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**Arboricultural  
Report and  
Impact Assessment  
to BS 5837:2012**

**Site Address:**

Grange Park, Butterwick Road  
Messingham  
DN17 3PP

**Issue Date:**

17<sup>th</sup> June 2021

**Report No:**

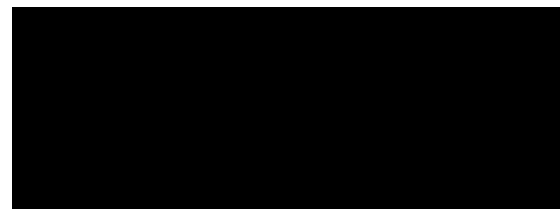
210422

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# 1. Introduction

## 1.1. Purpose of the Report

- 1.1.1. This report is required to provide detailed, independent, arboricultural advice on the trees present in the context of potential development.
- 1.1.2. The purpose of this report is to outline the condition of the existing vegetation on site and to define areas where development and existing trees have the potential to conflict. In addition, recommendations will be made based on the current context of the site.

## 1.2. Terms of Reference

- 1.2.1. We have been instructed to conduct a tree survey and prepare an arboricultural report for the site. The arboricultural report is to include an impact assessment based on the design proposal provided. The arboricultural survey and report conforms to the most recent specifications outlined in BS 5837: 2012 Trees in relation to design, demolition and construction - Recommendations.
- 1.2.2. We have been supplied with a drawing (ref. 425-P08 Rev Org) which details the proposed development. This provides the basis for which this Arboricultural Impact Assessment has been prepared. The tree data has been overlaid onto the proposed designs to create the Tree Protection Plan, which can be found at in the appendices.

## 1.3. Scope of the Report

- 1.3.1. This report is compiled in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations' and is based on an objective assessment of the existing vegetation.
- 1.3.2. Preliminary recommendations are given with a view to the long-term management of a sustainable tree cover and to uphold the interests of health and safety.
- 1.3.3. All trees within the survey area with a stem diameter above approximately 75mm are included.
- 1.3.4. Where applicable trees outside the site boundary, but close enough to be affected by the proposed development, are included.

## 1.4. Survey Details

- 1.4.1. The survey took place on the 21st April 2021. The weather was dry and fine with light winds.
- 1.4.2. During this survey, all trees were inspected from ground level. Further investigation, such as climbed inspections or decay detection surveys, have not been undertaken but may be recommended where this is considered appropriate.
- 1.4.3. Measurements were obtained using clinometers, specialist tapes or electronic distometers. Where this was not possible, measurements were estimated to the best ability of the surveyor. We endeavour to provide accurate information and will always take measurements unless inhibited by restricted access or other mitigating circumstances.

## 2. Site Description

### 2.1. Land Use

2.1.1. The site identified for survey is an open green space boarded to the north and west by small areas of woodland. The site is currently used for touring caravan pitches and has a number of accessways and parking areas consisting of well consolidated hardcore surfacing.

### 2.2. Topography and Geology

2.2.1. Generally speaking, the site is level and at the time of survey appeared to be well drained, however a number of trees within woodland W1 may have succumbed due to recent waterlogging.

2.2.2. A desktop investigation was made into local geology using the British Geological Survey iGeology application. The superficial geology was defined as sand. The bedrock geology as mudstone.

2.2.3. Where site geology contains significant clay or peat content building foundations and infrastructure may suffer from tree related subsidence and heave. Where such conditions are deemed a possibility independent expert advice should be sought to better define site geology.

### 2.3. Treescape & Visual Amenity

2.3.1. The surrounding area is populated with a reasonable number of young to early-mature trees.

2.3.2. Woodland W1 forms a significant green feature when viewed from Butterwick Road. The trees form a major part of the local treescape.

2.3.3. Woodland W1 consists predominantly of semi-mature specimens of reasonable quality that are clearly visible from the immediate surrounding area. Collectively these trees have a moderate visual amenity value. The remaining trees surveyed convey little or no visual amenity value to the wider general public.

### 2.4. Rooting Conditions

2.4.1. In areas likely to be affected by tree rooting the site is free from subterranean structures and significant changes in ground level. As such the Root Protection Areas of all trees surveyed is assumed to be symmetrical and centred on the trees' stems.

## 3. Status of the Trees

3.1. A status check was made on 26<sup>th</sup> April 2021 with North Lincolnshire District Council via their online planning portal. We are informed that there are no Tree Preservation Orders (TPO) in force and that the site is not within a Conservation Area.

3.2. Due to the large potential penalties for illegally carrying out work to protected trees, we recommend that a further check is carried out prior to any works being undertaken. This is especially relevant as the Council is able to serve a TPO at any time.

## **4. Discussion**

### **4.1. Tree Condition & Recommended Works**

4.1.1. During the survey the details of 12 individual trees were recorded. There were six trees identified as retention category B and six as retention category C.

4.1.2. During the survey the details of one woodland were recorded. The woodland was identified as retention category B.

4.1.3. During the survey the details of three hedges were recorded. All were identified as retention category C.

4.1.4. Within the survey, tree works may have been identified for reasons of public safety, to ensure the long-term health of the trees or for general maintenance purposes. Such recommendations have been made without regard to any projected layout and should be undertaken irrespective of development. These are summarised in the following sections.

4.1.5. For the full details of all vegetation surveyed and recommendations made, please refer to Appendix 1.

### **4.2. Removals Irrespective of Development**

4.2.1. On this occasion, no trees have been identified as category 'U' and as such no trees are recommended for removal in the current context of the site.

### **4.3. Remedial Tree Works Irrespective of Development**

4.3.1. On this occasion, no remedial works were deemed necessary at this time.

### **4.4. Monitoring/Further Investigations Irrespective of Development**

4.4.1. In this case, no monitoring (re-inspecting and re-assessing) or further investigation works are considered necessary. However, all trees to be retained within the proposed development should be inspected on a regular basis in the interests of risk management.

## **5. Arboricultural Impact Assessment (AIA)**

### **5.1. Proposed Development**

5.1.1. The proposal for the site includes the addition of 24 static caravan bases with associated areas of decking and parking. The existing driveway accessing the site will be extended to service the new units.

5.1.2. This Arboricultural Impact Assessment is based on drawing no. 425-P08 Rev Org, which forms the basis for the Tree Protection Plan that accompanies this report.

### **5.2. Tree Removals for Development**

5.2.1. To make way for the bases and the associated hard surfacing it will be necessary to remove T7, T9 and T11. As these trees are modest in size and of limited quality their removal will result in little or no loss of amenity value. There is space available on site to replace the loss of these trees if desired.

### **5.3. Remedial Tree Works and Pruning for Development**

5.3.1.No pruning or remedial tree works are required to facilitate the development.

### **5.4. Monitoring/Further Investigations to Accommodate Proposed Development**

5.4.1.No monitoring or further investigations are required to facilitate the development.

### **5.5. The Protective Barrier**

5.5.1.In order to ensure the effective protection of retained trees during development, a protective barrier will be installed, in accordance with BS5837: 2012 and may comprise of protective fencing and/or ground protection. This will be the first job on site following the tree removal and pruning works. The fencing and ground protection should be positioned to protect the entire crown and Root Protection Area (RPA) of the retained trees.

5.5.2.Routes for pedestrian and site traffic should ideally be located outside, and diverted away from, the RPAs of the retained trees. Where this is not possible, temporary protective surfaces (ground protection) must be laid over the exposed RPAs which will distribute the weight of site vehicles, machinery or pedestrians whilst allowing moisture to reach the tree rooting area beneath. Such surfaces should be constructed in accordance with BS5837: 2012.

5.5.3.The position of protective fencing and ground protection are detailed on the Tree Protection Plan. The specifications for the construction of a protective barrier can be found in the appendices.

### **5.6. Access/Construction of Hard Surfacing**

5.6.1.The site is accessed from the west via a long-established driveway comprised of well consolidated hardcore. No further accessways or hard surfacing are required within the RPA of retained trees.

### **5.7. Demolition**

5.7.1.In this instance no demolition is required within the RPA of retained trees.

### **5.8. Construction/ Foundation Design**

5.8.1.In this instance no new foundations fall within the RPA of retained trees.

### **5.9. Utilities**

5.9.1.The routing of utilities is not available at present. Should underground utilities need to be brought onto site these should be routed outside and away from the RPA of retained trees. Alternatively, they should be installed beneath the existing accessway leading onto the site from the west.

### **5.10. Landscaping**

5.10.1. Any proposed fence lines may be constructed within the RPA if necessary, providing that appropriate considerations are made to the protection of the tree. This is providing that no continual trenching is undertaken (e.g. for small walls onto which panel fencing is installed). Excavation must be kept to a minimum and therefore only fence designs requiring intermittent posts will be acceptable within the RPA of retained trees.

5.10.2. Any patios, garden paths or other hard surfaces within RPAs which may not be shown on the plans provided may be constructed using no-dig techniques, providing that they do not cover more than 20% of the RPA of any tree and are implemented in accordance with BS5837: 2012. If there is any concern of damaging retained trees, further advice should be sought from a qualified Arboriculturalist.

5.10.3. No ground level changes are to be undertaken within the RPA of retained trees, unless otherwise stated or agreed with the appointed Arboricultural consultant or the LPA. The requirement to raise/lower ground levels within RPAs should be communicated to these parties at the earliest practical convenience.

#### **5.11. Shading**

5.11.1. With the development positioned to the south and east of the vast majority of the retained trees, there will be no significant detrimental shading effects on the proposed units.

### **6. Arboricultural Method Statement – Operations for Inclusion**

6.1.1. No operations are required within the RPA or crown spread of retained trees as such an Arboricultural Method Statement (AMS) is not required.

## Appendix 1: Survey Schedule

Tree ID	Common Name	Maturity	Height (m)	Stem Diameter (mm)					RPA Radius (m)	Crown Spread (m)				Retention Category	Life Expectancy	Physiological Condition	Structural Condition	Comment	Recommendations
				1	2	3	4	5		N	E	S	W						
T1	Common Oak	Young	5	210					2.5	4	4	4	4	C1/2	>40 yrs	Good	Good	A reasonable young specimen with some potential.	n/a
T2	Weeping Willow	Semi-mature	7.5	530					6.4	4	4	8	7.5	B1	>40 yrs	Good	Good	Poor pruning practices resulting in stubs in lower crown. Minor deadwood. Otherwise, a reasonable specimen free from notable defects.	n/a
T3	Common Oak	Semi-mature	17.5	400	260	180			6.1	4	7	7.5	4	B2	>40 yrs	Good	Good	Multi stemmed from 0.25m with sound main unions. Minor deadwood in lower crown. Suppressed to N by neighbouring trees. A reasonable specimen.	n/a
T4	Common Oak	Early-mature	22	580	480	290			9.7	5.5	6.5	8	8	B1/2	>40 yrs	Good	Good	Multi stemmed from ground level with sound main unions. Poor pruning resulting in stubs lower to mid stems. Medium deadwood in crown. A good specimen free from significant defects.	n/a
T5	Common Oak	Semi-mature	19.5	360	360	250	260	420	9.0	5.5	6.5	5	6.5	C2	>40 yrs	Fair	Fair	Multi stemmed from ground level with bark included but adequate unions. Poor pruning resulting in stubs and medium deadwood on stems to S. Medium deadwood elsewhere in crown. An unremarkable specimen.	n/a
T6	Common Oak	Semi-mature	19	460	360	220	280	330	9.1	3.5	5	6	6	B2	>40 yrs	Good	Fair	Multi stemmed from ground level with sound main unions. Poor pruning resulting in stubs lower to mid stems to S. Slightly contested crown structure. Otherwise, a reasonable specimen free from notable defects.	n/a

Tree ID	Common Name	Maturity	Height (m)	Stem Diameter (mm)					RPA Radius (m)	Crown Spread (m)				Retention Category	Life Expectancy	Physiological Condition	Structural Condition	Comment	Recommendations
				1	2	3	4	5		N	E	S	W						
T7	Cherry	Early-mature	4	170	170	140			3.3	3	3.5	4.5	3	C1	10 to 20 yrs	Fair	Fair	Multi stemmed from 1.25m with sound main unions. Spreading crown with minor deadwood, notable cavity on one lateral, and sparse foliage. An unremarkable specimen.	Development Recommendation: Remove
T8	Silver Birch	Mature	16	460					5.5	5	8	6	4	B2	20 to 40 yrs	Good	Good	Single stemmed to upper crown. Minor deadwood. A good specimen free from significant defects.	n/a
T9	Silver Birch	Semi-mature	14	190	150				2.9	3.5	2	2	3	C2	20 to 40 yrs	Good	Good	Bifurcated from ground level. Slender in form with crown suppressed to S and W. An unremarkable specimen.	Development Recommendation: Remove
T10	Silver Birch	Early-mature	16.5	240	120				3.2	3	2.5	3	2	C2	20 to 40 yrs	Good	Good	Bifurcated from 0.25 with adequate union. Four wounds from previously removed stems, one of significant size, adjacent to main union. Slender in form but otherwise free from notable defects. A fair specimen.	n/a
T11	Silver Birch	Early-mature	16	240	220	210			4.6	3	8	5	4.5	C2	10 to 20 yrs	Fair	Fair	Trifurcated from 0.25m with adequate unions. 5/6 wounds with varying degrees of decay adjacent to main unions resulting from previously removed stems. Two wound of very significant size one of which with extensive decay. Tree slender in form with very sparse foliage and minor distal dieback. A poor specimen.	Development Recommendation: Remove
T12	Silver Birch	Early-mature	17	370					4.4	3	5	3.5	1.5	B1/2	20 to 40 yrs	Good	Good	Single stemmed to full height. Suppressed to N and W by neighbouring trees. Otherwise, a good specimen, with healthy foliage and free from notable defects.	n/a

Tree ID	Common Name	Maturity	Height (m)	Stem Diameter (mm)					RPA Radius (m)	Crown Spread (m)				Retention Category	Life Expectancy	Physiological Condition	Structural Condition	Comment	Recommendations
				1	2	3	4	5		N	E	S	W						
W1	A Woodland	Semi-mature	18	320-380 <sup>a</sup>					3.8-4.6					B2	>40 yrs			Woodland containing predominantly oak, silver birch and sycamore with Hawthorne and sweet chestnut. Mostly reasonable woodland specimens. Crown clearance of 4m over existing site access. Crown spread to stem diameter ratios dictate that most tree RPA's fall within the canopy line of the woodland. Where this was deemed not to be the case trees have been recorded individually.	n/a
H1	A Hedgerow		1.5						0.0	0.5	0.5	0.5	0.5	C2	20 to 40 yrs	Good	Good	Well managed Laurel hedge.	n/a
H2	A Hedgerow		1.5						0.0	0.5	0.5	0.5	0.5	C2	20 to 40 yrs	Good	Good	Well managed Laurel hedge.	n/a
H3	A Hedgerow		1.5						0.0	0.5	0.5	0.5	0.5	C2	20 to 40 yrs	Fair	Fair	Well managed Laurel hedge. Northern half suppressed by neighbouring trees.	n/a

<sup>a</sup> denotes average diameter of most significant stems (groups of trees)

## Appendix 2: Retention Categories

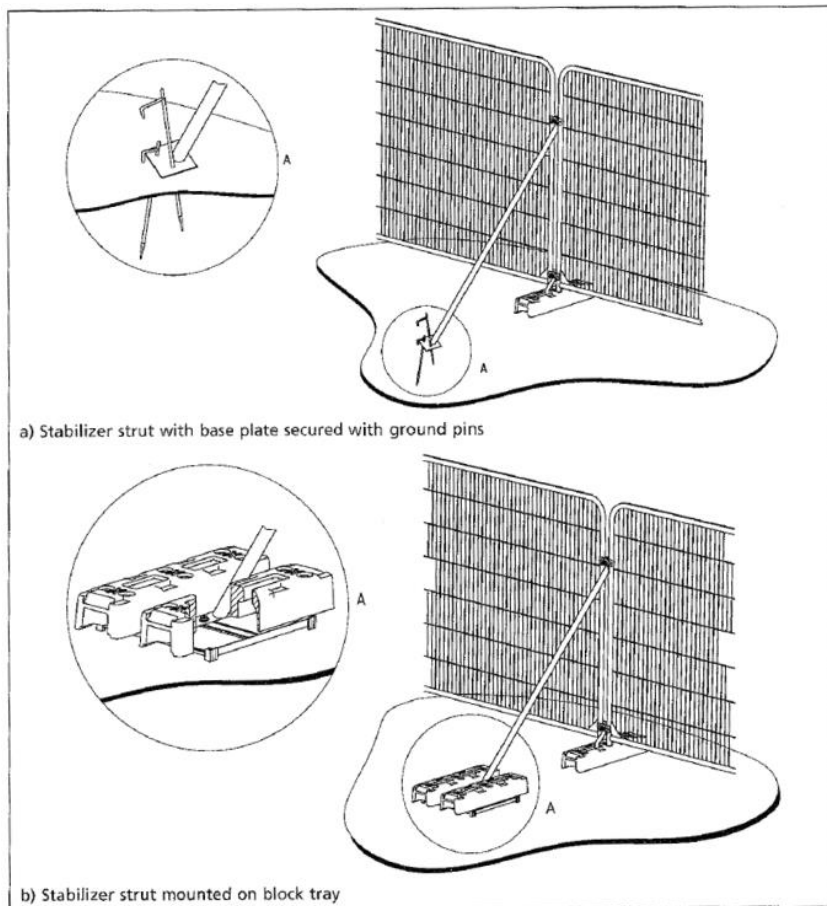
Trees Unsuitable for Retention	
<p><b>Category U</b></p> <p>Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.</p>	<ul style="list-style-type: none"> <li>• Trees that have a serious, irremediable, structural 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).</li> <li>• Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline.</li> <li>• 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.</li> </ul> <p><i>NOTE Category U trees can have existing or potential conservation value, which it might be desirable to preserve; see [BS5837: 2012] 4.5.7</i></p>

Tree to be Considered for retention	1 For Arboricultural Reasons	2 For Landscaping Qualities	3 For Cultural Values, Including Conservation
<p><b>Category A</b></p> <p><b>Trees of high quality</b> with an estimated remaining life expectancy of at least 40 years.</p>	<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).</p>	<p>Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features.</p>	<p>Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture).</p>

<b>Tree to be Considered for retention</b>	<b>1 For Arboricultural Reasons</b>	<b>2 For Landscaping Qualities</b>	<b>3 For Cultural Values, Including Conservation</b>
<p><b>Category B</b></p> <p><b>Trees of moderate quality</b> with an estimated remaining life expectancy of at least 20 years.</p>	<p>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.</p>	<p>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.</p>	<p>Trees with material conservation or other cultural value.</p>
<p><b>Category C</b></p> <p><b>Trees of low quality</b> with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.</p>	<p>Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.</p>	<p>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.</p>	<p>Trees with no material conservation or other cultural value.</p>

## Appendix 3: Tree Protection Fencing

Figure 1. Specification for Above Ground Stabilised Protective Fencing



The protective fencing will be installed in accordance with BS 5837: 2012 and will comprise of weld mesh panel fencing, situated in rubber or concrete feet. Panels will be joined together using a minimum of two anti-tamper couplers, positioned so that they can only be removed from inside the barrier. The fencing will be supported at each joint (where two panels meet) with a stabiliser strut, attached to the fencing at one end and a base plate at the other, which will be secured with ground pins, driven into the underlying soil.

Figure 2. Example Signage for Protective Fencing

# TREE PROTECTION AREA

TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND ARE SUBJECTS OF A  
TREE PRESERVATION ORDER  
(TOWN & COUNTRY PLANNING ACT 1990)

**CONTRAVENTION OF TREE PRESERVATION ORDERS MAY LEAD TO CRIMINAL PROSECUTION**

**THE FOLLOWING MUST BE OBSERVED BY ALL PERSONS:-**

- THE PROTECTIVE FENCING MUST NOT BE REMOVED
- NO PERSON SHALL ENTER THE PROTECTED AREA
- NO MACHINE OR PLANT SHALL ENTER THE PROTECTED AREA
- NO MATERIALS SHALL BE STORED IN THE PROTECTED AREA
- NO SPOIL SHALL BE DEPOSITED IN THE PROTECTED AREA
- NO EXCAVATION SHALL OCCUR IN THE PROTECTED AREA

**ANY INCURSION INTO THE PROTECTED AREA MUST BE  
WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY**

KEEP OUT!

## **Appendix 4: Guidelines & Limitations**

All work must be to BS 3998: 2010 - 'Recommendations for tree work'.

Staff carrying out the work must be qualified, experienced contractors, and should be covered by adequate public liability insurance.

This report is based upon a visual inspection. The consultant shall not be responsible for events which happen after this time due to factors which were not apparent at the time, and the acceptance of this report constitutes an agreement with the guidelines and the terms listed in this report.

Any defects seen by a contractor or the employer that were not apparent to the consultant must be brought to the consultant's attention immediately.

No liability can be accepted by the consultant in respect of the trees unless the recommendations of this report are carried out as outlined and within the stated timescales.

It is advisable to have trees inspected by an arboricultural consultant regularly. In this instance it is recommended that these inspections are made as per the recommended re-inspection timings in this report. Furthermore it is recommended that trees be re-inspected following certain events. These include; severe weather events, significant changes to site usage, changes that affect wind loading on the trees (e.g. Removal of neighbouring trees, erection/demolition of buildings).

## **Appendix 5: Tree Protection Plan**

See A3 PDF (Tree Protection Plan - 210422 GrangePrkMssnghmDN173PP.pdf) for Details