ARBORICULTURAL IMPACT ASSESSMENT

(in accordance with BS 5837:2012 - *Trees in relation to design, demolition and construction – Recommendations)*

Site: **land to the west of Station Road in Sturton (nearest postcode DN20 9DW)**

Prepared for: **Charworth Homes**

Date: 4th February 2022

Reference: QU-742-21-EQUANS

Surveyor/Report Author: **Andrew Hudson** ND Btec Forestry/Arb / TechArborA

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APPENDICES

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

1.0 PURPOSE OF ASSESSMENT

1.1 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 residential development. This assessment is supported by and should be read in conjunction with the following:

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

1.2 ***Terms of Reference***

EQUANS Arboricultural Consultancy has been instructed 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/hedges.

1.3 ***Description of Development***

A design/layout has been prepared and made available for the purpose of this AIA. It is proposed to develop this site with the introduction of three detached residential dwellings with associated access, driveways and amenity garden space. The principal access into the site is expected to utilise the existing access that currently serves the host dwelling.

1.4 ***Proposed Design / Layout***

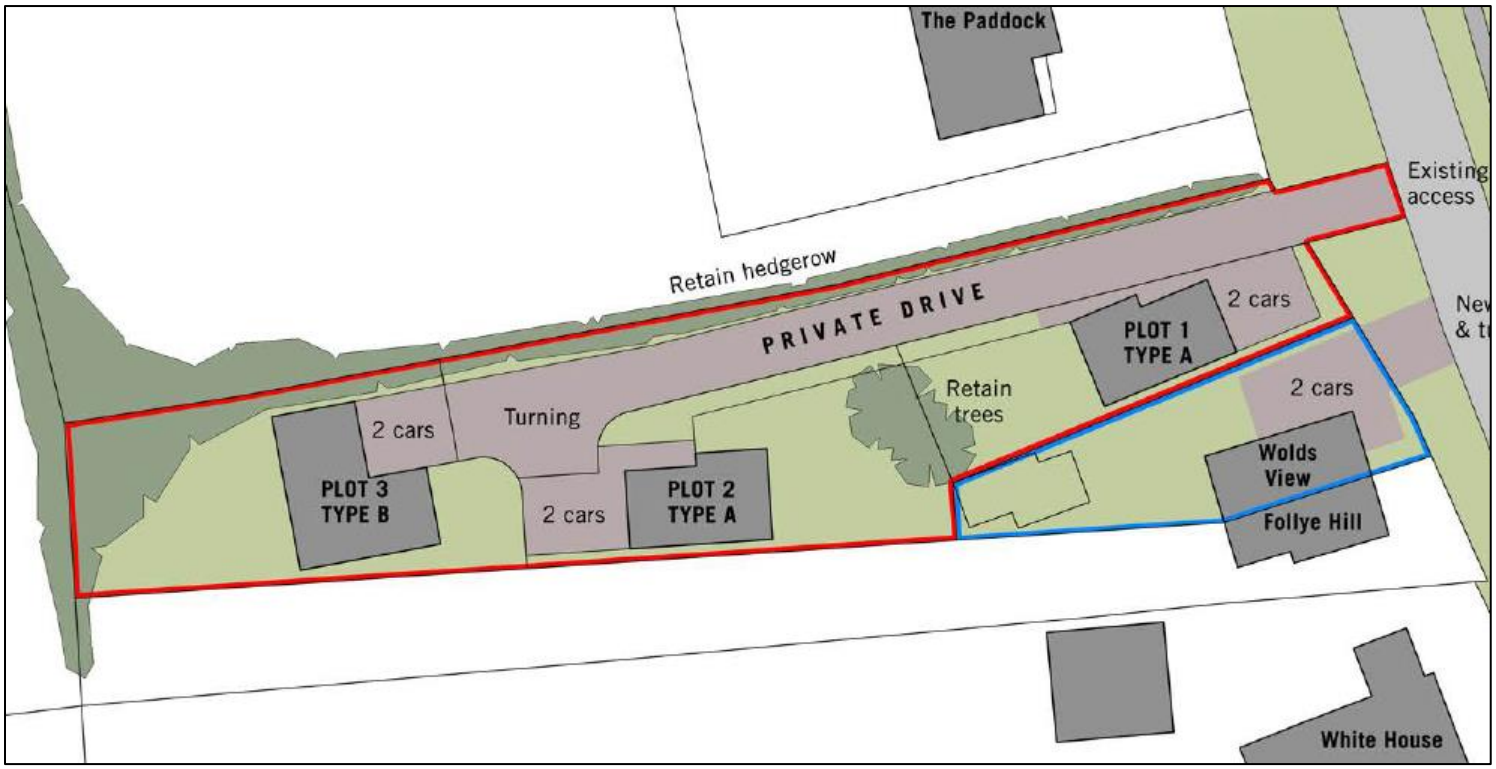

Image source: © id Architecture (2022) – *Design & Access Statement - proposed*

2.0 CURRENT ARBORICULTURAL BASELINE DATA

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

Category Grading (see 2.2 Cascade Chart)									
A1	A2	A3	B1	B2	B3	C1	C2	C3	U
				H1		T2	G1		T1
						T3			T6
						T4			
						T5			

2.2 *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 *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see **4.5.7**.*			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

Image source: © The British Standards Institution (2012) – *Cascade chart for tree quality and assessment* – British Standard BS 5837:2021

3.0 TREE SURVEY

3.1 In accordance with the BS 5837:2012 *Trees in Relation to Design, Demolition and Construction – Recommendations,* a tree survey has 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 - 2.2). Species longevity, age class, physiological condition and structural integrity are all taken into consideration in order to arrive at the appropriate category grading.

3.2 ***Tree Stock***

Referring to the tree survey data informed by the topographical survey, there are 6 individual trees that have a stem diameter of 150mm or above, measured at 1.5m from ground level. Also included in the survey is 1 group of trees and 1 hedgerow. The age class distribution falls within the semi-mature, early mature to mature classification. In terms of tree quality and value the assessment concluded:

A1	High (quality & value)	0 individual tree
B1	Moderate (quality & value)	0 individual trees
B2	Moderate (quality & value)	1 hedgerow
C1	Low (quality & value)	4 individual trees
C2	Low (quality & value)	1 group of trees

3.3 ***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.

3.4 1 group of trees have been assessed and the individual trees within the group. The group tree stock number is as follows:

G1	est.40 stems

3.5 ***Hedges***

This survey has determined it appropriate to include an established mature hedgerow. There is no specific selection process for hedgerows as defined within the BS 5837:2012. However, the hedge has been assessed and categorised using a similar approach to the group categorisation, as a collective or landscape feature, namely boundary hedgerow. This is referred to within the comments section of the original report and also shown in the survey schedule in Appendix "A2" of the original report.

3.6 1 hedgerow has been assessed. The hedge size is as follows:

H1 Length - approx. 61m
Width - approx. 4.5m
Height - approx. 6m

4.0 DEVELOPMENT PROPOSAL

4.1 Following the results of the formal arboricultural report and tree 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/hedges in context with the proposed use of the site. In accordance with the proposed design layout tree removal is expected. However, the trees proposed for removal are categorised 'C', trees of limited quality and value or trees having very limited future prospects. 2 individual, category 'U' trees (T1 & T6) are expected to be removed due to their compromised structural condition.

4.2 It is proposed to introduce three detached residential dwellings with associated access, driveways and amenity garden space. The principal access into the site is expected to utilise the existing access that currently serves the host dwelling. A realistic judgement has been made in terms of the probable impact the trees/hedges may have on the development of the site and its future users.

5.0 ARBORICULTURAL IMPLICATIONS ASSESSMENT (AIA)

5.1 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:

5.2 ***Implications of Development*** *(also refer to Appendix "A" Tree Retention & Removal Plan)*

a) Direct Loss of Trees:

- 2 individual trees (T1 & T6) have been identified for removal due to its condition and in accordance with good arboricultural practice.
- 2 individual trees (T4 & T5) have been identified for removal in order to facilitate the development of the site.
- 1 group of trees (G1) has been identified for removal in order to facilitate the development of the site.

b) Direct Impact of Tree Loss:

The tree survey as identified within the Arboricultural Report identifies a total of 46 trees, inclusive of the group of trees. Out of 46 trees, 44 are proposed for removal.

Description	Tree Nos.
Trees surveyed	46
Total trees removed due to condition	2
Total trees removed to facilitate development	42

5.3 The removal of trees as proposed is considered transient and will not have a long-term impact on the landscape character of the area or its surrounding locality and in turn will create an opportunity to create a more structured scheme of planting, species rich to enhance biodiversity.

5.4 H1 is an established mature hedgerow that has been neglected for many years. The absence of any formal management has resulted in hedge plants establishing as individual trees. A line of trees, opposed to its original purpose, will lack the many wildlife benefits of a dense bushy hedgerow. It would be reasonable to suggest, irrespective of development occurring, that the restoration of this hedgerow will improve the overall structure and its function as a hedgerow to enhance habitat value. The most suitable method for restoration, given the specific circumstances, would be low pollarding. This method would tend to produce better results to that of coppicing or layering. The initial restoration works may have an immediate visual impact however, this would be considered transient. Although the initial restoration works may appear severe, recovery is expected to be rapid, to form a manageable dense hedge structure.

5.5 ***Indirect Impacts***

a) **Changes in Ground Level:**

There may be some changes in ground levels within the RPA of trees H1. The existing ground levels are expected to change as a result of the introduction of a three-dimensional cellular confinement system. This is specifically the principal access road that will serve the residential dwellings. This will allow a no-dig arrangement that will be sympathetic to the rooting environment of the retained hedgerow.

b) **Changes in Ground Surfaces within the RPA:**

There is expected to be a ground surface change within the RPA of H1 as a result of the insertion of a three-dimensional cellular confinement system. This is a no-dig solution that ensures the affected hedge line can still maintain the requirements needed in order to survive

c) **Structures within the RPA:**

No structures are expected to be built within the RPA of retained trees.

5.6 ***Changes in Site Use and Tree Management***

a) **General:**

Following the initial restoration works to the retained hedgerow, H1, future management requirements resulting from the proposed development of the site will include controlling the height and spread to ensure the hedge is kept to a manageable size.

b) **Roads and Footpaths:**

There is not expected to be any 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/hedges 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.

5.7 ***Potential Nuisance***

a) **Apprehension:**

The proposed design layout is sympathetic to the retained hedgerow, allowing a tolerable distance between structures. Apprehension is not expected to be a concerning factor.

b) **Shade:**

The availability of light is not expected to be of any particular inconvenience

d) **Tree/Hedge 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 and the cleansing of hard surfaces will be the responsibility of the dwelling occupier. Occasionally the amount of litter a tree produces could be reduced slightly through appropriate pruning; however, it would never be eradicated. Where conflicts may arise through seasonal nuisance, the detailed design could address these issues, e.g., use of non-slip paving and provision of leaf guards or grills on gutters and gullies.

6.0 CONCLUSION

6.1 The formal tree report and survey reveals an existing tree stock of moderate to low value. There are no trees within this site, individual or part of a group, that provide any particular quality or value. Mostly the tree population is unremarkable of limited merit. Those trees present in a group offer only low or only transient landscape benefits with no real long-term benefits. The hedgerow, H1, may provide some longer-term landscape and habitat qualities, provided it is restored sympathetically

6.2 This development proposal provides an opportunity for enhancement over the current situation. There is a clear opportunity for the restoration of a mature hedgerow, including the infill of any gaps. Also, there is an opportunity for new species rich hedging towards the north east boundary line and the southern boundary line. In addition to this, the opportunity for strategic tree planting within the site can be explored.

7.0 PERSONAL PROFESSIONAL STATEMENT

(Andrew Hudson ND Btec Forestry/Arboriculture / TechArborA)

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

Andrew holds a Btec National Diploma in Forestry and Arboriculture which was awarded at distinction level.

Andrew began working with trees as a forestry contractor, obtaining extensive knowledge and practical experience on various contracts throughout Lincolnshire, East Midlands, East Yorkshire, and East Anglia. Having worked for a number of years within the forestry sector Andrew moved to arboriculture, eventually becoming a fully qualified tree surgeon. This presented a broad spectrum of experience in arboriculture, which was enough to acquire the position of Arboricultural Officer at Local Authority level. This provided valuable experience in all aspects of arboriculture providing him with an inclusive insight into the social, legal and safety issues associated with the management of urban trees in the planning system and Local Authority owned tree stock.

Andrew is part of EQUANS Arboricultural Consultancy providing a service advising on a whole range of tree issues.

Arboricultural ASSOCIATION Technician Member No. TE04053

Appendix "A"

Tree/Hedge Retention & Removal Plan

Trees to be removed

Trees to be retained

Tree Removal

4 individual trees and 1 group of trees to be removed in order to successfully facilitate the development

T1 (cherry) - Fell
T4 (juniper) - Fell
T5 (sycamore) - Fell
T6 (cypress) - Fell

G1 (hawthorn/blackthorn) - Fell

ALL NECESSARY DIMENSIONS SHALL BE CHECKED ON SITE BEFORE ANY WORK IS PUT IN HAND. DO NOT SCALE.

REVISIONS

Letter	Amendment	Drawn	Date

ARBORICULTURAL CONSULTANCY

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CLIENT	Charworth Homes
PROJECT	Residential Development land west of Station Road in Sturton (DN20 9DW)
TITLE	Tree/Hedge Retention & Removal Plan

DRAWN	CHECKED	APPROVED
AH		
DATE	**ORIGINAL SIZE**	**SCALE**
7th February 2022	A1 (594 x 841)	1:150
FILE REF	**DRAWING No.**	**REVISION NO**
AH-EQUANS	TRRP01_070222_AH	

V2.0

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