

THE ARBORICULTURAL
CONSULTANCY LTD

ARBORICULTURAL IMPACT ASSESSMENT AND METHOD STATEMENT

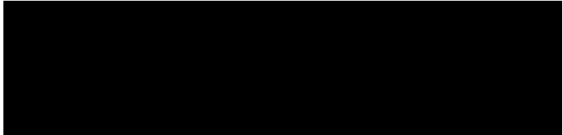
31 Lagoon Road, Pagham

Reference Number: 0517.AMS
Version: One

Date: 11 November 2019

Site Address:
31 Lagoon Road
Pagham
PO21 4TJ

The Arboricultural Consultancy LTD
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Southwick
West Sussex
BN42 4NS



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Surveyors Details			
Author(s) Name	Company	Position	Contact information
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Qualifications			
Foundation degree arboriculture (level 5), Lantra Professional tree inspection.			

Details

Purpose of the Report:

The report is designed to fulfil the recommended criteria for the provision of arboricultural information in validating planning applications (ref: Department for Communities and Local Government Circular 02/2008 and the associated guidance document entitled 'Validation of Planning Applications')

Included within the contents of this report is: Arboricultural Impact Assessment (AIA) and Arboricultural Method Statement (AMS)

Client: Darrell Hardy

Date: 11 November 2019

Report prepared by: Mr B Tidey FdSc (arb) of The Arboricultural Consultancy Ltd

Address: 3 Old Barn Way, Southwick, West Sussex, BN42 4NS

Site Address:

31 Lagoon Road
Pagham
West Sussex
PO21 4TJ

Use of Report:

This report is to give information on tree stock and is to be used in conjunction with;

TCP.LR.515.V1

TPP.LR.517.V1

Tree Constraints Plan Information and Tree Schedule - 31 Lagoon Road ref 0517

Proposal:

The site is to have the existing dwelling demolished and a larger bungalow constructed. The current planning application is P/120/18/PL

Use of Report:

This report is to be used at the development stage and not all the information is applicable to every reader. The summary highlights which areas are more applicable to specific users of the report to help target the relevant information to those implementing the necessary instruction.

Survey Method:

All tree inspections, unless specified, have been undertaken from ground level and using non-invasive techniques. Comments contained within the report on the condition and risk associated with any tree relate to the condition of the tree at the date and time of survey. Please note that the condition of trees is subject to change. This change may occur, but is not limited to biological and non-biological factors as well as mechanical/ physical changes to conditions in the proximity of the tree. Trees should be inspected at intervals

relative to identified site risks and in accordance with relevant HSE and Central Government guidance. The Arboricultural Consultancy can provide further information on this matter if required. Where tree surgery works have been identified these works are based on the assumption that planning is approved, no tree works should be undertaken prior to determination of this application without up to date confirmation of the Tree Preservation Order / Conservation Area Status of the vegetation. All works should be undertaken in accordance with the appropriate Duty of Care. This should include, for example, site specific risk assessments and due diligence inspections for the presence of protected species. Any comment relating to 3rd party trees has been made without full access to the tree(s). Should these trees have any impact on the proposed development we would advise you to instruct us to contact the third party and undertake further inspection work.

Report Caveats

The trees have been surveyed in accordance with the criteria set in the BS: 5837: Trees in Relation to Design, Demolition and Construction - 2012. A full hazard assessment of the trees (including assessment of decay or their defects and their implications) has not been undertaken as this is considered beyond the scope of this report. Any obvious hazards and defects have been identified where relevant in the Tree Survey Schedule and appropriate relating works have been recommended. Where relevant, trees not located within the legal property of the owner have been included and any works would be subject (where relevant by law, Statute and Common) to the owner's permission. Where appropriate further investigative works to be undertaken have been detailed and recommended. This may include climbing inspections, below ground exploratory investigations and the use of specialist decay detection equipment. Detailed ecological considerations are also beyond the scope of this report. UK and European Wildlife Legislation may affect the timing and even prohibit the enhancement of works and operations described in this report. Most of the information regarding wildlife can be found in the Wildlife and Countryside Act 1981 & updated 1994. This includes information of wild birds, bats, badgers and some insects. Bats in particular are afforded particular protection and a specialist is required to determine if bats are present or may be affected when carrying out tree works. Further information is available from Natural England.

This document has been produced before planning consent is issued and before specific site orientated logistics can be confirmed. It is accepted that this document may need to be updated and more detailed information added throughout the planning and development process. However, this document will be the main documentation for reference in the event of disputes.

1.0 Introduction

- 1.1 The Arboricultural Consultancy have been appointed by Darrell Hardy to provide information regarding the impact to trees from the proposed property development.
- 1.2 The Pre-Development Tree Condition Survey (see tree schedule, appendix 1), was undertaken on Friday 18th October 2019, this survey assessed the condition of the tree resource, categorised the trees and provided the Root Protection Area (RPA) information according to the BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'. The survey informed the production of this Arboricultural Impact Assessment.
- 1.3 The layout drawing showing the development proposal for the site was provided after the site inspection was undertaken.
- 1.4 The site has tree rotting area conflicts with the proposed development as well as the need to remove Low quality trees
- 1.5 The tree numbers used in this report refer to the tree numbers used in our Tree Plan - *TCP-5CD-REF449-V1-A4, Tree Constraints Plan Information and Tree Schedule and TCP.LR.517.V1*

2.0 Executive Summary

- 2.1 The proposed development is for the construction of a replacement dwelling.
- 2.2 Trees located within the parcel of 31 Lagoon Road is an area of mixed shrub and smaller ornamental trees species as well as hedging that is all of low quality and offer no wider amenity. Further to this are 3 larger trees located in neighbouring property of 33 Lagoon Road and impact the development site.
- 2.3 There is the need to remove low quality trees from the site to facilitate development works as well as to allow for landscaping.
- 2.4 The removal of trees shall be mitigated by a tree planting plan that is suitable to the scale of the development site.
- 2.5 Pruning operations are not needed for the development as it currently stands but this may change with tree growth over time.
- 2.6 There will be an incursion of root protection areas of T2 and T3, this in both cases is minimal and less than 4.5%, the as tree have historically had major pruning operation to top and prune back lateral growth.
- 2.7 Across the site and in proximity all trees are of 'C' low quality and 'U' unsuitable for retention quality. There are no trees of moderate or high quality.

2.8 The trees of 'C' low quality are located to the southern corner of the site and adjacent to this in the property of number 33. 'U' unsuitable for retention quality trees are located central and to the rear boundary (west) of the site.

2.9 Protection barrier fencing will be required to protect trees that are to be retained.

2.10 The proposed development footprint falls within a small section of RPA of two trees; T2 and T3, this calculates as 0.5% and 4.2% respectively. These trees are of a species that is known to tolerate root disturbance well and adapt well to growth in built environments. These trees have also historically been subject to heavy pruning operation.

2.9 A summary of the affected trees for proposed development is detailed in the table below:

Impact	Reason	A	B	C	U
Trees to be removed	To facilitate the development or due to their condition (U cat)	None	None	None	TG6 & TG7
Retained trees to be pruned (at time of reporting)	To address identified defects/ facilitate construction	None	None	None	None
Probable conflicts with tree RPAs	Incursion of the RPA of trees to be retained, this will need to be mitigated to insure tree health	None	None	T2 & T3	None

2.10 It is deemed appropriate that Heras style protective barrier fencing that is pinned into the ground is adequate for protection of retained tree.

2.11 Where excavation is needed within RPAs this shall be kept to a minimum. The excavation will require the pruning of roots.

3.0 Arboricultural Impact**3.1 Tree Removal**

3.1.1 Tree to be removed by BS5837:2012 category are:

Impact	Reason	A	B	C	U
Trees to be removed	To directly facilitate the development or due to their condition (U cat)	None	None	None	TG6 & TG7

3.1.2 The removal of TG6 and TG7 is because of their low quality and to facilitate the development and associated landscaping, the removal of these trees will allow space for strong suitable tree planting to enhance the area.

3.2 Root Protection Area (RPA) Incursions

3.2.1 Retained trees that will have incursion into their RPA, by BS5837:2012 category are:

Impact	Reason	A	B	C	U
Probable conflicts with tree RPA's	Incursion of the RPA of trees to be retained, this will need to be mitigated to insure tree health	None	None	T2 & T3	None

3.2.2 The incursion of Root Protection Areas (RPAs) is applicable for trees T2 and T3, the incursion of RPA for T2 is less than 0.5% and of T3 is less than 4.5%. This incursion is for development footing and will require excavation. The tree species are of *Leylandii*, these trees have historically been heavily pruned with a much larger RPA than a tree of its height and crown size would typically require. The roots that may be found within the area of excavation will require pruning.

3.2.3 The impact to tree health is considered to be minimal because of the tree species having a high tolerance to disturbance and adapts well to changing growing environments.

3.2.3 At the time of development the RPA of all retained trees shall be protected, it is considered that with protective fencing installed there is adequate space for development activity.

3.3 Tree Pruning

3.3.1 There is no tree that will require pruning to facilitate the development

Impact	Reason	A	B	C	D
Retained trees to be pruned (current)	To address identified defects/ facilitate construction	None	None	None	None

3.4 Foundations/ below ground structures

3.4.1 In instances where soil conditions are known to be of shrinkable clay and retained trees are present in proximity to buildings there is a potential for future tree related subsidence to occur. On this site and in accordance with information from the BGS, soils in relation to the site are known to be of Lambeth Group - Clay, Silt and Sand Clay formation – the retained and removed trees therefore have the potential to constrain the foundation design for any adjacent new buildings within influencing distance. Final decisions as to the risks presented by retained / removed trees upon adjacent new buildings should be subject to detailed site geotechnical information being available, assessed by a structural engineer.

3.5 Services

3.5.1 It is not proposed that any services will be run within tree RPAs.

3.6 Ground Levels

3.6.1 No changes to existing ground levels are proposed within the RPAs of retained trees.

3.6.3 Issues surrounding changes in levels, mounding, retaining walls, slopes and hard landscaping may apply to the development areas. Any alterations to levels close to or within the RPA of retained trees should be avoided and this includes hard landscaping features such as new footpaths, retaining walls etc.

3.7 Shading

3.7.1 Shading from trees will only be minimal as the larger trees are routinely managed to keep their height and with at their current dimensions. This shading will have a modicum of impact to the southern aspect of the proposed garage unit.

3.8 Tree Protection

3.8.1 Tree protective barriers/ fencing will be required on the site to protect retained trees' Root Protection Areas (RPA), this will protect trees T1, T2, T3, T4 & T5.

3.9 Site Supervision/ Monitoring

- 3.9.1 Most damage to trees on development sites is caused inadvertently and to ensure continued protection during development a system of site monitoring is proposed.
- 3.9.2 Basic checks will ensure that any protective fencing is adequate. Any unforeseen issues can also be identified and discussed before damage to the tree(s) occurs.
- 3.9.3 The Local Planning Authority is invited to secure the following schedule by way of Planning Condition. To be effective the Local Planning Authority must provide us with a copy of the formal Decision Notice to ensure we can then contact and follow up the proposed monitoring. A copy of the Decision Notice should be emailed to ben@thearbconsultant.co.uk. The number of proposed visits is driven by the scale of the proposal.
- 3.9.4 A more detailed explanation of what will be assessed during the proposed monitoring will be provided within the Arboricultural Method Statement (AMS).

Visit	Date	Status
Pre-commencement Inspections Attend site to inspect type and location of tree protection and any temporary ground protection prior to development commencing and discuss any issues associated with demolition/ enabling works	TBC	Incomplete
Site Inspections Attend site to confirm fencing remains in place and supervise etc.	TBC	Incomplete
Post-development Inspection Final site visit to confirm that no damage has been done to retained trees/ identify any remedial actions in the event damage has occurred. Assess that tree planting has been undertaken and that planting areas are of suitable condition.	TBC	Incomplete

4.0 Arboricultural Protection Methods and Specifications

4.0 The Arboricultural Protection Methods and Specifications

- 4.1 The below tables outline the criteria that is required to achieve suitable tree protection.
- 4.2 Tree Protection Plan: This is to include all trees that may be affected by the proposed development.

SCOPE OF WORKS	CRITERIA
Tree Protection Plan	- Includes details and location of the tree protection fencing of the Root Protection Areas (RPA) to define the Construction Exclusion Zones (CEZ) - To indicate areas of 'hand-dig under supervision' within RPAs - To show the location of temporary ground protection where required - To show what trees/groups/hedging is to be removed - To indicate what trees will most likely need pruning.

4.3 Protective fencing: fencing is required to protect the trees to the southwest of the site.

SCOPE OF WORKS	CRITERIA
Protective fencing	- Location of fencing shall be as detailed in the Tree Protection Plans - The warning signs (as detailed within this report, Appendix 2) should be fixed at 6m intervals to raise awareness of the fencing and its desired function - Protective fencing must be in place prior to any site activities, it is recommended that this fencing is installed at the time site hoarding is erected - To be effective the tree protective fencing must remain in place for the duration of the development - Protective fencing for trees T1, T2, T3, T4 & T5 shall consist of Heras style fencing panels with their feet staked down with wooden or metal stakes that are driven into the soil, the fencing shall not be easily moved - Fencing is to be installed to the maximum extent of RPA or crown, whichever is greater; this will be specific within the Tree Protection Plan.

4.4 Site inspection, Monitoring and Supervision: this will be for the duration of the development to ensure that all tree protection is being adhered to and to address any issues before they arise.

SCOPE OF WORKS	CRITERIA
Site Inspections and Supervision	- Arrange details of communication between the inspecting arboriculturist, and client / client appointed ground worker, demolition contractor etc. - Details, instructions and authority for inspections should be provided and retained on site at all times. - To ensure that the construction process is undertaken with minimal disturbance to the retained tree stock, we recommend that the experienced arboriculture consultant from The Arboricultural Consultancy Ltd is appointed to undertake regular inspections of the site according to a site inspection / supervision schedule below.

	- During the site visit any changes to the proposed works will be discussed, their impact assessed and recommendations for best practice will be outlined. After the visit a copy of a report should be sent to the Site Manager, Local Authority Tree Officer and Client. - Any damage or incidents regarding the retained trees should be reported to the consultant arboriculturist at The Arboricultural Consultancy Ltd any incidents requiring a planning variation will only be completed after prior approval and consultation with the LPA. - Where excavations are necessary within RPAs then this should be under the supervision of an arboricultural watching brief. - It is deemed appropriate to the scale of works that there is pre works tree protection audit and a signed off audit on completion of the project.
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4.5 Excavation within RPA of retained trees, this will be for minor areas of T2 and T3

SCOPE OF WORKS	CRITERIA
Excavation if within the retained tree RPAs	- Minor excavation within the RPAs are proposed, of T2 and T3 this will be for foundation of the garage unit. - Any excavations with the trees' Root Protection Area (RPA) should be undertaken by hand digging with hand tools to a depth of 600mm as this is where roots are most commonly found, excavations below this level may be undertaken by machinery, working away from the rooting area. - All excavations within RPAs will be undertaken under the supervision of an arboricultural consultant from The Arboricultural Consultancy Ltd. - It is not currently believed that there is the need to remove any hard surfacing within or close to trees, if this does become necessary then a full specification on remove existing hard surfacing is found in. - If roots with a diameter up to 25mm are found, then they are to be pruned to a side root, or suitable point, with secateurs, unless they are occurring in clumps. If larger (over 25mm) or clumps of roots are found then the project arboricultural consultant should be contacted before any further works in this area are undertaken. - If a major root with a diameter over 25mm or large clumps are found, it is to be wrapped in hessian, kept damp and hand dug around the roots and tunnel underneath (this may cause a confined space for which a Risk Assessment will need to be undertaken). There may be need to modify building methods to account for larger roots. - The soil will be back filled to original level where appropriate.

4.5 Implementation of Construction Exclusion Zone (CEZ)

SCOPE OF WORKS	CRITERIA
Construction Exclusion Zone (CEZ)	• Areas that are root protection areas or under tree crowns whatever is greater shall be protected with Protective barrier Fencing (section 3.4). • The area within the fencing shall be considered as a construction execution zone (CEZ), having no construction operations. Including operations, storage or location of welfare units, or dumping/ run-off of contaminated fluid or waste. • This area is to be clearly signposted of the CEZ designation.

4.7 Tree Removal: There is only the need to remove tree groups TG6 & TG7

SCOPE OF WORKS	CRITERIA
Tree Removal	• Only trees that are indicated in the Tree protection Plan for removal shall be removed. • Tree work shall be undertaken to BS3998:2010 'Tree work – Recommendations'. • Work shall be undertaken by a qualified, competent, insured company. • UK and European Wildlife Legislation may affect the timing and even prohibit the enhancement of works and operations described in this report. Most of the information regarding wildlife can be found in the Wildlife and Countryside Act 1981 & updated 1994. This includes information of wild birds, bats, badgers and some insects.

5.0 Conclusion

- 5.1 There will be an impact to the local tree stock with the removal of lower quality trees from the rear garden, there will also be an impact from the development on retained trees; this is because of the need for foundations within Root Protection Areas of 2 trees. The development operations also has the potential to impact all retained trees on or close to the site.
- 5.2 Where there is excavation needed within trees' RPA care has been taken to keep this minimal, with a maximum incursion of less than 4.5% at its most intrusive this is considered to be acceptable given the trees' type and conditions. Further to this supervised excavations will ensure that any remove/pruning of roots is undertaken correctly.
- 5.3 With the removal of lower quality trees that are not suitable for retention, the garden offers an opportunity for quality tree planting.
- 5.4 The development phase has the potential to have an impact to retained trees, therefore tree protection is necessary this will be formed of Protective barrier fencing, to ensure correct application a pre development tree protection audit shall be undertaken.

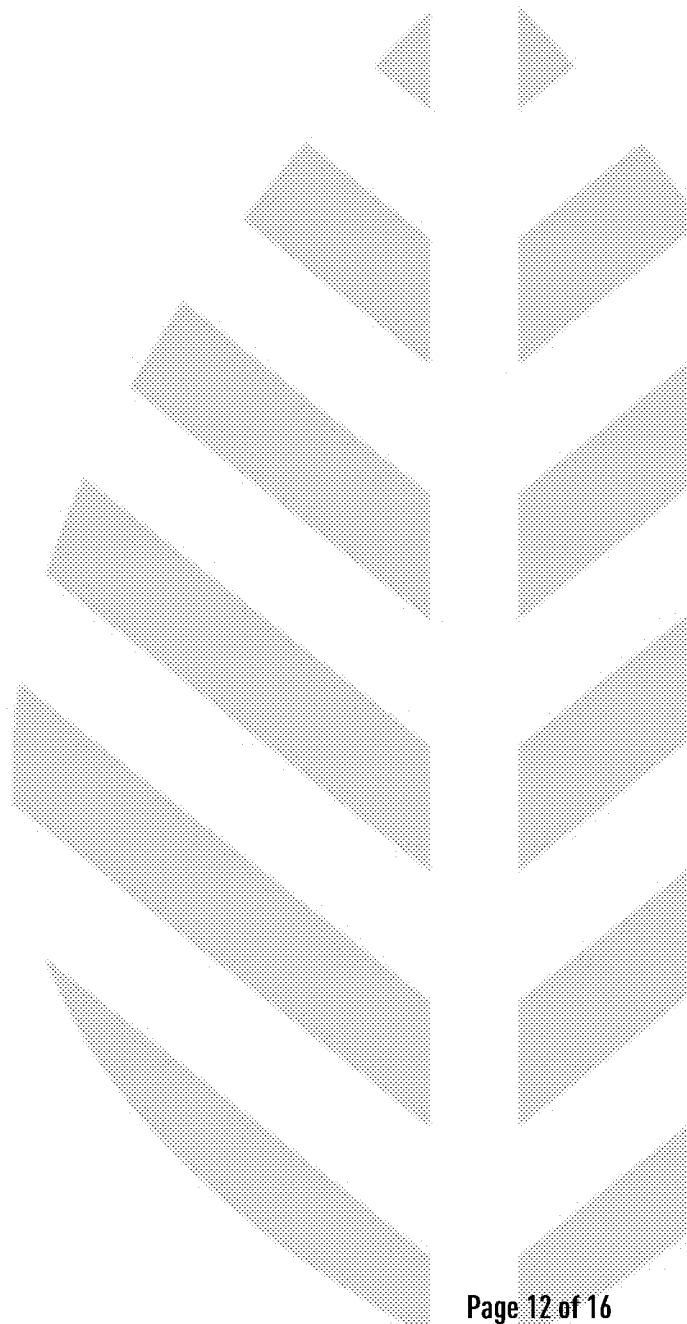
- 5.5 If all the above measures are undertaken then the necessary work at will have a minimal effect on the local treescape.



Ben Tidey FdSc

Consultant Arboriculturist

Monday, 11 November 2019



Appendix 1: Arboricultural Protection Schedule

Tree ID	Common Name/ Latin Name	Category/ Subcategory	Impact from the development	Mitigation required
#T1	Leyland Cypress/X <i>Cupressocyparis leylandii</i>	C / T Landscape Values	- Potential incursion of RPA from above ground operations - Potential damage to above ground parts	- Protective barrier fencing to be installed on maximum extent of RPA or crown whatever is greater - RPA within fenced area to become a construction exclusion zone (CEZ)
#T2	Leyland Cypress/X <i>Cupressocyparis leylandii</i>	C / T Landscape Values	- Potential incursion of RPA from above ground operations - Potential damage to above ground parts excavations for footings/ foundations	- Protective barrier fencing to be installed on maximum extent of RPA or crown whatever is greater - Supervised excursions from project arboriculturalist - Pruning of roots under 25mm - Possible change of building method if large roots of clumps of fibrous roots are discovered - RPA within fenced area to become a construction exclusion zone (CEZ)
#T3	Leyland Cypress/X <i>Cupressocyparis leylandii</i>	C / T Landscape Values	- Potential incursion of RPA from above ground operations - Potential damage to above ground parts excavations for footings/ foundations	- Protective barrier fencing to be installed on maximum extent of RPA or crown whatever is greater - Supervised excursions from project arboriculturalist - Pruning of roots under 25mm - Possible change of building method if large roots of clumps of fibrous roots are discovered - RPA within fenced area to become a construction exclusion zone (CEZ)
T4	Irish Yew/ <i>Taxus baccata</i> 'Fastigiata'	C / T Landscape Values	- Potential incursion of RPA from above ground operations - Potential damage to above ground parts	- Protective barrier fencing to be installed on maximum extent of RPA or crown whatever is greater - RPA within fenced area to become a construction exclusion zone (CEZ)
T5	Irish Yew/ <i>Taxus baccata</i> 'Fastigiata'	C / T Landscape Values	- Potential incursion of RPA from above ground operations - Potential damage to above ground parts	- Protective barrier fencing to be installed on maximum extent of RPA or crown whatever is greater - RPA within fenced area to become a construction exclusion zone (CEZ)
TG6	Area of mixed smaller shrubs and ornamental trees	U	Trees to be removed	Landscaping of area to included larger shrubs or trees
TG7	Hedge/ <i>Euonymus</i>	U	Trees to be removed	Landscaping of area to included larger shrubs or trees

= Measurement estimated

T= Tree

TG = group of trees

Appendix 2: Tree Protection

BARRIERS/FENCING

All barriers/fencing agreed for the development must be installed prior to any works starting on site and ideally in conjunction with the erection of the site security measures. All barriers/fencing must stay in place until the all works on site are finished or as agreed by the consultant arboriculturalist and/or planning authority.

Default Specification:

The default specification consists of a vertical and horizontal scaffold framework that is well braced to resist impacts from vehicles and construction site operations. The specification recommended in the current BS 5837 states the vertical tube should be spaced at maximum intervals of 3m and should be driven securely into the ground. Once in place weld mesh or similar (Heras panels) will need to be securely fixed to the scaffold framework.

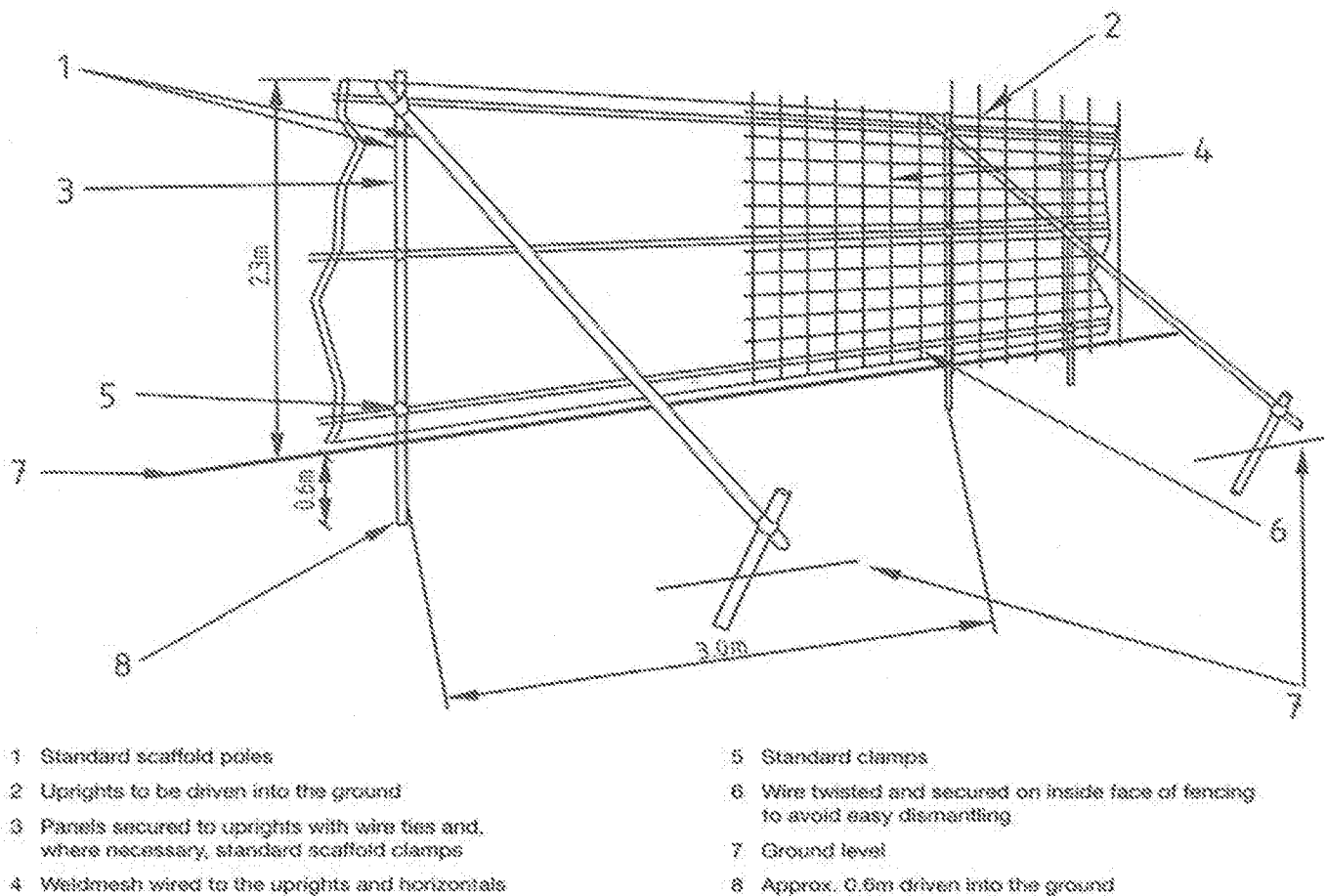


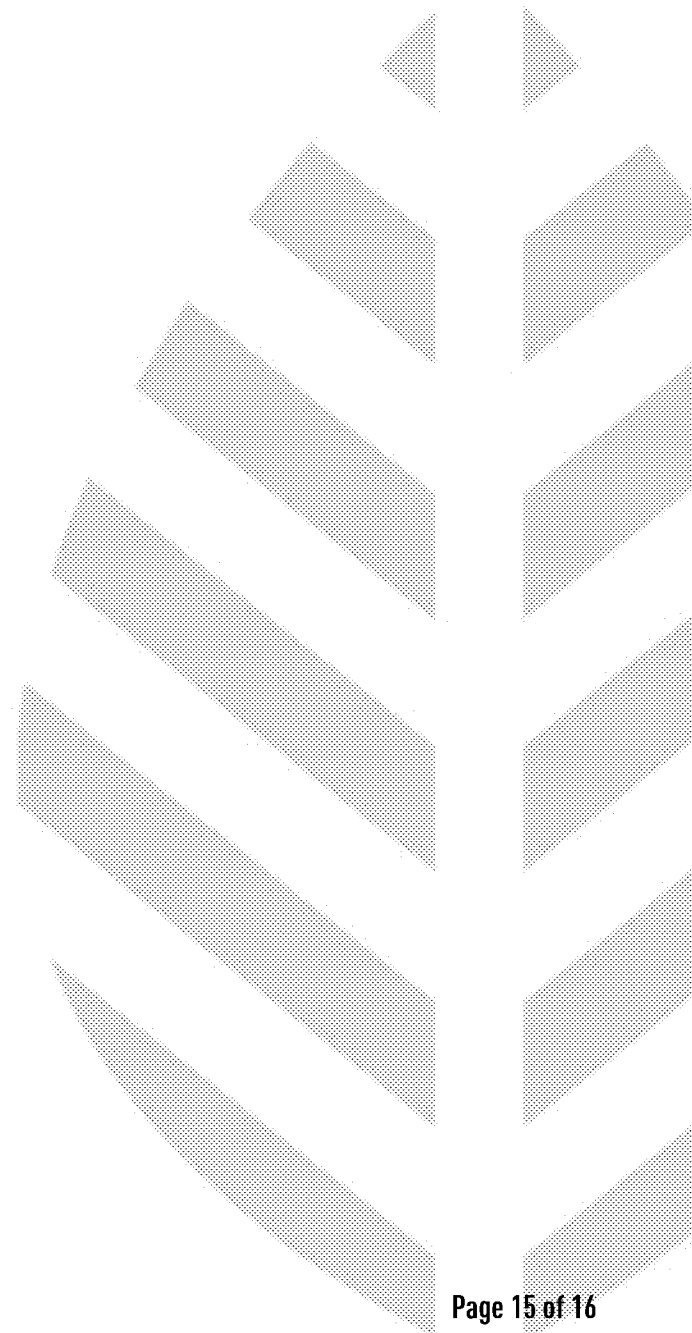
Figure 2. – Protective fencing for RPA

Signage:

All tree protection fencing is required to have signs attached at 4-6m intervals. Below are examples of the required signage to be attached to the tree protection barrier.



Above: Three examples of tree protection fencing signage ranging from a simple sign (*left*) attached with zip ties to more in-depth signs (*middle & right*) explaining the limitations and legal protection status of the trees being protected.



END OF REPORT

