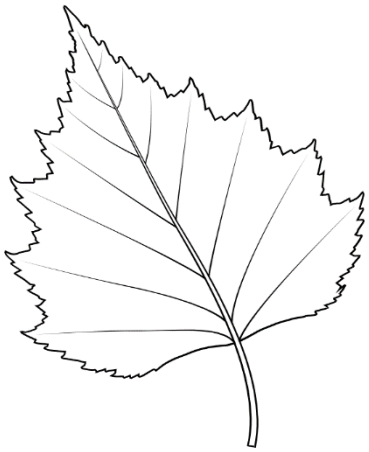
Arboricultural report – Ellesmere Canalside integrated development site

Report dated 12th April 2023



Birch

Independent professional tree woodland and environmental land management – Chartered Foresters, Chartered Surveyors

07970 882140 treesandwoods777@gmail.com

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- Appendix 1 (attached) Schedule of trees, tree groups and hedges
- Appendix 2 (below) Barrier specification outlined in section 6.2.2 Figure 2 of BS 5837:2012

Arboricultural report – Ellesmere Canalside integrated development site

Summary – key points in overview

- The trees, tree groups and hedges assessed in this report are principally located on agricultural land south-west of Ellesmere, roughly between the A495 and Lakelands Academy campus to the north and the Shropshire Union Canal, Langollen branch, to the south. An area at the extreme west of the site is occupied by a residential property and paddocks. Tree assessment and reporting has been undertaken to inform proposed development of the land for residential and mixed commercial purposes.
- The land has a range of existing mature and developing broadleaved trees, some of them clearly significant in landscape and environmental terms. There is also a well-developed network of boundary hedges that reflect its agricultural function. The majority of trees are located at existing site boundaries or margins.
- The Schedule of trees at Appendix 1 (attached) details individual assessments and recommendations for individual trees, tree groups and hedges.
- The need to manage retained trees appropriately to address tree risk issues in an altered, developed environment is outlined. Native tree and shrub species are suggested for potential replanting and landscape mitigation.
- Recommendations are made for tree protection and conservation during future site development and construction works with particular reference to the requirements detailed in BS5837:2012 *Trees in relation to design, demolition and construction - Recommendations*

1.0 Introduction

1.1 Terms of Reference

1.1.1 Birch has been commissioned by Arbor Vitae to prepare an arboricultural report that considers the condition of trees on land at Ellesmere Wharf in relation to proposed developments. The report is an update of an earlier arboricultural report undertaken by another practice dated November 2013. A copy of the original report was supplied by the client and this has been used as a basis to update tree, tree group and hedgerow information some 9.5 years after the first report. The mapping from the 2013 report has been adapted to carry updated indicative feature location information – see maps attached.

A copy masterplan outline *entitled 'Ellesmere Canalside Development – Indicative Masterplan Dwg. No: PL500-WIP18.08.22'* was supplied to illustrate overall proposed layout and landuses within the development area.

1.1.2 Site assessment and field survey was carried out on 06 and 07 March, 2023 by the report author. Qualitative and quantitative tree data were recorded in order to assess the condition of the existing trees and digital photos were taken.

1.1.3 Note that any references to tree location/position in this report are indicative and descriptive only. The report and description has not been prepared with reference to topographic plan bases.

1.2 Scope of Works

1.2.1 The assessment of the trees and any other factors are of a preliminary nature. The trees were inspected on the basis of the Visual Tree Assessment (VTA) method as developed by Mattheck and Breloer (1994) and Mattheck (2007). The trees were inspected from ground level with no climbing inspections undertaken. It is not always possible to access every tree and as such some measurements may have to be estimated. No samples have been removed from the site for analysis. The survey does not cover the arrangements that may be required in connection with the removal of existing underground services.

1.2.2 An intrinsic part of tree inspection in relation to development or built environment is the assessment of risk associated with trees in close proximity to persons and property. Most human activities involve a degree of risk with such risks being commonly accepted, if the associated benefits are perceived to be commensurate.
In general, the risk relating to trees tends to increase with the age of the trees concerned, as do the environmental benefits. It will be deemed to be accepted by the client that the formulation of the recommendations for all tree management will be guided by the cost-benefit analysis (in terms of amenity) of the tree work.

1.2.3 This assessment and report does not include ecological or protected species elements or issues associated with trees, tree groups or hedges. These are understood to be the subject of separate professional assessment and reporting processes for the Canalside development.

2.0 The Site

2.1 Overview

2.1.1. The site is principally pasture land within a wider area of agricultural landscape to the south-west of Ellesmere. In general terms it is located between the A495 and Lakelands Academy campus to the north and the Shropshire Union Canal, Langollen branch, to the south. An area at the extreme west of the site is occupied by a residential property, gardens and paddocks. Existing residential settlement is located to the immediate north-east at Tetchill Brook Rd. and Berwyn View, and a Severn Trent treatment works also adjoins the site.

Existing tree cover within the site includes a range of existing mature and developing broadleaved trees, some of them significant in landscape and environmental terms and a well-developed network of boundary hedges that reflect agricultural function. The majority of trees are located at existing site boundaries or margins.

2.2 Soils

2.2.1 The soil types observed on site were mixed across several main types.

Landis (http://www.landis.org.uk/soilscapes/) describes the typical local soil types here as a mix of;

Soilscape 6:

Freely draining slightly acid loamy soils Texture: Loamy

Soilscape 18:

Slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils

Texture: Loamy and clayey

Soilscape 10:

Freely draining slightly acid sandy soils Texture: Sandy

No specific soil sampling was done as part of this survey.

2.2.2 The description given was obtained from observation of likely soil types. By definition, this information is not comprehensive and therefore any decisions taken with regards the management, usage or construction on site should be based on a specific and detailed soil analysis. This report provides no information on soil shrinkability. It will be necessary for practitioners in other disciplines (e.g. engineers considering foundation design) to obtain this and other relevant data as required.

2.3 Statutory Tree Protection

2.3.1 Several trees within or close to site are covered by a Shropshire Council Tree Preservation Order (TPO) which dates from 2011 – *'Land at former Dairy Crest site, Wharf Rd., Ellesmere'*. Trees covered by TPO of direct relevance to this report include;

T7 oak on TPO plan – T43 – west of Berwyn View – field-path boundary

T8 oak on TPO plan – T44 – west of Berwyn View – field-path boundary

T9 oak on TPO plan – T50 offsite at path-open space boundary

3.0 Tree Survey condition assessment, work recommendations and tree risk management

3.1 The selected trees were assessed from ground level only. The assessment details for individual trees, tree groups and hedges and work recommendations (where considered necessary), are shown in the attached Appendix 1 Schedule of Trees.

3.2 In general terms, the presence of significant mature trees and hedges within the wider development area brings clear opportunities to retain and conserve important environmental assets within a changing landscape. These trees and hedges, if protected and given suitable management, can continue to offer a range of environmental goods and services into the future – landscape, amenity, biodiversity, carbon sequestration, flood mitigation and cultural values. Where trees and hedges are to be retained they require;

- consideration during design and layout planning to ensure allocation of adequate physical space to continue effective function throughout decades of future presence
- full consideration to prevention of negative changes to soil levels and localised hydrology to ensure continuing effective tree or hedge function
- protection during site works and construction phases to BS 5837:2012 *Trees in relation to design, demolition and construction - Recommendations*

3.3 Risk management

3.3.1 In the case of larger and more mature trees, well-informed and competent arboricultural works will be required to prolong the viable life of trees – crown load reductions, for example – and to mitigate tree risks to third parties and adjacent property.

Development at the site will inevitably alter risk management dynamics by increasing the frequency and intensity of exposure to potential tree risks. These will change due to increased footfall and vehicle movements close to trees, creation of new structures close to trees, higher levels of commercial, recreational and domestic uses of the landscape within which the trees are set.

In addition to high-quality arboricultural work to address existing tree condition and risk management issues (see 4.5.1 below), all significant retained trees at the site should in future be subject to annual inspection by a suitably qualified and experienced professional. Higher risk zones such as road, track or path corridors, garden or open space curtilages close to trees, parking areas etc. should be the focus of particular attention in applied tree risk management work.

3.4 Replanting and landscape mitigation

3.4.1 Given the scale of development and land-use change proposed in the Ellesmere Canalside masterplan, there will doubtless be both opportunity and requirement to replant trees and create a new cohort of resilient, more diverse trees for the coming decades. It is suggested that the core of this new cohort should be native broadleaves that reflect, build on and reinforce the mature tree and hedge resource currently present, with additional diversity and resilience through greater use of native species. Tree species such as oak (Quercus robur), small-leaved lime (Tilia cordata), Field maple (Acer campestre), Wild cherry (Prunus avium), alder (Alnus glutinosa), rowan (Sorbus aucuparia) could all contribute effectively, with woody shrubs including hazel (Corylus avellana), dogwoods (Cornus) and spindle (Euonymus europaeus).

4.0 Design Advice, Arboricultural Method Statement & Tree Protection

4.1 Securing of Tree Structure and Root Protection Areas (RPA)

4.1.1 The trees to be retained will be protected by excluding wheeled/tracked vehicle movements within the tree RPAs. This will be achieved by installing protective fencing to BS5837:2012 around retained trees and hedges, before site works commence and maintaining this protection throughout site development and construction. The site project manager should ensure that the access restrictions are discussed, confirmed and recorded as understood by all contractors/machine operators involved in project work on site.

Examples of suitable fencing to meet BS5837:2012 are shown below at Appendix 2.

4.2 On Site Storage of Spoil and other materials

4.2.1 Prior to and during all construction works on site, no spoil or construction materials will be stored within the RPA of any tree or hedge. This is to prevent compaction of the roots of the trees. Any encroachment within this protected area will only be with the prior agreement of the LPA.

4.2.2 Any facilities for the storage of oils, fuels or chemicals shall be sited on impervious bases and surrounded by impervious bund walls and located away from the worksite so that any potential spillage can be contained and soil/water contamination prevented. The volume of the bund compound shall be at least equivalent to the capacity of the tank plus 10%. If there is a multiple tankage, the compound shall be at least equivalent to the capacity of the largest tank, or the combined capacity of interconnected tanks, plus 10%. All filling points, vents, gauges and sight glasses shall be located within the bund. The drainage system of the bund shall be sealed with no discharge to any watercourse, land or underground strata. Associated pipework shall be located above ground and protected from accidental damage. All filling points and tank overflow pipe outlets shall be detailed to discharge downwards into the bund..

4.2.3 All material storage facilities and work areas must consider the effects of sloping ground on the movement of potentially harmful liquid spillages towards or into tree or hedge.

4.3 Levels

4.3.1 No alterations to soil levels within the RPA of retained trees are envisaged. However, if it is necessary for these to occur, appropriate measures must be taken to prevent or minimise any detrimental effects on the affected root systems.

4.3.2 If it is necessary to excavate so close to trees that roots greater than 50mm diameter are likely to be encountered, particular care will be taken to avoid damage. Excavation in these areas will be undertaken by hand or using an air spade, avoiding any damage to the bark. The roots will be surrounded with clean sharp sand, prior to the replacing of any soil or other material in the vicinity.

4.3.3 If it is necessary to raise levels, it is essential that adequate supplies of water and oxygen continue to pass through the soil to the trees' roots. Therefore, where necessary, a granular

material will be used which will not inhibit gaseous diffusion. Possible options are clean no-fines gravel, cobbles or, Type 2 road-stone.

4.4 Programme of Works

4.4.1 All necessary tree surgery works, once approved by the LPA, will be carried out prior to any other site works. Once completed, protective fencing to BS5837:2012 will be erected as required to ensure tree and hedge protection. All of this will be carried out prior to commencement of any development works on the site.

4.5 Tree Surgery

4.5.1 Any necessary tree work will be agreed with the LPA and will be carried out in line with BS 3998:2010 *Recommendations for Tree Works*. An appropriately qualified, experienced and insured arboricultural contractor will carry out the work. Any alterations to the proposed schedule of works will be agreed with the LPA prior to commencement of works.

4.6 Services

4.6.1 At the time of report writing, no details on proposed services were available. However, the following principles should be adhered to when planning for their routing and installation.

4.6.2 It is proposed that all underground service runs will be placed outside the RPA of the trees on or adjacent to the site. Where it is not possible to do this, the proposed length infringing the RPA will be hand dug 'broken trenches' (NJUG 4 paragraph 4) to ensure the maximum protection of the trees' roots. The trenches may also be excavated using an air spade, or trenchless technology can be employed if this methodology is considered appropriate by the relevant service company (thus allowing services to pass below and through the roots without the need for traditional excavation). If it is necessary to cut any small roots as part of any of these processes, they should be severed in such a way as to ensure that the final wound is as small as possible and free from ragged, torn ends.

4.6.3 All service providers (Statutory Authorities) will be consulted prior to commencement of works with the aim of minimising the number of service runs on the site.

4.6.4 All service runs/trenches where they encroach within the RPA of retained trees will be agreed with the LPA prior to commencement of works.

4.7 Reporting and Monitoring Procedures

4.7.1 In accordance with item 6.3 of BS 5837:2012, the site and associated development should be monitored regularly by a competent Arboriculturalist to ensure that the arboricultural aspects of the planning permission (e.g. the installation and maintenance of protective measures and the supervision of specialist working techniques) are implemented. Furthermore, regular contact between the Site Manager and the Arboriculturalist allows them to effectively deal with and advise on any tree related problems that may occur during the development process. This system should be auditable.

5.0 Recommendations

5.1 As and when detailed plans for construction are determined and produced, full consideration should be given to the tree conservation and protection measures detailed above in 3.0 and 4.0. It may be prudent and necessary to consult a competent arboricultural authority to assess any relevant issues as they potentially arise during further project development and realisation.

5.2 Any tree works proposed as part of this assessment are recommended to mitigate any identified risks to people and property and to conserve trees wherever feasible and appropriate. To this end, should these recommendations be overruled, this survey stands as the opinion of Birch Tree, Woodland and Environmental Land Management and therefore any damage or injury caused by trees recommended by this practice for felling or tree surgery works, to which the proposed schedule of works has been altered or the tree has been requested to be retained by the local planning authority or other institutions or individuals, cannot be the responsibility of this practice. Equally, if tree conservation and protection measures detailed in the report are not followed, this practice will not be responsible for implications or consequences that may result.

5.3 It is recommended that all trees at the site should be the subject of an annual inspection and check for condition and risk management purposes, by a suitably qualified and experienced professional. Higher risk zones such as track or path corridors should be the focus of particular attention in applied tree risk management work.

6.0 Limitations & Qualifications

Tree assessment reports are subject to the following limitations and qualifications.

General exclusions

Unless specifically mentioned, the report will only be concerned with above ground inspections. No below ground inspections will be carried out without the prior confirmation from the client that such works should be undertaken. The validity, accuracy and findings of this report will be directly related to the accuracy of the information made available prior to and during the inspection process. No checking of independent third-party data will be undertaken. Birch will not be responsible for the recommendations within this report where essential data are not made available or are inaccurate. This report will remain valid for one year from the date of inspection subject to the recommendations specified within being adhered to. It must also be appreciated that recommendations proposed within this report may be superseded by extreme weather, or any other unreasonably foreseeable events. However, if any additional alterations to the property or soil levels are carried out and/or further tree works undertaken other than specified within the report, it will become invalid and a new tree inspection strongly recommended. It will be appreciated, and deemed to be accepted by the client and their insurers, that the formulation of the recommendations for the management of trees will be guided by the following:

1. The need to avoid reasonably foreseeable damage.

2. The arboricultural considerations - tree safety, good arboricultural practice (tree work) and aesthetics. The client and their insurers are deemed to have accepted the limitation placed on the recommendations by the sources quoted in the attached report. Where sources are limited by time constraints or the client, this may lead to an incomplete quantification of the risk.

Assessment and report undertaken by

Jim Waterson MICFor., MRICS

Report dated 12th April 2023

Sources:

BSI (2012) BS5837:2012 *Trees in relation to design, demolition and construction – Recommendations*

Lonsdale (1999) *Principles of Tree Hazard Assessment and Management*

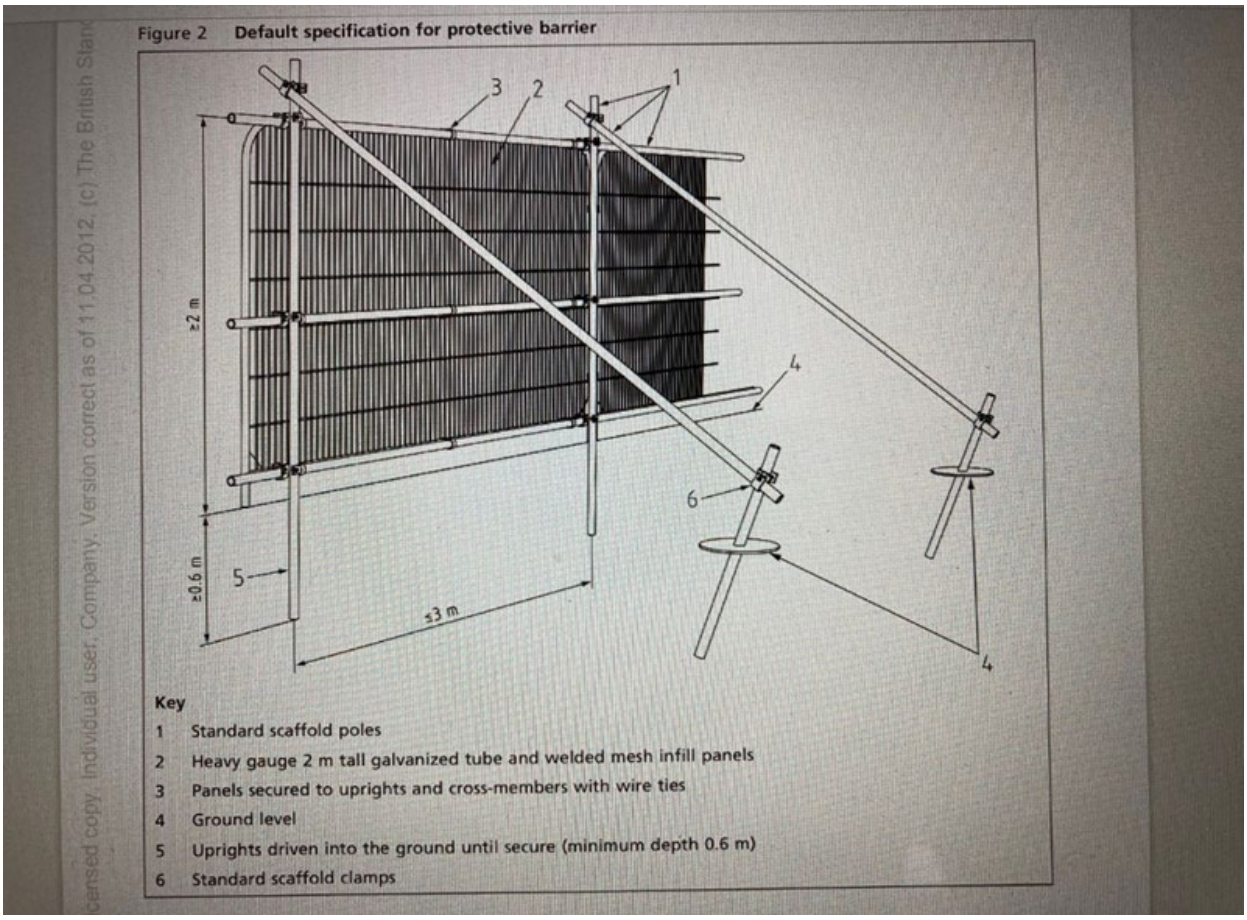
Mattheck and Breloer (1994) *The Body Language of Trees*

Mattheck (2007) *Updated Field Guide for Visual Tree Assessment*

National Tree Safety Group (2011) *Common sense risk management of trees. Guidance on trees and public safety in the UK for owners, managers and advisers.*

Strouts and Winter (1994) *Diagnosis of ill-health in trees*

Appendix 2 Barrier specification outlined in section 6.2.2 Figure 2 of BS 5837:2012, illustrated in copy diagram image below and by an example shown in the copy photograph (photo credit PJC Consultancy)



Appendix 1 SCHEDULE Ellesmere Canalside, Shropshire.

Tree survey date 6-7th March 2023

Surveyor – J. Waterson MICFor., MRICS

Survey data;

Height – estimated in m. above ground level (AGL)

Stem diameter – measured in mm. at 1.3 m. AGL

N E S W – measured or estimated crown spread in m. for each cardinal point

Direction (cardinal point) and height (m.) of first main branch

Crown clearance - in m. AGL

Life stage : Y Young EM Early mature M Mature LM Late mature

Physiological condition : based on observation of a number of seasonally accessible features (where present at survey date), including for example leaf size and condition, crown density and consistency, bud size and distribution, extension growth in current or last years branch tips, presence/absence of discernible disease/pathogen symptoms, presence/absence of fungal fruiting bodies.
Expressed as; G Good M Moderate P Poor

Structural condition : based on observation of external structural features and physical form of the tree, including for example presence/absence of decay features, wounds, tears and break-out points where significant branch loss has occurred, broken or hung-up branches or tree sections within canopy, overall balance of crown structure and crown loading in relation to stem and stem condition, perceived structural integrity of the overall tree and its major component parts.

Expressed as; G Good M Moderate P Poor

Observations / recommendations : key point summary of main issues/considerations and recommendations in relation to future tree management

Estimated years life : an informed estimate of likely remaining life of the tree in its current environment

Category : BS5837:2012 category – Table 1 '*Cascade chart for tree quality assessment*' in BS5837:2012 *Trees in relation to Design Demolition and Construction - Recommendations*. BSI Publications

Trees unsuitable for retention

Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years

Trees to be considered for retention

Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years

Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years

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.

Root Protection Area (RPA) radius in m.

Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority

For single stem trees, the RPA should be calculated as an area equivalent to a circle with a radius 12 times the stem diameter. The calculated RPA for each tree should be capped to 707 m2. (*or in effect a radius of 15 m*.) The RPA for each tree should initially be plotted as a circle centred on the base of the stem. Where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area should be produced. Modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution.

Appendix 1 SCHEDULE Ellesmere Canalside, Shropshire. Main masterplan areas Tree survey 6-7th March 2023

Tree No.	Species	Height m.	Stem diam mm.	N	E	S	W	Direction /height m. of 1st branch	Crown clearance	Life stage	Overall phys. condition	Structural condition	Observations/ recommendations	Est. years life	BS5837 category	RPA radius m.
1	Oak	20	1300	14	14	17	11	N 6	4	M	M	M	Overall sound, some crown thinning is evident + old growth features and typical deadwood. Retain/ protect	>40	B3	15
2	Turkey oak	20	1300	11	14	11	11	S 6	5	M	G	G	Overall sound, typical minor deadwood. Retain/protect	>40	B3	15
3	-	-	-	-	-	-	-	-	-	-	-	-	REMOVED	-	-	-
4	Horse chestnut	18	700	5	7	7	5	E 4	4	M	P	P	Poor condition – tear-outs and decay evident, thinning crown - remove	<10	U	8.4
5	Horse chestnut	16	1500	7	7	10	8	N 5	4	M	P	P	As T4 above – remove	<10	U	15
6	Ash	10								EM	P		Poor – ash dieback symptoms - remove	<10	U	3
7	Ash	10								EM	P		As above	<10	U	3
8	Ash	10								EM	P		As above	<10	U	3
9	Ash	10								EM	P		As above	<10	U	3

10	Oak	22	1150	6	9	15	9	N 7	3	M	M	M/P	Large tear-out NE side, crown open/patchy. Mammal activity in basal cavity. Reduce crown by 25% to rebalance/decrease stem loading. Retain/protect	>40	B3	13.8
11	Oak	14	1100	7	7	10	8	SW 3	3	M	M	M	Tears and dead stubs evident – excellent habitat. Large (900 mm. deep) cavity E side. Reduce crown by 25% to decrease stem and basal loading. Retain/protect	>40	B3	13.2
12	Oak	17	1100	6	10	11	13	E 3.5	3	M	M	M	Hollowing to stem base, S side. Typical deadwood stubs and tears. Reduce crown by 25% to decrease stem and basal loading. Retain/protect	>40	B3	13.2
13	Oak	17	1200	8	9	11	10	SE 4	3	M	M	M	Typical deadwood and stubs. Reduce crown by 25% to decrease stem and basal loading. Retain/protect	>40	B3	14.4

14	Oak	15	950	6	5	7	11	S 3	3	M	M	M	Significant crown dieback. Reduce and re-shape crown to retain live crown core. Retain/protect	>40	B3	11.4
15	Oak	21	1500	10	8	8	9	SE 5	3	M	G	G	Impressive tree with real presence. Good form. Short extension growth suggests very slow recent growth. Small area of hollowing at base, S side. Typical small deadwood. Retain/protect	>40	B3	15
16	Oak	18	1200	8	9	9	9	NE 4	3	M	M	M	Large tear-out NW side at c. 6/7 m. plus typical stubs and deadwood. Heavy poaching by cattle. Reduce and re-shape crown to retain live crown core. Retain/protect	>40	B3	14.4
17	Ash	18	720	8	6	5	8	S 4	3	LM	P	P	Poor extension growth. Massive basal decay and fungal fruiting body NE side at base and large branch tear outs. Remove and replant with	<10	U	8.6

													appropriate broadleaved species.			
18	Oak	20	1400	6	9	15	9	E 3	3	LM	M	P	Massive field boundary oak. Tear-outs + decay points in central crown 'saddle' shape. Excellent habitat. Large mammal activity around/within tree base. Large lateral branch to NE side. Reduce large lateral to decrease loading on crown/stem unions, subject to necessary habitat/protected species survey. Retain/protect	>40	B3	15
19-23 incl.	Hawthorn	7-9 ave.	280 ave.	3	3	3	3	N/A	3	M	M	M	Field boundary hawthorns in old hedgeline. Retain/protect – suggest hedgerow gaps are infilled with new protected planting	>20	C1	3
24	Ash	9	600	5	5	6	6	N/A	2	P	P	P	Old pollard ash – weak growth. Good habitat, retain/protect	<10	C1	7

25	Oak	15	750	7	7	8	8	N 2	3	M	M	M	Useful oak – some poaching at base. Retain/protect	>40	B3	9
26 and 27	Hawthorn	5	180	2	2	2	2	N/A	N/A	M	M	M	Compact browsed hawthorns. Retain and protect	>20	C1	3
28	Oak	21	1400	9	8	8	9	W 4	4	M	M	M	Large tear out points in crown – mainly old wounds. Angled external rib on NE side – potential decay column indicator. Remains of old fungal fruiting body at base.	<40	B3	15
													Reduce and reshape crown by 25% to reduce stem loading. Retain and protect			
29	Sycamore	10	Var.	5	5	6	6	N/A	3	M	M	M	Multi-stem sycamore in canal bank. Retain/protect	<20	C1	4
30	-	-	-	-	-	-	-	-	-	-	-	-	Removed	-	-	-
31	Ash	10	300	7	7	7	7	S 3	3	EM	P	P	Tight, slow growth, heavy seeding - stress indicators, probable early ash dieback symptoms. Fell and replant with alternative species	<10	U	4
32	Oak	20	1500	12	11	11	12	N 4	4	LM	M	M	Impressive boundary tree,	>40	B3	15

													many old wounds and tear-outs. Large central dead spike, some dead hangers. Wire in base. Reduce crown by 25% to reduce loading, remove major deadwood over 70 mm. diam. Retain/protect			
33	Oak	20	900	7	8	7	8	W 2	3	M	M	P	Excellent habitat feature. Large hollow and decay sections to W side fundamentally weaken stem. Pollard at 4.0 m. Retain and protect	<20	C1	10.8
34	Sycamore	12	400	2	4	6	4	SW 1	2	M	M	P	Poor leaning form, large old decayed stem wounds at tension points. Overtopped by 35. Remove and replant with alternative species	<20	U	4.8
35	Sycamore	19	800	8	8	7	8	SW 2	3	M	M	M	Heavy fork in main stem at c. 4 m., weak pressed fork unions and included bark below fork joint. Wire in base. Remove and	<20	C1	

													replant with alternative species			
36	Sycamore	-	-	-	-	-	-	-	-	-	-	-	Felled	-	-	-
37	Ash	16	2x 500	8	8	7	7	N/A	3	M	M	M	Forks at base and again at 2/3 m. Heavy ivy obscures base and lower stems. Crown appears sound. Consider crown reduction by 20% to reduce loading on forks. Retain/protect	<20	C1	6
38	Ash	17	1300	9	8	11	9	E 4	4	M	M	P	Mature ash, tear-outs and hangers in mid crown. Heavy ivy cover at base and lower stems. Large cavity at 1.5 m. E side, extends vertically up to 2.5/3.0 m. Crown reduce by 30% to decrease stem loading, remove tear-outs and deadwood over 70 mm. diam. Retain/protect	<20	C1	15
39	Ash	16	Ave. 450	7	8	8	9	E 4	4	M	M	P	Boundary ash, multiple stems. Broken lateral bough, weak joints at base and hollow	<20	C1	15

													in western stem. Crown reduce by 30% to decrease stem loading, remove tear-outs and deadwood over 70 mm. diam. Retain/protect			
40	Oak	18	2x 450	5	8	7	6	E 4	4	M	G	G	Twin-stemmed oak just outside site boundary, good future landscape asset. Retain/protect	>40	A1	5.4
41	Oak	19	950	9	7	10	22	NW 2	3	M	G	M	Cavity at base S side. Crown appears good, typical small deadwood present. Wire in base. Remove deadwood over 50 mm. diam. Retain/protect	>40	B3	11.4
42	Oak	12	c. 450	5	6	6	6	N 2	3	EM	G	G	Developing oak, good future landscape asset. Retain/protect	>40	A1	5.4
43	Oak	25	1700	15	21	20	11	S 4	5	M	G	G	Substantial tree, TPO. Small cavity @ base E side. Heavy ivy extends into mid crown. Typical deadwood and stubs. Remove deadwood over 50	>40	B1	15

													mm. diam. Retain and protect			
44	Oak	21	1300	6	9	13	13	E 5	5	M	M	M	TPO. Signs of clumsy reduction work to E side. Tear-outs and dead stubs present. Reshape crown to rebalance, remove dead stubs and tear-outs. Retain/protect	>40	B3	15
45	Oak	19	1300	3	4	3	1	E 5	4	M	P	P	Lightning and fire damaged survivor. Interesting landscape feature. Retain/protect if feasible	<20	C1	15
46	Oak	17	950	5	9	11	11	SW 4	4	M	G	G	Evidence of old ladder/climbing pegs nailed in. Deadwood W side lower crown, Remove deadwood down to 50 mm. diam. Retain/protect	>40	B1	11.4
47	Oak	19	980	10	10	10	10	S 4.5	4	M	G	G	Appears sound overall but small old wound at base W side – poss. decay point. Marks of old wire in base. Remove deadwood down to 50 mm.	>40	B1	11.8

													diam. Retain/protect			
48	Horse chestnut	19	c. 750	5	7	5	4	W 4	3	M	M	M	On adjacent sewage works land. Over-shadowed by oaks. Moderate quality, retain/protect if feasible	<20	C	9
49	Oak	21	c. 1450	15	11	12	11	W 4	4	M	G	M	Overall – sound. Tear-outs and deadwood present. Remove these down to 50 mm. diam. Retain/protect	>40	B1	15
50	Oak	-	-	-	-	-	-	-	-	-	-	-	Offsite – not assessed. Appears to be TPO protected	-	-	-
51	Ash	7	c. 450	5	5	5	5	N/A	2	EM	M	P	Old coppiced ash in canal bank. Heavy ivy. Retain/protect	<10	C1	5.4
52	Beech	10	N/A	6	9	6	9	W 4	4	M	M	M	Multi-stemmed beech at edge of canal bank, interesting lateral/fan shaped form. Included bark and potentially weak unions at base, Retain/protect if feasible	>20	C1	c.5

53 and 54	Ash x2	10	c. 300										Multi-stemmed coppice ash at edge of canal bank, heavy ivy. Poor form/condition + signs of stress, possibly ash dieback. Remove/ replace with resilient alternative species	<10	U	c.4
55	Oak	18	1300	8	10	12	6	S 3	3	LM	M	P	Field-grown veteran oak, excellent habitat and old growth features, tears and stubs and large vertical wound below tear-out SW side. 20% crown reduction to reduce stem loading. Retain/protect	>20	B3	15
56	Oak	14	c. 480	6	6	6	6	W 3	3	EM	G	G	Oak adjacent to towpath bank. Developing future landscape asset. Retain/protect	>40	A1	5.8
57	Oak	14	800	6	8	8	6	W 4	4	M	M	P	Mature survivor oak – much upper crown lost, but retrenchment growth is sound. Excellent habitat	<40	B3	9.6

													value. Retain/protect			
58	Oak	17	950	4	6	7	6	S 5	6	M	G	M/P	Mature survivor oak – many wound and tear-out points. Consider pollarding to c. 8 m. to reduce stem loading. Retain/protect	<40	B3	11.4
59	Oak	c. 16 m.	c. 500 ave.	8	8	8	8	N 3	4	EM/ M	G	M	Multi-stemmed oak in boundary, heavy ivy cover obscures base. Developing future landscape asset. Retain/protect	>40	B1	6
60	Oak - poss. Turkey oak hybrid?	16	c. 400 ave.	8	8	8	8	N3	4	EM	G	M	Multi-stemmed oak in boundary, heavy ivy cover obscures base. Developing future landscape asset. Retain/protect	>40	B1	4.8

Ellesmere Canalside, Shropshire. Additional masterplan area, western end of development – trees at existing house/paddock site south east of A495 and Ellesmere Business Park Tree survey 7th March 2023

Tree No.	Species	Height m.	Stem diam mm.	N	E	S	W	Direction /height m. of 1st branch	Crown clearance	Life stage	Overall phys. condition	Structural condition	Observations/ recommendations	Est. years life	BS5837 category	RPA radius m.
1	Scots pine	18	620	4	2	4	6	E 8		M	M	P	One-sided, unbalanced crown loaded to E at northern end of private drive. Consider retention/protection if feasible	<20	C1	7.4
2	Scots pine	14	690	4	3	3	6	E 7	5	M	P	P	Top blown out, heavy crown imbalance to E side. Remove/replant with appropriate species	<10	U	8.3
3	Scots pine	c. 17	700	4	6	4	6	E 6	5	M	M	P	Heavy lean to E side, potentially unstable. Remove/replant with appropriate species	<10	U	8.4

G1	Beech x6	Ave. 16	Ave. 480	5	7	5	7	Ave. W 4	5	EM	G	M	Short avenue of beech on west side of driveway. Several trees feature weak forked stems – potential future failure points. Consider retention/protection of better specimens if feasible	<20	C1	6
T4	Sycamore	22	940	10	9	9	10	E 5	4	M	G	G/M	Appears generally sound, balanced crown. Typical small deadwood and tear-outs in crown. Remove deadwood and tear-outs, Consider retention/protection if feasible	>40	B1	11.3
T5	Holly	9	450	4	4	4	4	N/A	N/A	M	G	G	Sound. Consider retention/protection	>20	B1	5.4
T6	Holly	9	400	4	4	4	4	N/A	N/A	M	G	G	Sound. Consider retention/protection	>20	B1	4.8
T7	Ash	est 12	c. 700	est 8	8	8	8	N/A	N/A	M	M	M	Observed at distance only. Estimated values. Consider removal/replant with alternative spp.	<10	U	N/A

Ellesmere Canalside, Shropshire. Tree groups Tree survey 6-7th March 2023

Group No.	Species	Height m.	Stem diam mm.	N	E	S	W	Direction /height m. of 1st branch	Crown clearance	Life stage	Overall phys. condition	Structural condition	Observations/ recommendations	Est. years life	BS5837 category	RPA radius m.
1	Alder Ash Oak	16-20	Var.	-	-	-	-	-	-	EM	G/M	M	Not accessed for inspection. Offsite, located in adjacent development.	-	-	-
2	Oak Whitebeam Cherry Field maple	12-16	300-450	5	5	5	5	Var.	3	EM	G/M	G	Useful, established canal-side block with landscape + habitat value. Retain/protect	>40	B2	Ave. 4.5
3	Beech Elder	6-14	Var.	6	6	6	6	Var.	3	EM	M	M	Multi-stemmed beech and shrubby elder. Good habitat. Retain/protect	<40	B2	Ave. 4.5
4	Beech Elder Oak	6-14	Var.	6	6	6	6	Var.	3	EM	M	M	Mixed group including multi-stemmed oak – useful habitat and landscape value. Retain/protect	<40	B2	Ave. 4.5

5	Ash Ader Sycamore	12-20	Ave. 400	8	8	8	8	Var.	Var.	M	M/P	M/P	Ash dieback present. Many poor-moderate quality trees, usually multi-stemmed in old hedgerow. Hawthorn hedges below are generally sound (H4, H5, H6). Consider ash removal.	>20	C1	Ave. 4.8
6	Ash Maple	18-22	Ave. 700	10	10	10	10	Var.	Var.	M	M/G	M/G	Not accessed for inspection Mixed landscape planting offsite in adjacent treatment works site. Excellent landscape and screening. Monitor for ash dieback, manage/ replace as required. Retain and protect	>20	B2	Ave. 8.4

Ellesmere Canalside, Shropshire. Hedgerows Hedgerow survey 6-7th March 2023

Hedge ref. no.	Form / type	Section length m.	Associated / adjacent features	Shape	Approx. dimensions HxW m.	Typical stem diam. mm.	Quality /integrity	Principal species
H1	Agric. hedge	40	Road verge A495 Pasture	Machine trimmed	2.4x2	c. 100	Consistent	Hawthorn Holly
H2	Agric. hedge	200	Farm track edge Waste/tip area Pasture	Machine trimmed	2.4x2	c. 100	Consistent	Hawthorn Holly
H3	Agric. hedge	100	Road verge A495 Pasture	Machine trimmed	2.4x2	c. 100	Consistent	Hawthorn Holly
H4	Agric. hedge with hedgerow trees	100	Pasture Field ditch	Machine trimmed	2.4x2	c. 100	Consistent	Hawthorn Holly Occasional Elder

H5	Agric. hedge with mature trees	45	Stream Pasture (heavily poached)	Grown-out – no signs of recent management	Var.	c. 250	Relatively consistent	Hawthorn
H6	Agric. hedge	40	Stream Pasture (heavily poached)	Machine trimmed	1.8x1.8	c. 100	Relatively consistent	Hawthorn
H7	Agric. hedge	180	Development site Pasture	Machine trimmed	1.8x1.8	c. 200	Consistent	Hawthorn
H8	Agric. hedge	350	Pasture	Machine trimmed	2.4x1.8	c. 200	Consistent	Hawthorn
H9	Boundary hedge – canal towpath	550	Pasture Tow path edge	Machine trimmed	2.4x2	c. 350	Consistent	Hawthorn Elder Sycamore Dogrose Elm
H10	Boundary hedge	250	Development site Pasture	Grown-out – no signs of recent management	5-8x3	c. 350	Patchy but well established in parts	Hawthorn Hazel Holly Apple

H11	Boundary hedge	250	Open space land Pasture	Grown-out – no signs of recent management	5-8x3	c. 350	Patchy but well established in parts	Hawthorn Holly
H12	Agric. hedge	160	Pasture	Machine trimmed	2.4x1.8	c. 200	Consistent	Hawthorn
H13	Boundary hedge	170	Pasture Field ditch	Grown-out – no signs of recent management	5-8x3	c. 350	Patchy but well established in parts	Hawthorn Holly Ash
H14	Boundary hedge	220	Pasture Pathway	Grown-out – no signs of recent management	5-8x3	c. 350	Patchy but well established in parts	Hawthorn Hazel Ash Elder Cherry
H15	Boundary hedge	340	Pasture Treatment works margin	Grown-out – no signs of recent management	5-8x3	c. 300	Patchy but well established in parts	Hawthorn
H16	Boundary hedge – canal towpath	715	Pasture Tow path edge	Machine trimmed	2.4x2	c. 350	Consistent	Hawthorn Elder Sycamore Dogrose Elm

ENDS