

Gen 2 Property Limited

# Land Adjacent Great Chart Primary School

Arboricultural Impact Assessment and Method Statement:  
Stage 1, 2 & 3 Arboricultural Report

856993

MAY 2017

**RSK**



## RSK GENERAL NOTES

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**Project No.:** 856993




**Title:** Land Adjacent Great Chart Primary School  
Stage 1 and 2 Arboricultural Report

**Client:** Gen2 Property Limited

**Date:** May 2017

**Office:** Bristol

**Status:** Final – Rev0

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This work has been undertaken in accordance with the quality management system of RSK Environment.

# CONTENTS

<b>1</b>	<b>INTRODUCTION .....</b>	<b>1</b>
1.1	General .....	1
1.2	Purpose of the Report .....	1
1.3	Site Context .....	1
1.3.1	General .....	1
1.3.2	Soil .....	1
1.3.3	Protected Species .....	2
1.4	Statutory Designations .....	2
1.5	Root Protection Area (RPA) .....	2
1.6	Supplied Documents .....	3
<b>2</b>	<b>METHOD .....</b>	<b>4</b>
2.1	General .....	4
2.2	Tree Categorisation .....	4
2.3	Distinction between Individual Trees and Tree Groups .....	5
2.4	Constraints .....	5
<b>3</b>	<b>RESULTS .....</b>	<b>6</b>
3.1	Summary .....	6
3.2	Condition and Amenity .....	6
<b>4</b>	<b>PROPOSALS AND IMPACTS .....</b>	<b>8</b>
4.1	Development Proposal .....	8
4.2	Tree Removals .....	8
4.3	Retained Trees .....	8
4.3.1	General .....	8
4.3.2	Root Protection Areas (RPA) .....	8
4.3.3	Facilitation Pruning .....	9
4.3.4	Post-development Pressure .....	9
4.4	Impact Assessment Summary .....	9
<b>5</b>	<b>ARBORICULTURAL METHODS AND MITIGATION MEASURES .....</b>	<b>10</b>
5.1	Pre-Construction .....	10
5.1.1	Tree Works .....	10
5.1.2	Protective Fencing .....	10
5.2	Mitigation for Root Impacts .....	11
5.2.1	Group G6 – Proposed Footpath .....	11
5.2.2	Group G3 – Root Incursions .....	11
5.3	Post-Construction .....	11
5.3.1	Replacement Planting .....	11
<b>6</b>	<b>TABLE 1: TREE SURVEY DATA .....</b>	<b>12</b>
<b>7</b>	<b>FIGURE 1: TREE CONSTRAINTS PLAN .....</b>	<b>13</b>
<b>8</b>	<b>FIGURE 2: TREE REMOVAL AND PROTECTION PLAN .....</b>	<b>14</b>
	<b>APPENDIX 1: METHOD .....</b>	<b>15</b>
	<b>APPENDIX 2: BS5837:2012 CASCADE CHART .....</b>	<b>17</b>
	<b>APPENDIX 3: TREE PROTECTION FENCING SPECIFICATIONS .....</b>	<b>18</b>

# 1 INTRODUCTION

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## 1.1 General

This report describes the results of a survey of trees on a parcel of land adjacent to Great Chart Primary School, off Longacre Road in Ashford, Kent. The work was commissioned by Gen 2 in March 2017 and carried out by Dan MacIntyre, on behalf of RSK, in the same month.

## 1.2 Purpose of the Report

The survey was carried out in connection with proposed construction on the site. The aim was to identify the quality and value of the trees, to categorise them in respect of their suitability for retention, to identify the impacts of the development on the arboricultural features of the site, and to propose mitigation measures for any tree losses that may occur. This was undertaken in accordance with criteria outlined in the British Standard BS5837:2012<sup>1</sup>.

## 1.3 Site Context

### 1.3.1 General

The survey area addressed a parcel of land to the north of Longacre Way and west of Buttfield Road. It borders Great Chart Primary School playing fields to the east and residential properties on its southern and western boundaries. It was largely overgrown with bramble and scrub. This restricted access to much of the site and the trees in the east and northern boundaries. Trees were limited to the peripheries other than the scrub, which contained self-seeded oak, ash, willow and birch saplings.

### 1.3.2 Soil

The underlying soil types will affect structural foundation depths and designs and this will need to be considered in relation to trees if the site is to be developed. For this engineering advice will be required (to avoid conflicts between trees and built structures).

British Geological Society data indicates that the survey area sits on Weald clay formation (mudstone) formation with no recorded superficial deposits<sup>2</sup>. This is only a best estimate as no soil samples were taken or lab analysis carried out for the purpose of this report.

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<sup>1</sup> British Standards Institute (2012) *BS5837:2012 Trees in Relation to Design, Demolition and Construction-Recommendations*. British Standards Publications Ltd.

<sup>2</sup> <http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html>



### 1.3.3 Protected Species

Mature trees can be used by birds and bats. All species of bat and nesting birds are protected in the UK by *The Wildlife and Countryside Act 1981* (as amended), extended by the *Countryside and Rights of Way Act 2000*. If the presence of a legally protected species is suspected while undertaking any tree work, then the task should be halted immediately and appropriate advice should be obtained from an ecologist.

Although features suitable for roosting bats or nesting birds may have been noted this report is not intended to assess the suitability of trees for protected species. However, a separate RSK report has covered this.

## 1.4 Statutory Designations

Trees can be afforded statutory protection in a number of ways, including;

- Tree Preservation Orders (TPO);
- planning conditions;
- Felling Licences; and
- being in a designated Conservation Area.

Protected trees can only be removed or pruned if permission is granted either as part of a planning permission, or if a separate application is made to the Local Authority (or the Forestry Commission).

The existence of a tree preservation order or conservation area does not automatically mean that a tree is worthy of being a material constraint in a planning context. Trees can be formally protected but in a poor physiological or structural condition, making them unsuitable for retention; in that case it is inappropriate that the tree should influence the future use of the site.

Furthermore, a planning consent takes precedence over these forms of protection, making them of secondary importance. For this reason, we do not routinely check for statutory protection. However, if any tree works or removals are required prior to planning consent, the local authority should be contacted to check if any statutory designations apply.

## 1.5 Root Protection Area (RPA)

To ensure that a tree is not harmed by development activities, a theoretical root protection area is calculated. The British Standard (BS5837) defines the root protection area as *'the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability'*.

The root protection area is usually subject to a fenced construction exclusion zone for the duration of works and is shown on the Tree Constraints Plan as a purple circle or polygon.

## **1.6 Supplied Documents**

The following drawings were supplied by Client:

- 11170\_Survey\_2011.dwg (Topographical Survey); and
- 11170 - Proposed Layout 02.05.17.

## 2 METHOD

### 2.1 General

All inspected trees and tree groups were categorised using the British Standard BS5837:2012 and the attached Tree Constraints Plan (TCP) (*Figure 1*) shows tree positions, numbers and retention categories. A schedule of the trees is included in *Section 6, Table 1*, which includes species, physiological and structural condition, age, recommendations and retention values.

The survey was undertaken in April 2016 and followed the method described in *Appendix 1* in accordance with guidance in BS5837:2012. The life expectancy and condition of each tree and tree group informs the estimate of its suitability for retention.

### 2.2 Tree Categorisation

Trees were categorised in terms of their useful life expectancy and condition as summarised below. Full details of categorisation criteria are given in *Appendix 2*. Each category has three sub-categories relating to arboricultural (1), landscape (2) and cultural and conservation (3) qualities. Trees that have been categorised as A, B or C should be considered in the planning process whereas trees categorised as U should not be a consideration in the planning process as they are likely to be lost in the short term due to physiological or structural defects.

**Table 2.1: Tree Categorisation**

BS5837:2012 Categories	Definitions	Retention implications to a site
Category A (marked light green on the TCP*)	Trees of high quality and value able to make a substantial contribution to the site.	Every effort should be made to retain trees and amendments to a proposed scheme should be identified in preference to tree removal.
Category B (marked mid-blue on the TCP)	Trees of moderate quality and value able to make a significant contribution to the site.	Where possible amendments to a proposed scheme should be considered in preference to tree removal.
Category C (marked in grey on the TCP)	Trees of low quality and value in an adequate condition until new planting can be established, trees with impairments downgrading them from A or B category OR young trees with a stem diameter of less than 150mm.	The retention of trees may be advantageous in the short term, but they should not be seen as a constraint to development.
Category U (marked in dark red on the TCP)	Trees that have limited condition that will fail or die within 10 years and/or should be removed for reasons of arboricultural best practice	Not a material consideration in the planning process but may have other benefits.

\* TCP = Tree Constraints Plan – Figure 1

## 2.3 Distinction between Individual Trees and Tree Groups

Trees have been recorded as individuals or as groups. BS5837:2012 sets out the description of a group as follows: “*The term “group” is intended to identify trees that form cohesive arboricultural features either **aerodynamically** (e.g. trees that provide companion shelter), **visually** (e.g. avenues or screens) or **culturally** including for biodiversity (e.g. parkland or wood pasture), in respect to each of the tree subcategories.*”

Where a tree in a group has characteristics that distinguish it from the rest of the group, it is generally recorded as an individual. Such trees may *inter alia* include veteran trees, trees with significant defects, and specimen trees that stand out within the feature.

## 2.4 Constraints

The trees were viewed from ground-level and from within the site boundary only. The trees were inspected using the Visual Tree Assessment method (Mattheck & Breloer 1994<sup>3</sup>) and guidance given in *Principles of Tree Hazard Assessment* (Lonsdale 2007<sup>4</sup>). Detailed inspections including decay detection, soil assessment or aerial inspections have not been carried out.

Dense bramble and scrub restricted access to the majority of the site and many of the trees are set behind a palisade fence within the school grounds. Tree dimensions have therefore been estimated and previous survey data have been used to estimate likely root protection areas.

This report is principally concerned with trees in relation to the proposed development. Although obvious structural defects and tree-condition characteristics have been noted, this survey was not undertaken with health and safety in mind, and a full hazard assessment was not carried out.

Trees are living organisms and their health and condition is not static. Findings and recommendations, in relation to tree condition and risk, within this report are therefore only valid for one year. The health and condition of the trees may also change with other factors such as extreme weather or development work.

Matters relating to shrinkable soils if any - their relationship between tree root activity and volumetric changes in soils that may cause structural damage to buildings - are beyond the scope of this report and have not been investigated.

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<sup>3</sup> Mattheck, C. Breloer, H. (2003) *The Body Language of Trees, A handbook for failure analysis*. The Stationary Office

<sup>4</sup> Lonsdale, D. (2007) *Principles of Tree Hazard Assessment and Management*. The Stationary Office



## 3 RESULTS

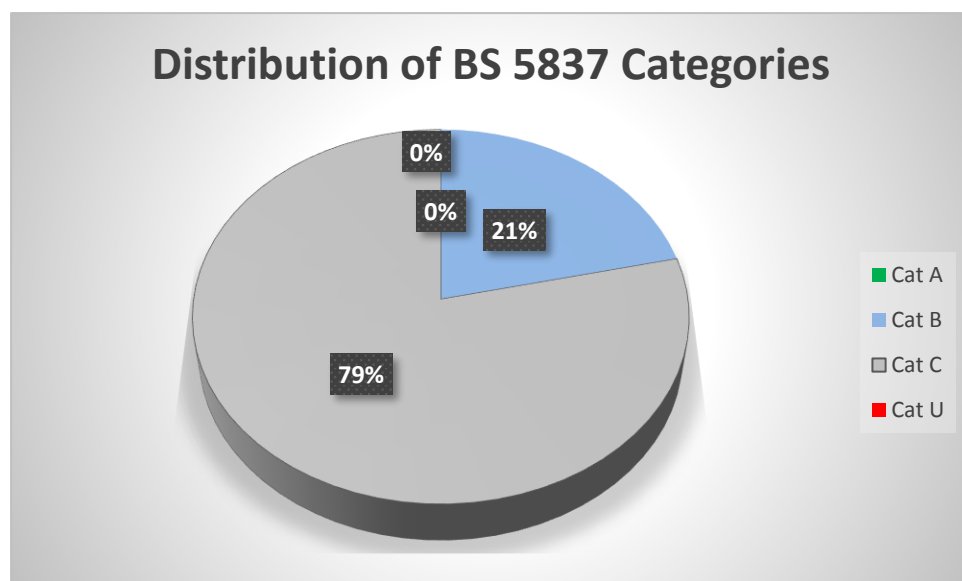
### 3.1 Summary

There are five individual trees and seven groups within the survey area. Most of these were limited to the peripheries of the site and, in the case of the groups recorded, formed scrub masses. Root protection areas have been estimated and shown for individual trees within groups to aid design layouts.

*Chart 3.1* shows the distribution of tree categories recorded. Most trees were lower value specimens falling within the C category (79%, or 11 of the 14 features recorded). Three features (21%) were classed as having moderate retention value in category B, as they provided a moderate degree of screening value (G1, G2) or have the potential to make a lasting contribution to the landscape (T4). Efforts should be made to retain the higher and moderate quality, category B, trees during the design stage.

Further details of trees and groups can be found in *Section 6. Table 1. Tree Survey Data*.

**Chart 3.1. Summary of Tree Categories**



### 3.2 Condition and Amenity

Groups G1 to G3 grow on the school boundary and form a green barrier and screen behind a palisade fence. Most of the trees have been severely pruned (topped) at a uniform height which has left large wounds and stubs which will die back over time. This reduces their overall amenity value and also their potential longevity.

Groups G5 to G7 are comprised of scrub and bramble. While they offer good habitat value and could develop into a small woodland, they currently offer negligible visual amenity.

Trees T1 to T4 grow on the edge of a footpath and were largely unremarkable. Tree T4, a fastigate oak, does have potential to develop into a fine specimen but is currently suppressed on its southern side by another tree. Removal of this tree (T3) would benefit the oak.

## 4 PROPOSALS AND IMPACTS

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### 4.1 Development Proposal

A residential development of 12 dwellings is proposed. Vehicle access will extend from the existing road to the south (Longacre Road) and a new pedestrian access will link Great Chart Primary School, to the west.

### 4.2 Tree Removals

It is anticipated that two individual trees (T6 and T5), three entire groups (G5, G6 and G7) and two trees from group G3 will need removing to facilitate development and to allow working space.

Tree T6 is a broad category C goat willow. Although it is not on the footprint of any proposed construction its retention is probably not felt appropriate given its likely vigorous growth and the proposed size of the garden.

Tree T5 is a small self-seeded tree growing through the fence and group G7 is predominantly comprised of bramble and blackthorn scrub. Both are category C features and require removal to facilitate the construction of a link footpath.

Group G5 and G6 are also predominantly comprised of bramble and blackthorn scrub with sporadic self-seeded oak, willow, and birch trees throughout. They both sit on the footprint of the main access route and plots.

The two trees from group G3 are growing on the site side of the palisade fence between the site and the school. They need to be removed to provide working space for construction.

### 4.3 Retained Trees

#### 4.3.1 General

Retained trees are limited to the site boundaries. These can be adequately protected with the erection of heras panel fencing on a scaffold framework. A suggested fence specification is shown in *Appendix 3*.

#### 4.3.2 Root Protection Areas (RPA)

The link footpath from the west will need to be constructed near group G6. This will result in some root severance if constructed traditionally and this would adversely affect tree health. A no-dig construction method using a three-dimensional load-spreading layer over existing ground levels would prevent any significant impacts.

There are minor incursions into the RPA's of four trees from group G3. This is to construct the garage of plot 4, parking bays for plot 5, and a shed base for plot 6. The RPA of one other tree will also need to remain exposed to allow for working space around plot 6. Since these incursions are limited to around a metre at the peripheries of the root protection areas and do not occupy a large proportion of the overall root protection area, they should not significantly affect the trees.

A drainage and utilities plan has not been provided and associated impacts cannot be estimated. However, given the open nature of the central portions of the site it would be fair to assume that all services can be run out into the middle of the site to connect to existing services on Longacre Road (to the south) without affecting any trees.

#### **4.3.3 Facilitation Pruning**

Group G6 will need to be crown-lifted to around 4.5 m and any stems or suckering growth will need to be removed to allow working space for the construction of the footpath. This will not have a significant impact on the tree's visual amenity if it is done sympathetically.

#### **4.3.4 Post-development Pressure**

Overhanging growth from the trees growing along the school boundary (G3) may cause seasonal nuisance through leaf drop and shading. At the current dimensions of the trees this should not be an issue, but as the trees become larger concerns may increase, which could lead to further unsympathetic pruning by homeowners.

Tree T3 and T1 sit to the south of plots 11 and 12. Their size and growth capabilities may cause seasonal shading and loss of daylight to the plots and may lead to requests for removal or inappropriate pruning. Tree T1 is also near plot 12 and while its growth habit is of an upright 'fastigate' form, there may still be requests for its removal.

Foundations will need to take account of all trees (including those proposed in landscape schemes) and their mature heights, irrespective of the need to prune, to ensure that risk of below-ground damage is reduced as this may result in pressure to remove trees in the future.

### **4.4 Impact Assessment Summary**

The removal of the trees and groups to facilitate this layout will have a negligible impact on the wider local landscape but will have a temporary impact on one property at the end of Buttfield Road through the loss of tree T6 and some privacy to the garden.

Overall the removals are limited to low grade, category C features that are predominantly comprised of self seeded scrub. On this basis the development proposal is considered to be acceptable when considering the adjacent tree features.

## 5 ARBORICULTURAL METHODS AND MITIGATION MEASURES

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### 5.1 Pre-Construction

#### 5.1.1 Tree Works

Any tree works required to facilitate the development should be carried out before construction begins and be in accordance with the British Standard, BS 3998:2010 Tree Work – Recommendations.

#### 5.1.2 Protective Fencing

Any site offices, welfare units, and storage areas must respect the trees and their root protection areas, shown in purple on the supplied plans. These should be sited outside tree protection areas.

Tree protection fencing, shown as a blue dashed line of the Tree Removal and Protection Plan, should be installed prior to construction. This is to avoid damage to trees and preserve soil structure.

The fenced area will form a Construction Exclusion Zone and must remain undisturbed for the duration of demolition and construction on the site. All site operatives should be made aware of the need to respect the fencing, and signage should be affixed to every third panel to ensure it is not moved.

Service runs and installation of utility cables also need to respect trees and their root protection areas. If any conflicts are highlighted then the advice of either a consultant arboriculturist or the council Arboricultural Officer should be obtained. No such conflicts are envisaged under this layout, provided that services run through the proposed road and around the sides of buildings where there are no retained trees.

The following precautions should be observed when working near to the Construction Exclusion Zone.

- No fires should be lit within 15m.
- No spoil, plant, machinery, construction materials or vehicles should track or be stored within the fenced area or leant against the fence panels.
- No fuel, chemical or other contaminated liquids must be discharged in proximity to trees or where it may flow toward tree root protection areas.
- No construction activity of any kind takes place within the fenced areas and fencing is not to be moved.



## **5.2 Mitigation for Root Impacts**

### **5.2.1 Group G6 – Proposed Footpath**

The proposed footpath should follow a no dig principle where it passes close to the trees. Commercial solutions are available<sup>5</sup> that allow for the construction of hard surfaces while maintaining permeability and avoiding the need for any excavation.

### **5.2.2 Group G3 – Root Incursions**

The RPA of a small number of trees will be exposed to allow construction of plots and parking bays. Where roots over 10mm thickness are encountered they should be pruned rather than being left torn by an excavator bucket. This will give the trees a better chance of re-sprouting from the cut points and reduce the chance of infection by pathogens or decay-causing fungi.

Roots should be pruned to the tree side of the trench using clean and sharp by-pass secateurs or loppers (a bucket of water and sharpening stone should be kept on the site to keep cutting tools clean and sharp). Cuts must be straight and horizontal to parent root and be re-firmed into surrounding soil once pruned to avoid desiccation.

## **5.3 Post-Construction**

### **5.3.1 Replacement Planting**

There is scope for replacement planting within the garden spaces or roadside verges and this provides an opportunity to mitigate for the loss of trees on the site. The trees in the landscape plan should aim to provide some visual significance and seasonal interest and should be suitable for this without repeated pruning.

Suitable ground conditions and after care are vital to the success of new trees, and the recommendations provided in the British Standard, BS 8545<sup>6</sup> should be followed. This includes ensuring that soils are not compacted prior to planting and that adequate below- ground space is sufficient for mature root growth. Aftercare in the form of watering and sympathetic formative pruning in the first five years after planting will also help to ensure that the replacement trees thrive.

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<sup>5</sup> <http://www.geosyn.co.uk/product/cellweb-tree-root-protection> , <http://greenfix.co.uk/product/geoweb-tree-root-protection-system/>

<sup>6</sup> British Standards Institute (2014) *BS 8545:2014 Trees: from nursery to independence in the landscape – Recommendations*. British Standards Publications Ltd.

## **6      TABLE 1: TREE SURVEY DATA**

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Ref. No.	Species	DBH (mm)	Height (m)	Spread (m)				Canopy Height (m)	Life Stage	General Observations	Est. Remaining Years	Category
				N	S	E	W					
T1	Crab apple	150	4	3	3	3	4	0	SM	On footpath edge, outside fenced area of site. Multi stemmed from base with ivy obscuring lower parts. Largely unremarkable.	20-40	C1
T2	Goat willow	200	6	5	1	4	4	0	SM	Multi stemmed from base with some stem failures in past and some now lying prone and supporting small amounts of regrowth. Small wound and cavity at base on north side with possible decay within. Southern side hard pruned to clear property.	10-20	C1
T3	Oak Variety	260	14	4	1	2	2	2	SM	Fastigate oak on edge of garden and corner of site. suppressed on south side.	40+	B1
T4	Norway maple	300	8	2	5	5	4	2	EM	Ground levels raised next to stem. Dieback of central portion within crown interior. multi stemmed form. Unremarkable.	20-40	C1
T5	Apple variety	20	3	3	2	3	2	0	Y	Self set growing through fence on site boundary.	20-40	C1
T6	Goat Willow	700	17	5	9	7	9	1	M	Access to tree restricted by fencing and dense impenetrable scrub. Viewed from edge of Butt Fields Road only, previous survey data used to inform RPA and condition. Multi stemmed form. Species propensity to fail at unions and large size decreases quality category.	10-20	C1

Ref. No.	Species	DBH (mm)	Height (m)	Spread (m)				Canopy Height (m)	Life Stage	General Observations	Est. Remaining Years	Category
				N	S	E	W					
Groups Of Trees												
G1	Common ash	220	8	4				1	EM	Young cluster of ash on southern boundary of school. Young age and free from defects although palisade and dense bramble and thorn thicket restricts close inspection. Dimensions estimated.	40+	B2
G2	Scots pine, ash, oak,	250	9	3				2	EM	Access restricted by palisade and dense thorn and bramble thicket, dimensions therefore estimated. On southern boundary of school. Good screening for future.	40+	B2
G3	Common ash, willow,	300	6	3				2	EM	Predominantly willow along school boundary fence with occasional ash. All topped to around 4m high with large wounds and moderate regrowth but generally poorly formed since drastic pruning. Small number of trees on "site" side of fence but these are limited to smaller self seeded growth. Impenetrable bramble and thorn thicket restricts access to northern portion of site. Dimensions and positions estimated.	20-40	C2
G4	Blackthorn, hawthorn, birch, goat willow, ash	50	3	4				0	Y	Dense sporadic scrub, dominated by bramble. Restricts access across site.	40+	C2
G5	Blackthorn, hawthorn, birch, goat willow, ash	50	3	4				0	Y	As previous	40+	C2

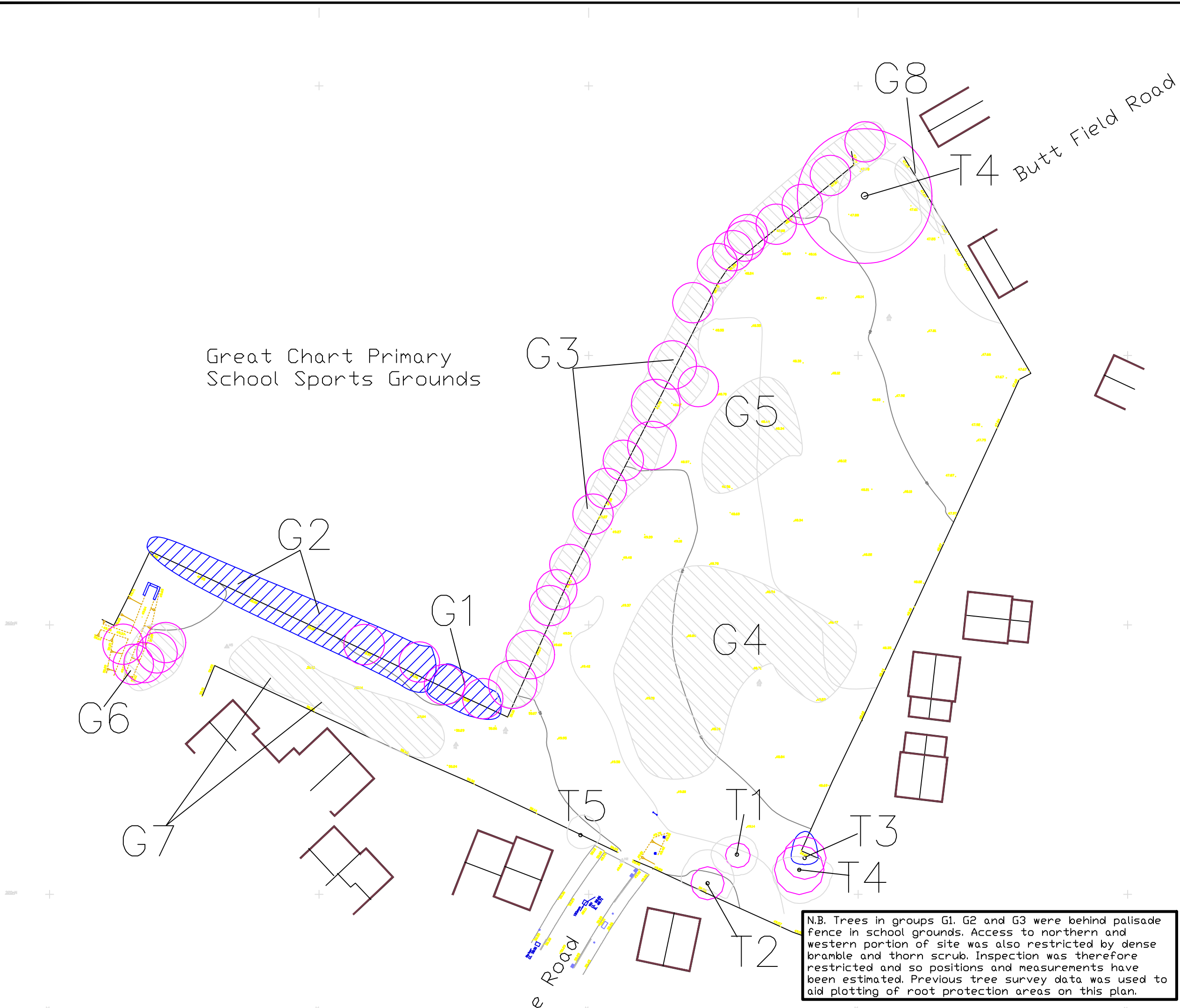
Ref. No.	Species	DBH (mm)	Height (m)	Spread (m)				Canopy Height (m)	Life Stage	General Observations	Est. Remaining Years	Category
				N	S	E	W					
G6	Field maple, Cherry, Thorn	250	8	4				0	EM	Dense bramble and thorn thicket restricts access. Dimensions and information taken from previous survey data to inform category and RPA on plan.	20-40	C2
G7	Blackthorn, Hawthorn	50	2	3				0	Y	Dense scrub, restricts access to rest of site.	40+	C2
G8	Cypress	200	4	2				0	SM	Dense scrub restricts access. Information and dimensions taken from previous survey to inform category. Off site locations - garden boundary hedge/screen.	20-40	C2



Ref No.	Species	Cat	Min distance to construction (m)
T1	Crab apple	C	3.6
T2	Goat willow	C	0.6
T3	Oak Variety	B	0.6
T4	Norway maple	C	3
T5	Apple variety	C	0.6
T6	Goat Willow	C	2.4
G1	Common ash	B	2.64
G2	Scots pine, ash,	B	3
G3	Common ash, willow,	C	3.6
G4	Blackthorn, etc	C	0.6
G5	Blackthorn, etc	C	0.6
G6	Maple	C	3
G7	Blackthorn	C	0.6
G8	Cypress	C	2.4

## **7      FIGURE 1: TREE CONSTRAINTS PLAN**

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Great Chart Primary  
School Sports Grounds

G8  
T4 Butt Field Road

G3  
G5

G2  
G1

G4

G6

G7

T5

T1

T3

T4

T2

N.B. Trees in groups G1, G2 and G3 were behind palisade fence in school grounds. Access to northern and western portion of site was also restricted by dense bramble and thorn scrub. Inspection was therefore restricted and so positions and measurements have been estimated. Previous tree survey data was used to aid plotting of root protection areas on this plan.

- Legend
- Group BS5837 Category B
  - Group BS5837 Category C
  - Tree BS5837 Category A
  - Tree BS5837 Category B
  - Tree BS5837 Category C
  - Tree BS5837 Category U
  - Root Protection Area
  - Tree or tree group number



Rev.	Date	Amendment	Drawn	Chkd.	Appd.



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HP3 9RT.

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Client

Gen 2

Project Title

GREAT CHART  
LONGACRE ROAD

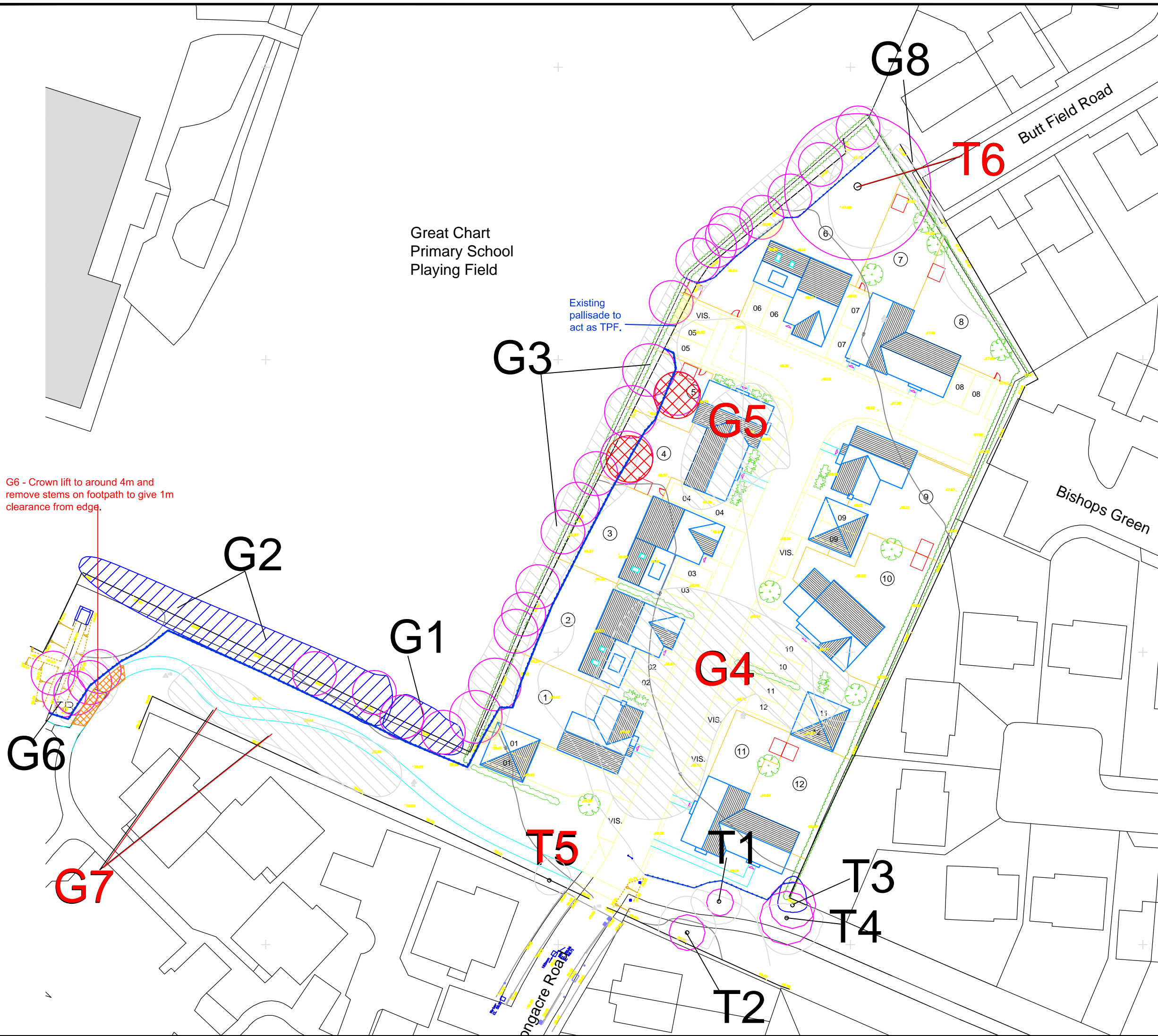
Drawing Title

TREE CONSTRAINTS PLAN

Drawn DM	Date 270317	Checked RF	Date 270317	Approved RF	Date 270317
Scale NTS	Orig Size A3	Dimensions METRES	Project No.	Drawing File	Rev. 0
Drawing No. 855262					

## 8 **FIGURE 2: TREE REMOVAL AND PROTECTION PLAN**

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**Legend**

- Group BS5837 Category B
- Group BS5837 Category C
- Tree BS5837 Category A
- Tree BS5837 Category B
- Tree BS5837 Category C
- Tree BS5837 Category U
- Root Protection Area
- Tree or tree group number
- T# Removed feature shown with red text or red hatch.
- Tree Protection Fencing (TPF)
- 'No Dig' Construction Methods
- RPA Exposed to Construction

Rev.	Date	Amendment	Drawn	Chkd.	Appd.

**RSK**

18 Frogmore Road,  
Hemel Hempstead,  
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Email: info@rsk.co.uk  
Web: www.rsk.co.uk

Client

GEN2 PROPERTY LIMITED

Project Title

LAND ADJACENT GREAT  
CHART PRIMARY SCHOOL

Drawing Title

TREE REMOVAL AND  
PROTECTION PLAN

Drawn	Date	Checked	Date	Approved	Date
DM	020517	RF	020517	RF	020517
Scale	NTS	Orig Size	A3	Dimensions	METRES

Project No.	Drawing File
856993	856993_TRPP_0

Drawing No.	Rev.
2	0

N.B. Trees in groups G1, G2 and G3 were behind palisade fence in school grounds. Access to northern and western portion of site was also restricted by dense bramble and thorn scrub. Inspection was therefore restricted and so positions and measurements have been estimated. Previous tree survey data was used to aid plotting of root protection areas on this plan.



# APPENDIX 1: METHOD

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## General

On the site data was recorded with a windows mobile data collector and Trimble GPS unit.

Individual tree numbers and locations were plotted to a topographical survey showing tree positions. In instances where trees were not shown on the topographical survey tree positions were estimated. All measurements were estimated apart from trees T1 to T5. This was due to them either being inaccessible due to fencing or dense vegetation..

The data recorded includes:

- Canopy Height - data gathered using a 'tru-pulse laser-ace' digital clinometer or visually estimated to the nearest metre.
- Stem Diameter (DBH) - measurements taken at 1.5 metres above ground level (complying with requirements for BS5837). Girth data was gathered using a metric diameter tape, callipers or estimated when access was restricted.
- Tree crown spread – estimated measurement of the four cardinal points to provide information to be used with the arboricultural constraints plan.
- Tree category - judged using the guidelines produced in the report. The condition is indicated with the appropriate colour on the plan found in the report. (see *Figure 1*)
- Age class - estimated from an examination of the tree in question.

## Age Classification

The following classification is employed:

- Y - Young: Saplings and young trees under 10 years of age
- EM – Early Mature: Trees older than 10 years but less than one third of the life expectancy of their species, normally making substantial extension growth.
- SM – Semi Mature: Trees between one third and two thirds of the life expectancy of their species. More or less full Height and large girth, increasing only slowly.
- M – Mature: Trees beyond two thirds of the life expectancy of their species. No significant extension growth.
- V – Veteran: Trees that shows features of biological, cultural or aesthetic value that are characteristic of an individual surviving beyond the typical age range for the species.

## Estimated Remaining Contribution in Years

The estimated remaining contribution in years is an estimate based on currently known factors of the possible remaining life of the tree as an asset. Clearly, it is impossible to predict changes in condition which may occur in the future and this reflects what is considered reasonable under existing circumstances, the classification that has been used is in accordance with the British Standard 5837.

The estimated remaining contribution in years will be dependent on the interaction of the typical longevity of the species, its current age and condition with prevailing environmental factors. The estimated remaining contribution in years also dependent on future tree management that can extend useful life in some instances.

### **Tree Condition**

The tree survey assessed the individual condition of all trees identified on the site. The assessment of condition is based on a visual and professional view.

The categories considered for Physiological Condition are good, fair, poor and dead. Structural Condition is also commented on and this will include items such as the presence of decay and physical defects.

Trees are living organisms and their condition can change rapidly in response to environmental variables. Condition remarks refer to the date of survey and cannot be assumed to remain unchanged. While there is no such thing as a safe tree, regular inspection of trees is recommended to reduce the foreseeable risks associated with trees. There is currently no published guidance from the UK insurance industry on the frequency of tree inspections. In the German courts a bi-annual routine inspection is normally expected for older street trees, giving an indication of the rapidity of change in condition that can occur.

### **Preliminary Management Recommendations**

Recommendations are given where it is felt by the arboriculturist that further investigations are required due to suspected defects and work recommendations.

### **Tree Categorisation Using BS 5837 Methodology**

The trees surveyed were categorised using the method explained in BS5837 Trees in Relation to Construction 2012. This method categorizes individual trees, groups and woodlands in a systematic way.

Groups are identified as those trees forming a single arboricultural feature with trees that provide companion shelter, are avenues or screens or cultural.

Initially the surveyor will determine if the tree should be regarded as a U category tree. U category trees are those that are low value trees that have little future due to physiological and structural condition.

Other trees are graded A, B or C. The initial category should reflex the trees value in making an important contribution to the amenity of the site over a period of time. The higher the tree category the longer the perceived time period.

A sub category is included 1, 2 or 3. This reflects the type of value the surveyor feels the tree presents in regards its value to 1 – arboricultural, 2 – landscape, 3 – cultural or conservation. The cascade chart used is included as *Appendix 2* of this report.

## **APPENDIX 2:**

### **BS5837:2012 CASCADE CHART**

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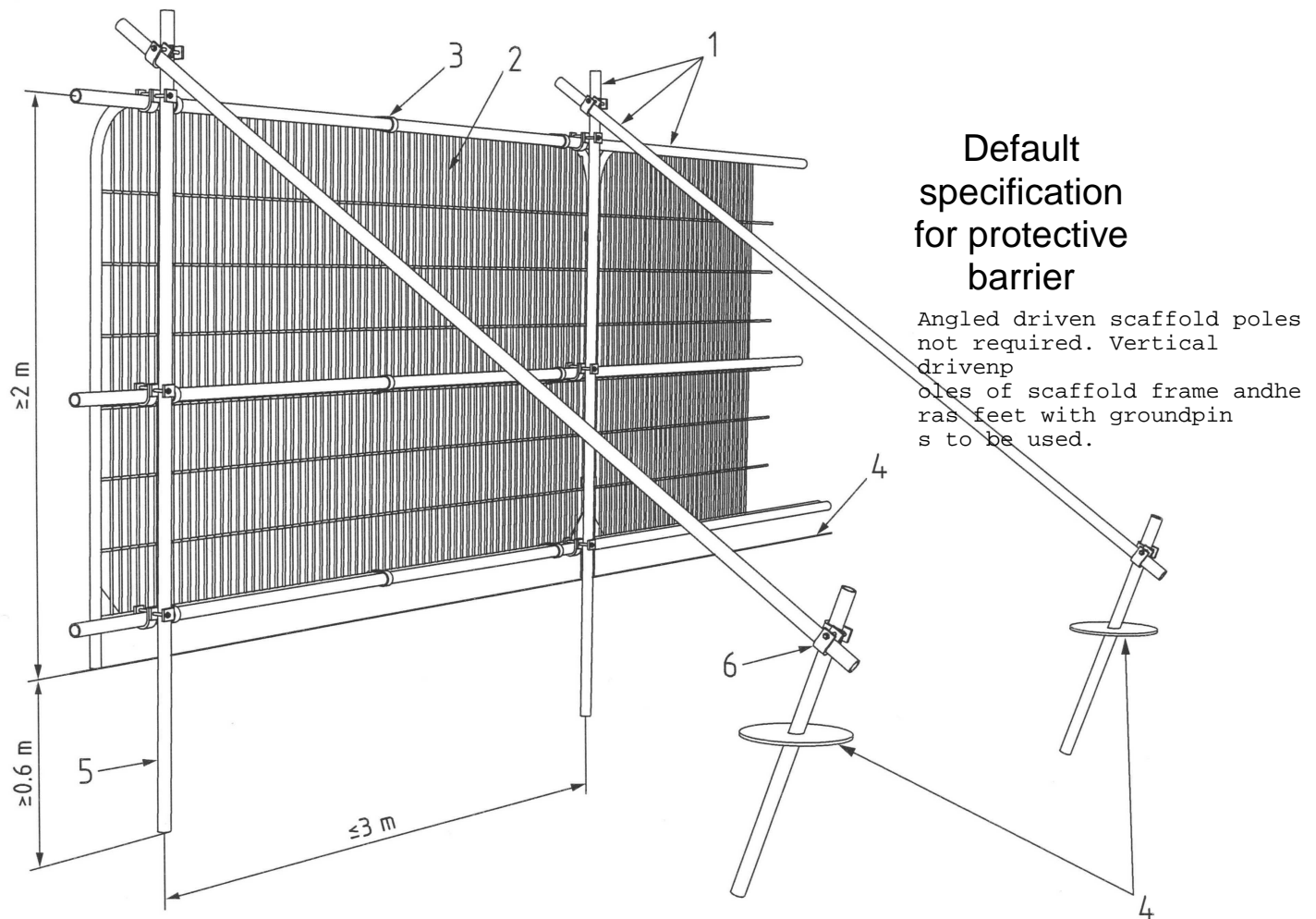
Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
<b>Category U</b> 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	<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 4.5.7.</i></p>			See Table 2
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
<b>Category A</b> <b>Trees of high quality</b> 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
<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 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
<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 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

## **APPENDIX 3: TREE PROTECTION FENCING SPECIFICATIONS**

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### Key

- 1 Standard scaffold pole
- 2 Heavy gauge 2m tall galvanised tube and welded mesh infill panels
- 3 Panels secured to uprights and cross-members with wire ties
- 4 Ground level
- 5 Uprights driven into the ground until secure (minimum depth 0.6m)
- 6 Standard scaffold clamps

**BS 5837:2012**  
**Default specification for protective barrier**



**PROTECTIVE FENCING. THIS  
FENCING MUST BE  
MAINTAINED IN ACCORDANCE  
WITH THE APPROVED PLANS  
AND DRAWINGS FOR THIS  
DEVELOPMENT.**



**TREE PROTECTION AREA  
KEEP OUT !**

**(TOWN & COUNTRY PLANNING ACT 1990)  
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY  
PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A  
TREE PRESERVATION ORDER.  
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY  
LEAD TO CRIMINAL PROSECUTION**

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

