.—(1) Where an authority—

(a) refuse an application for consent under the Order or grant it subject to conditions, or

(b) give any certificate or direction, on granting consent,

the applicant may by notice appeal to the Secretary of State.

(2) A person who has made an application for consent under the Order may also appeal to the Secretary of State if the authority have neither—

(a) given notice to the applicant of their decision on the application; nor

(b) given notice to him that the application has been referred to the Secretary of State in accordance with directions given under section 77 above,

within two months from the date of receipt of the application, or within such extended period as may at any time be agreed upon in writing between the applicant and the authority.

(3) Any appeal under this section shall be made by notice in writing served within such time as is specified in subsection (4) below.

(4) The service of such a notice must be within—

(a) 28 days from the receipt of notification of the decision, certificate or direction, as the case may be, or such longer period as the Secretary of State may allow; or

(b) in the case of an appeal under subsection (2), 28 days or such longer period as the Secretary of State may allow from the end of the period of two months or, as the case may be, the extended period agreed.

(5) In relation to an appeal under subsection (2), it shall be assumed that the authority decided to refuse the application in question.

79. Determination of appeals.—(1) On an appeal under section 78 the Secretary of State may—

(a) allow or dismiss the appeal,

(b) reverse or vary any part of the decision of the authority (whether the appeal relates to that part of it or not), or

(c) cancel any certificate or cancel or vary any direction,

and may deal with the application as if it had been to him in the first instance.

(2) Before determining an appeal under section 78 the Secretary of State shall, if either the appellant or the authority so wish, give each of them an opportunity of appearing before and being heard by a person appointed by the Secretary of State for the purpose.

(5) The decision of the Secretary of State on such an appeal shall be final.

97. Power to revoke or modify the consent under the Order.—(1) If it appears to the authority that it is expedient to revoke or modify any consent under the Order granted on an application made under Article 3 of the Order, the authority may by Order revoke or modify the consent to such extent as they consider expedient.

(3) The power conferred by this section may be exercised at any time before the operations for which consent has been given have been completed.

(4) The revocation or modification of consent shall not affect so much of those operations as has been previously carried out.

98. Procedure for s.97 Orders: opposed cases.—(1) Except as provided in section 99, an Order under section 97 shall not take effect unless it is confirmed by the Secretary of State.

(2) Where an authority submit such an Order to the Secretary of State for confirmation, they shall provide the Secretary of State with a statement of their reason for making the Order and shall serve notice together with a copy of the statement on—

- (a) the owner of the land affected,
- (b) the occupier of the land affected, and
- (c) any other person who in their opinion will be affected by the Order.

(3) The notice shall specify the period within which any person on whom it is served may require the Secretary of State to give him an opportunity of appearing before, and being heard by, a person appointed by the Secretary of State for the purpose.

(4) If within that period such a person so requires, before the Secretary of State confirms the Order he shall give such an opportunity both to him and to the local planning authority.

(5) The period referred to in subsection (3) shall be 28 days from the service of the notice.

(6) The Secretary of State may confirm an Order submitted to him under this section either without modification or subject to such modifications as he considers expedient.

(7) Where a notice has been served in accordance with the provisions of subsection (2) of this section, no operations or further operations as the case may be, in pursuance of the consent granted, shall be carried out pending the decision of the Secretary of State under this section.

99. Procedure for s.97 Orders: unopposed cases.—(1) This section applies where—

- (a) the authority have made an Order under section 97 above; and
- (b) the owner and occupier of the land and all persons who in the authority's opinion will be affected by the Order have notified the authority in writing that they do not object to it.

(2) Where this section applies, instead of submitting the Order to the Secretary of State for confirmation the authority shall advertise the fact that the Order has been made and the advertisement must specify—

- (a) the period within which persons affected by the Order may give notice to the Secretary of State that they wish for an opportunity of appearing before, and being heard by, a person appointed by the Secretary of State for the purpose; and
- (b) the period at the expiration of which, if no such notice is given to the Secretary of State, the Order may take effect by virtue of this section without being confirmed by the Secretary of State.

(3) The authority shall also serve notice to the same effect on the persons mentioned in subsection (1)(b).

(4) The period referred to in subsection 2(a) must be not less than 28 days from the date the advertisement first appears.

(5) The period referred to in subsection 2(b) must be not less than 14 days from the expiration of the period referred to in subsection (2)(a).

(6) The authority shall send a copy of any advertisement published under subsection (2) to the Secretary of State not more than three days after the publication.

(7) If—

- (a) no person claiming to be affected by the Order has given notice to the Secretary of State under subsection (2)(a) within the period referred to in that subsection, and
- (b) the Secretary of State has not directed within that period that the Order be submitted to him for confirmation,

the Order shall take effect at the expiry of the period referred to in subsection 2(b) without being confirmed by the Secretary of State as required by section 98(1).

(8) This section does not apply to an Order revoking or modifying a consent granted or deemed to have been granted by the Secretary of State under Part III, Part VII or Part VIII of the Act.

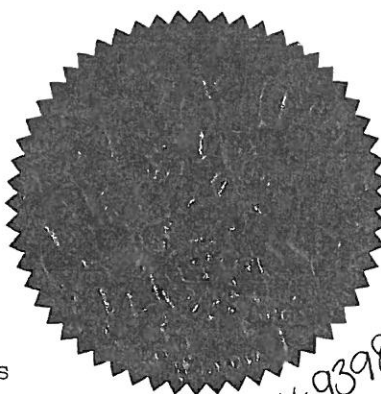
GIVEN under the Common Seal of the
BOROUGH COUNCIL OF WREXHAM MAELOR

the 7th March

19 96 .

Mayor

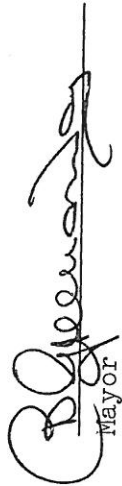
Director of Administration and Legal Services

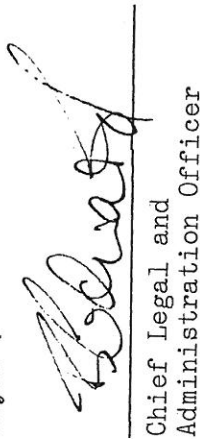


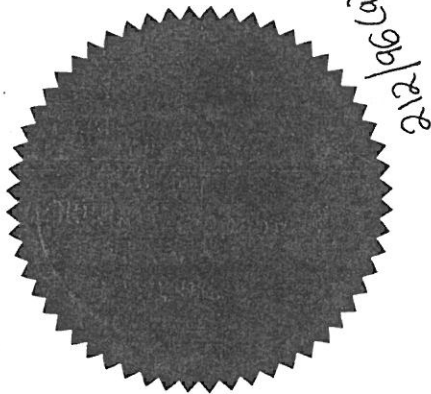
149398(a)

The Borough Council of Wrexham Maelor (Brymbo Ward) Tree Preservation Order No. 184 was hereunto confirmed as an unopposed Order this 30th day of May 1996.

The Common Seal of the Wrexham County Borough Council was hereunto affixed in the presence of:-


Mayor


Chief Legal and
Administration Officer



Dated 7th March

1996

THE BOROUGH COUNCIL OF WREXHAM MAELOR

TOWN AND COUNTRY PLANNING ACT 1990

WREXHAM MAELOR BOROUGH COUNCIL

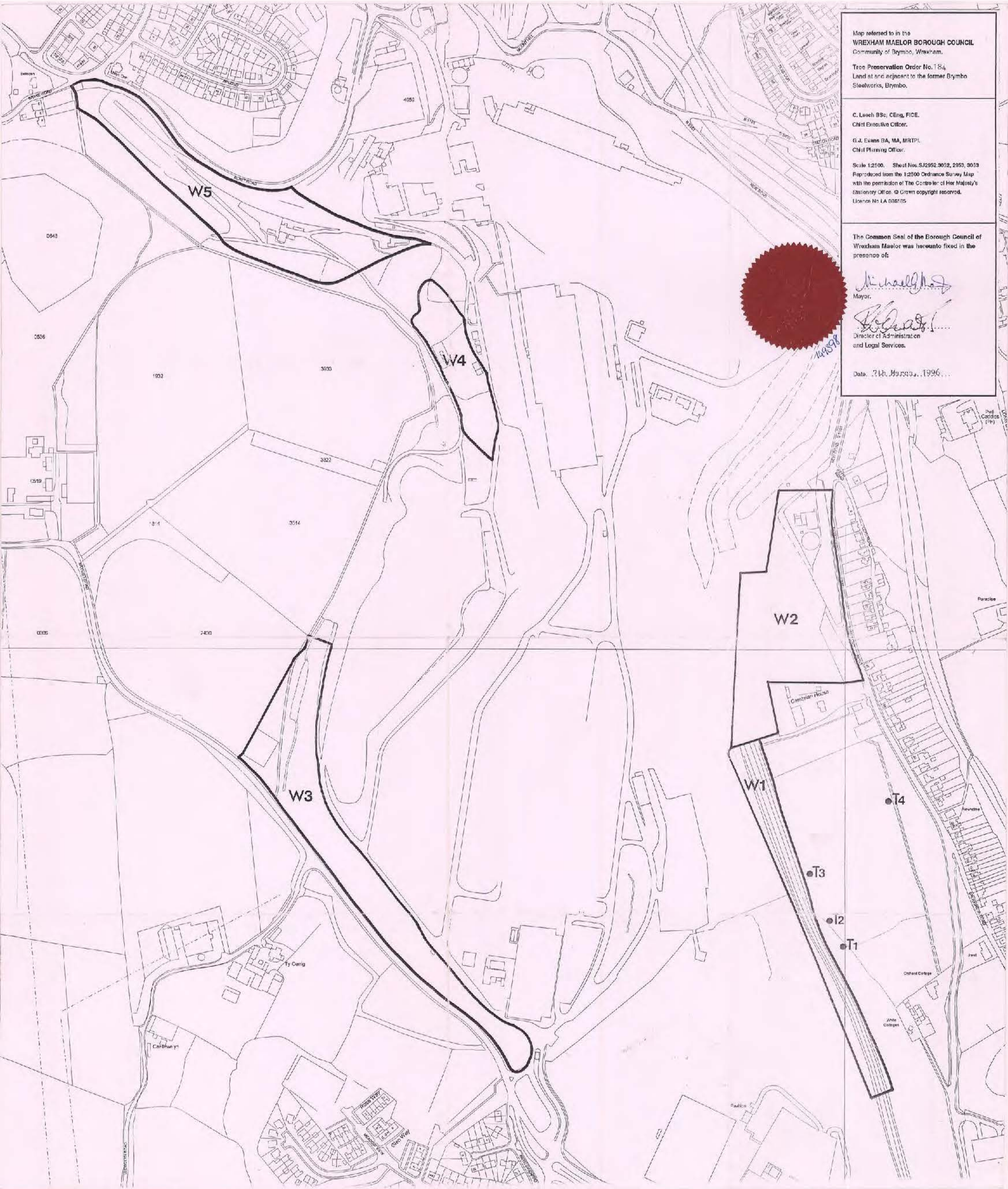
(COMMUNITY OF BRYMBO)

TREE PRESERVATION ORDER NO. 184

TREE PRESERVATION ORDER

relating to

Trees on land and adjacent
to Brymbo Steelworks,
Brymbo, Wrexham, Clwyd.



Map referred to in the
WREXHAM MAELOR BOROUGH COUNCIL
Community of Brymbo, Wrexham.
Tree Preservation Order No. 184
Land at and adjacent to the former Brymbo
Steelworks, Brymbo.

C. Leach BSc, CEng, FICE.
Chief Executive Officer.
G.J. Evans BA, MA, MRTPI.
Chief Planning Officer.

Scale 1:2500. Sheet Nos. SJ2952.3052, 2953, 3053
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The Common Seal of the Borough Council of
Wrexham Maelor was herewith fixed in the
presence of:

Michael G. Jones
Mayor.

G.J. Evans
Director of Administration
and Legal Services.

Date: 21st March, 1996...

Appendix 7

Glossary of Common Terms Used in Arboriculture

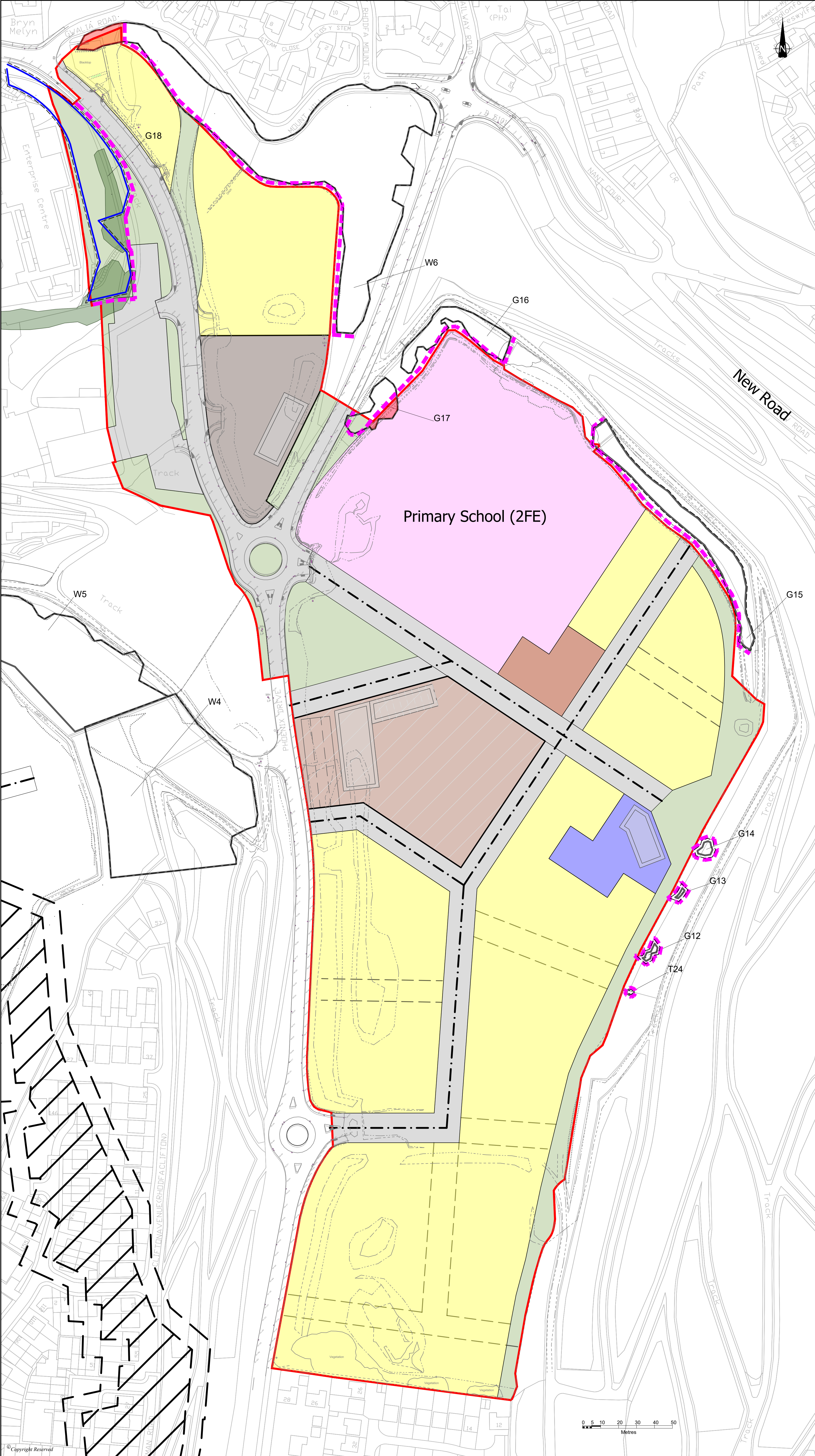
Appendix 7: Glossary of Common Terms Used in Arboriculture

Abscission. The shedding of a leaf or other short-lived part of a woody plant.
Abiotic. Pertaining to non-living agent's e.g. environmental factors.
Absorptive Roots. Non-woody short-lived roots, generally having a diameter less than one millimetre, the primary function of which is the uptake of water and nutrients.
Access Facilitation Pruning. One off pruning operation to provide access for development operation. Pruning that will not be detrimental to trees health or amenity.
Arboricultural Method Statement (AMS). A methodology for the implementation of development where encroachment within the RPA has the potential to cause damage or loss of retained trees.
Arboriculturist. Someone who through relevant training and experience has gained knowledge in the expertise of trees.
Adaptive Growth. The process by where wood formation rates increasing in the cambial zone, as well as wood quality, responds to gravity and other forces acting on the cambium.
Adaptive Roots. The adaptation of existing roots; or a production of new roots in response to damage or decay.
Adventitious Buds, Roots, Shoots. Which grow in other than primary apical control.
Anchorage. The process in which a tree uses its roots system to support itself within the soil structure.
Ancient: A tree that has passed beyond maturity and is old, or aged, in comparison with other trees of the same species.
Arisings. Parts of the tree that has been removed for disposal, branches, leaves, roots etc.
Canker. Area of dead cambium killed by overlying pathogenic tissues.
Cavity. A hole in the woody structure of the tree; often caused through decay.
Cleaning Out. The removal of dead, diseased crossing branches, damaged branches and alien structures.
Competent Person. Person with training and experience in accordance with the proposed matter being addressed, having an understanding of a particular matter being approached.
Condition. An indication of the physiological vitality of a tree, but not the stability of a tree.
Construction. A Site based operation that has the potential to affect retained trees.
Construction Exclusion Zone. An area based on the RPA from which construction activity is prohibited.
Coppicing. Removal of all aerial parts of the tree leaving a stump for regeneration of new shoot.
Crown/Canopy. The parts of the tree that supports the leaves.
Crown Lifting. The removal of limbs and small branches to a specified height above ground level.
Crown Thinning. The removal of a proportion of secondary branch growth throughout the crown to produce an even density well balanced crown structure.
Crown Reduction/Reshaping. Removal in the height to a specified description to maintain a flowing crown structure.
Deadwood. Non-functional branches which no longer support natural growing conditions of the tree but may be beneficial for the support of habitats and species, possibly including rare saproxylic invertebrates. Thus, may also be referred to as 'Decaying Wood Habitat' or 'Dysfunctional wood'. Size ranges for deadwood referred to in this report and/or Appendix 1: - Small (<75 mm diameter), Medium (76 – 150 mm), Large (151-300) mm and Very large >301 mm. For some species such as oak etc, the risk of deadwood falling from the tree can be lesser than for other species, due to the variety of wood strengths of different tree species.

Defect. Any area of the tree that no longer has an optimal mechanical uniformity of stress, making the tree unsuitable for its location.
Dieback. Death of woody parts of the tree starting at distal ends of the tree.
Disease. Damage occurring to living organisms as a result of pathogenic micro-organisms.
Distal. Furthest distance away from the main body of the tree.
Dysfunction. In woody tissues, the loss of physiological function, especially water conduction, in sapwood.
Epicormic Growth. Growth from dormant or adventitious buds, not developing from the first shoot.
Girdling Roots. A circling root which constricts the stem or roots, with the potential to cause death and the restriction of flow within the phloem.
Heartwood. Dysfunctional xylem which no longer has conductive properties, but which has become an integral structural part of the tree.
Heave. The swelling of shrinkable clay soils, often when vegetation has been removed allowing soil rehydration to develop, with the potential for listing structures (e.g. walls).
Included Bark/Acute Forks. Face to face contact of bark usually at fork unions, or branch unions.
Lopping/Topping. A term used to describe the removal of large sized branches
Monolith. Removing some or most of the trees crown and sometimes the upper stem, in order to retain as much of the tree as standing deadwood habitat for ecological reasons.
Pathogen. A micro-organism that causes disease within another organism.
Phytotoxic. Toxic to plants.
Pollarding. The removal of the tree canopy to produce knuckles where new growth develops and is removed cyclically usually performed on young trees.
Pruning. Selective removal of parts of the tree to achieve a desired outcome.
Root Protection Area(RPA). An area around a tree identified by multiplying the stem diameter at 1.5 m from ground level by 12 to produce a radial area or rooting volume around a tree to be protected Ref. BS 5837: 2012.
Service. Any above and below ground structure or apparatus for utility provision.
Size of part. Relating to risk assessments, identifying the size of the hazard, or parts of a tree which may cause harm if failure occurs.
Stem(s). The main structure from the ground up supporting the crown.
Stress. In plants, the physiological depletion as a result of environmental influences.
Structure. A manufactured object, such as building, roads, path, wall or excavated structures.
Structural Roots. The primary larger diameter roots which hold and support the aerial parts of the tree.
Subsidence. The shrinkage of soil through the absorption of water via vegetation and the sinking effects on surrounding architectural structures.
Targets. In risk assessment, persons or property at risk of harm as a result of a hazard (falling tree, branch, etc.).
Transitioning Veteran Trees: Trees with some veteran features, but not sufficient veteran features to be considered full veteran trees. They contribute to the veteran tree resource and, through the ageing process are expected to become true veterans in time, before which they offer bridge and continuity habitat for important saproxylic invertebrates and fungi.

Tree Protection Plan (TPP). A scaled drawing informed by descriptive text where necessary, based upon finalised Site proposals, showing trees for retention and illustrating the tree and landscape protection measures.
Veteran Tree. Tree that, by recognized criteria, shows features of biological, cultural or aesthetic characteristics of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.
Windthrow. The blowing over a tree at its roots.

DRAWING



DO NOT SCALE FROM THIS DRAWING

KEY

SITE BOUNDARY

TREES REMOVED DUE TO CONDITION AND/OR TO ENABLE DEVELOPMENT

TREES AND HEDGEROWS THAT MAY REQUIRE PRUNING TO ENABLE THE PROPOSED DEVELOPMENT TO BE CONSTRUCTED.

LOCATION OF TREE PROTECTION FENCING

CATEGORY A CROWN SPREAD

CATEGORY B CROWN SPREAD

CATEGORY C CROWN SPREAD

CATEGORY U CROWN SPREAD

ROOT PROTECTION AREA

VETERAN TREE ROOT PROTECTION AREA

T1/G1/
W1/H1

TREE/TREE GROUP/
WOODLAND/HEDGE NUMBER

TREES

QUALITY CATEGORIES BASED ON BS5837:2012 TREES IN RELATION TO DESIGN, DEMOLITION AND CONSTRUCTION - RECOMMENDATIONS RPA - ROOT PROTECTION AREA WHERE RPA IS NOT VISIBLE IT EXTENDS TO THE SAME DISTANCE AS THE CANOPY. THE ORIGINAL OF THIS DRAWING WAS PRODUCED IN COLOUR - A MONOCHROME COPY SHOULD NOT BE RELIED UPON.

RESIDENTIAL

RESIDENTIAL (HIGHER DENSITY)

PUB/RESTAURANT

MIXED USE (FOODSTORE, RETAIL & RESIDENTIAL)

NON RESIDENTIAL USE

PRIMARY SCHOOL (2FE)

EXISTING ACCESS / INFRASTRUCTURE

SHARED CAR PARKING AND PUBLIC REALM

PUBLIC OPEN SPACE

EXISTING PUBLIC RIGHT OF WAY

NOTE:

OS DATA PROVIDED BY CLIENT .

B	Revised site boundary	30/02/20	MS	ED	MS
A	First Issue	24/02/20	MS	MS	MS
REVISION		DETAILS	DATE	DRAWN	CHECKED
CLIENT					
Brymbo Developments Ltd.					
PROJECT Land at the Former Brymbo Steelworks, Brymbo, Wrexham					
DRAWING TITLE Tree Protection Plan					
DRG No.		ST16882-058		REV B	
DRG SIZE		A1		SCALE 1:1000	
DRAWN BY		SJB		DATE 20/02/20	
CHECKED BY		MS		APPROVED BY MS	

STOKE ON TRENT | TEL 01782 276700
WWW.WARDELL-ARMSTRONG.COM

BRIDGEMAN

BOLTON

CARDIFF

CHARLIE

EDINBURGH

GLASSBORO

LEEDS

LONDON

MANCHESTER

NEWCASTLE UPON TYNE

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N:\ST16882 - FORMER BRYMBO STEELWORKS\03 - DESIGN\AUTOCAD\ST16882-058-03 TREE PROTECTION PLAN.DWG

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