



## **Chartwell Tree Consultants**

2 Greencroft Cottages, Farley Common,  
Westerham, Kent, TN16 1UB  
01959 569 280/07789 907 861

## **Arboricultural Report**



**BS5837 Tree Survey**

**At**

**School Lane  
Bapchild  
Sittingbourne  
Kent  
ME9 9NJ**

**Client**

**Crabtree & Crabtree (Bapchild) Limited,  
Church Barn,  
Milton Manor Farm,  
Ashford Road,  
Canterbury,  
Kent CT4 7PP**

**By**

**Sam Bateson**

**Date**

**1<sup>st</sup> April 2015**

*Site* School Lane  
*Inspection Date* 22<sup>nd</sup> March 2015  
*Inspected By* Sam Bateson

### **Terms of Reference**

- I received instructions from BDB Design to carry out a survey of the trees with regards a proposed development at the above address.
- The tree survey and arboricultural impact assessment are to be produced with relevant measurements in line with British Standard BS5837: 2012 'Trees in Relation to Design, Demolition and Construction' for all the trees within the boundary of the proposed dwelling.
- An Arboricultural Method Statement (AMS) has not been requested at this stage.
- To make any other observations or recommendations as required based on the survey.

### **Scope of Report**

- This preliminary assessment did not include a detailed examination of tree root systems, aerial access, or the use of internal decay detection equipment. A further supplementary Detailed Report may be advised as a result of the findings herein.
- The inspection was carried out with the aid of the following equipment:
  - Sounding mallet
  - Metal probe
  - 30m measuring tape
  - Rounded down diameter tape (Stem diameter measured at 1.5m)
  - Compass
  - TruPulse 200 Laser Clinometer
- The tree data gathered is for the purposes of a development site survey in accordance with BS5837: 2012 and is **not** a detailed tree safety inspection.
- A tree owner is advised to have all trees in their ownership regularly inspected; trees are to be re-inspected after strong winds.
- The information contained in this report should be considered valid for a period of 12 months from date of issue.
- Average measurements have been taken for trees within groups or hedges.

### **Third Party Disclaimer**

Any disclosure of this report to a third party is subject to this disclaimer. The report was prepared by Chartwell Tree Consultants at the instruction of, and for the use by, our client named within the report, the architect of the proposed development and the Local Authority Planning Department. This report does not in any way constitute advice to any third party who is able to access it by any means. Chartwell Tree Consultants excludes to the fullest extent lawfully permitted all liability whatsoever for any loss or damage arising from reliance on the content of this report.

### **Site Information**

- Consists of land currently used for agricultural purposes.
- Access can be gained from School Lane
- Only trees plotted on the topographical survey have been included in this report.
- The site plan is an indicative layout which has been overlaid onto the tree survey.
- Ownership for many of these trees is not readily identifiable.
- The DBH (Diameter measured at 1.5m off the ground) for trees within hedgerows or private properties has been estimated.

### **Rooting Zone**

- The soil level has remained the same throughout the area so the root flares on all the trees are exposed.
- There is no evidence of any recent root disturbance or radial trenching having recently taken place.

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

- **Description of the Proposed Development**

It is proposed to convert part of the field into residential properties.

- **Legal Constraints**

No searches have been made as to whether there are any Tree Preservation Orders or if the site is within a Conservation Area.

## Impact of the Proposed Development on the Amenity Value of the Trees

- **Direct Loss of Trees**

I would recommend the removal of the Goat Willows (T25 – T29) to allow for the access road to the development site, and as **Category C** trees should not therefore be considered as a constraint to the development.

I would recommend the removal of the **B Category** Poplars (T1 & T2) to reduce the risk of future impact to the driveway by poplar roots. At some point in the future the row of poplar trees will require tree work operations as part of sound arboricultural practice due to the nature of this species.

Individually the row of poplars would usually be considered a C category however I have given them a higher rating due to them being in a group (BS 5837 Table1) and therefore the loss of two of these trees will not have a significant detrimental impact on visual amenity for the area.

### Retained Trees

- Providing that adequate tree protection is implemented, the amenity value of the trees on the site will be preserved. Retained trees will be protected from soil compaction and impact damage where necessary by protective barriers and / or systems and methods of ground protection. Protective barriers will be fit for purpose, complying with BS5837: 2012 unless otherwise agreed with the Local Planning Authority (LPA). Such alternatives may include the use of temporary buildings or existing hard surfaces as part of tree protection or alternative fencing specification for areas of lower risk e.g. areas for future planting.

### Above and Below Ground Constraints

- The British Geological Survey Map Sheet 288 (Solid & Drift Edition) indicates the underlying geology to be Weald Clay Formation and is generally considered to contain shrinkable soils and it is therefore recommended that a geotechnical specialist / structural engineer undertake a detailed soil investigation to determine the actual underlying geology and Plasticity Index which may then inform the foundation design.

The design of any new planting and landscape proposals should be based upon a soil analysis which considers the pH and any nutrient deficiencies or imbalances.

- The proposed development will involve an incursion to the root protection area of the poplars (T23 & T24). Any works within the Root Protection Areas can be mitigated by the incorporation of non-invasive solutions (as detailed in an arboricultural method statement). It is my professional opinion that this will not result in the significant loss of rooting area and will not result in any significant root damage. This is based upon:

- Precautions (e.g. manual excavation) and site supervision to ensure that any roots encountered are dealt with appropriately.
- Leaf fall in the autumn months can be mitigated by the use of non-slip paving areas and guards/grilles on the gutters and gullies.
- Sufficient distances (in accordance with BS5837: 2005 Table 3) should be allowed between young trees / new planting and built structures to minimize the impact of future growth.
- For the reasons above, it may be necessary to incorporate special engineering methods although this will ultimately be a decision for the architect / engineer and the interpretation of Building Regulations. It is important that the foundation design of the new building gives consideration where relevant to the underlying soil type, retained and removed trees and new planting. Further information can be obtained from NHBC Chapter 4.2 'Building Near Trees'.

- **Conclusion**

The adoption of a detailed Arboricultural Method Statement should ensure there are no adverse effects as the result of any excavations and construction operations.

## **Arboricultural Method Statement (AMS)**

- **Purpose**

An Arboricultural Method Statement (AMS) will be required where any demolition or construction operations, including access, are proposed within the RPA (or crown spread where this is greater) of any retained trees. This applies to trees within the scope of the proposed development.

The intention of the method statement is to minimise the risk of any adverse impact on the trees to be retained (especially damage caused by excavation and soil compaction) and to clearly demonstrate how relevant operations will be undertaken. It should also specify appropriate tree and ground protection measures in accordance with BS5837 which will be detailed on a Tree Protection Plan (TPP).

- **Heads of Terms**

Areas of relevance to the proposed development to be addressed in the detailed Arboricultural Method Statement include:

### **Pre-development tree works**

All works will be carried out in accordance with BS3998: 2010 'Recommendations for Tree Work' and in line with a schedule of works agreed by the Local Planning Authority as part of any approved planning permission.

### **Tree protective barriers and ground protection measures (specification, location and dimensions)**

Protective fencing will be fit for purpose, complying with Figures 2-4 in BS5837:2012 or any other specification agreed in writing with the Local planning Authority. For example, site huts or temporary buildings may be used as part of the protective barriers (BS5837 section 6.2.2.3). They shall be erected prior to any demolition or construction (excluding pre-development tree works) taking place at distances specified within the approved plans and remain in place until completion of the construction phase. Removal is only to take place following the approval of the Local Planning Authority / Local Authority Tree Officer

### **Site access, parking and site facilities**

To be in accordance with the plans agreed by the Local Planning Authority and outside of the Root Protection Areas of any retained trees unless appropriate ground protection measures are in place and approved by the LPA.

### **Works programme / phasing**

The phasing and timing of any works likely to impact on the Root Protection Area of any retained trees is to be clearly identified to ensure that adequate protection, precautions and supervision are in place.

### **Storage of spoil and building materials**

No spoil or building materials are to be stored within the Root Protection Areas of any retained tree unless specifically agreed by the Local Planning Authority. Details of the Construction Exclusion Zones can be seen on the Tree Protection Plan.

### **Demolition of the existing building(s) and removal of hard surfacing**

In accordance with detailed method statement to avoid unauthorised incursions into the Root Protection Areas of any retained trees.

### **Changes to ground levels**

Changes to ground levels are only to be made in accordance with the approved plans and where a detailed method statement has been produced to minimise the impact on the rooting systems of the retained trees. Where this necessitates the lowering of existing ground levels then this should only be undertaken with the use of hand tools and care taken not to damage any structural roots. Treatment of any exposed roots is to be in accordance with BS5837:2012.

### **Details of construction works within the Root Protection Areas**

As per 'Changes to ground levels'.

### **Details of 'Special Engineering' methods**

Where relevant, specifications relating to special engineering methods will be included as an annex to the Arboricultural Method Statement.

### **Location and installation method for drainage and other utilities**

The use of overhead utilities is not anticipated for this development. Where possible, existing underground utility runs will be re-used. Where new services runs are required, these will be routed outside of the Root Protection Area of any retained trees unless specifically agreed by the Local Planning Authority and subject to a detailed method statement.

### **Upgrade or installation of new hard surfacing within Root Protection Areas**

In order to minimise the impact on the rooting area and tree root function the design and construction of a new surface should adequately consider and allow for the following factors:

- Allow gaseous exchange (horizontally and vertically)
- Water permeable
- Preserves the soil structure at a suitable bulk density
- Prevention of contaminants entering the rooting area
- Allows for future growth of the root system
- Prevents damage to the roots during demolition or construction
- Recognises that the majority of roots are found in the top 600mm of soil

New surfaces should be installed with 'low invasive' techniques using hand tools and the utilization of a cellular confinement system as part of the sub-base.

### **Removal of boundary / retaining walls and installation of new fencing within Root Protection Areas**

To be accompanied by a detailed method statement to ensure minimal damage to existing roots.

### **Site responsibilities and the role of the pre-commencement meeting**

Unless otherwise agreed in writing, it will be the responsibility of the Site Manager to ensure that the content of the Arboricultural Method Statement is adhered to. The main contractor and any sub-contractors are to be briefed by the Site Manager on the relevant sections of this prior to commencing any work. The Site Manager is responsible for contacting the LPA at any time issues relating to the trees on site are raised.

### **Prohibited activities and general precautions**

In line with BS5837:2012.

### **Arboricultural Supervision, reporting and audit process**

Day-to-day supervision will be the responsibility of the Site Manager. Supervision by a qualified arboriculturist at key stages of the development is to be coordinated by the Site Manager and comments forwarded to the Local Planning Authority.

### **Emergency procedures**

Clearly defined emergency procedures e.g. for fuel spillages or unauthorised incursions into Construction Exclusion Zones to be prepared and communicated to all site personnel.

## TREE SURVEY SCHEDULE

Client: Crabtree & Crabtree  
 Site: Bapchild  
 Date of Survey: 22nd March 2015  
 Arboricultural Consultant / Surveyor: S Bateson  
 Weather: Clear  
 Tagged: No

Notes:  
 See attached KEY

Tree ID #	Species	Height (m)	Branch spread (m)				Diameter at breast height (mm)	Root Protection Area Radius (m)	Root Protection Area (m <sup>2</sup> )	Age class	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (Years)	Category Grading
			N	S	E	W									
T1	Populus alba (White Poplar)	15	4	3	1	5	350	4.2	55.4	EM	Good	No significant defects visible.	To remove and grind out stump.	20+	B
T2	Populus alba (White Poplar)	20	6	6	4	4	625	7.5	176.74	EM	Good	No significant defects visible. Minor deadwood.	To remove and grind out stump.	20+	B
T3	Populus alba (White Poplar)	21	5	5	2	2	400	4.8	72.4	EM	Good	No significant defects visible.	No works required.	20+	B
T4	Populus alba (White Poplar)	21	5	5	2	2	425	5.1	81.7	EM	Good	No significant defects visible.	No works required.	20+	B
T5	Populus alba (White Poplar)	17	4	4	1	1	275	3.3	34.2	EM	Good	No significant defects visible.	No works required.	20+	B
T6	Populus alba (White Poplar)	19	5	5	2	2	375	4.5	63.6	EM	Good	No significant defects visible.	No works required.	20+	B
T7	Populus alba (White Poplar)	21	5	5	2	2	425	5.1	81.7	EM	Good	No significant defects visible.	No works required.	20+	B
T8	Populus alba (White Poplar)	19	5	5	2	2	425	5.1	81.7	EM	Good	No significant defects visible. Ivy on tree. Unable to inspect stem due to undergrowth.	Sever Ivy.	20+	B
T9	Populus alba (White Poplar)	22	5	5	3	3	425	5.1	81.7	EM	Good	No significant defects visible. Ivy on tree. Unable to inspect stem due to undergrowth.	Sever Ivy.	20+	B
T10	Populus alba (White Poplar)	18	4	4	2	2	275,300	4.88	74.8	EM	Good	No significant defects visible. Unable to inspect stem due to undergrowth.	No works required.	20+	B
T11	Populus alba (White Poplar)	21	5	5	3	3	425	5.1	81.7	EM	Good	No significant defects visible. Unable to inspect stem due to undergrowth.	No works required.	20+	B
T12	Populus alba (White Poplar)	18	5	5	3	3	350	4.2	55.4	EM	Good	No significant defects visible. Unable to inspect stem due to undergrowth.	No works required.	20+	B



## TREE SURVEY SCHEDULE

Client: Crabtree & Crabtree

Site: Bapchild

Date of Survey: 22nd March 2015

Arboricultural Consultant / Surveyor: S Bateson

Weather: Clear

Tagged: No

Notes:  
See attached KEY

Tree ID #	Species	Height (m)	Branch spread (m)				Diameter at breast height (mm)	Root Protection Area Radius (m)	Root Protection Area (m <sup>2</sup> )	Age class	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (Years)	Category Grading
			N	S	E	W									
T13	Populus alba (White Poplar)	20	4	4	2	2	350	4.2	55.4	EM	Good	No significant defects visible. Unable to inspect stem due to undergrowth.	No works required.	20+	B
T14	Populus alba (White Poplar)	20	4	4	2	2	300	3.6	40.7	EM	Good	No significant defects visible. Ivy on tree. Unable to inspect stem due to undergrowth.	Sever Ivy.	20+	B
T15	Populus alba (White Poplar)	20	4	4	2	2	325	3.9	47.8	EM	Good	No significant defects visible. Ivy on tree. Unable to inspect stem due to undergrowth.	Sever Ivy.	20+	B
T16	Populus alba (White Poplar)	20	4	4	2	2	325	3.9	47.8	EM	Good	No significant defects visible. Ivy on tree. Unable to inspect stem due to undergrowth.	Sever Ivy.	20+	B
T17	Populus alba (White Poplar)	18	4	4	2	2	325	3.9	47.8	EM	Good	No significant defects visible. Ivy on tree. Unable to inspect stem due to undergrowth.	Sever Ivy.	20+	B
T18	Populus alba (White Poplar)	19	4	4	2	2	325	3.9	47.8	EM	Good	No significant defects visible. Ivy on tree. Unable to inspect stem due to undergrowth.	Sever Ivy.	20+	B
T19	Populus alba (White Poplar)	19	5	6	3	3	325	3.9	47.8	EM	Good	No significant defects visible. Co-dominant stems. Ivy on tree. Unable to inspect stem due to undergrowth.	Sever Ivy.	20+	B
T20	Populus alba (White Poplar)	20	4	4	2	2	400	4.8	72.4	EM	Good	No significant defects visible. Unable to inspect stem due to undergrowth.	No works required.	20+	B
T21	Populus alba (White Poplar)	21	5	5	3	3	400	4.8	72.4	EM	Good	No significant defects visible. Unable to inspect stem due to undergrowth.	No works required.	20+	B
T22	Populus alba (White Poplar)	17	5	4	2	2	300	3.6	40.7	EM	Good	No significant defects visible. Co-dominant stems. Ivy on tree. Unable to inspect stem due to undergrowth.	Sever Ivy.	20+	B
T23	Populus alba (White Poplar)	22	5	5	5	3	650	7.8	191.2	EM	Good	No significant defects visible. Co-dominant stems. Ivy on tree. Unable to inspect stem due to undergrowth.	Sever Ivy.	20+	B
T24	Juglans regia (Walnut)	3	1	1	1	1	50,50	0.85	2.3	Y	Good	No significant defects visible. Co-dominant stems.	No works required.	10+	C

## TREE SURVEY SCHEDULE

**Client:** Crabtree & Crabtree  
**Site:** Bapchild  
**Date of Survey:** 22nd March 2015  
**Arboricultural Consultant / Surveyor:** S Bateson  
**Weather:** Clear  
**Tagged:** No

**Notes:**  
 See attached KEY

Tree ID #	Species	Height (m)	Branch spread (m)				Diameter at breast height (mm)	Root Protection Area Radius (m)	Root Protection Area (m <sup>2</sup> )	Age class	Physiological Condition	Structural Condition	Preliminary Management Recommendations	Remaining Contribution (Years)	Category Grading
			N	S	E	W									
T25	Salix caprea (Goat Willow)	4	2	2	2	2	50,100	1.34	5.6	Y	Good	No significant defects visible. Co-dominant stems.	To remove and grind out stump.	10+	C
T26	Salix caprea (Goat Willow)	7	3	3	3	3	50,100,100	1.8	10.2	Y	Good	No significant defects visible. Co-dominant stems.	To remove and grind out stump.	10+	C
T27	Salix caprea (Goat Willow)	5	3	3	3	3	100,100	1.69	9.0	Y	Good	No significant defects visible. Co-dominant stems.	To remove and grind out stump.	10+	C
T28	Salix caprea (Goat Willow)	5	4	0	2	2	50,50,50,50	1.2	4.5	Y	Good	No significant defects visible. Co-dominant stems.	To remove and grind out stump.	10+	C
T29	Salix caprea (Goat Willow)	5	2	3	3	3	100,100,100,100,100	2.69	22.7	Y	Good	No significant defects visible. Co-dominant stems. Previously canopy raised with large pruning wounds.	To remove and grind out stump.	10+	C

Note:  
Do not scale this drawing.  
A dimension is only correct on site

**TREE SURVEY & CONSTRAINTS PLAN**

T1 Tree Number

A Category (Green circle)

B Category (Blue circle)

C Category (Grey circle)

U Category (Red circle)

Root protection area (Red dashed circle)

Branch spread (Green circle)

Tree Shade Atc (Cyan shape)



Tree Survey & Constraints

Plan

Revised

Scale 1:250 @ A1

Date 1.04.2015

Drawn SB

Eng No 001

Chartwell Tree Consultants  
2 Greencroft Cottage  
Fairley Lane  
Westernham  
Kent  
TN16 1UB  
Tel: 01959 569 280

## KEY TO SURVEY

**T1, T2 etc.** = Individual tree identification numbers (not TPO reference numbers)

**G1, G2 etc.** = Groups

### **Age Class:**

Y = Young (<1/3 life expectancy)

MA = Middle Aged (1/3 – 2/3 life expectancy)

M = Mature (2/3 – full life expectancy)

**Work Priority:** (informed by *risk rating* based on observed defect(s), probability of failure, severity of impact and targets)

Urgent = <1 Month (unless stated otherwise)

High = <3 Months

Medium = < 6 Months

Low = < 12 Months

Routine = As part of regular grounds maintenance

### Other Comments:

- **NESW** = North, East, South, West
- **Physiological Condition** = based upon the performance of the biological processes of the tree and its overall 'health'. Good = normal vigour, Fair = moderately reduced vigour, Poor = low vigour/decline.
- **Occluded wound** = where a wound has been progressively closed by the formation of new wood and bark around it.
- **Non-occluded wound** = where a wound has not closed (or is in the process of being closed) by the formation of new wood and bark.
- **Est.** = estimated measurement.
- **Av.** = average measurement.
- **Basal** = in or around the base of the trunk.
- **Epicormic** = growth arising from adventitious or dormant buds. In the case of European Lime trees this frequently occurs around the base of the tree.
- **Deadwood** = Minor (<25mm), Moderate (25mm-150mm) and Major (>150mm).
- **Self-set** = naturally established i.e. not intentionally planted tree.

### Survey Range & Limitations:

1. The survey was carried out in the form of a visual assessment from ground level; a rubber mallet and simple probe were used to assess the extent of any decay found. Defects (including potential severity of impact), targets and potential ('likelihood') of failure have been considered and used to inform the risk rating and thereby the recommendations and priorities along with appropriate timescales.
2. Only the trees as shown on the plan attached have been inspected as per instructions received. It is recommended that the owners of any adjacent trees likely to affect the site have their trees inspected by a qualified and competent arborist.

3. This survey expressly excludes any liability for indirect or direct structural damage that the trees may cause to property including any structural movement, subsidence and heave. Where necessary, the opinion of a structural engineer should be sought e.g. where trees are in close proximity to built structures. With regards drains, the advice of a drainage engineer should be sought.
4. As this survey is preliminary in nature, should any further investigation be required (e.g. using specialist decay detection equipment) then this will be highlighted in the recommendations.
5. All measurements are estimated and tree locations on the maps are approximate.
6. It should be noted that trees are dynamic, living organisms that are subject to an ever-changing environment and that there is no such thing as a 'safe tree' i.e. "...there can be no absolute guarantee of safety" (Mattheck 'The Body Language of Trees', p. 197) where failure can occur without defect or in excessive weather conditions.
7. The Local Planning Authority (Swale Borough Council) must be consulted prior to any works being carried out to establish whether any Tree Preservation Orders (TPO's) or Conservation Areas apply to the site. No works should be carried out until any necessary permissions have been obtained. Trees marked as 'TPO' on any maps are for information purposes only and should not be considered authoritative.
8. Full consideration must be given to current legislation by anyone proposing to carry out works to trees, particularly with regards to the presence of European Protected Species (including bats). Arboricultural ('tree surgery') contractors should be adequately trained, experienced and carry adequate insurance. All works should be carried out to the current edition of British Standard BS3998 'Recommendations for Tree Work'.
9. The information contained in this report should be considered valid for a period of 1 year from date of issue (unless otherwise specified in the survey) assuming that any recommendations are carried out. Additional inspection is recommended following exposure to extreme weather, significant wounding or damage (e.g. incursion into rooting zones, impacts, new fungal fruiting bodies, etc.) or any other event giving cause for concern.