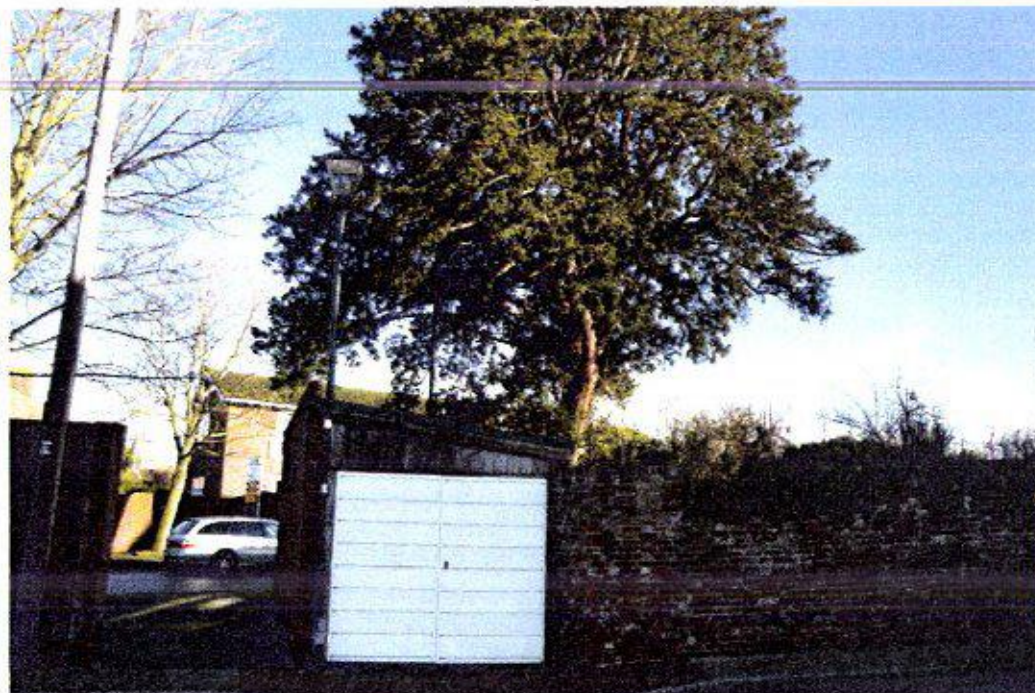




ARBORICULTURAL IMPACT ASSESSMENT

&

Method Statement

for

Keppel Lodge, 5 West Street, Emsworth

-prepared on behalf of Mr P Giles -

Bernie Harverson M.Arb.

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Section	Subject Heading
1	INTRODUCTION & CLIENTS BRIEF
2	DOCUMENT DISCLOSURE STATEMENT
3	TREE SURVEY & ROOT PROTECTION SCHEDULE
4	IMPACT ASSESSMENT & TREE PROTECTION MEASURES RECOMMENDED
5	PRE – DEVELOPMENT TREE WORK
6	METHOD STATEMENT
7	MONITORING & SUPERVISION
8	CONCLUSIONS

Appendices	Subject
BH1	Figure 1- Flow Diagram from BS5837 + Tree Survey Notes
BH2	Combined Tree Survey Plan & Root Constraints Plan – BJH 01/02
BH3	Combined Tree Retention & Removals Plan & Tree Protection Plan – BJH 03/04 + BS5837 Figure 2
BH4	Qualifications & Experience

1.0 INTRODUCTION & CLIENTS BRIEF

- 1.1 My client on this project is **Mr Patrick Giles** who is the owner of the property at **Keppel Lodge, 5 West Street, Emsworth.**
- 1.2 The proposal is to remove a section of boundary wall and excavate out a parking bay in the rear garden.
- 1.3 There are trees on this site that might be impacted by these proposals.
- 1.4 I have been commissioned to consider and advise on all of the arboricultural aspects of this project and to then prepare a supporting report to satisfy planning requirements.
- 1.5 My work is to be compiled in accordance with the recommendations contained within BS5837:2012.

N.B. This report relates to purely Arboricultural Issues and it would be necessary to also satisfy the following issues if this project is to be successful:-

1. *Planning and Conservation Area regulations and requirements*
2. *Highways Authority regulations and requirements regarding the need for a second crossover/dropped kerb*



2.0 DOCUMENT DISCLOSURE STATEMENT

- I have been provided with a copy of a topographical base plan at 1:100 scale which I rely on for the purposes of this assessment.
- I took detailed taped measurements out on site and have added these in to the base plan to show the location of the two trees in the rear garden.

3.0 TREE SURVEY & ROOT PROTECTION SCHEDULES & IMPACT ASSESSMENT

3.1 I visited the site on **Thursday 14th January 2016** and carried out a tree survey exercise in accordance with BS5837:2012 recommendations on just those trees which are close to the areas of proposed redevelopment (see explanatory tree survey notes [at appendix BH1](#))

Tree No.	Species	Ht m	Diam mm	Breh Sprd m	GC m	LS	Condition Comments	Preliminary Management Recommendations	Rem Con yrs	Cat
1	English Yew <i>Taxus baccata</i>	7	600	N 3 E 3 S 5 W 5	2	EM	Multi-stemmed at 2.5m agl-small diameter deadwood throughout-low crown density-previously reduced and reshaped	No works required at this time	>40	B1
2	Black Mulberry <i>Morus nigra</i>	2	100	N 1.5 E 1.5 S 1.5 W 1.5	0	Y	Good shape and form-low branching habit	No works required at this time	>40	A1

3.2 A Tree Root Protection Schedule has been prepared in accordance with BS5837:2012 recommendations (see Plans BJH 01 & 02 at [appendix BH2](#))

Tree No.	Tree Species	Cat	Diam mm	BS5837:2012 Table D1 Radial Protect. Zone m	BS5837:2012 Table D1 Root Protect. Area m ²	Is An Offset Required To Cater For Existing Rooting Pattern Restrictions
1	English Yew <i>Taxus baccata</i>	B1	600	7.2	163	NO- fairly free rooting through garden area
2	Black Mulberry <i>Morus nigra</i>	A1	100	1.2	5	NO-free rooting to all directions



4.0 IMPACT ASSESSMENT & TREE PROTECTION MEASURES RECOMMENDED

4.1 The finalised planning layout drawing has been provided to me and an assessment made as to the viability of retaining trees as part of this layout in order that they meet the RPA requirements of BS5837 - the data is presented here in tabular format:-

Key: **RSAM** = Remove for sound arboricultural management reasons **RTFD** = Remove to facilitate development **UF** = under footprint of proposed development

YES = Yes can be retained and fully protected

YES (I) = Yes can be retained subject to mitigation measures being applied

Tree No	Species	Cat	Stem Diam mm	BS5837:2012 Radial Protection Area m	BS5837:2012 Polygon Area m ²	Distance from Site Features (see key above)	Can Tree Be Retained
1	English Yew <i>Taxus baccata</i>	B1	600	7.2	163	2m to 4m to cut line for edge of new parking bay	YES (I)
2	Black Mulberry <i>Morus nigra</i>	A1	100	1.2	5	1.5m to cut line for edge of new parking bay	YES

4.2 YES

There is 1 tree in this category on this project which can be retained and fully protected in accordance with BS5837 recommendations (see **Tree Protection Plan BJH.03/04** at [appendix BH4](#) and full listing in schedule at 4.1 above) :-

Trees: **Tree 2 – Black Mulberry (A)**

4.3 YES (I)

There is 1 tree in this category on this project which can be retained provided that strict mitigation measures are applied – see Method Statement at Section 6.0 for full details of these measures.

5.0 PRE-DEVELOPMENT TREE WORKS

No	Species	Tree Works Recommended
1	English Yew <i>Taxus baccata</i>	Remove all deadwood
2	Black Mulberry <i>Morus nigra</i>	Lightly tip back the low lateral spread on the west side of the tree adjacent to the new parking bay.



6.0 METHOD STATEMENT

GENERIC

- 6.1 Undertake all of the tree works specified above.
- 6.2 Erect the protective fencing as specified and shown on the **Tree Protection Plan BJH03/04** at appendix BH3. Barriers are to be 'Fit For Purpose' to exclude construction activity and must be maintained to ensure that they remain rigid and complete and in the original setting out positions. These checks will need to be incorporated into a schedule of site monitoring visits to be agreed with the clients subject to phased development operations and subsequently copies of these site visit reports will need to be copied in to the Council.
- 6.2 The area within the fenced off exclusion zone is to be regarded as **sacrosanct** and the fencing shall not be taken down or relocated at any time without the prior written approval of the monitoring arboriculturist or local authority tree officer, unless this has already been agreed as part of the planning application consent process and is detailed in writing and shown on a plan.

The following prohibitions shall apply within the area enclosed by the Tree Protection Fencing :-

- **No** mechanical digging or scraping once the initial ground cover vegetation has been cleared and the site fenced off.
- **No** storage of plant, equipment or materials
- **No** vehicular or plant access
- **No** fire lighting
- **No** handling, discharge or spillage of any chemical substance, including cement washings
- **No** action likely to cause localised water-logging
- **No** change in ground levels

- 6.3 All site works storage areas and compounds/welfare units and any mixing areas are to be located outside of and well clear of retained tree RPA's.
- 6.4 It will be very important for any vehicle drivers to have undergone a pre-contract induction session where the trees to be retained are to be highlighted and the need for care and attention when working nearby with wide loads; tall loads; plant with swinging booms, jibs and counterweights (including drilling rigs) or slewing hydraulic arms to avoid contact with trunks or crowns.



SPECIFIC

6.5 In the case of **T1 English Yew** there will be a need to apply strict mitigation measures to ensure that it survives the development in a healthy state:-

- All works at this location must be undertaken in the presence of an Arboricultural Expert.
- A slit trench is to be opened along the closest edge to the new parking bay and this will be no closer to the centre of the tree than 2m and all work **MUST** be carried out using only a fork and hand trowel [NOT a spade as this would crudely sever and damage any roots that may be encountered].
- As the soil is prised away any fine roots below 25mm diameter will be severed by the Arb Expert using bypass secateurs.
- It is not anticipated that many will be found given the small stature and low crown density exhibited by this tree.
- The soil will then be supported with either contiguous treated and driven wooden stakes or a vertical brick retaining wall - this will greatly depend on the eventual depth required to achieve an appropriate and acceptable safe gradient into the parking bay from road level which is some 700mm lower than the soil level in the rear garden.
- A section of the boundary wall facing out onto the Close will then need to be carefully removed to allow the soil behind it to be graded down to road level.
- Once the parking bay has been excavated a porous geotextile membrane will be laid across the area and then 100mm deep CellWeb cellular interlocking confinement system laid on top and filled with washed aggregate to form the porous wearing course to support the weight of a car.

6.6 In the case of **T2 Mulberry**:-

- The works will be undertaken outside of this trees specified RPA.
- However, there will be a need for some light trimming back of the low laterals to clear back from the parking bay.
- Ideally consideration should be given to transplanting this young tree some 2m or more further back into the rear garden because if it remains at this location it will prove necessary to both crown lift and reduce and reshape it on a regular and repeat basis as the tree naturally increases in height and spread - as it has considerable growth potential before it reaches maturity.



7.0 SITE MONITORING & SUPERVISION

- BS5837 recommends that wherever trees on or adjacent to a site have been identified on the Tree Protection Plan as requiring special protection measures, there should be an auditable system of arboricultural site monitoring. This should extend to direct arboricultural monitoring whenever demolition/construction and development activity is to take place within or adjacent to any RPA.

7.1 *Attend site to verify that the protective fencing is fit for purpose and has been erected at the correct locations and then monitor ALL hand digging operations and sever any small roots and oversee the installation of the retaining structure to hold back the exposed soil bank.*

8.0 CONCLUSIONS

- Both trees in this rear garden can be adequately protected without detriment to their health and vitality provided that the detailed and phased approach that is advocated in this report is strictly adhered to.
- This scheme is therefore supportable from an arboricultural perspective.



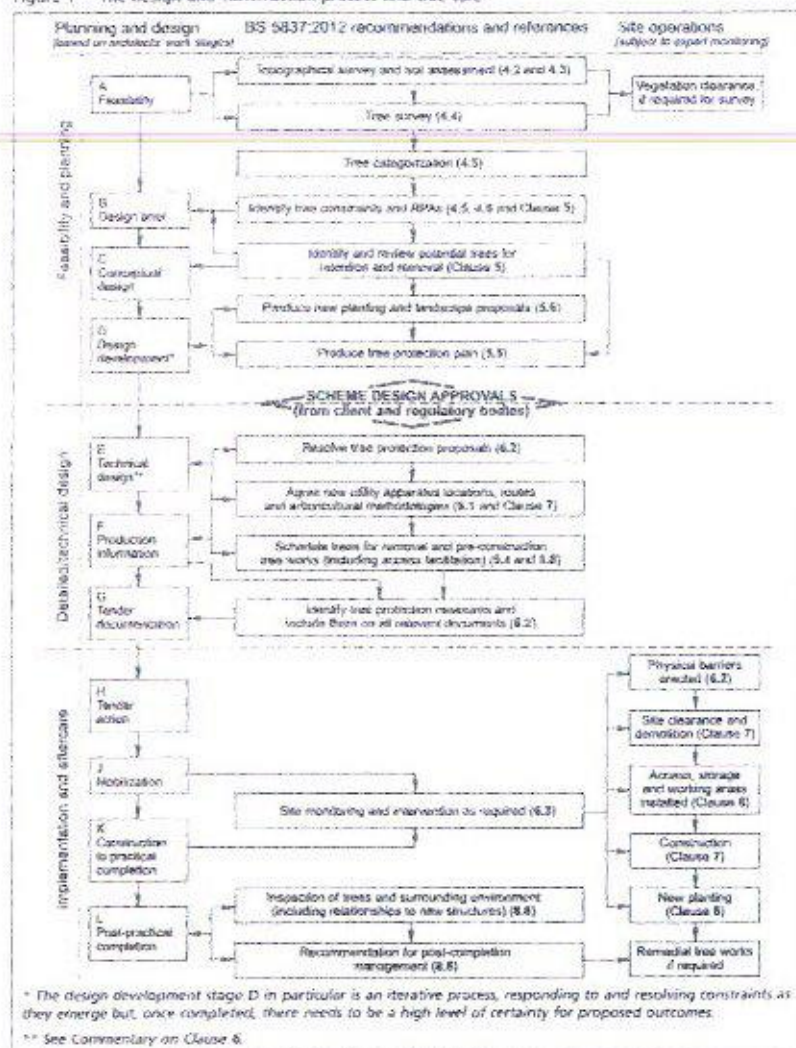


BH 1

Figure 1 - Flow Diagram
& Tree Survey Notes



Figure 1 The design and construction process and tree care



TREE SURVEY NOTES

These Tree Survey Notes have been prepared in accordance with the recommendations of **British Standard 5837:2012** and they define the criteria for pre-development tree surveys.

- Each tree/group/hedge/shelterbelt/woodland has been allocated a unique number (**No.**), where specifically requested and appropriate fees are agreed small durable numbered metal tags can be applied to each tree/group surveyed.
- The tree species (**Species**) is provided in both English and Latin name formats.
- Height assessments (**Ht**) are estimated in metres. This will be adequate for the majority of cases, but where accurate heights become a critical issue it may be necessary to return to site, as a separately commissioned exercise, to collect accurate measurements with the aid of optical instruments.
- Trunk/stem diameters (**Diam**) are measured in millimetres at 1.5m above ground level – where the tree is inaccessible the diameter is estimated as indicated by suffix #
- Radial crown spread assessments (**Brch Sprd**) are estimated in metres from the centre of the trunk/group to each of the four primary points of the compass (**N-north; E-east; S-south and W-west**) in order to achieve a representation of the crown shape which will be shown on the accompanying tree survey plan. These provide a general guide as to the main bulk outline of a tree/groups crown but are not tape measured dimensions. These would only be undertaken as part of a separately commissioned exercise, where precise dimensions are critical to the project at hand.
- Both the canopy ground clearance (**GC**) and the height & compass direction of the lowest major branch (**LMB**) are estimated and shown in metres
- An assessment of a tree/groups 'life stage' (**LS**) is made in terms of its site specific maturity as part of the surrounding landscape, taking into account its overall shape and form in that setting, and is recorded thus :-
Y - Young tree/group; **SM** - Semi-Mature tree/group; **EM** - Early-Mature tree/group;
M - Mature tree/group; **OM** - Over-mature tree/group
- Data on the structural condition (**Condition Comments**) of the tree/group is provided to give its visual appearance and any significant health and safety issues.
- Details of any recommended tree works required at the time of survey is given under the heading – **Preliminary Management Recommendations**.
- An estimate of a tree/groups remaining contribution in years (**RC**) is made and is recorded thus :-
0-5; 5-10; 10-20; 20-30; 30-40 or >40 years.
- The category grading (**Cat**) for each tree/group is assessed according to the criteria provided within **BS5837:2012**. The assessment is made of the tree/group in its current condition and within the environment encountered bearing in mind its suitability for retention as part of any future proposed

development; although the exact layout detail of any specific scheme will not be known at the time of surveying. The trees have been classified into one of four categories and colour coded as BS5837 recommends :- **U** (dark red); **A** (light green); **B** (mid-blue) and **C** (grey). Please note that suffixed numerical sub-categories are also applied for guidance only and do not carry any cumulative or increased value for the tree/group. This colour coding scheme will be applied to all drawings provided.

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Table 1 – Cascade chart for tree quality assessment

Category and definition	Criteria			Colour on plan
Trees unsuitable for retention				
Category I 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.	- 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 (i.e. where, for whatever reason the loss of companion shelter cannot be mitigated by pruning) - Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline - 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 NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve.			Dark Red
Trees to be considered for retention				
	Criteria – Subcategories			
	1	2	3	
Category A Trees of high quality 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)	Light Green
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in the 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	Mid Blue
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm	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	Grey





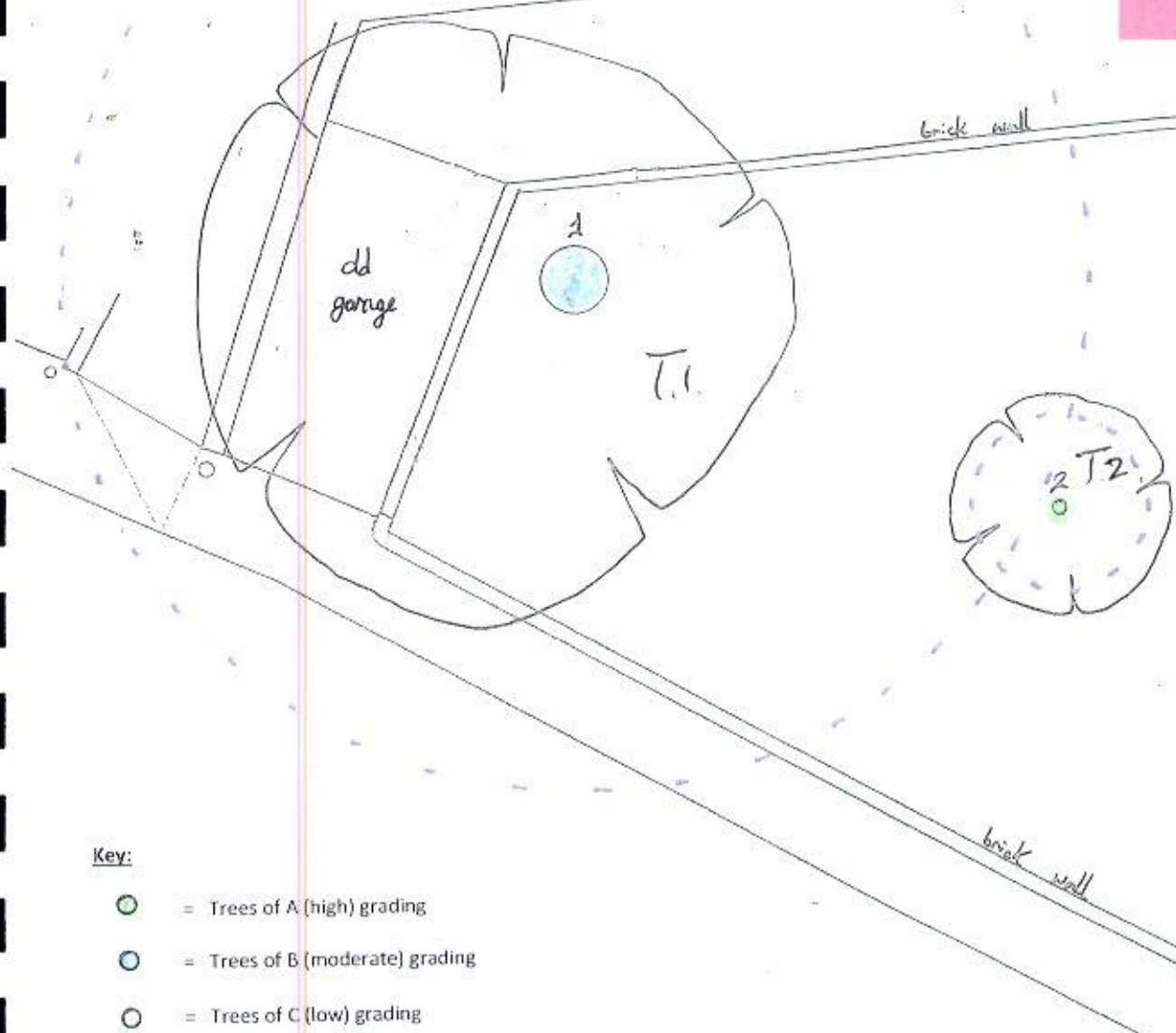
BH 2

Tree Survey & Root Protection Plans

BJH 01/02



7



Key:

-  = Trees of A (high) grading
-  = Trees of B (moderate) grading
-  = Trees of C (low) grading
-  = Trees of U (fell) grading
-  = Root Protection Area in accordance with BS5837:2012 recommendations.

N.B. IF the crown spread exceeds the recommended RPA and the tree has a low branching habit then it may prove necessary to either increase the RPA to encompass the full crown or undertake facilitation pruning works.

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	project	Keppel Lodge 5 West Street Emsworth			
	client:	Mr Patrick Giles			
	title:	Tree Survey & Root Constraints Plan			
	dwgs BJH 01/02	scale: 1:100 @ A4	job 0832	date: January 2016	drawn: bjh

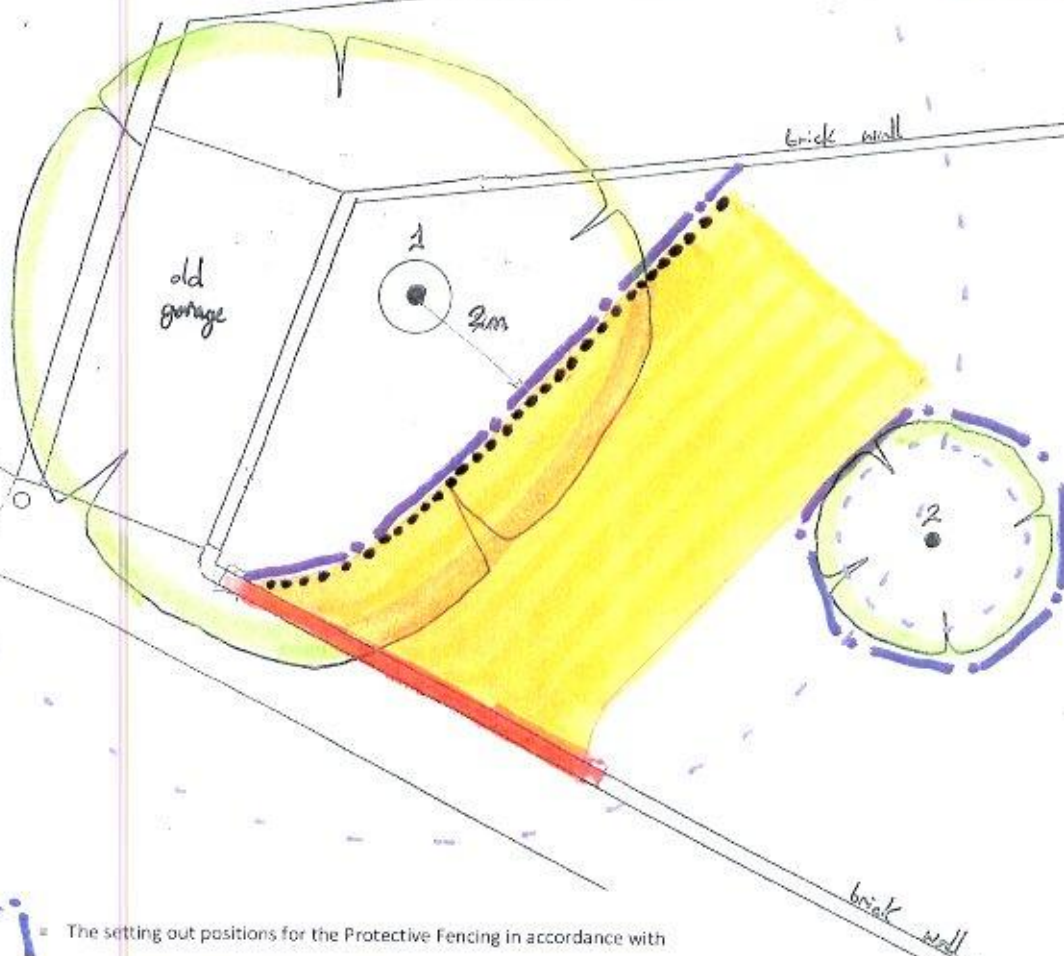


BH 3

Tree Retention & Protection Plan BJH 03/04

+ BS5837:2012 – Figure 2





Key:



- = The setting out positions for the Protective Fencing in accordance with BS5837:2012 recommendations – Section 6.2 and Figures 2
 - = Trees which will be retained and protected
 - = This length of boundary wall would be removed to facilitate access.
 - = This alignment would be subject to 'Hand Digging' monitored by an Arb Expert and any roots that are encountered would be severed by the Arb Expert using bypass secateurs.
- On completion of excavation works tree stakes or a vertical brick retaining wall will be constructed to hold back the soil banking.
- = This area would be dug out to an acceptable gradient and then a porous geotextile membrane laid across it – onto which would be laid an interlocking polymer cellular confinement system (such as CellWeb) and the voids filled with washed gravel to form the porous wearing course.

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Dominic Harterton

project	Keppel Lodge 5 West Street Emsworth			
client:	Mr Patrick Giles			
title:	Tree Protection Plan + Retentions & Removals			
dwgs BJH 03/04	scale: 1:100 @ A3	job 0833	date: January 2016	drawn: bjh

Giles – Keppel Lodge, 5 West Street, Emsworth

8

Yew T1

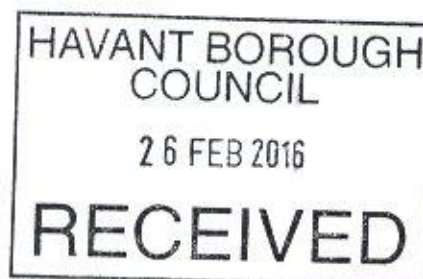


Approximate indication of where the wall will be removed

Approximate height of soil in garden behind wall

N.B. This report relates to purely Arboricultural Issues and it would be necessary to also satisfy the following issues if this project is to be successful:-

1. *Planning and Conservation Area regulations and requirements*
2. *Highways Authority regulations and requirements regarding the need for a second crossover/dropped kerb*



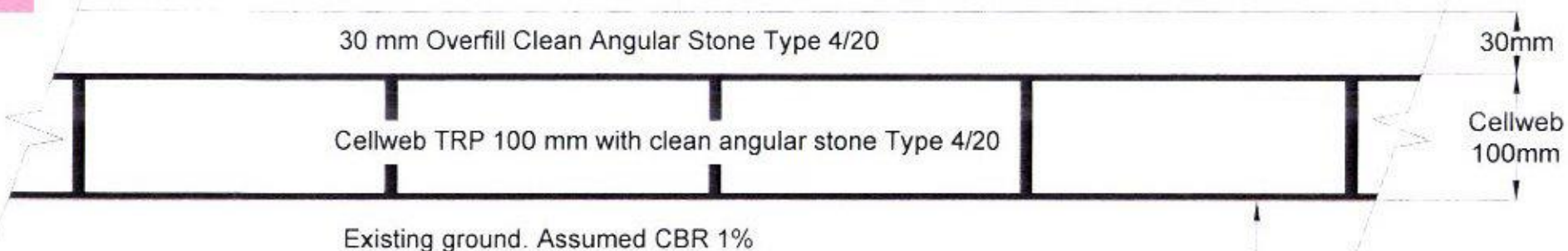
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INDICATIVE CELLWEB WITH OVERFILL



Treetex Geotextile
for Separation



Geosynthetics Ltd

Flaming Road, Harrow Brook Industrial Estate
Hinckley, Leicestershire LE11 3JQ
Tel: 01455 517135 Fax: 01455 517140 www.geosyn.co.uk

Project:
Standard Drawing

Description:
Cross Section of Cellweb with Overfill over
TRP

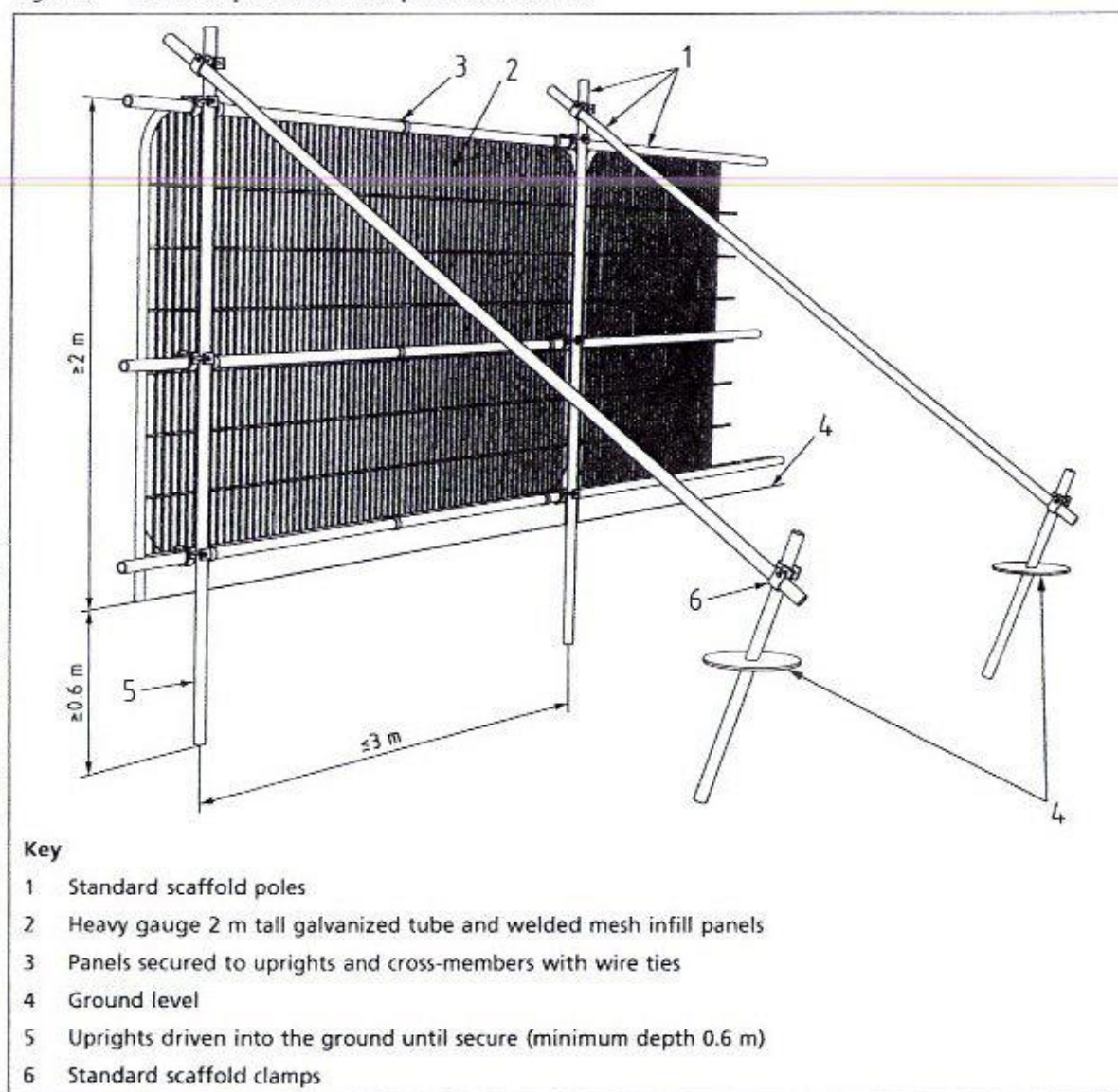
Drawn By:
ZS
Ref:

Scale:
NTS
Version:
V1

Date:
03 July 2015
Sheet:
1/1

Checked By:
PGE

Figure 2 Default specification for protective barrier



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BH 4

Qualifications & Experience





QUALIFICATIONS AND EXPERIENCE

- My name is Bernie Harverson and I am a self employed independent arboricultural consultant in private practice. I take instructions primarily in the South of England but also on occasions work nationwide and abroad and have offices at : –
3 Foxcombe Cottages, South Harting, West Sussex GU31 5PL and also at Cedar Court, 5 College Street, Petersfield
- I hold the following arboricultural qualification - **Master of Arboriculture** (Royal Forestry Society – 1976)
- I have over **forty** years of practical and managerial experience in the arboricultural industry including periods in both the public and private sectors.
- My Local Government sector experience comprises one year as a tree surgeon with Brighton Parks and nine years spent in Arboricultural Officer posts with both Westminster City Council and Portsmouth City Council
- My past practical experience in the private sector includes two years at Tilhill Forest Nursery and over ten years for various companies as a Climbing Arborist/Tree Surgeon.
- Managerial work in the private sector includes two years as manager of Beechings tree surgery company and twelve years with CBA Trees as an Arboricultural Consultant.
- As an independent self employed Arboricultural Consultant I now provide a comprehensive range of services including :-
tree surveys, appraisals, assessments and inspections with particular reference to planning and development and tree safety audits with a service offered as a climber to undertake full climbing inspections to better understand the condition of a given tree before prescribing a management strategy.
- I also undertake litigation work appearing as an Expert Witness in Court Actions and at Planning Appeals, Hearings and Public Local Inquiries.



Bernie Harverson M.Arb.

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