

**Arboricultural Impact Assessment
Arboricultural Method Statement
Tree Protection Plan**

WESTHIDE SOLAR SITE, HEREFORDSHIRE



On behalf of

Ersun (Westhide SPV) Ltd

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Arboricultural Consultant

December 2021

Version No	Checked by	Date
1.0	AR	07/12/2021

1.0 Introduction

1.1 Brief

This report is prepared by Hillside Trees Ltd on behalf of Ersun (Westhide SPV) Ltd.

1.2 Purpose of the Report

1.2.0 This report is intended to accompany a planning application relating to proposed development at Westhide. This document has been produced to demonstrate that the implications of the proposed development in relation to the arboricultural and landscape value of the trees on the site have been fully considered during the detailed design process.

1.2.1 This report and the accompanying information is supplied in order to:

- Identify trees to be removed and those to be retained and requiring protection during the site preparation and construction phase of the project.
- Present information regarding the location of protective barriers (Construction Exclusion Zones).
- Identify special engineering measures
- Provide a Detailed Arboricultural Method Statement for the recommended works related to trees to be retained during and after the development.

1.3 Documents Provided to Hillside Trees Ltd.

- Topographic Survey. Healer Surveys Job No. P3372
- Masterplan. The Landmark Practice Drawing No. 3352_L_GA_0_01 Revision F

1.4 Tree Survey Methodology

1.4.1 A tree survey was undertaken on 30th March 2021 by an Arboricultural Consultant of Hillside Trees Ltd.

1.4.2 The survey took place from ground level aided by the Visual Tree Assessment method (Mattheck and Breloer, 1994).

- 1.4.3** This survey is not a tree risk assessment but takes into account any observed structural defects of the trees in order to inform conclusions with regard to their retentive worth.

1.5 Data Collection

- 1.5.1** Data collected includes designated tree number, tree species, height, number of stems, stem diameter, crown clearance (height of periphery of crown spread above ground level), branch spread (to N, S, E and W), age class, physiological condition, useful life expectancy, tree structural condition, site notes (where this has a bearing on the present or future health or structural condition of the tree), and tree category.

1.6 Presentation of the Data Collected

- 1.6.1** Data collected regarding individual trees and groups of trees are presented in the Tree Schedule table in Appendix A in accordance with BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'. The tree schedule also gives scientific names for all trees mentioned in the report.
- 1.6.2** The data significant to the proposed site layout is also presented on the Tree Protection Plans Drawing Numbers 211203-WSS-TPP-SD-SO1 and 211203-WSS-TPP-SD-SO2 contained within the Detailed Arboricultural Method Statement (Appendix B).
- 1.6.3** All other relevant data are presented within the main body of this report.
- 1.6.4** Trees have been allocated an individual tree number. This tree number is used to identify individual trees and groups of trees throughout this report, within the Tree Schedule and on the Tree Protection Plan presented in the appendices of this report.

2.0 Arboricultural Constraints

An assessment of the trees surveyed presented in the Tree Schedule table in Appendix A, is also considered in the main body of the report below.

An Arboricultural Impact Assessment Plan has been produced showing the root protection areas (RPAs) for the individual trees identified in the Tree Schedule (Appendix A). This represents the minimum area in m² which, ideally should be left undisturbed around each tree were it to be retained. The RPA has been calculated in accordance with Section 4.6 of BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'.

The Arboricultural Impact Assessment Plan also shows a representation of the crown spread of each tree measured in four cardinal directions.

The preparation of the Arboricultural Impact Assessment Plan described above has assisted in the design of the site layout through presenting the above and below ground constraints posed to the development of the site by the trees present.

A search of Herefordshire Council's online mapping service on 3rd December 2021 to enquire if any of the trees within the site are subject to Tree Preservation Orders or if the site falls within a Conservation Area confirmed that no part of the site relating to trees is currently under statutory control.

2.1 Trees Identified for Retention and Removal

The proposed development involves the construction of a solar farm with associated access and ecological and landscape enhancement measures

All trees, groups of trees and woodlands on site will be retained with the exception of the following 6 which will be removed:

Tree nos	Common name	Total
T9, T16, T18, T30, T32, T60	Ash	6
Total number removed		6

2.2 Mitigation

An extensive landscaping scheme has been drawn up which includes new tree and hedge planting, species rich grassland and the construction of hibernacula where trees are being removed.

2.3 Trees Outside The Site Boundary

There are no trees outside the site boundary which are affected within the current proposals.

3.0 Tree Protection

The trees to be retained on site during and after development as referred to in Section 2.1 will require protection.

Below ground protection measures based on the RPA's presented in the Arboricultural Impact Assessment Plan, will involve the erection of tree protection barriers as discussed in the Detailed Arboricultural Method Statement (Appendix B). Where the proposed site layout requires the breaching of these ideal areas, measures are recommended in order to minimise the damage to the roots and the root environment of the tree in question. Such measures acknowledge the fact that the extent, distribution and actual position of roots of a tree within the RPA are not known.

REFERENCES

Mattheck, C. and Breloer, H. (1995). *The Body Language of Trees: A handbook for failure analysis. Research for Amenity Trees 4.* HMSO, London, 240pp.

STANDARDS PUBLICATIONS

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

Tree Work Recommendations (BS3998), British Standards Institution, London (2010)

Appendix A

Tree Schedule

Table 1 Cascade Chart taken from BS5837:2012 Trees in relation to design, demolition and construction – Recommendations.

Appendix A - Tree Schedule

Westhite Solar Site, Westhite, Hereford

Client:

Ersun (Westhite SPV) Ltd

Surveyor:

Alister Rankine

Date of Survey:

30th March 2021



Tree Number	Single or Group	Number in group	Common Name	Scientific Name	Height (m)	Calculated Stem Diameter (mm)	Number of Stems	Root Protection Area (Radius, m)	Crown Clearance (m)	N - Radius (m)	S - Radius (m)	E - Radius (m)	W - Radius (m)	Age Class	Physiological Condition	ULE (Years)	Tree Structural Condition and Site Notes	BS Category
T1	S		Black poplar	<i>Populus nigra</i>	18	1250	1	15.00	3	4	4	7	2	M	F	40+	Fair	B3
T2	S		Black poplar	<i>Populus nigra</i>	20	1250	1	15.00	4	6	5	5	4	M	F	40+	Fair	B3
T3	S		Black poplar	<i>Populus nigra</i>	22	1250	1	15.00	4	7	7	6	7	M	F	40+	Fair	B3
T4	S		Ash	<i>Fraxinus excelsior</i>	20	1250	1	15.00	4	7	7	8	8	M	P	<10	Poor	U
T5	S		Oak	<i>Quercus robur</i>	17	850	1	10.20	6	6	7	7	7	M	G	40+	Good	B1/2
G6	G	2	Oak	<i>Quercus robur</i>	18	1000	1	12.00	5	7	7	7	7	M	G	40+	Good	B1/2
T7	S		Oak	<i>Quercus robur</i>	18	1200	1	14.40	6	6	7	6	8	M	G	40+	Good	B1/2
W8	W		Oak, ash	<i>Quercus robur, Fraxinus excelsior</i>	15	500	1	6.00	4	4	4	4	4	EM	F	40+	Fair	C2
T9	S		Ash	<i>Fraxinus excelsior</i>	10	350	1	4.20	3	3	3	3	3	M	P	<10	Poor	U
T10	S		Oak	<i>Quercus robur</i>	15	740	1	8.88	3	4	4	4	4	V	F	40+	Fair	B3
G11	G	2	Hawthorn	<i>Crataegus monogyna</i>	9	300	1	3.60	4	1	1	1	1	M	F	10-20	Fair	C1
T12	S		Oak	<i>Quercus robur</i>	20	1070	1	12.84	7	5	5	5	5	M	G	40+	Good	A1/2
T13	S		Oak	<i>Quercus robur</i>	18	1000	1	12.00	6	8	8	8	8	M	G	40+	Good	A1/2
G14	G	4	Oak	<i>Quercus robur</i>	20	1250	1	15.00	8	8	8	8	8	M	G	40+	Good	B1/2
T15	S		Oak	<i>Quercus robur</i>	17	1200	1	14.40	6	5	5	5	5	M	G	40+	Good	B1/2
T16	S		Ash	<i>Fraxinus excelsior</i>	19	770	1	9.24	5	5	6	7	7	M	P	<10	Poor	U
T17	S		Oak	<i>Quercus robur</i>	20	850	1	10.20	9	8	4	7	4	M	F	40+	Fair	C1
T18	S		Ash	<i>Fraxinus excelsior</i>	18	700	1	8.40	6	6	6	6	6	M	P	<10	Poor	U
T19	S		Ash	<i>Fraxinus excelsior</i>	19	1250	1	15.00	6	7	7	8	6	V	F	<10	Fair	B3
T20	S		Ash	<i>Fraxinus excelsior</i>	20	1250	1	15.00	3	7	7	7	7	M	G	10-20	Good	A3
T21	S		Crack willow	<i>Salix fragilis</i>	18	1250	1	15.00	7	9	4	1	6	M	P	<10	Poor	U
G22	G	3	Ash	<i>Fraxinus excelsior</i>	22	900	1	10.80	7	7	7	7	7	M	F	<10	Fair	U
T23	S		Black poplar	<i>Populus nigra</i>		1250	1	15.00						V		40+		B3
G24	G	2	Black poplar	<i>Populus nigra</i>	19	1200	1	14.40	5	10	4	10	10	M	F	40+	Fair	B3
T25	S		Ash	<i>Fraxinus excelsior</i>	11	600	1	7.20	3	2	3	3	2	M	P	<10	Poor	U
T26	S		Black poplar	<i>Populus nigra</i>	22	1250	1	15.00	5	8	8	8	8	M	G	40+	Good	A1\2\3
T27	S		Ash	<i>Fraxinus excelsior</i>	11	1100	1	13.20	2	4	4	4	4	V	F	<10	Fair	B3
T28	S		Oak	<i>Quercus robur</i>	21	980	1	11.76	3	7	7	7	7	M	G	40+	Good	B1/2

Tree Number	Single or Group	Number in group	Common Name	Scientific Name	Height (m)	Calculated Stem Diameter (mm)	Number of Stems	Root Protection Area (Radius, m)	Crown Clearance (m)	N - Radius (m)	S - Radius (m)	E - Radius (m)	W - Radius (m)	Age Class	Physiological Condition	ULE (Years)	Tree Structural Condition and Site Notes	BS Category
G29	G	7	Ash	<i>Fraxinus excelsior</i>	14	500	1	6.00	5	4	4	4	4	M	P	<10	Poor	U
T30	S		Ash	<i>Fraxinus excelsior</i>	18	700	1	8.40	6	6	6	6	10	M	P	<10	Poor	U
T31	S		Oak	<i>Quercus robur</i>	18	950	1	11.40	3	7	7	7	7	M	G	40+	Good	B1/2
T32	S		Ash	<i>Fraxinus excelsior</i>	23	1050	1	12.60	8	3	7	4	3	M	P	<10	Poor	U
W33	W		Mixed deciduous. Mainly oak and ash		22	700	1	8.40	7	7	7	7	7	M	F	40+	Fair	C2
T34	S		Oak	<i>Quercus robur</i>	18	950	1	11.40	5	6	6	6	6	M	G	40+	Good	B1/2
T35	S		Oak	<i>Quercus robur</i>	17	910	1	10.92	5	6	6	6	6	M	G	40+	Good	B1/2
G36	G	5	Crack willow	<i>Salix fragilis</i>	18	700	1	8.40	4	7	7	7	7	M	P	10-20	Poor	C1
G37	G	2	Oak	<i>Quercus robur</i>	18	1000	1	12.00	8	11	11	11	11	M	G	40+	Good	B1/2
T38	S		Oak	<i>Quercus robur</i>	16	990	1	11.88	2	8	8	8	8	M	G	40+	Good	A1/2
G39	G	2	Goat willow	<i>Salix caprea</i>	12	400	1	4.80	3	3	3	3	3	M	F	10-20	Fair	C1
T40	S		Oak	<i>Quercus robur</i>	17	880	1	10.56	4	6	6	6	6	M	F	40+	Fair	B1/2
T41	S		Oak	<i>Quercus robur</i>	17	850	1	10.20	6	6	6	6	6	M	G	40+	Good	B1/2
W42	S		Mixed deciduous		21	800	1	9.60	5	6	6	6	6	M	F	40+	Fair	C2
T43	S		Oak	<i>Quercus robur</i>	17	940	1	11.28	4	9	9	9	9	M	G	40+	Good	B1/2
T44	S		Oak	<i>Quercus robur</i>	18	1250	1	15.00	4	8	8	8	8	M	G	40+	Good	B1/2
T45	S		Oak	<i>Quercus robur</i>	20	1210	1	14.52	7	8	8	8	8	M	G	40+	Good	B1/2
T46	S		Oak	<i>Quercus robur</i>	18	870	1	10.44	7	6	6	6	6	M	G	40+	Good	B1/2
T47	S		Crack willow	<i>Salix fragilis</i>	17	850	1	10.20	6	5	3	4	4	M	F	10-20	Fair	C1
G48	G	3	Crack willow	<i>Salix fragilis</i>	19	600	1	7.20	7	8	8	8	8	M	F	10-20	Fair	C2
T49	S		Oak	<i>Quercus robur</i>	15	550	1	6.60	4	3	5	4	4	M	F	40+	Fair	C2
T50	S		Oak	<i>Quercus robur</i>	16	920	1	11.04	4	4	4	4	4	M	F	40+	Fair	C2
T51	S		Oak	<i>Quercus robur</i>	18	790	1	9.48	6	7	7	4	4	M	F	40+	Fair	C2
T52	S		Ash	<i>Fraxinus excelsior</i>	17	750	1	9.00	3	3	4	2	3	M	P	<10	Poor	U
T53	S		Ash	<i>Fraxinus excelsior</i>	19	720	1	8.64	5	6	6	6	6	M	F	<10	Fair	U
T54	S		Oak	<i>Quercus robur</i>	17	720	1	8.64	4	6	6	6	6	M	G	40+	Good	B1/2
T55	S		Oak	<i>Quercus robur</i>	18	800	1	9.60	6	7	7	7	7	M	G	40+	Good	B1/2
W56	W		Mixed deciduous		12	500	1	6.00	3	4	4	4	4	EM	F	40+	Fair	C2
T57	S		Oak	<i>Quercus robur</i>	16	1020	1	12.24	6	4	6	4	5	M	F	40+	Fair	C2
T58	S		Oak	<i>Quercus robur</i>	17	910	1	10.92	6	6	6	6	6	M	G	40+	Good	B1/2
T59	S		Oak	<i>Quercus robur</i>	19	1060	1	12.72	6	9	9	9	9	M	G	40+	Good	A1/2
T60	S		Ash	<i>Fraxinus excelsior</i>	20	960	1	11.52	7	5	5	4	8	M	F	<10	Fair	U
T61	S		Oak	<i>Quercus robur</i>	17	1020	1	12.24	6	6	6	6	6	M	G	40+	Good	B1/2
G62	G	8	2 x Lawson cypress, 6 x red oak, 1 x oak	<i>Chamaecyparis lawsoniana</i> , <i>Quercus rubra</i> , <i>Quercus robur</i>	17	490	1	5.88	5	2	3	6	2	EM	F	40+	Fair	C1
G63	G	9	Crack willow	<i>Salix fragilis</i>	19	950	1	11.40	5	6	6	6	6	M	P	10-20	Poor	C1
T64	S		Ash	<i>Fraxinus excelsior</i>	17	1010	1	12.12	6	4	5	6	3	M	P	<10	Poor	U

Tree Number	Single or Group	Number in group	Common Name	Scientific Name	Height (m)	Calculated Stem Diameter (mm)	Number of Stems	Root Protection Area (Radius, m)	Crown Clearance (m)	N - Radius (m)	S - Radius (m)	E - Radius (m)	W - Radius (m)	Age Class	Physiological Condition	ULE (Years)	Tree Structural Condition and Site Notes	BS Category
T65	S		Ash	<i>Fraxinus excelsior</i>	15	400	1	4.80	6	3	4	0	6	M	P	<10	Poor	U
T66	S		Crack willow	<i>Salix fragilis</i>	18	1250	2	15.00	4	4	6	8	4	M	P	<10	Poor	U
T67	S		Ash	<i>Fraxinus excelsior</i>	11	547	2	6.56	4	3	3	3	3	EM	F	<10	Fair	U
T68	S		Hawthorn	<i>Crataegus monogyna</i>	8	350	1	4.20	4	2	2	2	2	M	F	10-20	Fair	C1

Table 1 – Cascade chart for tree quality assessment

TREES FOR REMOVAL				
Category and definition	Criteria			Identification on plan
<p>Category U Those in such condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years</p>	<ul style="list-style-type: none"> • Trees that have a serious, irremedial, 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) • Tree that are dead or show signs of significant, immediate, and irreversible overall decline • Trees infected by pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing other trees of better quality <p><i>NOTE Category U trees can have existing potential conservation value which might be desirable to preserve; see 4.5.7</i></p>			<p>DARK RED</p> <p>RGB code 127-000-000 AutoCAD 246</p>
TREES TO BE CONSIDERED FOR RETENTION				
Category and definition	Criteria - Subcategories			Identification on plan
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
<p>Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years</p>	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)	<p>LIGHT GREEN</p> <p>RGB code: 000-255-000 AutoCAD 90</p>
<p>Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years</p>	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant 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	<p>MID BLUE</p> <p>RGB code: 000-000-255 AutoCAD 170</p>
<p>Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm</p>	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	<p>GREY</p> <p>RGB code: 091-091-091 AutoCAD 252</p>

Appendix B

Detailed Arboricultural Method Statement