

**Arboricultural Impact Assessment:**

St Catherine's Church  
Front Street  
Fishburn  
TS21 4AA

**Prepared for:**

Beaumont Brown Architects

**On behalf of:**

St Catherine's Church  
Front Street  
Fishburn  
TS21 4AA

**Report ref:** BBA\_StCatherine\_AIA1.1

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### Appended documents

Appendix 1 – Tree protection plan.

## **1.0 EXECUTIVE SUMMARY**

1.0.1 Dendra Consulting Ltd was commissioned to undertake this impact assessment by Beaumont Brown Architects. The report was prepared in order to support a planning application for the proposed timber frame extension to the existing outbuilding within the grounds of St Catherine Church.

1.0.2 The site visit was made on the 8<sup>th</sup> February 2024 by Liam Robson.

1.0.3 Four individual trees were surveyed, comprising low and moderate values.

1.0.4 Impacts are predicted from the following activities:

- Cutting of earth bank within RPA to facilitate construction of extension and drainage, accounting for potential minor, localised root damage.
- General construction works within proximity of trees to be retained.

1.0.5 Mitigation has been recommended as follows:

- Sensitive methodology of cutting and excavating to minimise disturbance beyond working environment.
- The erection of protective fencing.

1.0.6 Overall it is possible that the works may have a negligible impact. A detailed summary table of the impacts before and after mitigation is provided in section 6.0.

## **2.0 INTRODUCTION**

### **2.1 Background & Scope**

2.1.1 Dendra Consulting Ltd was commissioned to undertake this survey and report by Beaumont Brown Architects, on behalf of PCC. The scope of the contract was to undertake an arboricultural impact assessment to support a planning application for a proposed timber frame extension to the existing outbuilding. The survey was carried out in line with BS 5837 – Trees in Relation to Design, Demolition and Construction- Recommendations, 2012 (BSI 2012).

2.1.2 The proposals include the extension of the existing timber frame outbuilding to be used as a kitchen. The existing outbuilding extension will be removed.

### **2.2 Personnel, Timing & Weather Conditions**

2.2.1 A site visit was made on the 8<sup>th</sup> February 2024 by Liam Robson. The weather was fine and dry, with no significant visibility constraints.

### **2.3 Survey Methodology**

2.3.1 All observations were from ground level. Height was measured, where possible, using a clinometer and is expressed in metres. Crown spread is also expressed in metres. In dense tree cover height and crown spread may have been estimated. Stem Diameter at 1.5 metres was measured using calibrated DBH tape and is expressed in millimetres.

2.3.2 A tree quality assessment is made for each tree or group of trees as recommended in BS 5837. A cascade chart based on the standard is provided as figure 1.

**Figure 1 – Chart for tree quality assessment. Adapted from BS 5837.**

Category	Criteria		
<b>Category U</b> <b>Trees unsuitable for retention.</b> Trees in such a condition that they cannot be realistically retained for longer than 10 years	<ul style="list-style-type: none"> <li>• Dead, dying or dangerous trees</li> <li>• Trees with serious structural defects</li> <li>• Trees with serious physiological defects</li> </ul>		
	<b>1. Mainly arboricultural values</b>	<b>2. Mainly landscape values</b>	<b>3. Mainly cultural &amp; conservation values</b>
<b>Category A</b> <b>Tree of high quality</b> with an estimated remaining life expectancy of at least 40 years.	Trees that are particularly good examples of their species. Particularly of rare or unusual species.  Trees forming essential parts of a group	Trees, groups or woodlands of particular visual importance.	Trees, groups or woodlands of significant conservation, historical, commemorative or other value.
<b>Category B</b> <b>Trees of moderate quality</b> with an estimated remaining life expectancy of at least 20 years.	Trees that might be categorised in the higher category but are downgraded because of impaired condition.	Trees present in numbers such that they attract a higher collective rating than they would as individuals.	Trees with material conservation or other cultural value.
<b>Category C</b> <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 15cms.	Trees not qualifying in higher categories	Trees present in groups or woodlands that do not possess significant landscape values.	Trees with no material conservation or cultural value

## 2.4 Root Protection Area

2.4.1 The Root Protection Area (RPA) is represented by an area in m<sup>2</sup> around a tree which acts as a protective zone. In our schedule of trees it is expressed both as the RPA and as the Root Protection Radius (RPR). The RPR is a figure given in metres used to identify the radius of a circle around a tree which serves to act as the RPA. In certain circumstances the shape of the RPA may be altered to suit site specific factors such as the presence of buildings, roads, other trees etc.

### 3.0 REPORT FINDINGS

#### 3.1 Survey Summary

3.1.1 Four individual trees were surveyed. The full results of the survey are provided in section 8.0. The trees were examined for physiological and structural defects. Remedial works for such defects have been provided where appropriate, and this has been recommended regardless of development. **Please note that some of this work may be superseded by recommendations required for development purposes.** The results of the tree quality assessment are summarised in figure 2 below.

Figure 2 – Summary of tree quality assessment

Category	Tree/Group numbers
High	None
Moderate	T1, T3, T4
Low	T2
Unsuitable for retention	None

#### 3.2 Limitations

3.2.1 No topographical survey was provided. The tree locations have been plotted using basic measuring equipment.

3.2.2 The details specified within this report are valid for a period of two years.

## **4.0 IMPACT ASSESSMENT**

### **4.1 Assessment Process**

4.1.1 This section of the report identifies and evaluates impacts in the absence of any mitigation. Mitigation is then detailed in section 5.0 of the report. Impacts are categorised into pre development, development stage and post-development phases.

### **4.2 Pre-development Tree Work**

4.2.1 The proposals do not require the removal of any trees.

4.2.2 The trees within the group have been sufficiently pruned and provide enough clearance from the proposed extension. No further pruning is required.

### **4.3 Site Clearance and Ground Preparation**

4.3.1 To facilitate the construction of the new extension, the cutting back of an earth bank will be required to tie in with existing levels, enable the foundations and for new drainage. This will take place within the RPA of T4. The ground slopes upwards from the building to T4 and will require a maximum reduction of up to 400mm down to the ground level of the existing building. Further excavation will then be required to facilitate the foundations and drainage, which is likely bring the total cut beyond the 600mm where the majority of tree roots are likely to be situated. The cutting of tree roots is therefore likely, though potential damage is predicted to be minor given the localised nature of the works, which accounts for less than 2% of the RPA of T4. Standard works could result damage to roots beyond the working environment, so a sensitive methodology is recommended.

4.3.2 Removal of the existing outbuilding extension and any further site clearance/preparation, in proximity to trees, can cause serious damage including:

- Direct collision damage to the stems and branches.

- Root damage due to changes in soil level.
- Compaction damage to the rooting environment via pedestrian and vehicular movement over the root protection area.

This has the potential to affect all surveyed trees.

#### **4.4 Development Stage**

4.4.1 Generic development works on the site, such as operation of machinery, storage of materials, etc, could result in damage to the crown, stem and root system of the trees to be retained.

#### **4.5 Post Development Conflicts**

4.5.1 Potential post development tree/resident conflicts such as encroachment, shading, leaf fall, honeydew, etc usually arise from the erection of buildings close to large trees. Such problems are subjective and depend entirely on different attitudes to trees. Consequently, the impacts are difficult to predict with any degree of accuracy. In this instance, there will be no significant change in the existing building footprint. No further impacts are predicted from the proposals.



## **5.0 MITIGATION**

### **5.1 Replacement Tree Planting**

5.1.1 No tree removals are required to facilitate the development. No mitigation required.

### **5.2 Site Clearance and Ground Preparation**

5.2.1 The required ground level changes within the footprint of the extension are likely to result in minor, localised root damage. To minimise damage beyond the working environment, the following is recommended:

- All works within the RPA will be undertaken using hand operated tools only.
- The cutting of roots can be undertaken where necessary in the working area, by bypass secateurs or a hand saw.
- Excavation and/or cutting of roots should not be undertaken beyond the working environment.
- Any exposed roots should be covered with hessian throughout the project.
- The area excavated to facilitate the foundations should be lined with an impermeable membrane prior to filling with concrete.

5.2.2 To prevent the potential for direct damage during site works, tree protective fencing should be erected, specified in figures 3 or 4 below, as shown on the tree protection plan. This should be installed following the earth bank cut. The fencing should remain in place for the entire project. Signs will be attached to the fencing to state that it is a protected area.

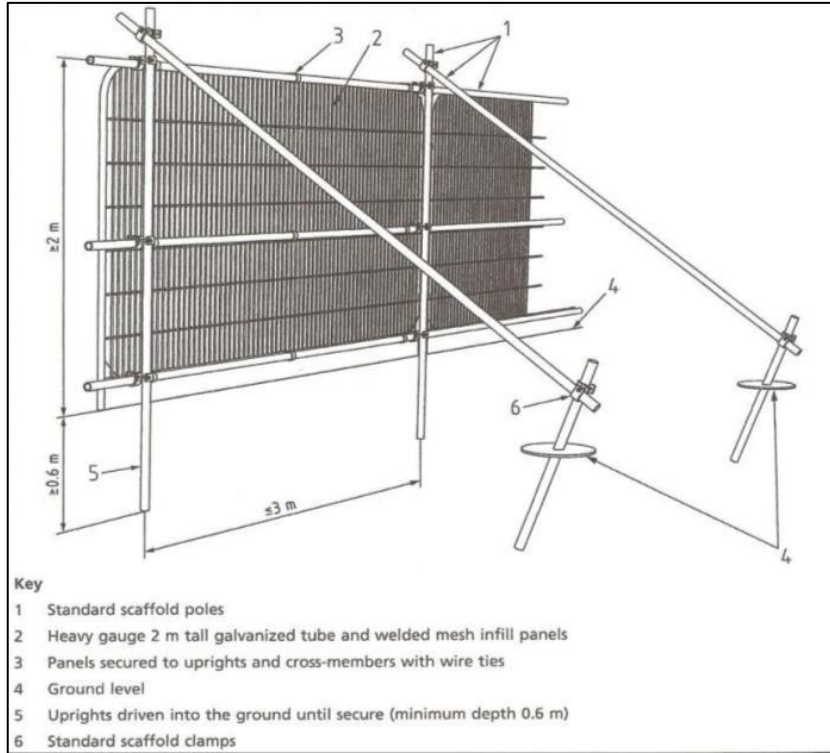
### **5.3 Development Stage**

5.3.1 The protective fencing recommended in section 5.2.1 will remain in place for the entire project. Signs will be attached to the fencing to state that it is a protected area and that it should not be moved during the construction phase.

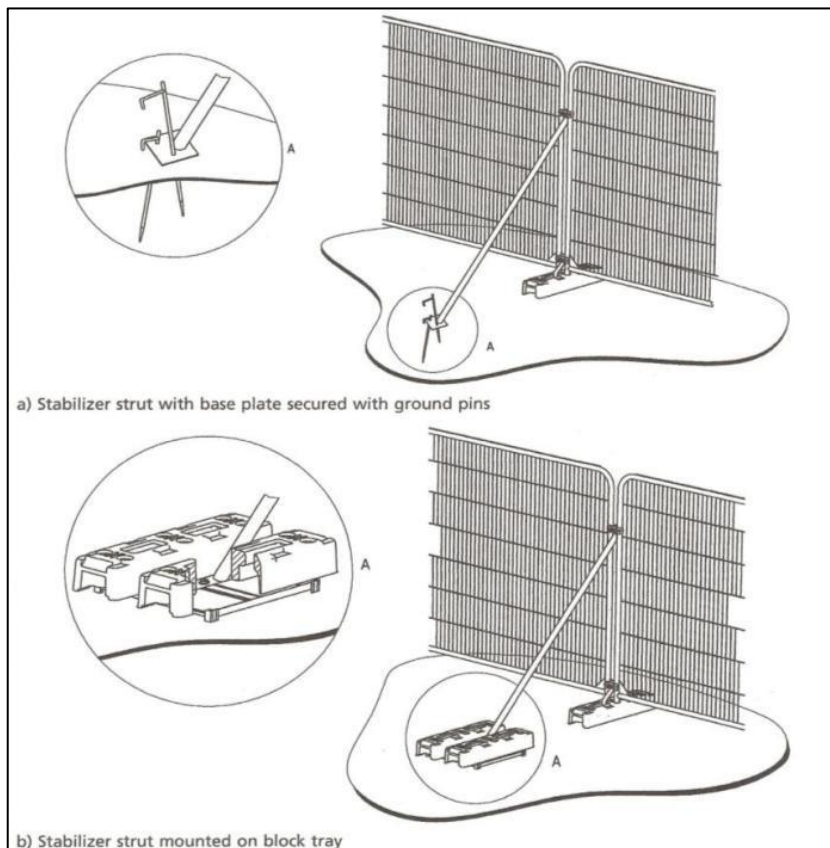
## **5.4 Post Development Tree Management**

- 5.4.1 Future pruning of the trees will be required in the future to provide suitable clearance. This would be required regardless of the proposed extension due to the location of the existing building.

**Figure 3 – Default protective fencing for trees on demolition/development sites.**



**Figure 4 – Alternative protective fencing for trees on demolition/development sites.**



[Figures 3 & 4 reproduced with the permission of the British Standards Institute].

## 6.0 SUMMARY OF IMPACTS AND MITIGATION

6.1 The impacts and mitigation criteria shown in figure 5 below have been used to assess the impacts of the proposed development, which is summarised in figure 6.

**Figure 5 – Impact assessment parameters and predictions**

Assessment parameters	Measure of impacts
Nature and Magnitude of impact	Major negative Negative Minor negative Neutral / Negligible Minor positive Positive Major Positive
Extent of impact	Site level Street level Local level District level County level National level
Probability that impact will occur	Certain / Highly likely Likely Possible Extremely unlikely

**Figure 6 – Site impacts before and after mitigation.**

<b>Proposed activity</b>	<b>Predicted impact without mitigation</b>	<b>Assessment of impact without mitigation</b>	<b>Proposed Mitigation</b>	<b>Assessment of impact with mitigation</b>
Cutting of earth bank to facilitate extension and drainage	Damage to roots of moderate value tree beyond working environment. Possible decline of tree	Negative Street level Possible	Sensitive methodology to minimise damage beyond the working environment	Negligible Highly likely
Site clearance and ground preparation	Damage to stems, branches and roots of moderate and low value trees. Possible decline of tree	Negative Street level Possible	Protective fencing to be erected	Neutral Likely
General construction works in proximity to trees to be retained				

## **7.0 REFERENCES**

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

### 8.0 SCHEDULE OF TREES

#### KEY

NR: Not recorded

Age: Y = Young, SM = Semi mature, EM = Early mature, M = Mature, OM = Over mature

Estimated Remaining Contribution: Expressed in years

Recommendations for health and safety reasons are not highlighted. Recommendations for development purposes are highlighted in RED

No.	Species	Height (m)	Stem diam. (mm)	Crown Spread (m)				Height of main canopy (m)	Height of first significant branch (m)	Direction of first significant branch	Age class	Estimated remaining contribution	Comments	Recommendations	Tree quality Assessment	RPA (m <sup>2</sup> )	RPR (m)
				N	E	S	W										
T1	Sycamore	10	450	3.0	3.0	3.0	3.0	2.0	NR	NR	SM	40+	Located on site boundary. Multiple stems base to 1m	No action required at the present time	B1	92	5
T2	Yew	4	200	2.0	2.0	2.0	2.0	0.1	NR	NR	SM	40+	No major defects	No action required at the present time	C1	18	2
T3	Sycamore	10	670	5.0	5.0	8.0	8.0	2.0	NR	NR	M	40+	Crown lifted over building	No action required at the present time	B1	203	8

No.	Species	Height (m)	Stem diam. (mm)	Crown Spread (m)				Height of main canopy (m)	Height of first significant branch (m)	Direction of first significant branch	Age class	Estimated remaining contribution	Comments	Recommendations	Tree quality Assessment	RPA (m <sup>2</sup> )	RPR (m)
				N	E	S	W										
T4	Ash	15	1000	11.0	13.0	10.0	11.0	3.0	NR	NR	M	20+	Located in neighbouring property. Not inspected in detail. Heavily pruned over building	No comments	B1	452	12



**KEY**

**Tree retention category**

- Category A
- Category B
- Category C
- Category U

**Tree Constraints**

- Crown Spread
- Root Protection Area

**Tree Protection**

- Protective fencing
- Sensitive working methodology

Scale: 1:200 @ A3

The original of this plan was produced in colour - a monochrome copy should not be relied upon

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