SUPERSEDED

Arboricultural Consultancy

New Oxford House, George Street, Grimsby, North East Lincolnshire DN31 1HB

T | 01472 324271 or 01472 323280

M | 07919 304536 or 07971 804783

Arboricultural Impact Assessment

(in accordance with BS 5837:2012 Trees in Relation to Design, Demolition and Construction)

For:

Client: Mr. Ben Pepperell

Location: Land at Bonby House, Carr Lane, Bonby, nr. Brigg, Lincolnshire, DN20 0PX

Date: 6th January 2021

(Note: this report should be read in conjunction with the attached plans)

AIA Author: Dina J. Mysko FdSc Arb / TechArborA
Arboricultural Consultant

Checked & Approved By: Andrew Hudson ND Btec Forestry/Arb / TechArborA
On: 14/01/2021 *Senior Arboricultural Consultant*

Arboricultural Consultancy

Client Details: Mr. Ben Pepperell
Bonby House
Carr Lane
Bonby
Nr. Brigg
Lincolnshire
DN20 0PX

Agent Details: Blue Forest
The Studio
Bensfield Farm
Beech Hill
Wadhurst
East Sussex
TN5 6JR
W: www.blueforest.com

Contact: Sophie Nightingale
Structural Engineer / Designer
E: sophie@blueforest.com
M: 07811 450 470
T: 01892 750 090

Arboricultural Consultancy

Contents

Note: This AIA should be read in conjunction with the submitted formal Arboricultural Report and accompanying Tree Survey Schedule and Tree Constraints Plan

1.0 Purpose of Assessment

Using the information detailed within the formal Arboricultural Report and the preparation of a design/layout for the site, this assessment will evaluate the direct and indirect effects of the proposed development on retained trees. This assessment is supported by and should be read in conjunction with the following:

- Arboricultural Report – (principal formal Arboricultural Report and Survey)
- Tree Survey Schedule - (Appendix "A" of the Arboricultural Report)
- Tree Constraints Plan – (Appendix "B" of the Arboricultural Report)

1.1 Terms of Reference

ENGIE Arboricultural Consultancy has been instructed by Blue Forest, on behalf of client Mr. Ben Pepperell, to prepare an Arboricultural Impact Assessment (AIA). This assessment will comply with the recommendations and guidance set out within the BS 5837:2012 Trees in Relation to Design, Demolition and Construction and will take account of the effects of any tree loss required to implement the design, and any potentially damaging activities proposed in the vicinity of retained trees.

1.2 Description of the Development

A design/layout has been prepared and made available for the purpose of this AIA. It is proposed to introduce and construct a family treehouse on land associated with Bonby House. The proposed treehouse comprises of an entrance deck connected to the main treehouse space with a separate dining deck accessible via an external deck and rope bridge. The treehouse is to be supported on posts from the ground and built around the existing trees.

Proposed design/layout

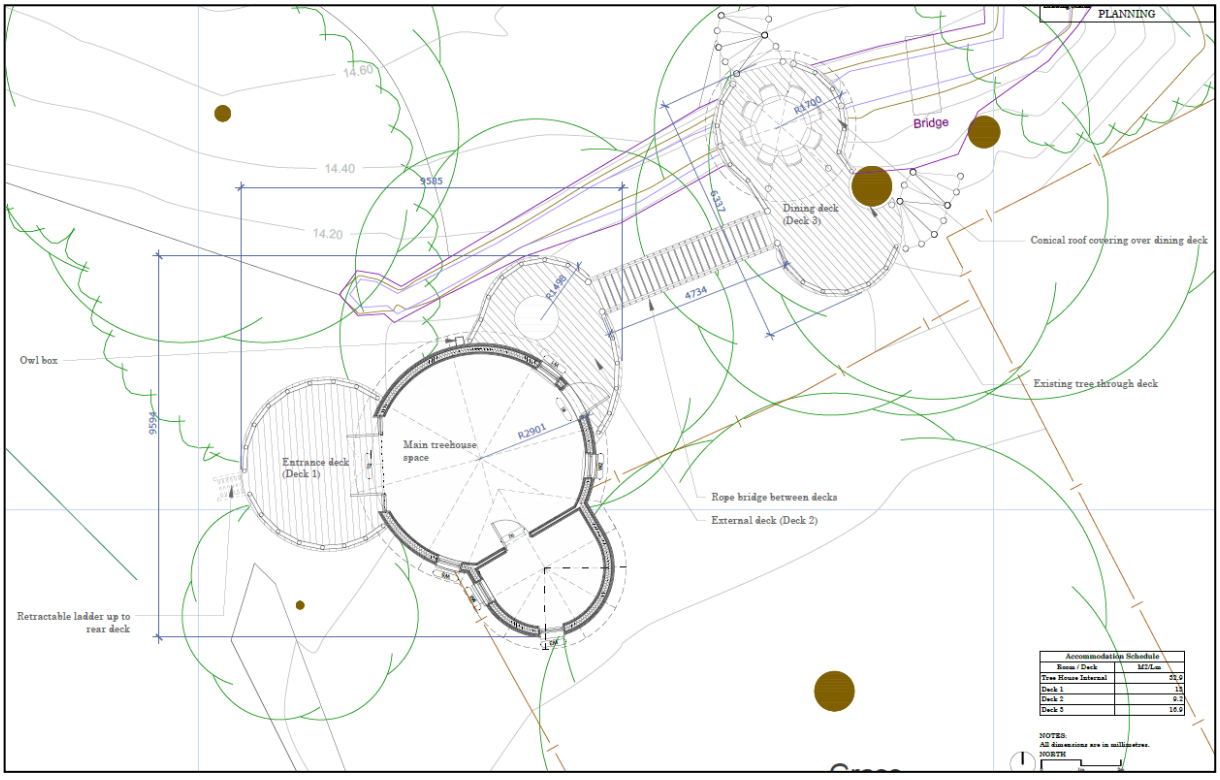

Image source: © BlueForest (UK) Ltd. (2020) – *Ground Floor Plan* - Dwg. No. 101 Rev. E

2.0 Status of the Site

The Local Planning Authority (LPA) is North Lincolnshire Council. In accordance with the LPA's online mapping service, accessed on 24th November 2020, it was confirmed that the site and land adjacent to the site is not within a conservation area, however, it was confirmed that there are trees within the site and on land adjacent afforded protection by virtue of a Tree Preservation Order (TPO).

TPO Title: *County of Lincoln, Parts of Lindsey Tree Preservation (Bonby) Order, 1960*

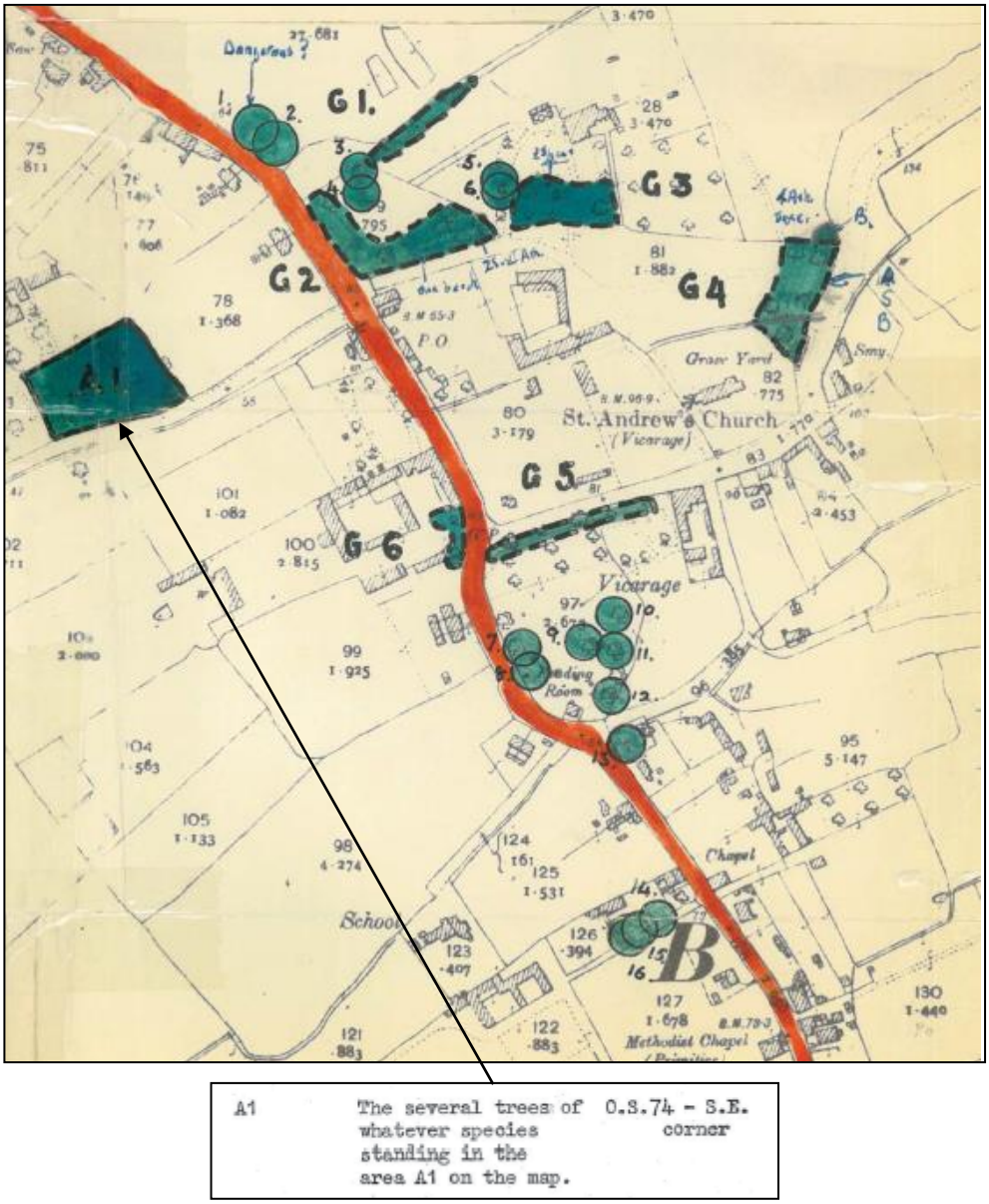

Image source: North Lincolnshire Council - *County of Lincoln, Parts of Lindsey Tree Preservation (Bonby) Order, 1960*

Note: Any works to protected trees outside of a planning permission will need permission from the LPA

3.0 Current Arboricultural Baseline Data

Referring to the tree survey data and formal Arboricultural Report the quality and value of the existing tree stock has been evaluated (also see Appendix "B" – 'Tree Constraints Plan' within the Arboricultural Report) with the following conclusion:

Category Grading (see 3.1 Cascade Chart)									
A1	**A2**	**A3**	**B1**	**B2**	**B3**	**C1**	**C2**	**C3**	**U**
T10			T1	G1		T2			
			T4			T3			
			T6			T5			
			T8			T7			
			T9						

3.1 Cascade Chart for Tree Quality Assessment

Category and definition	**Criteria (including subcategories where appropriate)**		
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 *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see **4.5.7**.*		
	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)
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
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

4.0 Tree Survey

In accordance with the BS 5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations' a tree survey had been undertaken, recording the relevant data regarding the sites tree population, enabling a distinction of the tree stock according to quality and value. This assessment is informed primarily by the condition of the trees and their future potential. As well as the quality and value of the tree stock, trees are assessed according to an estimate over remaining time over which trees can be reasonably retained. Four categories are set out within the BS 5837:2012, as per the Cascade Chart for Tree Quality Assessment (see Page 6 - 3.1). Species longevity, age class, physiological condition and structural integrity are all taken into consideration in order to arrive at the appropriate category grading.

4.1 Tree Stock

Referring to the tree survey data informed by the topographical survey, there are 10 individual trees and 1 group of trees that have a stem diameter of 150mm or above, measured at 1.5m from ground level. The tree age class distribution falls within the semi-mature, early mature to late mature classification. In terms of tree quality and value the assessment concluded:

A1 - High (quality & value) 1 individual tree

B1 - Moderate (quality & value) 5 individual trees
B2 – Moderate (quality and value) 1 group of trees

C1 - Low (quality & value) 4 individual trees

4.2 Groups of Trees

The tree survey has determined it appropriate to include some trees within the "Group" classification. The term "Group" is intended to identify trees that form as cohesive arboricultural features. However, an assessment of individual trees within the group has still been undertaken in order to highlight any significant variation in attributes, including physiological and structural condition.

4.3 1 group of trees has been assessed and the individual trees within the group. The group tree stock number is as follows:

G1 - 6 x trees

5.0 Development Proposal

Following the results of the formal tree report and constraints plan a design/layout has been prepared and made available. Due consideration has been given to the existing tree stock and a balanced judgement has now been made with regards to the future relationship with trees in context with the proposed use of the site. 4 individual trees have been identified as category “C” trees. In accordance with the proposed design layout 2 individual category “C” trees (T2 & T3) are expected to be removed, these trees are considered to be either of low quality and value and would not usually be retained where they may impose a significant constraint on the development of the site.

5.1 It is proposed to develop an area of 235m² within this site with the introduction of a family treehouse within part of the amenity garden space associated with property Bonby House. The treehouse is proposed to be built around the existing trees and supported from the ground on posts. The proposed treehouse will include an entrance deck attached to the main treehouse space. An external deck and rope bridge will lead to a separate dining deck. A realistic judgement has been made in terms of the probable impact the trees may have on the development of the site and its future users. The removal of trees as proposed is considered transient and will avoid misplaced tree retention.

6.0 Arboricultural Implications Assessment (AIA)

For the preparation of this AIA I have been supplied with a design/layout for the site. The implications of development in accordance with the supplied design/layout are as follows:

6.1 Implications of Development (also refer to Appendix "A" - Tree Retention and Removal Plan)

a) Direct Loss of Trees:

• 2 individual trees (T2 & T3) have been identified for removal to successfully facilitate development. Both T2 and T3 are category "C" trees, of low quality and value and long-term retention is not considered a viable option.

b) Direct Impact of Tree Loss:

The tree survey as identified within the Arboricultural Report identifies a total of 16 trees, inclusive of the group trees. Out of 16 trees, 2 are proposed for removal.

Description	Tree Nos.
Trees surveyed	16
Total trees removed to facilitate development	2

The removal of trees as proposed is considered to be transient. The removal of trees T2 and T3 will not have a long-term impact on the landscape character of the area or its surrounding locality.

6.2 Indirect Impacts

a) Changes in Ground Level:

The existing ground levels are not expected to change within the RPA of retained trees.

b) Changes in Ground Surfaces within the RPA:

There is not expected to be any ground surface changes within the RPA of retained trees

c) Structures within the RPA:

The treehouse is expected to be constructed within the RPA of retained trees. It is proposed to build the treehouse around the existing trees, which will in turn be supported by a number of posts extending from screw piles suck into the ground. It is considered that this method of construction will have minimal impact of the trees and their rooting environment.

6.3 Changes in Site Use and Tree Management

a) General:

Once the initial trees works have been carried out future management requirements resulting from the proposed development may include periodic crown lifting of the canopies with the reduction of any over extending branches that may interfere with the treehouse and any external areas, including decks and points of access. Further management requirements would be a clean out of any dead wood that may be present.

b) Roads and Footpaths:

Initial work will be required to facilitate the delivery of construction materials and machinery at the existing point of access off Carr Lane. There is not expected to be any long-term tree management requirements at the point of access.

c) Potential Root Damage to Infrastructure:

There is no evidence to suggest the roots of the trees have damaged structures or hard surfaces. Provided the proposed development is constructed taking into consideration the below ground constraints it is unlikely damage will occur from roots.

6.4 Potential Nuisance

a) Apprehension:

The majority of retained trees are located within the site boundary. The design layout should be sympathetic to the retained tree population allowing a tolerable distance between trees and structures. Apprehension is expected to be strictly limited as a result of this development.

b) Shade:

The design layout should be developed to take into account the existing/retained trees to ensure that the availability of light does not become a particular inconvenience and to ensure that habitable areas receive a sufficient amount of natural light.

c) Tree Litter:

All trees produce a litter of some description, which is only a natural occurrence that is unavoidable. Management requirements such as the removal of leaf litter will be the responsibility of the landowner. Occasionally the amount of litter a tree produces could be reduced slightly through appropriate pruning; however, it would never be eradicated. Also leaf litter nuisance can be reduced by using appropriate gutter and drain guards.

7.0 Conclusion

7.1 The formal tree report and survey reveals an existing tree stock of variable merit, with many of the trees having moderate quality and value and a remaining life expectancy of at least 20 years. Those trees that merit retention, category “A” and “B” trees, should be given serious consideration and sympathetically incorporated into the design/layout.

7.2 As a consequence of this development, the proposed tree loss is considered transient.
2 individual category “C” trees, T2 and T3, have been identified for removal. These are considered sub-standard, low quality trees with limited long-term prospects and long-term retention is not considered a viable.

8.0 Personal Professional Statement (Dina J. Mysko FdSc Arb / TechArborA**)**

Acting consultant preparing reports for various organisations including British Standard reports for architects and developers in supporting planning applications.

Dina holds a Foundation Degree in Arboriculture and an Overall Achievement Award in Forestry and Arboriculture from Plumpton College and the University of Brighton.

Dina has obtained extensive knowledge and practical experience on a local, national and international level.

Dina began working with trees as a volunteer for The Royal Parks, surveying in London's Hyde Park for an iTree Eco pilot project, alongside her studies. In addition, she began working for an approved contractor, as a trainee arborist, on various contracts throughout London, Surrey, Berkshire and Hertfordshire. She became a fully qualified arborist and continued to gain valuable knowledge and experience in Sweden, Denmark and Poland. Dina successfully gained a placement with the International Society of Arboriculture (ISA) in the United States, and has contributed to their peer-reviewed publication, Arborist News, on various topics. This wide range of experience in arboriculture enabled Dina to acquire a position with a Local Authority as an Arboricultural Surveyor. Additionally, Dina provided assistance to the Arboricultural Officers at Leicester City Council, which gave her an inclusive insight into the social, legal and safety issues associated with the management of urban trees in Local Authority owned tree stock.

Dina is a member of the Arboricultural Association at Technician level and is a registered user of Quantified Tree Risk Assessment (QTRA).

Dina has valuable experience in all aspects of arboriculture, and is part of ENGIE Services Limited Arboricultural Consultancy, providing a service advising on a whole range of tree issues.

Arboricultural
ASSOCIATION
Technician Member

Appendix "A"

Tree Retention & Removal Plan

Trees to be removed

Trees to be retained

Tree Removal

2 individual trees to be removed in order to successfully facilitate the development

T2 (Laburnum) - Fell
T3 (Laburnum) - Fell

Tree Works Specification

T1 (Elm) - Remove lowest branch north-west at 3m. Lift canopy up to approx. 8m north and north-west. Clean out to remove and dead, diseased, crossing, duplicating branches.

T4 (Lime) - Clean stem to remove lower branches up to first major fork at approx. 6m. Lift remaining canopy up to approx. 8m. Clean out to remove and dead, diseased, crossing, duplicating branches.

T5 (Lime) - Clean stem to remove lower branches up to approx. 7m north and west, and 4m south. Clean out to remove and dead, diseased, crossing, duplicating branches. Consider installing a dynamic brace/cable to alleviate stress on main fork. Alternatively, reduce canopy height to an approx. height of 15m.

T6 (Lime) - Sever ivy at base and remove first 6m. Clean stem to remove basal/trunk suckered growth and lower branches up to approx. 7m. Clean out to remove and dead, diseased, crossing, duplicating branches.

T8 (Sycamore) - Lift canopy up to approx. 3m north-east and east over access/driveway.

ARBORICULTURAL CONSULTANCY

ENGIE

New Oxford House
George Street
Grimsby
North East Lincolnshire
DN31 1HB
Tel: 01472 324271

CLIENT	Mr. Ben Pepperell		
PROJECT	Bonby House, Carr Lane, Bonby, Brigg, Lincolnshire		
TITLE	Tree Retention & Removal Plan		
DRAWN: DJM	CHECKED: AH	APPROVED: AH	
DATE: 5th January 2021	ORIGINAL SIZE: A1 (594 x 841)	SCALE: 1:200	
FILE REF: AH-ENGIE	DRAWING No.: TRRP-050121-02	REVISION NO: A	

Scale Check (Millimetres), Do Not Scale from this drawing. OS Licence Number OS 100020759.

V2.0