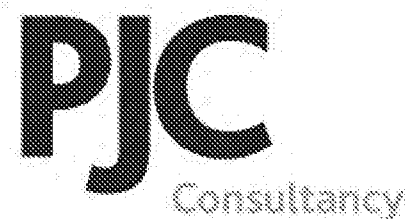


Arboricultural Impact Assessment & Method Statement

Land North of:
Stakers Farm
North End Road
Yapton

23 June 2017



PJC ref: 4372/17-02

This report has been prepared by
PJC Consultancy Ltd
on behalf of
Granite Gate Ltd

Prepared by	Owen Allpress BSc(Hons) M.Arbor.A Owen has received both an FdSc and a BSc (Hons) in Arboriculture and is a professional member of the Arboricultural Association. Working in the industry for nearly 10 years, Owen has extensive experience in arboricultural contracting, consultancy and business management.
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CONTENTS

1 Executive summary

2 Introduction

3 Initial tree survey

4 Arboricultural impact assessment

5 Arboricultural method statement

Appendices:

1. Tree Constraints Plan and Tree Protection Plan
2. Tree Survey Schedule
3. Cascade chart for tree quality assessment
4. Root protection area formulas
5. Tree protection fencing specification
6. Example protective fencing signs

1 EXECUTIVE SUMMARY

1.1 **Proposal:** Outline Planning Application for 70 no. residential dwellings including 30% affordable, public open space and associated landscaping. All matters to be reserved apart from Access (access to be achieved via permitted road (reference Y/93/14/OUT)).

1.2 **Site location:** The site is located to the west of North End Road and more broadly to the northwest of Yapton village centre. The site is bordered to the northeast by Yapton C of E Primary School, to the east and south by agricultural buildings and residential dwellings and to the north, south and west by agricultural land. The location of the site within its environs can be seen in figure 1 below



Figure 1: Location of Site and Environs

1.3 **Tree removals:** Three trees, T7, T8 & T9 will be removed to facilitate the proposed development. An additional tree, (T1 PA) will be removed as a result of their defects.

1.4 **Access facilitation pruning:** Based on the information available at the time of this report no access pruning is required to facilitate the proposal.

1.5 **Works within root protection areas:** All proposed new buildings and areas of new hard standing surfaces are positioned to avoid the root protection areas of retained trees.

2 INTRODUCTION

2.1 Instruction: PJC Consultancy has been instructed by Granite Gate Ltd to provide an Arboricultural Survey including Arboricultural Impact Assessment and Method Statement of Land North Of Stakers Farm, Yapton. The proposal is to develop land north of the farm for 70 no. residential dwellings including 30% affordable, public open space and associated landscaping.

2.2 Brief: PJC Consultancy has been commissioned to carry out a tree survey and to compile an arboricultural impact assessment in accordance with guidelines set out in BS5837: 2012 *'Trees in relation to design, demolition and construction – Recommendations'*.

2.3 Scope of this report: This report is concerned with all significant trees located within the site boundary and those located around the curtilage of the site with the potential to impact or be impacted by the proposed construction works (in relation to root or crown protection or foundation design).

2.4 Contents of report: This report has been produced to provide a schedule trees to be removed or pruned for the proposed development, as well as to evaluate the implications of the development on retained trees. The report includes the following:

- A schedule of existing trees at the site including an assessment of their condition and value based on the existing land use.
- A schedule of trees to be retained/removed.
- A schedule of access facilitation pruning required for development.
- An assessment of the impact construction works will have on retained trees and mitigation measures to be implemented.
- An assessment of post development pressures on trees.
- Recommendations for post development arboricultural management.
- Tree Constraints Plan and Tree Protection Plan.

2.5 Documents and information provided: The following documents were provided by the client to produce this report:

- Topographical survey 17036-02-T-E
- Proposed layout 6468-site-170410

3 INITIAL TREE SURVEY SUMMARY

3.1 Site visit: A site visit was carried out on 29th March 2017. The weather conditions at the time were adequate to carry out a comprehensive assessment of trees on site. The initial survey assessed the trees in the context of the existing land use, not in consideration of development proposals.

3.2 Limitations of site visit: The survey methodology was restricted to a visual tree assessment from ground level. No tree climbing or ground investigation was carried out for this report. Where existing site constraints are present such as ivy covered trees, a very dense under-storey, or where trees are located on third party land to which access was not granted, tree dimensions were estimated by eye as accurately as possible.

3.3 Site layout: The site consists primarily of a large open paddock with farm buildings located to the south-western corner outside of the site. At the entrance, hard-standing surfaces form a driveway to access the farm from North End Road. Few trees exist at the site, with the majority located at the existing entrance to the farm outside of the site with some younger planted trees within the grazing paddocks.

3.4 Statutory tree protection: Arun District Council's online mapping service was accessed on 4th April 2017 to ascertain the presence of tree related restrictions at the site. A group TPO ref TPO/Y/1/10 exists outside of the site boundary at the frontage of the existing farm entrance to the south along North End Road. Any persons proposing to undertake tree works must check the status of these trees with the local authority and gain necessary consent before works are undertaken.

3.5 Financial penalties and/or criminal proceedings can result if tree works are carried out on a protected tree without consent. The entirety of the tree is protected, both above and below ground.

3.6 Tree categorisation summary: The table below summarises the category of trees recorded across the site. Further information can be found about each tree within the Tree Survey Schedule in Appendix 2.

Table 1: Tree categorisation summary

Categorisation	Individual tree	Tree group	Hedgerow
A	-	-	-
B	5	5	1
C	2	-	-
U	1	-	-
Total	8	5	1

4 ARBORICULTURAL IMPACT ASSESSMENT

4.1 Tree removals: The majority of the site consists of open field and few trees are present that will be effected by the proposal. Trees to be removed for the proposed development are shown with dashed outlines on the Tree Protection Plan in Appendix 1. These include T1pa, T7, T8 & T9.

4.2 The loss of trees will be mitigated by planting during the soft landscaping phase of development. Reference should be made to landscaping plans accompanying the application. The majority of trees to be removed are of a lower quality (category C) where a single higher category tree (Cat B) is specified as being removed the proposed landscape planting mitigates by a significant margin.

4.3 Access facilitation pruning: Based on the information currently available, no access facilitation pruning beyond the initial tree clearance works will be required to facilitate the proposed development. Any requirements for access facilitation pruning that cannot be predicted at this stage in the design process (e.g. for contractor compound or movement of large plant) should be discussed at the pre-commencement meeting with the project arboriculturalist and agreed with the local authority arboricultural officer. No works may be carried out on protected trees without prior permission from the local authority.

4.4 All proposed buildings and areas of new surfacing will be located outside the root protection areas of retained trees. Provided the exclusion zones and methodologies described in the arboricultural method statement and Tree Protection Plan are followed, trees proposed for retention should not be adversely affected by the construction works.

4.5 Services: Details of the routing of services for the proposed development are not currently available. Once details of the routing of new services become available, prior to commencement, these shall be reviewed by the project arboriculturalist. The arboriculturalist shall then confirm to the local authority arboricultural officer either that no works will be carried out within root protection areas, or provide details of the methodology required to ensure the works are carried out in accordance with NJUG10 '*Guidelines for the planning, installation and maintenance of utilities in proximity to trees*' and BS5837: 2012.

4.6 Conclusions: Based on the above assessment, trees recommended for retention in this report can be protected during the proposed construction works and successfully integrated into the site post development.

4.7 Provided the approaches and methodologies and exclusion zones described in the arboricultural method statement are followed, trees proposed for retention in this report should not be adversely affected by the proposed construction works.

5 ARBORICULTURAL METHOD STATEMENT

5.1 General requirements: The arboricultural method statement and Tree Protection Plan shall remain on site for the duration of demolition, construction and landscaping works and be available to site operatives at all times. All operatives at the site shall be briefed about tree related factors as part of their site induction.

5.2 Any variation from the methodology described in this method statement shall be discussed with the supervising arboriculturalist and agreed with the local authority arboricultural officer.

5.3 Initial tree works: The tree works listed in the management column of the Tree Survey Schedule shall be carried out as the first stage of development. Tree stumps and vegetation located within the root protection areas of retained trees shall be cleared with controlled hand tools (e.g. stump grinder/brush cutter). Plant machinery shall not be used to scrape vegetation within root protection areas or access the site until the tree protection barriers have been installed.

5.4 If bonfires are lit to dispose of arising's from the vegetation or tree clearance works, an assessment of wind direction and strength shall be made to ensure flames cannot extend within 5m of any part of a retained tree, including its root protection area.

5.5 Trees should be checked for protected species before works are undertaken. It is against the law to disturb bats or their roosts under the Conservation of Habitat and Species Regulations. Nesting birds are protected by the Wildlife and Countryside Act. If protected species are discovered, Natural England should be contacted for advice.

5.6 The tree works contractors should carry out all tree works to BS3998: 2010 '*Tree works – recommendations*' as modified by research that is more recent. They should also carry relevant, adequate and up to date insurance.

5.7 It is recommended that an Arboricultural Association approved contractor carry out all tree works. Approved contractors are expected to work to industry best standards. The Arboricultural Association website contains contact details and information on engaging a suitable contractor.

5.8 Tree protection barriers: The root protection areas of retained trees must be left free from disturbance, and protected from contamination or compaction during the proposed works.

5.9 The tree protection fencing shall be installed in the locations shown on the Tree Protection Plan. The specification for fencing is included in Appendix 5. Signs shall be affixed to the fencing as shown in Appendix 6 to explain its purpose.

5.10 Tree protection barriers shall be installed following the initial tree works, prior to construction traffic entering the site. They shall remain in place for the duration of construction and hard landscaping works.

5.11 The areas protected by fencing or ground protection shall be referred to as the construction exclusion zones. The following actions shall be prohibited within the construction exclusion zones:

- Vehicular access unless on suitable ground protection.
- Regular pedestrian access unless on suitable ground protection.
- Storage of construction materials.
- Storage or handling of harmful chemicals.
- Any change in ground level unless otherwise stated in this report or under supervision of project arboriculturalist.
- Construction activities including hard surfacing unless otherwise stated in this report.

5.12 **Storage and handling of harmful chemicals:** Provision needs to be made to avoid the storage and handling of harmful chemicals in proximity to trees. Harmful chemicals include fuels, oils, builder's sand (which has a high salt content) and cement. Cement mixing shall only occur where there is no potential for cement washings to leech into a root protection area. Provision shall also be made to prevent fuelling or the handling of cement from occurring in areas proposed for further planting.

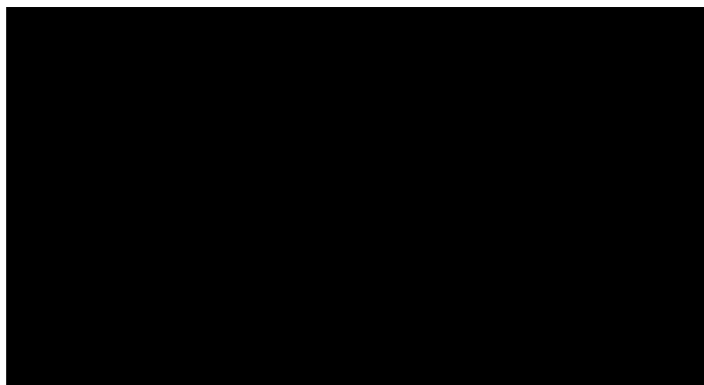
5.13 **Contractor facilities:** A suitable location for site cabins, contractor parking and site facilities for operatives shall be agreed with the project arboriculturalist during a pre-commencement meeting. These facilities should be located outside the root protection areas of retained trees (unless on retained tarmac surfaces). Provision must also be taken to prevent exhaust fumes or hot air from generators or kitchen facilities from damaging the canopies of retained trees.

5.14 If significant root growth is disturbed during construction activities that are not within the scope of this report, the work shall cease until the project arboriculturalist has been consulted. Roots greater than 25mm in diameter or dense/matted fibrous roots shall be considered significant root growth. It should be remembered that whilst root protection areas are part of industry best practice, tree root growth is influenced by a number of factors and may not conform to expected ideals.

5.15 If at anytime during the construction process, damage is inadvertently caused to a tree, the project arboriculturalist shall be notified to assess the likely implications and to prescribe potential remedial measures to be implemented. Damage can be in the form of chemical or fuel spillage, mechanical damage to either the above ground parts of the tree or the roots, fire or any other unforeseen circumstance.

Contact details

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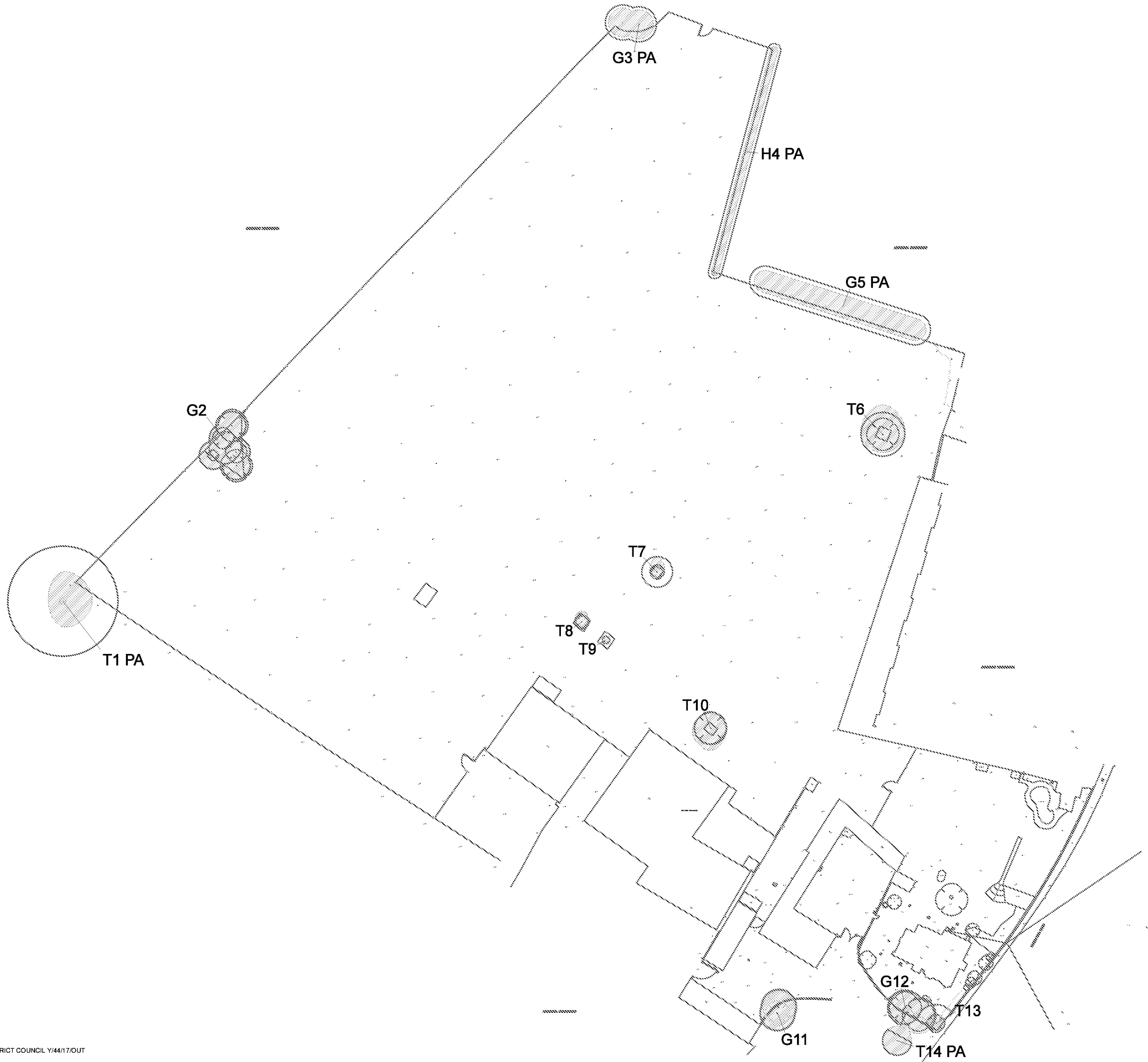


Author: Owen Allpress

Date: 23 June 2017

APPENDIX 1

Tree Constraints Plan and Tree Protection Plan



- Key:**
- RPA for CAT B* tree
 - RPA for CAT C* tree
 - RPA for CAT U* tree
 - Tree canopy

* Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.

Appendix 2, (Tree Survey Schedule) contained within the arboricultural report ref. no. PJC/4372/17-01 contains further information for each tree.

This drawing should be viewed in colour.

Drawing no: PJC/4372/17/A	Rev: 01	Sheet number: 1 of 1
Client and site: Future Planning Ltd		
Land North of Stakers Farm North End Road Yapton		
Drawing title: Tree Constraints Plan		
Date drawn: 30/03/2016		
Scale: 1:1000 at A3		
Drawn by: AE	Checked by: NB	



APPENDIX 2

Tree Survey Schedule

Tree Survey Schedule

				Client: Granite Gate Ltd Site: Stakers Farm, Yapton Survey date: 29th March 2017 Surveyor: Adam Earl							T: Individual tree or shrub G: Group of 2 or more trees H: Hedgerow W: Woodland block		
Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Preliminary management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T1	Monterey Cypress (Cupressus macrocarpa)	10	1800	N: 8 E: 8 S: 7 W: 4	Crown: 3 N Branch: 2 E	Over Mature	Poor	Fair	Third party tree. Extensive dieback to south. Southern stems dead standing.	No recommendations on date of survey.	U	707.8	15.0 Capped
G2	English Oak, Ash, Hawthorn	Up to 7	Up to 320	N: 4 E: 4 S: 4 W: 4	Crown: 1 Av Branch: 2 Av	Early Mature	Good	Good	Crown lifted to 2m. Some limbs crossing/rubbing causing death of limb.	No recommendations on date of survey.	B2	46.4	3.8
G3	Ash (Fraxinus excelsior), Hornbeam (Carpinus betulus)	Up to 5	Up to 400 Est.	N: 4 E: 4 S: 4 W: 4	Crown: 2 Av Branch: 0 E	Mature	Good	Good	Third party tree group. Multistem trees. No visible major defects.	No recommendations on date of survey.	B2	72.5	4.8
H4	Field Maple (Acer campestre), Hazel (Corylus avellana)	2	Up to 150	N: 1 E: 1 S: 1 W: 1	Crown: 0 Av Branch: 0 Av	Mature	Good	Good	Third party hedgerow. Screens site from school. Pruned as formal hedge by flail.	No recommendations on date of survey.	B2	10.2	1.8
G5	Weeping Willow, Alder, Silver Birch	Up to 9	Up to 350 Est.	N: 3 E: 3 S: 3 W: 3	Crown: 2 Av Branch: 2 Av	Mature	Good	Good	Third party tree group. Planted tree stock in school grounds.	No recommendations on date of survey.	B2	55.5	4.2
T6	Ash (Fraxinus excelsior)	8	500	N: 8 E: 6 S: 5 W: 6	Crown: 2 N Branch: 2 N	Mature	Good	Good	Crown lifted to 2m. Open grown form.	No recommendations on date of survey.	B1/2	113.3	6.0

Tree Survey Schedule

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Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Preliminary management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T7	European Lime (Tilia x europaea)	4	350 Comb.	N: 4 E: 2 S: 2 W: 2	Crown: 0 Av Branch: NA	Early Mature	Good	Good	Multistem from base. Crossing/rubbing limbs. Constricted by fence surrounding tree to prevent grazing.	No recommendations on date of survey.	B2	55.5	4.2
T8	Horse Chestnut (Aesculus hippocastanum)	3	130	N: 3 E: 2 S: 2 W: 2	Crown: 0.5 Av Branch: 1 E	Early Mature	Good	Good	No visible major defects.	No recommendations on date of survey.	C2	7.7	1.6
T9	Horse Chestnut (Aesculus hippocastanum)	2	90	N: 1 E: 1 S: 1 W: 1	Crown: 0.5 Av Branch: 0.5 Av	Semi Mature	Good	Good	No visible major defects.	No recommendations on date of survey.	C2	3.7	1.1
T10	Beech (Fagus sylvatica)	6	370	N: 4 E: 4 S: 6 W: 5	Crown: 2 Av Branch: 2 S	Early Mature	Good	Good	Open grown form.	No recommendations on date of survey.	B1/2	62.0	4.4
G11	Alder (Alnus glutinosa)	9	Up to 390	N: 5 E: 5 S: 5 W: 5	Crown: 1 E Branch: 2 N	Mature	Good	Good	Adjacent to flint wall. Root growth visible beneath hard standing to north of wall.	No recommendations on date of survey.	B2	68.9	4.7
G12	Cherry (Prunus sp.)	6	Up to 400	N: 5 E: 5 S: 5 W: 5	Crown: 2 Av Branch: 1 Av	Mature	Good	Good	Planted garden trees. Pruned over garden to north.	No recommendations on date of survey.	B2	72.5	4.8

Tree Survey Schedule

				Client: Granite Gate Ltd Site: Stakers Farm, Yapton Survey date: 29th March 2017 Surveyor: Adam Earl							T: Individual tree or shrub G: Group of 2 or more trees H: Hedgerow W: Woodland block		
Tree ref. no.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Preliminary management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T13	Western Red Cedar (<i>Thuja plicata</i>)	8	410 Est.	N: 2 E: 2 S: 2 W: 2	Crown: 0 Av Branch: NA	Mature	Good	Good	Visible from road frontage. No visible major defects.	No recommendations on date of survey.	B1/2	76.2	4.9
T14	Hazel (<i>Corylus avellana</i>)	4	300 Comb.	N: 4 E: 3 S: 3 W: 3	Crown: 0 Av Branch: NA	Mature	Good	Good	Contorted hazel growing within stool. Visible from road frontage.	No recommendations on date of survey.	B2	40.8	3.6

APPENDIX 3

Cascade Chart for Tree Quality Assessment

Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of their 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 the removal of other category U trees (e.g. 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 <i>Note Category U trees can have existing or potential conservation value which it might be desirable to preserve</i>			Red
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
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)	Green
Category B Trees of moderate quality 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 remedial 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 value 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	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 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	Grey

APPENDIX 4

Root Protection Area Formulas

CALCULATING THE RPA

For single stemmed trees

$$\text{RPA(m}^2\text{)} = \frac{(\text{stem diameter (mm)} @ 1.5 \text{ m x } 12)^2 \times 3.142}{1000}$$

For trees with two to five stems, a combined stem diameter is calculated as follows:

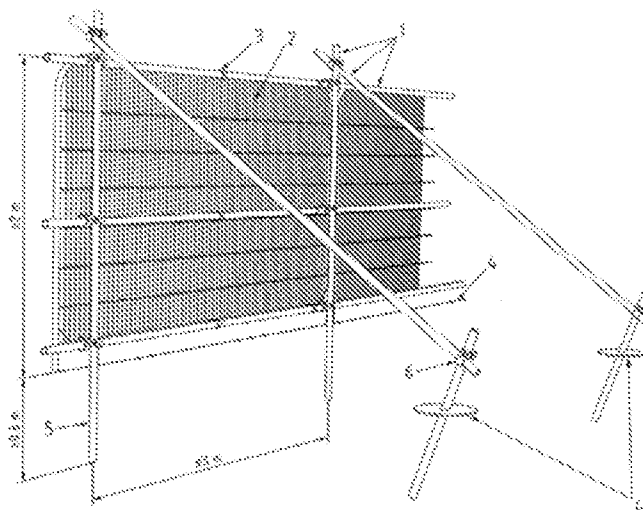
$$\sqrt{(\text{stem diameter } 1)^2 + (\text{stem diameter } 2)^2 \dots + (\text{stem diameter } 5)^2}$$

For trees with more than five stems, the combine stem diameter is calculated as follows:

$$\sqrt{(\text{mean stem diameter})^2 \times \text{number of stems}}$$

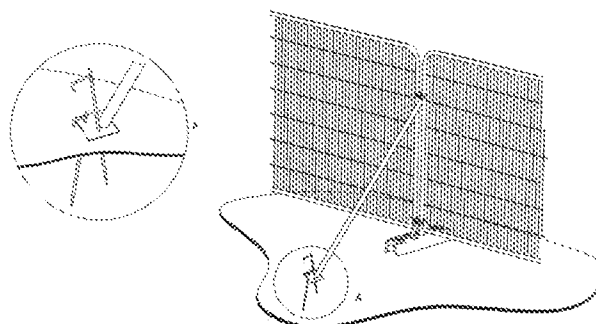
APPENDIX 5

Tree Protection Fencing Specification

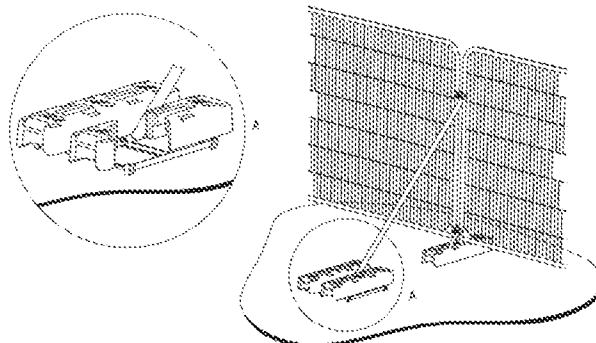


Key

- 1 Standard scaffold poles
- 2 Heavy gauge 2 mm tall galvanized iron and welded mesh self 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 0.5 m)
- 6 Standard scaffold clamps



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

APPENDIX 6

Example Protective Fencing Signs

