Tree Survey
BS 5837:2012

George and Dragon,
Glossop Road,
Charlesworth

BTP Architects

Project Reference: 1387
Report Revision: A
Published: February 2018

acaEcology

QUALITY ASSURANCE

REPORT TYPE	SITE NAME	REVISION
Tree Survey to BS5837:2012	George and Dragon, Glossop Road, Charlesworth	A

CLIENT	COMMISION DATE
BTP Architects	January 2018

	NAME	QUALIFICATIONS	POSITION	DATE
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A INTRODUCTION

A.1 Background to Survey

1 Access Ecology Ltd was commissioned in January 2018 by BTP Architects to undertake a tree survey to BS5837:2012 at the location listed within Table 1.

Table 1. Site details

SITE ADDRESS	GRID REFERENCE (SITE CENTROID)
George and Dragon Pub, Glossop Road, Charlesworth SK13 5EZ	SK 0055 9293

2 This survey was commissioned to support a proposed planning application for the site, which involves construction of three houses/units and creation of garden plots within the car park of the George and Dragon Pub, Charlesworth.

3 Access Ecology Ltd has been provided with the plans as shown within Table 2 below.

Table 2. Pre-existing information

TYPE	ITEM TITLE / REFERENCE	AUTHOR	DRAWING NO.	DATE ISSUED / PUBLISHED
Plan	Location Plan	BTP Architects	100	14/01/15
Plan	Proposed layout	BTP Architects	101	30/08/17
Plan	Topographical Plan	CPLS	-	11/01/18

A.2 Site Location and General Description

4 The site is located in the village of Charlesworth, near Glossop, Derbyshire. It comprises the surfaced car park of the George and Dragon Pub, a surfaced section of the pub garden and the surrounding hedgerow and tree boundaries.

5 The survey includes the trees within the application site and those adjacent to the site that may be impacted by the development.

B SURVEY DETAILS AND LIMITATIONS

6 The survey was carried out on 24th January 2018 by Elizabeth McBride. Elizabeth has a degree in Environmental Science and a Level 4 Diploma in Arboriculture. She has worked as an ecologist since 2006. Elizabeth was assisted by Miles Watchman.

7 The survey was carried out in accordance with BS 5837:2012 Trees in relation to Design, Demolition and Construction – Recommendations.

8 The trees were surveyed visually from the ground.

9 Please note this report represents a BS5837 tree survey and should not be accepted as a tree safety inspection report.

10 Details of the trees present can be found in Table 1. The tree locations, canopy size, retention category and root protection areas are shown on the Tree Constraints Plan in Appendix F.1. Photographs are shown in Appendix E.2.

11 Where suitable, trees within close proximity to each other and of similar age and species have been surveyed in groups, as defined in BS 5837.

12 Shrubs, scrub and hedgerows were not included in the survey, but are mentioned in the discussion section. Saplings and very young trees were deemed insignificant and omitted from the survey.

13 Root protection areas were calculated from stem diameter.

C RESULTS

C.1 Tree Data

14 See Table 3 below and accompanying Tree Constraints plan in Appendix E.1 and photographs in Appendix E.2.

Table 3: Tree data

Tree reference	Species	Life stage	Estimated height (metres)	Estimated crown height (metres)	Estimated crown spread (metres) N W E S	Stem diameter (mm)	Physiological condition	Structural condition	Observations & preliminary management recommendations	Estimated remaining contribution	Retention category
T1	Cherry *Prunus avium*	SM	6.5	2	N = 2 E = 2.5 S = 2.5 W = <0.5	Twin stems 146* 169*	Fair	Poor	Multiple stems from near base. Severely constrained by larger ash tree growing directly adjacent to main stem. The stems of the two trees are growing into each other. Some deadwood in the canopy. Poor specimen – consider removal and replacement.	< 10	C1
T2	Ash *Fraxinus excelsior*	Y	10	5	N = 3 E = 1.5 S = 3.5 W = 3	232*	Good	Poor	Self-seeded ash growing very close to the adjacent cherry (T1) so the stems of the two trees are growing into each other. Due to this the ash has a significant lean. Consider removal to allow cherry (or replacement tree) space to grow.	10+	C1
T3	Cherry *Prunus avium*	SM	8.5	2	N = 5 E = 4 S = 3.5 W = 1.5	382*	Good	Fair	Tree has a large base then separates into three stems. One stem shows poor union with bark inclusion. Lower branches have been pruned over the footpath. Lower canopy constrained by adjacent hawthorn (T4).	20+	C1
T4	Hawthorn *Crataegus monogyna*	SM	8.5	1.5	N = 3.5 E = 2.5 S = 3 W = 3	223*	Good	Good	Constrained by adjacent cherry (T3).	20+	C1
T5	Sycamore *Acer pseudoplatanus*	SM	4	N/A	N/A	477#	Poor	Poor	In adjacent garden. Monolith tree (reduced to just main stem – no canopy). Appears to still be alive – tiny twigs emerging from stem.	<10	C1
T6	Sycamore *Acer pseudoplatanus*	EM	18	9	N = 5 E = 5 S = 5 W = 6	589	Good	Fair	In the boundary. High canopy likely due to crown lifting over the car park. No visible defects.	40+	B1
T7	Sycamore *Acer pseudoplatanus*	EM	17	5	N = 6.5 E = 4 S = 5.5 W = 6	Twin stems 382 318	Good	Fair	In boundary. Twin stemmed from near base. Ivy on lower stem made assessment more difficult however included bark was visible at the join of the two stems suggesting poor quality union.	20+	B1
T8	Ash *Fraxinus excelsior*	EM	19	2	N = 9 E = 11 S = 6.5 W = 6	923 $	Good	Fair	Extensive ivy growth up the stem and into the canopy. Ivy growth meant full assessment was not possible. Overextended limbs into car park. Tree T8 is very close and canopies of the two trees are growing into each other. May require crown raising over car park due to low growing branches.	40+	B1

Tree reference	Species	Life stage	Estimated height (metres)	Estimated crown height (metres)	Estimated crown spread (metres) N W E S	Stem diameter (mm)	Physiological condition	Structural condition	Observations & preliminary management recommendations	Estimated remaining contribution	Retention category
T9	Sycamore *Acer pseudoplatanus*	SM	15	8	N = 10 E = 0.5 S = 0 W = 6	605 $	Good	Fair	Extensive ivy growth up the stem and into the canopy. Ivy growth meant full assessment was not possible. Very close to T7, so canopy is significantly constrained by the larger tree.	20+	B1
T10	Ash *Fraxinus excelsior*	SM	13	5	N = 6 E = 4 S = 4 W = 6	318	Good	Fair	Ivy and deciduous climbing sp. growing up stem. Twin stemmed at approximately 2.5m.	40+	B1
T11	Ash *Fraxinus excelsior*	Y	9	2	N = 4 E = 2 S = 3 W = 4	159#	Good	Fair	Young ash constrained by close proximity to T9.	40+	C1
G12	Leyland cypress *Cupressus × leylandii*	Y	10	N/A	N = 2 E = 2 S = 2 W = 2	223#	Good	Fair	Section of cypress hedge along boundary.	40+	C2
G13	Ash and hawthorn *Fraxinus excelsior* *Crataegus monogyna*	Y	11.5	4.5	N = 3 E = 1.5 S = 4 W = 3	114 - 223	Fair	Poor	Self-seeded young ash trees and saplings extending along the majority of the boundary with remains of a hedgerow now growing as separate multi-stemmed hawthorns. Recommend removal of majority of the ash saplings as they are poorly located which will cause problems as they develop.	40+	C2

Estimated as measurement not possible

$ Measurement includes large ivy stems therefore actual diameter of tree is slightly less than this figure

*Measurement taken below the standard 1.5m due to irregular trunk growth eg. bulge in trunk or multi-stemmed at that point.

Key to Table 3

Life stage

Y Young – in first quarter of life

SM Semi-mature – in second quarter of life

EM Early mature – in third quarter of life

M Mature – in final quarter of life

OM Over mature – in natural decline

Height

The height of the tree in metres from the stem base - estimated using a clinometer.

Crown height

The average height in metres of the crown – estimated using a clinometer.

Crown spread

Measured from the centre of the stem base to the tips of the branches in all 4 cardinal points

Stem diameter

The diameter of the stem measured at 1.5m from the base

Physiological condition

Good – Healthy and in good vigour

Fair – Vigour of tree is impaired

Poor – Vigour of tree is extremely low

Structural condition

Good – No obvious defects

Fair – Slightly compromised with minor structural defects

Poor – Significantly compromised with major structural defects

Estimated remaining contribution

An indication of the number of years before removal of the tree may be required

Categories: < 10 less than 10 years

10+

20+

40+

Retention Category

A – Trees of high quality – marked green on the plan

Estimated remaining life expectancy of at least 40 years.

Further subdivided as follows:

A1 – Trees that are particularly good examples of their species or essential components of groups

A2 – Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features

A3 – Trees, groups or woodlands of significant conservation, historical or commemorative value

B – Trees of moderate quality – marked blue on the plan

Estimated remaining life expectancy of at least 20 years.

Further subdivided as follows:

B1 – Trees that have been downgraded from A because of impaired condition or trees lacking in the special quality necessary to merit the category A designation

B2 – Trees present in numbers that attract a higher collective rating than as individuals

B3 – Trees with material conservation or other cultural value

C – Trees of low quality – marked grey on the plan

Estimated remaining life expectancy of at least 10 years.

Includes all young trees with a stem diameter below 150mm.

Further subdivided as follows:

C1 – Unremarkable trees of limited merit or impaired condition

C2 – Trees in groups or woodlands with limited collective landscape value

C3 – Trees with low material conservation or cultural value

U – Trees unsuitable for retention - marked red on the plan

These trees are in such a condition that they cannot be realistically retained for longer than 10 years e.g. due to serious structural defects, disease, or death

C.2 Root Protection Areas

15 The root protection radius for each tree is shown below in Table 4.

Table 4: Root protection area and root protection radius

Tree Number	RPA (m^2)	RPA Radius (m)
T1	23	2.7
T2	28	3.0
T3	72	4.8
T4	23	2.7
T5	163	7.2
T6	113	6.0
T7	387	11.1
T8	163	7.2
T9	48	3.9
T10	14	2.1
G11	23	2.7
G12	18	2.4

C.3 Legal Status

16 The High Peak Borough Council's online interactive planning map was checked to find out if there are any Tree Preservation Orders (TPO) at the site or if the site is located within a Conservation Area.

17 According to the information provided, none of the trees within or directly adjacent to the application site are covered by Tree Preservation Orders. However, the site is located within Charlesworth Conservation Area. This means that any tree with a stem diameter greater than 75mm is protected and the High Peak Borough Council must be notified at least six weeks in advance if any tree work (including pruning) is to be carried out.

C.4 Summary of Results and Discussion

18 The tree survey revealed 13 items of vegetation – 11 individual trees and 2 groups. Of those, five trees/groups were identified as retention category B, and eight trees/groups were identified as retention category C. This information is summarised in Table 5 below.

19 Four trees (T1 – T4) are located in a narrow verge within the edge of the car park, adjacent to Glossop Road. They are separated from the road by a stone wall and a bus shelter. Tree

T1 is a multi-stemmed cherry *Prunus avium*, which is severely constrained by a self-seeded ash *Fraxinus excelsior* tree (T2) that has grown from the base of the cherry. The stems of the two trees are growing in to each other, meaning both are in poor structural condition. Also within this verge is another multi-stemmed cherry (T3), slightly larger than T1, and a hawthorn *Crataegus monogyna* (T4). All four of these trees have been assessed as retention category C as they are either impaired or unremarkable trees.

20 The remaining trees are located around the boundary of the car park. Within the north-east edge are two tall sycamores *Acer pseudoplatanus* (T6 & T7), one of which is twin-stemmed near the base (T7). The remains of a hedgerow extend along this boundary and include some overgrown hawthorns and occasional holly *Ilex aquifolium* and elder *Sambucus nigra.* There is self-seeded ash within the boundary, including frequent saplings and occasional young trees (G13) and a section of Leyland cypress *Cupressus* × *leylandii* hedge (G12).

21 In an adjacent garden is a sycamore tree (T5) that has been cut back so that only the main stem remains. Viewed from the site boundary it was difficult to determine if the tree is still alive, however it is unlikely to survive for long in this condition.

22 The remaining four trees are located in the boundary of the pub garden at the edge of a small public park. The largest tree is an ash (T8) with extensive ivy *Hedera helix* covering the main stem and extending into the canopy. A tall sycamore (T9) is located close to the ash and the canopies intersect, making it difficult to separate the two trees at this time of year. Nearby are two younger ash trees (T10 & T11) growing close to each other.

Table 5: Summary of Tree/Group categories

	Tree / Group	**Total**
Category A Trees of high quality		0
Category B Trees of moderate quality	T6, T7, T8, T9, T10	5
Category C Trees of low quality	T1, T2, T3, T4, T5, T11, G12, G13	8
Category U Trees unsuitable for retention		0

D ARBORICULTURAL IMPACT ASSESSMENT

D.1.1 Proposed Development

23 Based on the available plans, the development involves the construction of three houses with garden plots within the current car park of the George and Dragon Pub. The existing access from Glossop Road will be maintained. The current surfaced area will be used as a car park for residents and pub users. A plan of the proposals is included in Appendix E.4.

D.2 Impact Assessment

24 Based on the current plans, the proposed development will not require the removal of any trees.

25 The hardstanding will remain at its current extent, as the area at the back of the pub where the car park will be extended is already covered by tarmac.

26 The root protection areas (RPA) of T1 – T4 are closest to the proposed location of the new houses, meaning the foundations of these buildings may extend slightly into their RPAs. However, this is considered to be a minor incursion, reduced further as the area in question is already hardstanding. Due to its poor growth form and negative impact on the adjacent cherry tree, the self-seeded ash (T2) should be considered for removal. The cherry (T1) appears to be a poor quality specimen and could also be considered for removal and replacement with a more suitable tree.

27 The proposed development is not consider to impact on the remaining trees as long as excavation work below the current hardstanding is not required. The majority of the RPAs within the site are already covered by tarmac meaning there will be no impact on the root systems during the construction or operational phases.

28 The majority of the hardstanding is already used as a car park. The only tree that may require crown lifting is the large ash (T8), which has two low branches extending over the corner of the current car park.

29 It is recommended that the majority of the young ash trees and saplings along the north-eastern edge are removed, as they are growing closely to each other and are likely to develop problems as they mature.

D.3 Mitigation Proposals

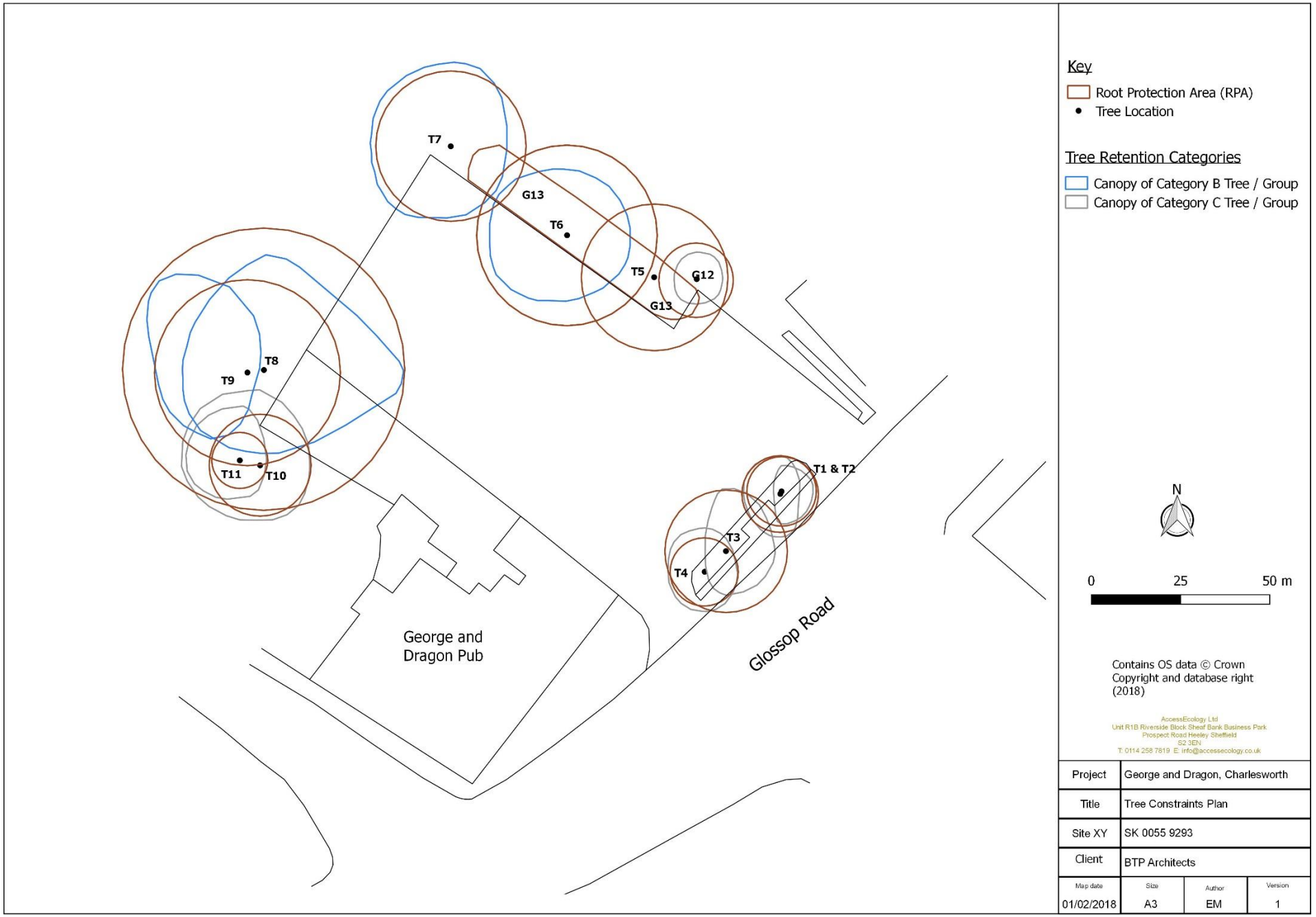
30 As the trees are to be retained and the majority of the site is already hardstanding, mitigation requirements are limited. It is recommended that the edges of the car park where the trees are located are temporarily fenced off during the construction phase to prevent damage to the trees and any sections of RPA not already covered by tarmac. There must be no storage of

materials or spoil/waste within this fenced area. Suitable fencing is specified in BS5837:2012 and included in Appendix F.3.

E APPENDICES

E.1 Tree Constraints Plan

See below


T7
G13
T6
T5
G12
G13
T8
T9
T11
T10
T1 & T2
T3
T4
George and
Dragon Pub
Glossop Road
Key
Root Protection Area (RPA)
Tree Location
Tree Retention Categories
Canopy of Category B Tree / Group
Canopy of Category C Tree / Group
N
0
25
50 m
Contains OS data © Crown Copyright and database right (2018)
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Project
George and Dragon, Charlesworth
Title
Tree Constraints Plan
Site XY
SK 0055 9293
Client
BTP Architects
Map date
01/02/2018
Size
A3
Author
EM
Version
1

E.2 Photographs

Photographs taken during the survey on 24th January 2018.

Photograph 1: Trees T1 & T2 on the left with T3 & T4 beyond

Photograph 2: Tree T6

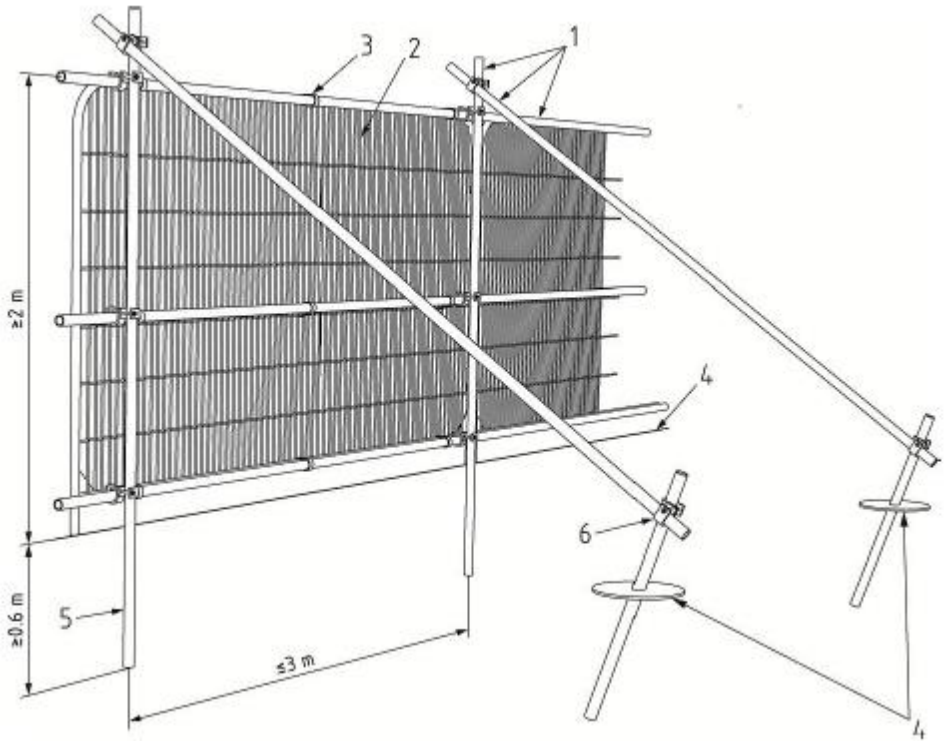
Photograph 3: Tree T7 and G13

Photograph 4: Young ash saplings in G13

Photograph 5: Trees T8 & T9 from pub grounds

Photograph 6: Trees T8 & T9 from adjacent park

E.3 Protective fence specifications



Key: 1 Standard scaffold poles
2 Heavy gage 2m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties

4 Ground level
5 Uprights driven in the ground until secure (minimum depth 0.6m)
6 Standard scaffold clamps

Taken from BS5837:2012 Figure 2 Default specification for protective barrier

Schedule of Accommodation
3 no. 3B 5P houses 83m2
166% car parking for residents

Rev	Date	Int	Description

btp ARCHITECTS

RIBA Chartered Practice

Client: Nexus Planning

Job No: 3249

Scale @ A3: 1 : 200

Project: Options for car park

GP

Description: George and Dragon Charlesworth

Drawn By:	Checked By:	Date:	Status Code:	Drawing No:	Rev:
VS	VS	08/30/17	S0	101	

Purpose of Issue: SO

File Identifier: GD-BTP-00-SP-DR-A-3249-101

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