Dandara Ltd

Planning Application WA/22/15/OUT Conditions

Land East of Fontwell Avenue

Arboricultural Method Statement

June 2020

ARUN DISTRICT COUNCIL WA/100/20/DOC

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1.0 INTRODUCTION

1.1 This Arboricultural Method Statement (AMS) has been prepared by FPCR Environment and Design Limited on behalf of Dandara Ltd to provide the methods of protection and pruning requirements for retained trees located at Land East of Fontwell Avenue, Fontwell, West Sussex, BN18 0SB (hereafter referred to as 'the site').

1.2 This statement also includes an updated Tree Survey Plan, Tree Retention Plan and accompanying Tree Schedule to previous versions produced in September 2016 by FPCR Environment and Design Limited as part of the outline planning application.

1.3 This AMS outlines the methodology by which construction will be undertaken in order to safeguard trees in a satisfactory condition during the construction of the proposed residential development and main point of access. This method statement sets out a definitive account for the treatment of retained trees during construction and specifies industry approved construction methods.

1.4 The detail and requirements of this Method Statement comprise commitments to complete the construction phase of the development in a specific manner and will inform the production of all relevant tender documents and instructions to contractors.

1.5 Failure to adhere to the correct sequence, manner and timing of operations detailed in this Method Statement may result in irremediable damage to trees or disturbance to retained tree cover. Retained trees are protected by planning law and reckless damage or tree removal could result in the serving of a stop notice or prosecution by the LPA.

Planning Consent

1.6 Outline planning consent has been granted for a 'for up to 400 new dwellings, up to 500 sq. m of non-residential floor space (A1, A2, A3, D1 and/or D2), 5,000 sq. m of light industrial floorspace (B1 (b)/(c) and associated works including access, an internal road network, highway works, landscaping, selected tree removal informal and formal open space and play areas, pedestrian and cyclist infrastructure, utilities, drainage infrastructure, car and cycle parking and waste storage, in accordance with application ref: WA/22/15/OUT.

1.7 This AMS has provided details to discharge the relevant conditions of the planning consent as detailed below.

1.8 Conditions:

10:

Prior to the commencement of construction works on each phase of the development, details of hard and soft landscaping and details of existing trees and hedgerows to be retained, shall be submitted to, and approved in writing by the local planning authority. The approved landscaping details shall be carried out in the first planting and seeding season, following the occupation of the buildings or the completion of the development of that phase, whichever is the sooner, and any trees or plants which, within a period of 5 years from the completion of development, die, are removed or become seriously damaged or diseased, shall be replaced in the next planting season with others of similar size and species, unless the local planning authority gives written consent to any variation.

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11:

(a) Prior to the commencement of development or other operations being undertaken on site a scheme for the protection of the retained trees produced in accordance with BS5837:2012 (Trees in relation to design, demolition and construction: Recommendations), which provides for the retention and protection of trees, shrubs and hedges to be retained on or adjacent to the site, including trees which are the subject of a Tree Preservation Order currently in force, shall be submitted to and approved in writing by the local planning authority. No development or other operations shall take place except in complete accordance with the approved protection scheme;

(b) No operations shall be undertaken on site in connection with the development hereby approved (including any tree felling, tree pruning, demolition works, soil moving, temporary access construction and/or widening or any operations involving the use of motorised vehicles or construction machinery) until the protection works required by the approved protection scheme are in place;

(c) No excavations for services, storage of materials or machinery, parking of vehicles, deposit or excavation of soil or rubble, lighting of fires or disposal of liquids shall take place within any area designated as being fenced off or otherwise protected in the approved protection scheme;

(d) Protective fencing shall be retained intact for the full duration of the development hereby approved and shall not be removed or repositioned without the prior written approval of the local planning authority

1.9 This AMS sets out the methodology for all proposed works that affect trees on the site. Compliance with this AMS, once approved by the Local Planning Authorities (LPA) Arboricultural Officer, will be a requirement of all relevant contractors associated with the development proposals.

Overview of Trees on Site

1.10 Seventy-six trees, thirty-six groups of trees and six hedgerows form the subject of this survey, some of which are situated offsite. All detailed information on individual trees can be found in Appendix A – Tree Schedule and identified on the Tree Survey Plans (Drawing no. 6233-T-01 to 6233-T-04).

1.11 The detailed proposals retain the majority of the trees on site and includes provision for new tree planting as part of any soft landscape scheme.

1.12 Within the context to the detailed development proposals a number of additional tree losses from those shown as part of the outline application shall occur. Overall trees losses comprise of T5, T6, T7, T8, T9, T10, T11, T12, T13, T4, T15, T28, T41, T42, T44, T45, T46, T47, T60, T62, TG2, TG16, TG18, TG32, H2, H4, H5 and various sections of TG1, TG5, TG12, TG14, TG15, TG20, TG29, TG33, H1, H3.

1.13 From the tree cover listed above additional losses comprise of T44, TG16, TG29, H4 and additional sections of TG14. The loss of this tree cover is required due to alterations in the detailed design of the development. The loss of this additional tree cover allows the provision of more green open space which will provide the opportunity for new tree planting.

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Statutory Constraints

1.14 It is understood that two Tree Preservation Orders, namely TPO/EG/1/14 and TPO/WA/2/14 which applies to a number of trees present within the site and therefore statutory constraints apply to the development in respect of trees.

1.15 Trees which have not been approved for removal as part of this document and that are subject of the above TPO's are protected by law. No works other those listed within Appendix A – Tree Works Schedule are to be carried out without prior consultation with the project Arboriculturalist and approval by the LPA if applicable.

Limitations

1.16 The Method Statement is concerned solely with Arboricultural issues related to the site referenced only.

1.17 Any changes in ground level, or excavations near to tree roots not detailed within this AMS has the potential of adversely affecting the stability and physical condition of the retained trees and as such further examinations would be required.

1.18 The timescales for the construction program are not absolute. The timescales set out in this AMS are based on all supplied preliminary information available at the time of writing and is subject to change. A such the processes set out in the AMS may need to be reviewed and amended to suit as required.

Shade Influence

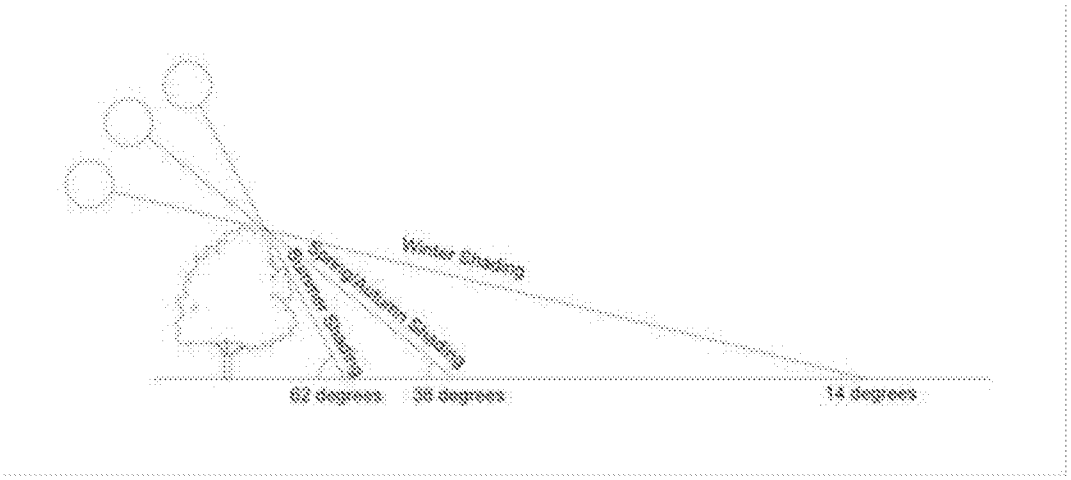
1.19 An assessment of the shade influence (as shown on the Tree Retention Plans) has been provided. This has been plotted using the guidelines set out in BS 5837(2012), a segment using two lines equal to the height of the tree; one due north west and the other due east. This method indicates the tree's perceived shading pattern throughout the main part of the day. However, it should be highlighted that this method doesn't always best reflect the influence of shade on proposed dwellings. It is important to emphasise that trees do not prevent 100% of the light from penetrating their canopies and species types should be considered. As such it is reasonable to presume that the shade influence would not be as significant as it would appear on the retention plans.

1.20 This can be further emphasised by the limitation of the method of assessing shade as per BS5837 which, whilst forming part of this assessment, it should be remarked is intended as a guide only. Plotting the tree's shading pattern in this way assumes that the sun is always at a 45-degree vertical angle. However, this isn't always a true reflection of the suns path, as the sun's position in the sky varies from season to season. In the course of a year, the sun's vertical angle can vary between 14 degrees and 62 degrees [1].

[1]The BRE Report, Site layout planning for daylight and sunlight: a guide to good practice (BR209)

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Seasonal Shading Influence



Areas highlighted for concern:

1.21 Rear gardens to plots 206 to 214: Whilst tree cover is positioned along the southern boundary of these rear gardens, the majority of the tree cover is associated with TG10, a mixed broadleaf hedgerow with a current height of around 6m. Shade cast from this tree cover will be minimal and can be managed through annual cutting of the material. T36 & T38, both English oak are situated to the south east corner and are between 14m to 16m in height. Whilst the calculated shade pattern falls across the majority of the rear gardens to plots 206, 207 & 212 to 214, as highlighted above the species of tree should be considered. T36 and T38 are deciduous trees which as a species, develop an open and spreading crown form which allows light to penetrate the surrounding area. One method to negate the influence of shade would be to carry out a reduction in the lateral spread of these trees and to thin outgrowth internal to the crown. This would also mitigate any future pressures to prune or remove the trees from the new homeowners.

1.22 Rear gardens to plots 215-224: Tree cover within close proximity of these plots is situated to the east and therefore any shade cast by these trees will be minimal.

1.23 Rear gardens to plots 234 to 242: Tree cover along this portion of the southern boundary is a mixture of outgrown hedgerow and thicket growth which forms TG20, two mature beech trees which form TG21 along with T56 & T57, two mature crack willow. Any potential shading will be cast by the four individual specimens along this boundary. Whilst the beech trees are the largest with crown spreads of 9m and heights of 16m, this species is exhibit crown structures of slender branches. Once again formative pruning consisting of crown thinning and selective reductions would aid in light penetrating the surrounding garden space. T56 & T57 both exhibits slightly smaller crown proportions and crown density of willow species is considered to be less with a thin / slender leaf shape.

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1.24 Rear gardens to plots 360 to 363: Tree cover again is positioned to the north of these plots and therefore shade should not be an issue.

2.0 CONDITION REQUIREMENTS

Specific Condition Requirements

2.1 To satisfy planning Conditions the following table provides a summary of the specific requirements of the AMS and how evidence of its action shall be provided.

Table 1: Condition Requirements and Evidence of Action

Condition Reference	Evidence of Action
10	A tabulated Tree Schedule has been provided as Appendix A of this AMS which details Tree number; species; height; canopy spread; stem diameter; age class and overall condition / health. Tree Retention Plans (drawing no 6233-T-05 to 6233-T-07) accompanies the AMS. The plan shows: • Trees to be retained (green) • Tree Groups to be retained (green stripe hatch) • Hedgerow to be retained (solid green line) • Hedgerow to be removed (solid red line) • Trees and Tree Groups to be removed to facilitate the development (red criss-cross hatch) • Extent of calculated Root Protection Areas (blue circle) • Overlaid development proposals for reference
11. (a) (b) (c) (d)	Tree Protection Plans (drawing no 6233-T-08 to 6233-T-11) accompanies the AMS. The plans show: • Trees to be retained (green) • Tree Groups to be retained (green stripe hatch) • Hedgerow to be retained (solid green line) • Extent of calculated Root Protection Areas (blue circle) • Overlaid development proposals for reference • The position of Primary Tree Protection fencing (pink line) • The position of Secondary Tree Protection fencing (orange line) • Measurements and Annotations for ease of interpretation • Extent of permanent Cellweb construction (pink hatch) • Extent of temporary ground protection (pink hatch) • Extent of excavation under supervision (solid red hatch) The Tree Protection Plans have been annotated for ease of interpretation.

General Condition Requirements

2.2 This AMS, the appended Task Specific Method Statements and accompanying Tree Protection Plans (drwg.no. 6233-T-08, 6233-T-09, 6233-T-10 & 6233-T-11), should be reproduced in their entirety in colour and copies should be kept on file in the site office for reference.

2.3 The relevant contractors should be provided any Task Specific Method Statements appended as part of this AMS, where relevant to their work, and shall be required to complete the Tree Protection Induction and Compliance Form. This can be accessed either online by Smartphone, Tablet or computer using the link provided on Appendix C - *'What you need to know about working near trees'*.

2.4 The Site Manager will read this AMS. It will be the responsibility of the Site Manager to ensure its compliance throughout the construction processes.

2.5 All operations will be monitored by the Site Manager and they will be responsible for ensuring that any sub-contractors do not carry out any process or operation which is likely to impact adversely upon any retained tree or hedge.

2.6 The contractor carrying out each task specific to their work shall be responsible for ensuring the AMS is adhered to at all times, The Site Manager is to ensure there is a monitoring regime for the maintenance of tree protection adopted on site.

3.0 TREE PROTECTION METHODOLOGY

3.1 Construction activities can harm trees if not carried out sympathetically in areas where trees are present. The crowns, stems and below ground rooting environment of trees can be damaged by construction machinery, scorched by fire or affected by chemical leaching. Trees roots can by asphyxiated and die if the soil in the rooting area becomes compacted and structure damaged. This can happen very easily, particularly on clay soils, even with the passage of light vehicles. Asphyxiation of roots can also be caused by raising or lowering the ground level. In some cases, it can take several years for the damage to become apparent.

Tree Protection Programme

3.2 The key stages where tree protection would be implemented along with the requirements for site supervision have been outlined in the following table.

3.3 The timing of these stages may be subject to alteration in line with any future amendments of the construction program and as such, it is important to emphasise that the timeframe is designed to be flexible to accommodate these alterations whilst ensuring the protection of the trees on site.

Table 2: Timeline of Tree Protection

Timetable	Actions	Project Arboricultural Consultant (ACoW) requirements	Task Specific Method Statement / Appendix reference
Prior to any site works including earthworks (TBC)	Pre-commencement site meeting with Tree Officer prior to the commencement of vegetation removal. Agree extent of vegetation removal and mark-up trees to be felled and specify trees requiring facilitation pruning (where relevant). Tree works to be phased due to the phases of development. Phase 1 tree works to comprise of removal of trees for access road and pruning works to facilitate Tree Protection Fencing.	ACoW to check that trees have been marked up in, accordance with the approved Tree Retention Plan, using fluorescent marker spray for ease of identification. Tree Surgeon to be present where possible.	Appendix A 6233-T-05 6233-T-06 6233-T-07
Commence Phase 1 Tree Works			
Immediately following tree removals	Tree Protection Fencing positions to be marked out and pegged (where applicable) by the ACoW to ensure that all fencing is erected in the correct positions.	ACoW to assist with measuring out distances from trees in accordance with the Tree Protection Plans. Photos of evidence to be taken for auditing purposes.	Appendix B Appendix D2 6233-T-08 6233-T-09 6233-T-10 6233-T-11

Timetable	Actions	Project Arboricultural Consultant (ACoW) requirements	Task Specific Method Statement / Appendix reference
Date TBC	Pre-commencement site meeting prior to the start of construction works on site. Timeline of construction processes to be shared with ACoW and changes made to the AMS as required.	Site meeting / Tool box talk by ACoW (refer to Section 3.4) to ensure that the AMS has been read by the relevant person, including the Site Manager and Tree Surgeon. Site Manager to provide working Gantt Chart or Timetable of construction processes and to ensure that Tree Protection measures have been included. ACoW to check that copies of Task Specific Arboricultural Method Statements (located in Appendix D) are present and that Tree Protection Induction Record has been completed by required personnel.	Appendix C Appendices D
Date TBC	Construction of infrastructure within RPA's where and when required. The cutting of roots shall not entirely be avoidable during these works. As such any roots located / identified during these works shall be pruned back to the face of the trench as they became exposed. Roots shall be wrapped with hessian material, which is to be kept damp, until the area can be back filled with topsoil.	ACoW to be present to ensure that no major / structural roots are severed or unnecessarily damaged. An assessment shall be made prior to any decision on cutting toots is made. Supervision and inspections accompanied by robust auditing.	Appendix D5 6233-T-08 6233-T-09 6233-T-10 6233-T-11
Commence Phase 1 Construction Works			

Timetable	Actions	Project Arboricultural Consultant (ACoW) requirements	Task Specific Method Statement / Appendix reference
Date TBC	Installation of "No-dig" Cellular Confinement System within RPA of trees where and when required. Client to liaise with manufacturer / provider of Cellular Confinement System to ascertain exact specification required to construct the area of "no-dig" and to arrange supply and installation for driveways and footpaths.	ACoW to be present to supervise installation of the system once an engineer has approved the specification. Details of supervision shall be recorded and photographic evidence shall be collected during the installation. This can be shared with the LPA upon request.	Refer to engineer's drawings and specifications provided by the supplier Appendix D3 Appendix E 6233-T-08 6233-T-09 6233-T-10 6233-T-11

Timetable	Actions	Project Arboricultural Consultant (ACoW) requirements	Task Specific Method Statement / Appendix reference
Date TBC during Pre-commencement site meeting and in line with construction program	Reporting and evidence of site visit.	ACoW to check that copies of Induction pack and Task Specific Arboricultural Method Statements (located in Appendix D) are present and that Tree Protection Induction Record has been completed by required personnel. ACoW to check if all works have been carried out as specified and to the standards defined in BS3998: 2010 – Tree Work Recommendations. ACoW to check that all Tree Protective Fencing has been erected and is of the required type and specification . Record of visit to be completed by ACoW and a copy is to be handed to Site Manager. Continuous checks that the Tree Protection Induction Record has been completed shall be made.	
Date TCB	Phase 2 tree works to comprise of removal trees and pruning works for phase 2 development.	Trees to be marked up in, accordance with the approved Tree Retention Plan, using fluorescent marker spray for ease of identification. Tree Surgeon to be present where possible.	Appendix A 6233-T-05 6233-T-06 6233-T-07

Timetable	Actions	Project Arboricultural Consultant (ACoW) requirements	Task Specific Method Statement / Appendix reference
Commence Phase 2 Tree Works			
Immediately following tree removals	Tree Protection Fencing positions to be marked out and pegged (where applicable) by the ACoW to ensure that all fencing is erected in the correct positions.	ACoW to assist with measuring out distances from trees in accordance with the Tree Protection Plans. Photos of evidence to be taken for auditing purposes.	Appendix B Appendix D2 6233-T-08 6233-T-09 6233-T-10 6233-T-11
Commence Phase 2 Construction Works			
(Date TBC)	Installation of "No-dig" Cellular Confinement System within RPA of trees where and when required. Client to liaise with manufacturer / provider of Cellular Confinement System to ascertain exact specification required to construct the area of "no-dig" and to arrange supply and installation for driveways and footpaths	Project ACoW to be present to supervise installation of the system once an engineer has approved the specification. Details of supervision shall be recorded and photographic evidence shall be collected during the installation. This can be shared with the LPA upon request.	Refer to engineer's drawings and specifications provided by the supplier Appendix D3 Appendix E 6233-T-08 6233-T-09 6233-T-10 6233-T-11
Date TBC during Pre-commencement site meeting and in line with construction program	Periodic compliance inspections accompanied by robust auditing of visits. Tree Protective Fencing and ground protection position and suitability checked by ACoW. Compliance with AMS checked and recorded.	Record of visit to be completed by ACoW and a copy is to be handed to Site Manager and LPA upon request. Continuous checks that the Tree Protection Induction Record has been completed to ensure ongoing compliance.	Tablet based Auditing App (Project ACoW use only)
Date TCB	Phase 3 tree works to comprise of removal trees and pruning works for phase 3 development.	Trees to be marked up in, accordance with the approved Tree Retention Plan, using fluorescent marker spray for ease of identification. Tree Surgeon to be present where possible.	Appendix A 6233-T-05 6233-T-06 6233-T-07

Timetable	Actions	Project Arboricultural Consultant (ACoW) requirements	Task Specific Method Statement / Appendix reference
Commence Phase 3 Tree Works			
Immediately following tree removals	Tree Protection Fencing positions to be marked out and pegged (where applicable) by the ACoW to ensure that all fencing is erected in the correct positions.	ACoW to assist with measuring out distances from trees in accordance with the Tree Protection Plans. Photos of evidence to be taken for auditing purposes.	Appendix B Appendix D2 6233-T-08 6233-T-09 6233-T-10 6233-T-11
Commence Phase 3 Construction Works			
Date TBC	Construction of infrastructure within RPA's where and when required. The cutting of roots shall not entirely be avoidable during these works. As such any roots located / identified during these works shall be pruned back to the face of the trench as they became exposed. Roots shall be wrapped with hessian material, which is to be kept damp, until the area can be back filled with topsoil.	ACoW to be present to ensure that no major / structural roots are severed or unnecessarily damaged. An assessment shall be made prior to any decision on cutting toots is made. Supervision and inspections accompanied by robust auditing.	Appendix D5 6233-T-08 6233-T-09 6233-T-10 6233-T-11
Date TBC	Installation of "No-dig" Cellular Confinement System within RPA of trees where and when required. Client to liaise with manufacturer / provider of Cellular Confinement System to ascertain exact specification required to construct the area of "no-dig" and to arrange supply and installation for driveways and footpaths.	ACoW to be present to supervise installation of the system once an engineer has approved the specification. Details of supervision shall be recorded and photographic evidence shall be collected during the installation. This can be shared with the LPA upon request.	Refer to engineer's drawings and specifications provided by the supplier Appendices D3 6233-T-08 6233-T-09 6233-T-10 6233-T-11

Date TBC	Installation of Temporary Ground Protection as demonstrated on Tree Protection Plans within RPA's. Ground guard panels to be laid on existing ground surface.	ACoW does not need to be present. Photographic evidence shall be collected during the installation. This can be shared with the LPA upon request.	Appendices D6 6233-T-08 6233-T-09 6233-T-10 6233-T-11
Date TBC	Periodic compliance inspections accompanied by robust auditing of visits. Tree Protective Fencing and ground protection position and suitability checked by ACoW. Compliance with AMS checked and recorded.	Record of visit to be completed by ACoW and a copy is to be handed to Site Manager and LPA upon request. Continuous checks that the Tree Protection Induction Record has been completed to ensure ongoing compliance.	Tablet based Auditing App (ACoW use only)
Construction Works Completed			
Date TBC during Pre-commencement site meeting and in line with construction program	Removal of Tree Protective Fencing. Soft landscaping to be planted in accordance with the approved landscape proposals.	ACoW to check if all Tree Protective Fencing has been removed and in doing so no damage has occurred to retained trees and hedgerows. ACoW to liaise with appointed contractor	

Arboricultural Supervision

Appointment of FPCR Arboricultural Clerk of Works (ACoW)

3.4 The Site Manager will be responsible for contacting the FPCR Arboricultural Consultant in advance of any operations detailed in this Method Statement and in any instance where full compliance cannot be guaranteed i.e. where construction works within areas fenced off to protect trees may be required.

Arboricultural Consultant Contact Details

FPCR Arboricultural Consultant: Tom Bennett

[redacted]

3.5 An overview of the specific involvement of the project Arboricultural Consultant has been provided in Tables 1 and 2.

3.6 An initial site meeting prior to starting any construction works, implementing tree surgery and erection of tree protection fencing, shall be a requirement of this AMS. At the meeting the Site Manager and Arboricultural Consultant will discuss the methodology and various tree protection measures to be implemented subject to approval by the LPA.

3.7 A toolbox talk will also be given to the Site Manager and any on site operatives on the day of the meeting. The purpose of this toolbox talk will be to inform the Site Manager and Operatives of how to protect all retained trees. The toolbox talk shall then be repeated by the Site Manager when new external trades / Contractors commence work on site.

3.8 The toolbox talk shall focus on informing Contractors on the following topics:

- The protection of trees is a requirement of planning approval and failure to comply could result in in stop notices being applied or fines;
- How trees can be harmed on development sites;
- How the trees on this site will be protected by tree protection fencing and ground protection;
- Discussion on particular methods of working near the trees as outlined in this Method Statement;
- How to report an issue before it becomes a problem;

3.9 Evidence of the toolbox being carried out shall be collected through completing Appendix C - *'What you need to know about working near trees'* factsheet which will be issued to the Site Manager and should form part of any future site inductions for contractors.

3.10 All contractors shall be required to complete the Tree Protection Induction and Compliance Form which is to be accessed via a link and/or QR Code at the bottom of the *'What you need to know about working near trees'* factsheet using a Smartphone, Tablet or computer. This online form can be viewed at any time by the Arboricultural Consultant and shared with both the client and the LPA upon request. A periodic review of its use shall be conducted to ensure continued compliance.

3.11 The Arboricultural Consultant will periodically verify compliance with this AMS and sign-off elements of the work as various stages of the development commence. This shall be recorded using an online form which the Arboricultural Consultant can share with the client and LPA.

The project Arboricultural Consultant will be responsible for specifying any tree work requirements and shall assist in, where required, the appointment of a suitably qualified Arboricultural Contractor to undertake the removal and pruning of trees.

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Key Appointment, Supervision and Monitoring Stages of the Project Arboricultural Consultant

3.12 The following stages of supervision shall be required:

- Pre-commencement site meeting to determine vegetation removal.
- Pre-commencement site meeting and Tool box talk to be carried out.
- Marking trees to be removed and to be pruned with the appointed tree contractor where relevant **(pre-commencement meeting)**
- Walking the site with the Site Manager / Fencing Contractor to measure out the locations of the fencing **(pre-commencement meeting)**
- Project Arboricultural Consultant to be present to supervise installation of "No-dig" Cellular Confinement Systems **(to follow pre-commencement meeting)**
- Full auditing of these visits / supervision requirements to be carried out **(ongoing)**
- Ongoing visits in accordance with Table 2 to inspect the tree protection fencing and compliance with the AMS. Any other arboricultural matters arising which are unforeseen will need to be discussed with the Arboricultural Consultant during these visits to decide the most appropriate course of action.
- After each site visit a short report/record will be compiled which will be sent to the client and local authority upon request as a record of evidence.

Specific Tree Protection Measures

3.13 For each of the works required a Task Specific Method Statement has been provided outlining the action required. These Method Statements have been provided in chronological order and have been produced as 'pull out' sheets to be kept on record in the site office and handed to the appropriate contractors during site inductions.

3.14 The methodologies accompanying this AMS have been provided as separately titled appendices for ease of identification. These include:

- D1 Tree Contractor - Tree Work Methodology
- D2 Fencing Contractor – Working Methodology
- D3: Installation of No-dig Cellular Confinement
- D4: Hard and Soft Landscaping - Working Methodology
- D5: Excavation Under Supervision - Working Methodology
- D6: Installation of Temporary Ground Protection & Scaffolding - Working Methodology

General Tree Protection Measures

3.15 This section details non-specific precautionary measures to be applied at all times.

3.16 No trees will be removed or pruned during construction other than those detailed within this method statement. Any proposed deviation from the tree removal and retention presented in this document must be discussed with the project Arboricultural Consultant prior to implementation.

3.17 All the retained trees will need to be adequately protected during works. Measures to protect these trees should follow the best practice principles set out in *BS5837: Trees in Relation to Construction Recommendations (2012).* These have been broadly summarised below.

3.18 No Root Protection Areas will be affected by excavation works, storage of materials, plant or machine access, other than as described by this Method Statement.

3.19 Site compounds, Portakabins, Containers and other temporary buildings can in some cases be used in root protection area if prior consent is agreed by the acting local planning authority. The method for installing the buildings and an assessment of whether temporary ground protection is required is to be agreed with the project Arboriculturalist and specified prior to installation.

3.20 No materials or soils are to be stored within the Root Protection Area of the retained trees.

3.21 Oil, bitumen, cement or other material that is potentially injurious to trees will not be stacked or discharged within 10m of a tree stem. No concrete mixing will be done within 10m of a tree. Allowance will be made for the slope of ground to prevent materials running towards the tree.

3.22 Wide or tall loads etc. should not come into contact with retained trees. Banks man should supervise transit of vehicles where they are in close proximity to retained trees.

3.23 No fires will be lit where flames are anticipated to extend to within 5m of tree foliage, branches or trunk, taking into consideration wind direction and size of fire.

3.24 Notice boards, telephone cables or other services will not be attached to any part of a retained tree.

3.25 If unexpected large roots (>25mm diameter) are encountered during excavation for construction works the arboricultural consultant should be contacted immediately. No exposed roots will be left uncovered. They will be covered over as soon as possible to minimise the risk of drying out and dying.

3.26 As recommended within section 8.8.3 of BS5837 Post Development Management of Existing Trees, All retained trees should be subjected to sound arboricultural management where there is public access in order to satisfy the landowner's duty of care.

Removal of Tree Protection Measures and Protective Fencing

3.27 Following the completion of all construction works and in agreement with the project arboriculturalist the tree protection fencing will be removed carefully as to avoid causing root disturbance.

ARUN DISTRICT COUNCIL WA/100/20/DOC

4.0 ARBORICULTURAL MONITORING AND TREE MANAGEMENT

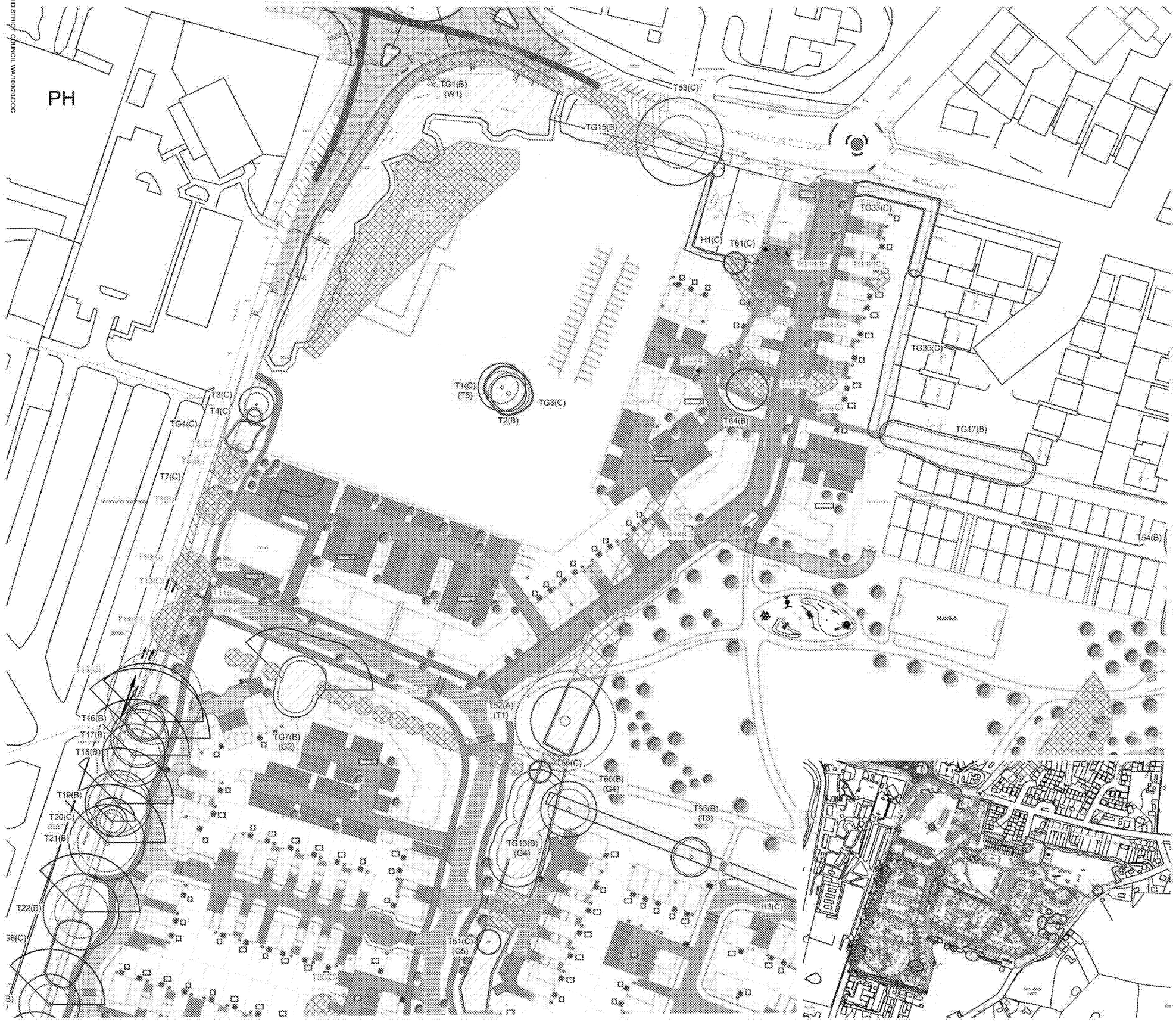
4.1 Trees will require several years to adjust to environmental changes that occur during construction. Stressed trees are more prone to health problems, such as disease and insect infestations. Despite the enforcement of the recommendations continued within this AMS and the best intentions of the developer, including the implementation of the most stringent tree protection measures across the site, injury to trees may still occur.

4.2 All retained trees should be subjected to sound arboricultural management as recommended within section 8.8.3 of BS5837 *Post Development Management of Existing Trees,* where there is a potential for public access in order to satisfy the landowner's duty of care. Additionally, inspections annually and following major storms should be carried out by an experienced arboriculturalist or arborist to identify any potential public safety risks and to agree remedial works as required.

4.3 All tree works undertaken should comply with British Standard 3998:2010 and should therefore be carried out by skilled tree surgeons. It would be recommended that quotations for such work be obtained from Arboricultural Association Approved Contractors as this is the recognised authority for certification of tree work contractors.

4.4 All vegetation and, particularly, woody vegetation proposed for clearance should be removed outside of the bird-breeding season (March - September inclusive) as all birds are protected under the Wildlife and Countryside Act, 1981 (as amended) whilst on the nest. Where this is not possible, vegetation should be checked for the presence of nesting birds prior to removal by an experienced ecologist.

ARUN DISTRICT COUNCIL WA/100/20/DOC



KEY

- Tree/Group to be Retained
- Tree/Group to be removed to facilitate the proposals
- Category U - Unsuitable for retention on arboricultural grounds
- Hedgerow Proposed to be Retained and Incorporated into the New Development
- Hedgerow Proposed to be Removed to Facilitate the Development upon Approval of the Application
- Root Protection Area (the RPA has been altered where appropriate to reflect underground constraints)
- T1 (T5) 181.5 — Individual / Group Number and BS Category
- T1 (T5) 181.5 — Individual / Group Number and BS Category including TPO Reference Number

Scale 1:1250 @ A3

0 25 50 75m

N

NOTES

All dimensions to be verified on site. Do not scale this drawing. All discrepancies to be clarified with project Arboriculturalist. Drawing to be read in conjunction with Arboricultural Assessment and Appendix A - Tree Schedules.

Drawing produced in colour, a monochrome copy should not be relied upon, and is based on digital information supplied by the client in dwg format. The exact position of trees are to be checked and verified on site prior to any tree work or construction work being undertaken.

Trees are living organisms that change over time, the condition of all trees illustrated herein, are to be checked by a qualified arboriculturalist or tree surgeon should works commence 12 months after the time of this survey. Please note that no works should be undertaken to any trees illustrated herein without first obtaining the proper authorisation to do so.

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rev	date	description	by
-	30.04.2019	First issue	TCB
A	30.04.2019	Revised layout	TCB
B	24.01.2020	Revised layout	TCB
C	28.02.2020	Revised tree removal	TCB
D	23.06.2020	Revised tree removal	TCB

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landscape design
urban design : FPCR Environment and Design Ltd
ecology : Lockington Hall
architecture : Lockington
arboriculture : Derby DE74 2RH

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client
Dandara Ltd

project
Fontwell Avenue
Fontwell

drawing title
TREE RETENTION PLAN

scale	drawn	date
1:1250 @ A3	TCB	June 2020

drawing number
6233-T-05 **D**

CAD file: J:\6200\6233\ARB\2020\Plans\Tree Retention Plan.dwg

ARUN DISTRICT COUNCIL v6/Tree2.DWG



KEY

- Tree/Group to be Retained
- Tree/Group to be removed to facilitate the proposals
- Category U - Unsuitable for retention on arboricultural grounds
- Hedgerow Proposed to be Retained and Incorporated into the New Development
- Hedgerow Proposed to be Removed to Facilitate the Development upon Approval of the Application
- Root Protection Area (the RPA has been altered where appropriate to reflect underground constraints)
- T1(A) 10m — Individual / Group Number and BS Category
- T1(A) 10m 001 — Individual / Group Number and BS Category Including TPO Reference Number

Scale 1:1250 @ A3

0 25 50 75m

N

NOTES

All dimensions to be verified on site. Do not scale this drawing. All discrepancies to be clarified with project Arboriculturalist. Drawing to be read in conjunction with Arboricultural Assessment and Appendix A – Tree Schedules.

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rev	date	description	by
		First Issue	TCB
A	30.04.2019	Revised layout	TCB
B	24.01.2020	Revised layout	TCB
C	28.02.2020	Tree removal updated	TCB
D	23.06.2020	Tree removal updated	TCB

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masterplanning :
environmental assessment :
landscape design :
urban design : FPCR Environment and Design Ltd
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architecture : Lockington
arboriculture : Derby DE74 2RH

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client
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drawing title
TREE RETENTION PLAN

scale	drawn	date
1:1250 @ A3	TCB	June 2020

drawing number
6233-T-06

rev
D

CAD file J:\6200\6233\ARB\2020\Plans\Tree Retention Plan.dwg

ARUN DISTRICT COUNCIL WA/100/20/DOC



KEY

- Tree/Group to be Retained
- Tree/Group to be removed to facilitate the proposals
- Category U - Unsuitable for retention on arboricultural grounds
- Hedgerow Proposed to be Retained and Incorporated into the New Development
- Hedgerow Proposed to be Removed to Facilitate the Development upon Approval of the Application
- Root Protection Area (the RPA has been altered where appropriate to reflect underground constraints)
- Individual / Group Number and BS Category
- Individual / Group Number and BS Category Including TPO Reference Number

Scale 1:1250 @ A3

0 25 50 75m

N

NOTES

All dimensions to be verified on site. Do not scale this drawing. All discrepancies to be clarified with project Arboriculturist. Drawing to be read in conjunction with Arboricultural Assessment and Appendix A - Tree Schedule.

Drawing produced in colour, a monochrome copy should not be relied upon, and is based on digital information supplied by the client in dwg format. The exact position of trees are to be checked and verified on site prior to any tree work or construction work being undertaken.

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rev	date	description	by
-	14.12.2018	First Issue	TCB
A	30.04.2019	Revised layout	TCB
B	24.01.2020	Revised layout	TCB
C	30.01.2020	H4 revised	TCB
D	23.06.2020	Tree removal updated	TCB

masterplanning :
environmental assessment :
landscape design :
urban design : FPCR Environment and Design Ltd
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architecture : Lockington
arboriculture : Derby DE74 2RH

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drawing title
TREE RETENTION PLAN

scale	drawn	date
1:1250 @ A3	TCB	June 2020

drawing number
6233-T-07 rev **D**

CAD file: J:\6200\6233\ARB\2020\Plans\Tree Retention Plan.dwg

ARUN DISTRICT COUNCIL WTPO20.DOC



KEY

- Tree/Group to be Retained
- Hedgerow Proposed to be Retained and Incorporated into the New Development
- Root Protection Area (the RPA has been altered where appropriate to reflect underground constraints)
- Individual / Group Number and BS Category
- Individual / Group Number and BS Category Including TPO Reference Number
- Line of Phase 1 Protective Barriers (and distance from tree or retained structure)
- Line of Phase 2 Protective Barriers (and distance from tree or retained structure)
- Area of Permanent No-Dig Highway, Footpath or Driveway Porous Construction
- Area of Temporary Ground Protection
- Area of excavation carried out under supervision

Scale 1:1250 @ A3

N

0 25 50 75m

NOTES

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rev	date	description	by
A	30.04.2019	First issue	TCB
B	24.01.2020	Revised layout	TCB
C	28.02.2020	Tree removal updated	TCB
D	03.06.2020	Tree removal updated	TCB

masterplanning :
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arboriculture : Derby DE74 2RH

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drawing title
TREE PROTECTION PLAN

scale	drawn	date
1:1250 @ A3	TCB	June 2020

drawing number
6233-T-08

rev
D

CAD file: J:\6200\6233\ARB\2020\Plans\Tree Retention Plan.dwg

ARUN DISTRICT COUNCIL v6/7/6233/DOC



KEY

- Tree/Group to be Retained
- Hedgerow Proposed to be Retained and Incorporated into the New Development
- Root Protection Area (the RPA has been altered where appropriate to reflect underground constraints)
- Individual / Group Number and BS Category
- Individual / Group Number and BS Category Including TPO Reference Number
- Line of Phase 1 Protective Barriers (and distance from tree or retained structure)
- Line of Phase 2 Protective Barriers (and distance from tree or retained structure)
- Area of Permanent No-Dig Highway, Footpath or Driveway Porous Construction
- Area of Temporary Ground Protection
- Area of excavation carried out under supervision

Scale 1:1250 @ A3

N

0 25 50 75m

NOTES

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rev	date	description	by
A	30.04.2019	First issue	TCB
B	24.01.2020	Revised layout	TCB
C	28.02.2020	Tree removal updated	TCB
D	03.06.2020	Tree removal updated	TCB

masterplanning :
environmental assessment :
landscape design :
urban design :
ecology :
architecture :
arboriculture :

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drawing title
TREE PROTECTION PLAN

scale	drawn	date
1:1250 @ A3	TCB	June 2020

drawing number
6233-T-09

rev
D

CAD file J:\6200\6233\ARB\2020\Plans\Tree Retention Plan.dwg

ARUN DISTRICT COUNCIL WA/100/20/DOC



KEY

- Tree/Group to be Retained
- Hedgerow Proposed to be Retained and Incorporated into the New Development
- Root Protection Area (the RPA has been altered where appropriate to reflect underground constraints)
- T1 (A) TCP 123 — Individual / Group Number and BS Category
- T1 (A) TCP 123 — Individual / Group Number and BS Category Including TPO Reference Number
- Line of Phase 1 Protective Barriers (and distance from tree or retained structure)
- Line of Phase 2 Protective Barriers (and distance from tree or retained structure)
- Area of Permanent No-Dig Highway, Footpath or Driveway Porous Construction
- Area of Temporary Ground Protection
- Area of excavation carried out under supervision

Scale 1:1250 @ A3

N

0 25 50 75m

NOTES

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rev	date	description	by
-	14.12.2019	First Issue	TCB
A	30.04.2020	Revised layout	TCB
B	24.01.2020	Revised layout	TCB
C	30.01.2020	H4 revised	TCB
D	23.06.2020	Tree removals updated	TCB

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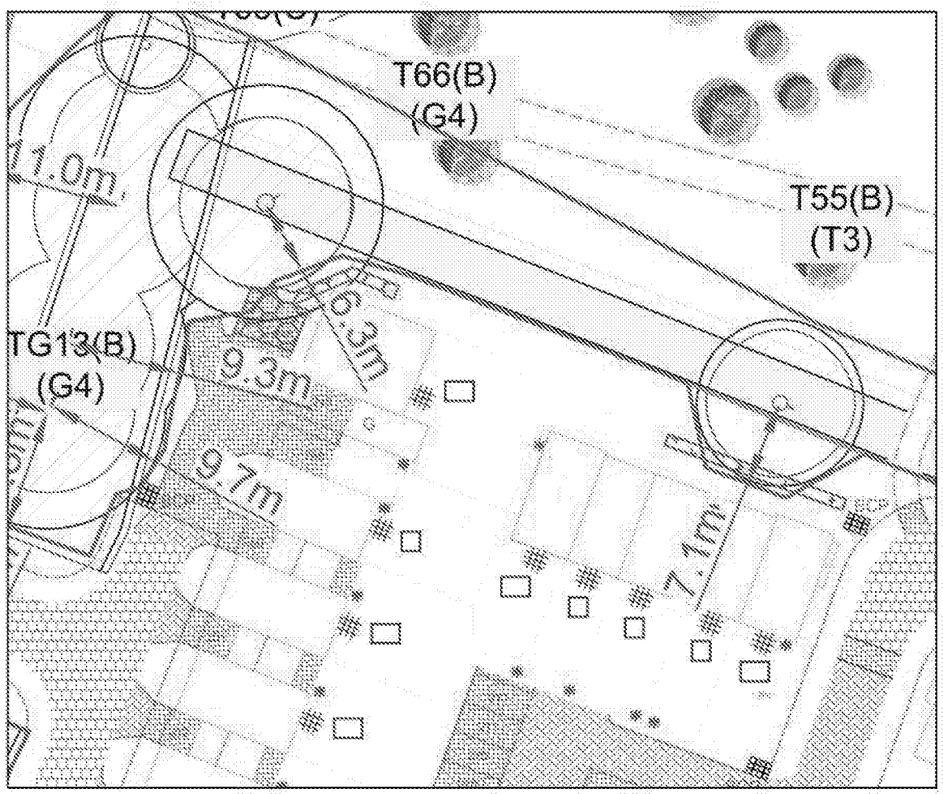
drawing title
TREE PROTECTION PLAN

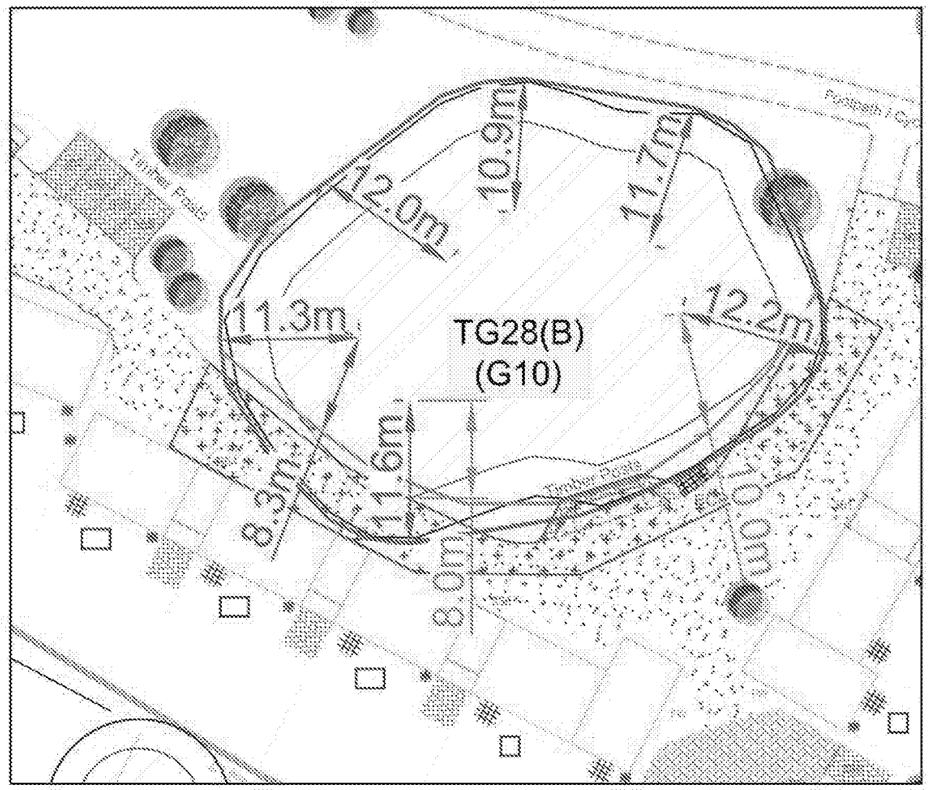
scale	drawn	date
1:1250 @ A3	TCB	June 2020

drawing number
6233-T-10 rev **D**

CAD file: J:\6200\6233\ARB\2020\Plans\Tree Retention Plan.dwg

ARUN DISTRICT COUNCIL WA/100/20/DOC





KEY

- Tree/Group to be Retained
- Hedgerow Proposed to be Retained and Incorporated into the New Development
- Root Protection Area (the RPA has been altered where appropriate to reflect underground constraints)
- Individual / Group Number and BS Category
- Individual / Group Number and BS Category Including TPO Reference Number
- Line of Phase 1 Protective Barriers (and distance from tree or retained structure)
- Line of Phase 2 Protective Barriers (and distance from tree or retained structure)
- Area of Permanent No-Dig Highway, Footpath or Driveway Porous Construction
- Area of Temporary Ground Protection
- Area of excavation carried out under supervision

Scale 1:1250 @ A3

N

0 25 50 75m

NOTES

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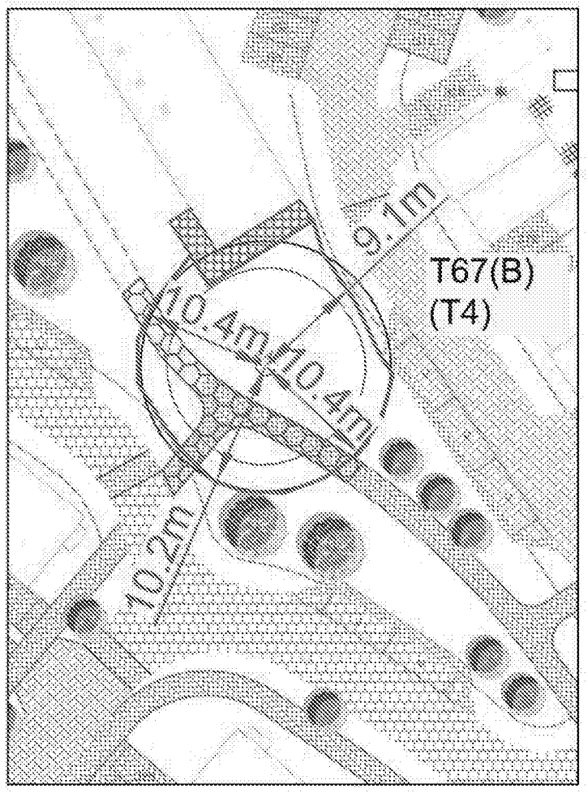
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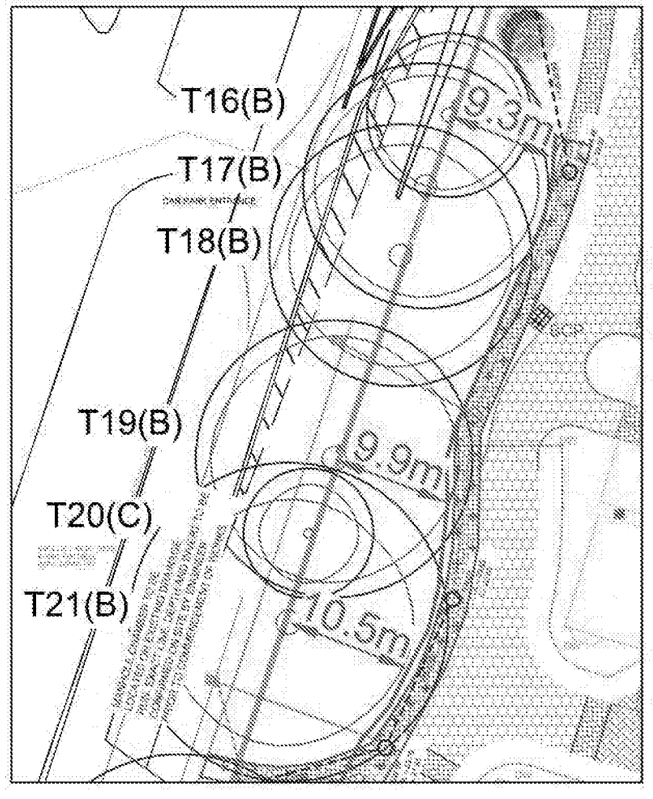
Trees are living organisms that change over time, the condition of all trees illustrated herein, are to be checked by a qualified arboriculturalist or tree surgeon should works commence 12 months after the time of this survey. Please note that no works should be undertaken to any trees illustrated herein without first obtaining the proper authorisation to do so.

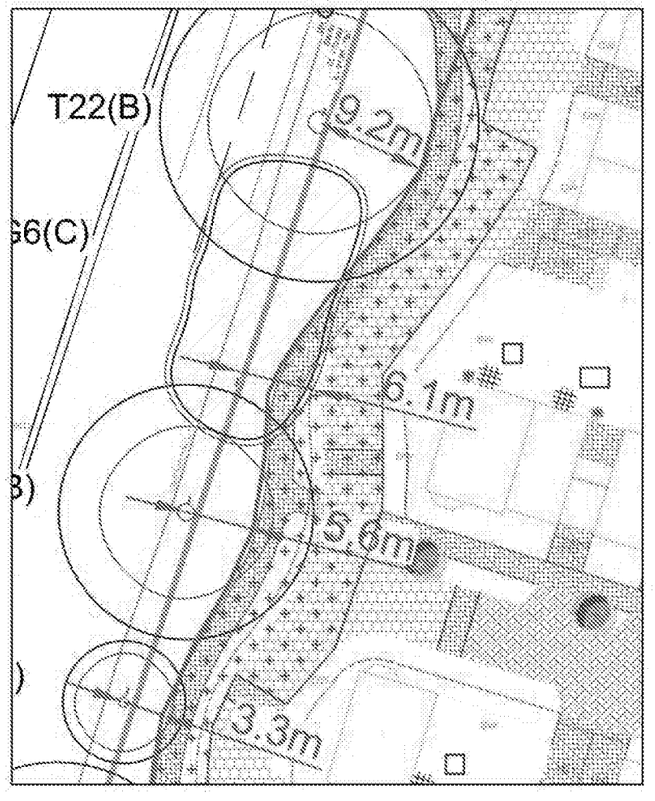
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rev	date	description	by
-	24.01.2020	First Issue	TCB
A	23.06.2020	Supervised areas updated	TCB







masterplanning :
environmental assessment :
landscape design :
urban design : FPCR Environment and Design Ltd
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drawing title
TREE PROTECTION PLAN

scale	drawn	date
1:1250 @ A3	TCB	June 2020

drawing number
6233-T-11

rev
A

CAD file J:\6200\6233\ARB\2020\Plans\Tree Retention Plan.dwg

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This plan illustrates the best-estimated length of tree shadows by trees that are being retained on the site.

The model's trees took into consideration each of their species, height, crown radius and height of crown above ground (as per 6233 Appendix A - Tree Schedule rev A). The model is geo-referenced to 50.854809N, 0.650467W to improve accuracy.

Application Boundary

The Spring Equinox in 2019 occurs on the 20th March and respects Greenwich Mean Time (GMT); British clocks go forward on the 31st March, and therefore +0:00 Hours has been considered for the modelling of this instance.

Sunrise: 06.06 | Sunset: 18:15

Times illustrated: 09:00, 12:00, 15:00, 18:00

N

client
Dandara Ltd

project
Fontwell Avenue
Fontwell

drawing title
TREE SHADING EXTENT
MARCH 20TH - 09:00

scale
1:2000 @ A3

drawn
CMW / TCB

issue date
27 January 2020

drawing / figure number
6233-T-12

rev
A

FPCR Environment and Design Ltd, Lockington Hall, Lockington, Derby, DE74 2RH ⌾ t: 01509 672772 ⌾ f: 01509 674565 ⌾ e: mail@fpcr.co.uk ⌾ w: www.fpcr.co.uk
masterplanning ⌾ environmental assessment ⌾ landscape design ⌾ urban design ⌾ ecology ⌾ architecture ⌾ arboriculture

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Application Boundary

client
Dandara Ltd

project
Fontwell Avenue
Fontwell

drawing title
TREE SHADING EXTENT
MARCH 20TH - 12:00

scale
1:2000 @ A3

drawn
CMW / TCB

issue date
27 January 2020

drawing / figure number
6233-T-12

rev
A

N

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Application Boundary

client
Dandara Ltd

project
Fontwell Avenue
Fontwell

drawing title
TREE SHADING EXTENT
MARCH 20TH - 15:00

scale
1:2000 @ A3

drawn
CMW / TCB

issue date
27 January 2020

drawing / figure number
6233-T-12

rev
A

N

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masterplanning ⊗ environmental assessment ⊗ landscape design ⊗ urban design ⊗ ecology ⊗ architecture ⊗ arboriculture

W:\Fpcr\on Dd\projects\6200\6233\ARB\2020\Shadow Modelling\6233-T-12A Tree Shading Extent - March.indd

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Application Boundary

client
Dandara Ltd

project
Fontwell Avenue
Fontwell

drawing title
TREE SHADING EXTENT
MARCH 20TH - 18:00

N

scale
1:2000 @ A3

drawn
CMW / TCB

issue date
27 January 2020

drawing / figure number
6233-T-12

rev
A

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masterplanning ⌾ environmental assessment ⌾ landscape design ⌾ urban design ⌾ ecology ⌾ architecture ⌾ arboriculture

W:\fpcr-vm-04\projects\6200\6233\ARB\2020\Shadow Modelling\6233-T-12A Tree Shading Extent - March.indd

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This plan illustrates the best-estimated length of tree shadows by trees that are being retained on the site.

The model's trees took into consideration each of their species, height, crown radius and height of crown above ground (as per 6233 Appendix A - Tree Schedule rev A). The model is geo-referenced to 50.854809N, 0.650467W to improve accuracy.



Application Boundary

The Summer Solstice (Day of Longest Sun Hours) in 2019 occurs on the 21st June and respects British Summer Time (GMT +1:00); British clocks go forward on the 31st March, and therefore +1:00 Hours has been considered for the modelling of this instance.

Sunrise: 04.43 | Sunset: 21:22

Times Illustrated: 06:00, 09:00, 12:00, 15:00, 18:00, 21:00

client
Dandara Ltd

project
Fontwell Avenue
Fontwell

drawing title
TREE SHADING EXTENT
JUNE 21ST - 06:00

N

scale	drawn	issue date
1:2000 @ A3	CMW / TCB	27 January 2019

drawing / figure number
6233-T-13

rev
A

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Application Boundary

client
Dandara Ltd

project
Fontwell Avenue
Fontwell

drawing title
TREE SHADING EXTENT
JUNE 21ST - 09:00

scale
1:2000 @ A3

drawn
CMW / TCB

issue date
27 January 2019

drawing / figure number
6233-T-13

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Application Boundary

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project
Fontwell Avenue
Fontwell

drawing title
TREE SHADING EXTENT
JUNE 21ST - 12:00

scale
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Application Boundary

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Fontwell

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TREE SHADING EXTENT
JUNE 21ST - 15:00

scale
1:2000 @ A3

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issue date
27 January 2019

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Application Boundary



N

client
Dandara Ltd

project
Fontwell Avenue
Fontwell

drawing title
TREE SHADING EXTENT
JUNE 21ST - 18:00

scale	drawn	issue date
1:2000 @ A3	CMW / TCB	27 January 2019

drawing / figure number
6233-T-13

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Application Boundary

client
Dandara Ltd

project
Fontwell Avenue
Fontwell

drawing title
TREE SHADING EXTENT
JUNE 21ST - 21:00

scale
1:2000 @ A3

drawn
CMW / TCB

issue date
27 January 2019

drawing / figure number
6233-T-13

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W:\fpcr.vm.04\projects\6200\6233\ARB\2020\Shadow Modelling\6233-T-13A Tree Shading Extent - June.indd
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This plan illustrates the best-estimated length of tree shadows by trees that are being retained on the site.

The model's trees took into consideration each of their species, height, crown radius and height of crown above ground (as per 6233 Appendix A - Tree Schedule rev A). The model is geo-referenced to 50.854809N, 0.650467W to improve accuracy.



Application Boundary

The Winter Solstice (Day of Shortest Sun Hours) in 2019 occurs on the 22nd December and respects Greenwich Mean Time (GMT); British clocks go backward on the 27th October, and therefore +0:00 Hours has been considered for the modelling of this instance.

Sunrise: 08.02 | Sunset: 15:59

Times illustrated: 09:00, 12:00, 15:00

client
Dandara Ltd

project
Fontwell Avenue
Fontwell

drawing title
TREE SHADING EXTENT
DECEMBER 22ND - 09:00

N

scale
1:2000 @ A3

drawn
CMW / TCB

issue date
27 January 2019

drawing / figure number
6233-T-14

rev
-

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Application Boundary

client
Dandara Ltd

project
Fontwell Avenue
Fontwell

drawing title
TREE SHADING EXTENT
DECEMBER 22ND - 12:00

N

scale	drawn	issue date
1:2000 @ A3	CMW / TCB	27 January 2019

drawing / figure number
6233-T-14

rev
-

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Application Boundary

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Dandara Ltd

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Fontwell Avenue
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drawing title
TREE SHADING EXTENT
DECEMBER 22ND - 15:00

N

scale	drawn	issue date
1:2000 @ A3	CMW / TCB	27 January 2019

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6233-T-14

rev
-

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Appendix A - Tree Works Schedule

Measurements	Age Class	Overall Condition	Structual Condition
Height - estimated from ground level (m).	YNG: Young trees up to ten years of age.	G - Good: Trees with only a few minor defects and in good overall health needing little, if any attention.	The following has been considered when inspecting structural condition: • The presence of fungal fruiting bodies • Soil cracks and or heaving of the soil around the base. • Any abrupt bends in branches and limbs resulting from past pruning. • Tight or weak 'V' shaped forks and co-dominant stems. • Hazard beam formations and other such biomechanical related defects (as described by Claus Mattheck, Body Language of Trees HMSO Research for Amenity Trees No. 4 1994). • Cavities as a result of limb losses or past pruning. • Broken branches or storm damage. • Canker formations. • Loose or flaking bark. • Damage to roots. • Basal, stem or branch / limb cavities. • Crown die-back or abnormal foliage size and colour. • Any changes to the timing of normal leaf flush or fall
Stem Dia. - Diameter measured (mm) at breast height.	SM: Semi-mature, trees less than 1/3 life expectancy.	F - Fair: Trees with minor, but rectifiable, defects or in the early stages of stress from which it may recover.	
Crown - crown spread estimated radially from the main stem (m).	EM: Early mature, trees 1/3 – 2/3 life expectancy.	P - Poor: Trees with major structural and/or physiological defects such that it is unlikely the tree will recover in the long term.	
Abbreviations est - Estimated stem diameter avg - Average stem diameter for multiple stems upto - Group has a maximum stem diameter of	M: Mature trees, over 2/3 life expectancy.	D - Dead: Trees no longer alive. This could also apply to trees that are dying and unlikely to recover.	
	OM: Over mature, declining or moribund trees of low vigour.		
	V: Veteran, tree possessing certain attributes relating to veteran trees.		

Tree Work Recommendations
Formative Pruning: The operation is defined as the pruning of aerial growth of a tree in its youth to result in an appearance considered typical for the species or variety of tree
Dead-wooding: The operation is defined as the removal of dead, dying or diseased branch wood and stubs left from the previous tree surgery operations
Crown Lifting: The operation is defined as the removal of low hanging branch growth to a specified height
Crown thinning: The operation is defined as the removal of small secondary live woody growth to reduce the leaf area of the canopy as specified
Crown reduction: The operation is defined as the reduction in size of the complete outline dimension of the canopy, from the tips of the limbs and branches towards the main trunk
Branch removal: The operation is defined as the removal of a discrete and complete part of the trees structure, or a part of the crown as specified
Epicormic growth removal: The removal of all epicormic shoots at the base of the tree and to a height on the main stem, limbs and other branches
Coppicing: The operation is defined as the removal of all growth of a tree or shrub to a point close to ground level
Pollarding: The operation is defined as the removal of all the growth of a tree or a shrub back to the main stem to the height above the ground as specified
Tree removal: The operation is defined as the cutting down of a tree or shrub to a point as close to ground level as is reasonably practicable
Replacement planting: A tree will be replaced in a position as near as the original tree as possible
Climbing inspection: A thorough climbing inspection to determine the condition of the aerial parts of the tree
Remove tree protection measures: The operation is defined as the removal of planting aids such as stakes, ties and guards.
Monitor Condition: The tree should be monitored on a regular basis as specified in order to maintain public safety
Trees and vegetation to be removed to facilitate the approved development.
Tree works to be carried out to facilitate the approved development.

ARUN DISTRICT COUNCIL WA/100/20/DOC

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	Tree Work Recomendations	To Be Removed
INDIVIDUAL TREES									
T1	Corsican Pine Pinus nigra ssp. Laricio	18	680	5.5	M	F	Bark wounds noted Minor dead wood evident in the crown Pruning wounds noted Loss of second leader at 4m Multiple pruning wounds noted	No work required	No
T2	English Oak Quercus robur	14	510	7	EM	G	Epicormic growth evident within the crown, Minor dead wood evident in the crown No major defects were noted Multiple pruning wounds	No work required	No
T3	Leyland Cypress Cupressocyparis leylandii	13	est 500	4	SM	F	Branch stubs evident Broken branches evident Low crown form Minor dead wood evident in the crown Pruning wounds evident	No work required	No
T4	Common Lime Tilia x europaea	9	200	3	SM	F	Interlocking crown with surrounding trees Typical species form No major defects were noted Suppressed crown form	No work required	No
T5	Sycamore Acer pseudoplatanus	13	280	4	EM	F	Light ivy cover on main stem Situated offsite Twin stemmed form at 2m from ground level	To be removed to facilitate main access	Yes
T6	Beech Fagus sylvatica	13	420 330 260 900	6	EM	F	Light ivy cover on main stem Minor dead wood evident in the crown Multi leadered form Situated offsite Multi stemmed at 1m from ground level	To be removed to facilitate main access	Yes
T7	Hawthorn Crataegus monogyna	4	180	3	SM	F	Light ivy cover on main stem Minor dead wood evident in the crown Situated offsite	To be removed to facilitate main access	Yes
T8	Common Lime Tilia x europaea	23	650 610 740	6.5	M	F	Epicormic growth evident within the crown Light ivy cover on main stem Minor dead wood evident in the crown Multi leadered form Situated offsite	To be removed to facilitate main access	Yes

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	Tree Work Recomendations	To Be Removed
T9	Horse Chestnut Aesculus hippocastanum	5	210	2	SM	F	Dense ivy cover on main stem Low crown form Situated offsite Suppressed crown form	To be removed to facilitate main access	Yes
T10	English Oak Quercus robur	16	710	7	M	G	Dense ivy cover on main stem Minor dead wood evident in the crown Situated offsite Crown overhanging the road to the west Twin stemmed form at 2m from ground level Epicormic growth present on the main stem	To be removed to facilitate main access	Yes
T11	Field Maple Acer campestre	5	180	3	EM	F	Epicormic growth evident within the crown Low crown form Minor dead wood evident in the crown Multi leadered form Situated offsite	To be removed to facilitate main access	Yes
T12	Lawson Cypress Chamaecyparis lawsoniana	11	400	4	EM	F	Light ivy cover on main stem Minor dead wood evident in the crown Sparse crown formation	To be removed to facilitate main access	Yes
T13	Hawthorn Crataegus monogyna	4	210	2.5	EM	F	Light ivy cover on main stem Minor dead wood evident in the crown	To be removed to facilitate main access	Yes
T14	Sycamore Acer pseudoplatanus	23	940	9	M	F	Dense ivy cover on main stem Multi leadered form Possible included bark unions beneath ivy	To be removed to facilitate main access	Yes
T15	Hybrid Black Poplar Populus x canadensis	32	est 1600	16	M	P	Base obscured Dense ivy cover on main stem Minor dead wood evident in the crown Multi leadered form Pruning wounds noted Leader to east topped at 9m over road leaving large pruning wound	To be removed to facilitate main access	Yes

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	Tree Work Recomendations	To Be Removed
T16	Common Lime Tilia x europaea	20	560	6	M	F	Branch stubs evident Dense ivy cover on main stem Epicormic growth evident within the crown Minor dead wood evident in the crown Storm damage present Crown overhanging road	No work required	No
T17	Monterey Pine Pinus radiata	24	830	9	M	F	Dense ivy cover on main stem Lateral lever arm observed Minor dead wood evident in the crown Typical crown form Crown overhanging road Asymmetrical canopy formation	No work required	No
T18	Horse Chestnut Aesculus hippocastanum	19	890	9	M	F	Dense ivy cover on main stem Lateral lever arm observed Minor dead wood evident in the crown Typical crown form Crown overhanging road Asymmetrical canopy Twin stemmed at 2m from ground level	No work required	No
T19	Monterey Pine Pinus radiata	19	940	10	M	G	Dense ivy cover on main stem Minor dead wood evident in the crown Pruning wounds noted	No work required	No
T20	Horse Chestnut Aesculus hippocastanum	8	330 290	4	EM	P	Chlorotic leaves evident Dense ivy Suppressed, sparse crown form	No work required	No
T21	Monterey Pine Pinus radiata	20	1080	10	M	G	Lateral lever arm observed Light ivy cover on main stem Major dead wood evident in the crown Pruning wounds noted	No work required	No

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	Tree Work Recomendations	To Be Removed
T22	Monterey Pine Pinus radiata	20	1080	9	M	G	Lateral lever arm observed Light ivy cover on main stem Major dead wood evident in the crown Pruning wounds noted	No work required	No
T23	Common Lime Tilia x europaea	19	630 590	7	M	G	Epicormic growth evident within the crown Minor dead wood evident in the crown Twin stemmed from base Typical crown form	No work required	No
T24	Common Lime Tilia x europaea	13	420	4	M	F	Light ivy cover on main stem No major defects were noted	No work required	No
T25	Monterey Pine Pinus radiata	20	est 1000	9	M	G	Lateral lever arm observed Light ivy cover on main stem Major dead wood evident in the crown Pruning wounds noted	No work required	No
T26	Horse Chestnut Aesculus hippocastanum	11	340	5	EM	F	Minor dead wood evident in the crown Leaf miner evident on foliage	No work required	No
T27	Ash Fraxinus excelsior	11	est 300	5	EM	F	Minor dead wood evident in the crown No major defects were noted Typical crown form	No work required	No
T28	Scots Pine Pinus sylvestris	19	610	N - 5 S - 6 E - 2 W - 7	M	G	Minor dead wood evident in the crown Pruning wounds noted Tree stumps present to the east e planting one sided crown	To be removed to facilitate residential plots	Yes
T29	Monterey Pine Pinus radiata	26	1100	10	M	F	Dense ivy cover on main stem Minor dead wood evident in the crown Multi leadered form Pruning wounds noted Typical crown form	Remove any broken branches	No

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	Tree Work Recomendations	To Be Removed
T30	Monterey Pine Pinus radiata	26	1250	10	M	F	Minor dead wood evident in the crown Multi leadered form Pruning wounds noted Suppressed crown form Typical crown form	Remove any broken branches	No
T31	Monterey Pine Pinus radiata	26	1250	10	M	F	Minor dead wood evident in the crown Multi leadered form Pruning wounds noted Suppressed crown form Typical crown form	Remove any broken branches	No
T32	Ash Fraxinus excelsior	10	est 300	5	EM	F	Light ivy cover on main stem Minor dead wood evident in the crown Typical species form	No work required	No
T33	Lawson Cypress Chamaecyparis lawsoniana	15	est 450	3	EM	F	Minor dead wood evident in the crown, Typical crown form out grown from group	No work required	No
T34	Norway Maple Acer platanoides	12	280 270	4	EM	F	Minor dead wood evident in the crown Typical crown form Out grown from surrounding group of trees	No work required	No
T35	English Oak Quercus robur	9	450	7	EM	G	Low crown form Minor dead wood evident in the crown No major defects were noted	No work required	No
T36	English Oak Quercus robur	14	600	7	EM	G	Dense ivy cover on main stem Low crown form Minor dead wood evident in the crown No major defects were noted Situated offsite	No work required	No

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	Tree Work Recomendations	To Be Removed
T37	Holly Ilex aquifolium	5	est 300	4	EM	F	Low crown form Situated offsite No obvious defects	No work required	No
T38	English Oak Quercus robur	16	est 570	7	M	F	Branch stubs evident Dense ivy cover on main stem Minor dead wood evident in the crown Multi leadered form	Crown raise northern site to 5m	No
T39	English Oak Quercus robur	13	est 600	6	M	F	Branch stubs evident Low crown form Minor dead wood evident in the crown	No work required	No
T40	English Oak Quercus robur	17.3	580	8	M	F	Branch stubs evident Minor dead wood evident in the crown Typical crown form	Crown raise western side to 5m	No
T41	English Oak Quercus robur	17	500	5	M	P	Bark wounds noted Base obscured Branch socket cavities observed Branch stubs evident Broken branches evident Delaminating bark on main stem Dieback of the crown observed Major dead wood evident in the crown Pruning wounds noted within the crown	To be removed due to poor condition	Yes
T42	English Oak Quercus robur	17	500	5	M	P	Bark wounds noted Base obscured Branch socket cavities observed Branch stubs evident Broken branches evident Delaminating bark on main stem Dieback of the crown observed Major dead wood evident in the crown Pruning wounds noted	To be removed due to poor condition	Yes

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	Tree Work Recomendations	To Be Removed
T43	Hawthorn Crataegus monogyna	7	580	5	M	F	Dense undergrowth at the base Minor dead wood evident in the crown Multi leadered form Storm damage present	No work required	No
T44	English Oak Quercus robur	7	510	6	M	F	Branch stubs evident Dense undergrowth at the base Minor dead wood evident in the crown Multi leadered form Storm damage present	To be removed to facilitate residential plots	Yes
T45	Hawthorn Crataegus monogyna	6	350	5	M	F	Dense undergrowth at the base Minor dead wood evident in the crown Multi leadered form Storm damage present	To be removed to facilitate residential plots	Yes
T46	Hawthorn Crataegus monogyna	5	300	5	M	F	Dense undergrowth at the base Minor dead wood evident in the crown Multi leadered form Storm damage present	To be removed to facilitate residential plots	Yes
T47	Hawthorn Crataegus monogyna	6	300	5	M	F	Dense undergrowth at the base Minor dead wood evident in the crown Multi leadered form Storm damage present	To be removed to facilitate residential plots	Yes
T48	Hawthorn Crataegus monogyna	Tree no longer exisits							
T49	Hawthorn Crataegus monogyna	7	300	5	M	F	Second stem had recently failed	To be removed to facilitate residential plots	Yes

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	Tree Work Recomendations	To Be Removed
T50	Scots Pine Pinus sylvestris	16	820	6	M	F	Branch stubs evident Minor dead wood evident in the crown Main stem leaning towards the south	To be removed to facilitate residential plots	Yes
T51	Holly Ilex aquifolium	7	est 200 200 200	4	M	F	Low crown form Multi stemmed from base No major defects were noted Typical crown form	No work required	No
T52	English Oak Quercus robur	15	980	17	M	G	Dense ivy cover on main stem Lateral lever arm observed Low crown form Minor dead wood evident in the crown No major defects were noted	No work required	No
T53	Monterey Pine Pinus radiata	16	1440	9	M	P	Branch stubs evident Broken branches evident Dense ivy cover on main stem Dieback of the crown observed Major dead wood evident in the crown Situated offsite Storm damage present	No work required	No
T54	Ash Fraxinus excelsior	18	est 1000	8	M	F	Base obscured Branch stubs evident Dense ivy cover on main stem Dense undergrowth at the base Major and minor dead wood evident in the crown	No work required	No
T55	English Oak Quercus robur	10	570	6	EM	G	Branch socket cavities observed Branch stubs evident Minor dead wood evident in the crown Pruning wounds noted Typical crown form	Crown raise all round to 4m	No
T56	Crack Willow Salix fragilis	10	600	6	M	P	Branch stubs evident Broken branches evident Dense ivy cover on main stem Dieback of the crown observed	No work required	No

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	Tree Work Recomendations	To Be Removed
T57	Crack Willow Salix fragilis	10	650	6	M	P	Branch stubs evident Broken branches evident Dense ivy cover on main stem Dieback of the crown observed	No work required	No
T58	Hawthorn Crataegus monogyna	7	est 320	3	EM	F	Branch stubs evident Dense undergrowth at the base Low crown form Minor dead wood evident in the crown No major defects were noted	No work required	No
T59	Common Ash Fraxinus excelsior	22	est 800 650	11	M	F	Bark wounds noted Base obscured Branch socket cavities observed Branch stubs evident Broken branches evident Dense undergrowth at the base Lateral lever arm observed Major and minor dead wood evident in the crown	No work required	No
T60	Hawthorn Crataegus monogyna	6.5	100	3	EM	F	Typical outgrown boundary specimen No obvious defects	To be removed to facilitate residential plots	Yes
T61	Sycamore Acer pseudoplatanus	10	est 300	4	EM	F	Base obscured Unable to gain access	No work required	No
T62	Sycamore Acer pseudoplatanus	10	est 300	4	EM	F	Base obscured Unable to gain access	To be removed to facilitate residential plots	Yes
T63	English Oak Quercus robur	13	est 600	7	M	P	Dieback of crown observed Epicormic growth evident within the crown Minor and major dead wood evident in the crown	To be removed to facilitate residential plots	Yes

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	Tree Work Recomendations	To Be Removed
T64	English Oak Quercus robur	13	est 600	7	M	F	Epicormic growth evident within the crown Minor and major dead wood evident in the crown	Crown raise all round to 4m and remove deadwood up to 40mm in diameter	No
T65	Holly Ilex aquifolium	8	est 300	4	M	F	Typical outgrown hedgerow specimen No obvious defects	No work required	No
T66	English Oak Quercus robur	11	est 800	7	M	G	Typical crown form No major defects Forms part of TG13	No work required	No
T67	English Oak Quercus robur	15	est 850	8	M	F	Typical crown form No major defects Surrounded by understorey	Crown raise all round to 4m	No
T68	Horse Chestnut Aesculus hippocastanum	15	est 1100	8	M	F	Multi leadered form Situated within rear garden Unable to gain access	No work required	No
T69	Monterey Cypress Cupressus macrocarpa	10	est 700	5	M	F	Situated within rear garden Unable to gain access Low crown form	Crown raise to the south to 3m	No
T70	Crack Willow Salix fragilis	16	est 500 800	10	M	F	Situated within rear garden Unable to gain access Low crown form	Reduce lateral limb to south back to within 2m of main stem	No
T71	Leyland Cypress Cupressocyparis leylandii	12	est 400	4	M	F	Unable to gain access Low crown form	No work required	No

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	Tree Work Recomendations	To Be Removed
T72	Hawthorn Crataegus monogyna	5	est 250	4	M	F	Base obscured Typical outgrown hedgerow specimen No obvious defects	No work required	No
T73	Common Lime Tilia x europaea	17	810	5	M	G	Basal suckers present Crossing and rubbing branches Epicormic growth evident within the crown Light ivy cover	No work required	No
T74	Horse Chestnut Aesculus hippocastanum	15	Over ivy 640	3	M	F	Dense undergrowth at the base Epicormic growth evident within the crown Minor dead wood evident in the crown (<75mm) Pruning wounds noted Sparse crown Suppressed crown form Cameraria ohridella Horse chestnut leaf miner present	No work required	No
T75	Monterey Pine Pinus radiata	20	Over ivy 1040	7	M	G	Branch stubs evident Dense ivy cover on main stem Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) No major defects were noted Twin stemmed from 3m with majority of crown over road	No work required	No
T76	Monterey Pine Pinus radiata	17	Over ivy 970	6	M	F	Branch stubs evident Broken branches evident Dense ivy cover on main stem Dieback of the crown observed Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm)	No work required	No

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Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	Tree Work Recomendations	To Be Removed
GROUPS OF TREES									
TG1	Monterey Pine Pinus radiata Ash Fraxinus excelsior Beech Fagus sylvatica English Oak Quercus robur Field Maple Acer campestre Sycamore Acer pseudoplatanus Laurel Prunus laurocerasus Goat Willow Salix caprea Silver Birch Betula pendula Wild Cherry Prunus avium	14	avg 220	4	EM	F	Dense undergrowth at the base Interlocking crowns Minor dead wood evident in the crown Densely planted buffer group adjacent to a road Laurel forming the understory of the group Large pines inbetween fences	Nothern edge of tree cover to be removed to facilitate highway alterations	Partial
TG2	Laurel Prunus laurocerasus	7	avg 6x 80	3	EM	F	Crowding and rubbing branches Interlocking crowns Unable to gain access within the group Dense planting block	To be removed to facilitate development	Yes
TG3	Common Ash Fraxinus excelsior Elder Sambucus nigra Rowan Sorbus aucuparia	4	avg 140	2	SM	F	Suppressed crown form Planted around the bases of larger trees	No work required	No

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	Tree Work Recomendations	To Be Removed
TG4	Ash Fraxinus excelsior Rowan Sorbus aucuparia	3	avg 120	2	SM	F	Minor dead wood evident in the crown Suppressed crown form 6 trees forming the group	No work required	No
TG5	Common Ash Fraxinus excelsior	9	avg 180	5	EM	F	Light ivy cover on main stem Minor dead wood evident in the crown No major defects were noted Single stem forms	Seven trees to be removed to facilitate road infrastructure	Partial
TG6	Common Ash Fraxinus excelsior	10	avg 210	3	SM	G	Minor dead wood evident in the crown No major defects were noted Single stem forms Planted group along filled boundary	No work required	No
TG7	Corsican Pine Pinus nigra ssp. Laricio Rowan Sorbus aucuparia Sweet Chestnut Castanea sativa	17	upto 630	6	M	G	Crossing and rubbing branches Low crown form Minor dead wood evident in the crown Pruning wounds noted	Remove understorey scrub and poor vegetation	No
TG8	Ash Fraxinus excelsior Field Maple Acer campestre Hawthorn Crataegus monogyna Wych Elm Ulmus glabra False Acacia Robinia pseudoacacia Beech Fagus sylvatica Common Lime Tilia x europaea	8	upto 250	2	SM,EM	F	No major defects were noted Typical un-maintained hedgerow	No work required	No

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	Tree Work Recomendations	To Be Removed
TG9	Lawson Cypress Chamaecyparis lawsoniana Elder Sambucus nigra Hawthorn Crataegus monogyna	10	upto 300	3	SM,EM	F	Crossing and rubbing branches Interlocking crowns Minor dead wood evident in the crown Storm damage present Typical crown form	No work required	No
TG10	Field Maple Acer campestre Hawthorn Crataegus monogyna Apple Malus domestica	6	upto 200	2	SM,EM	F	Minor dead wood evident in the crown No major defects were noted Tractor mounted flail damage evident Typical crown form Un-maintained hedgerow	Cut back lateral growth with flail mower	No
TG11	Scots Pine Pinus sylvestris	21	upto 700	6	M	F	Branch stubs evident Broken branches evident Minor dead wood evident in the crown	Remove dead wood and broken material	No
TG12	Elder Sambucus nigra English Oak Quercus robur Field Maple Acer campestre Hawthorn Crataegus monogyna Wild Cherry Prunus avium	5	avg 280	4	SM,EM	F	Base obscured Branch stubs evident Broken branches evident Crossing and rubbing branches Light ivy cover on main stem Low crown form Minor dead wood evident in the crown Un-maintained hedgerow	Remove requires sections for highway infrastructure Remove outer edge thicket growth and lateral growth with flail mower to reinstate central hedgerow	Partial
TG13	English Oak Quercus robur	12	upto 800	7	M	G	Branch stubs evident Broken branches evident Dense ivy cover on main stem Dense undergrowth at the base Interlocking crowns Lateral lever arm observed Major dead wood evident in the crown Minor dead wood evident in the crown Multi leadered form Group made up of 7 trees positioned on the field boundaries	Crown raise to 4m to allow installation of Tree Protection Fencing	No

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	Tree Work Recomendations	To Be Removed
TG14	Elder Sambucus nigra Field Maple Acer campestre Hawthorn Crataegus monogyna Laurel Prunus laurocerasus	4	est 6x 50	2	SM	F	Base obscured by dense undergrowth Typical un-maintained forms No obvious defects	Remove requires sections for highway infrastructure Remove outer edge thicket growth and lateral growth with flail mower to reinstate central hedgerow	Partial
TG15	Ash Fraxinus excelsior Field Maple Acer campestre Hawthorn Crataegus monogyna Sycamore Acer pseudoplatanus Holly Ilex aquifolium Beech Fagus sylvatica Blackthorn Prunus spinosa Common Ash Fraxinus excelsior	10	upto 300	5	SM,EM	F	Crossing and rubbing branches Dense undergrowth at the base Interlocking crowns Light ivy cover on main stem Low crown form Minor dead wood evident in the crown Multi leadered and single stemmed forms within the group Situated offsite	Remove required section for access road	Partial
TG16	Common Ash Fraxinus excelsior English Oak Quercus robur Hawthorn Crataegus monogyna Sycamore Acer pseudoplatanus	13	est 300	4	EM,M	F	Base obscured Branch stubs evident Minor dead wood evident in the crown Poached ground at the base caused by pigs Unable to gain access	To be removed to facilitate residential plots	Yes

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	Tree Work Recomendations	To Be Removed
TG17	Field Maple Acer campestre Goat Willow Salix caprea Hawthorn Crataegus monogyna Lawson Cypress Chamaecyparis lawsoniana English Oak Quercus robur	8	upto 400	4	EM	F	Compacted ground at the base Dense undergrowth at the base Interlocking crowns Minor dead wood evident in the crown Typical crown form	Remove outer edge thicket growth and lateral growth with flail mower to reinstate boundary hedgerow	No
TG18	Purple Plum Prunus cerasifera Pissardii Ash Fraxinus excelsior Elder Sambucus nigra English Oak Quercus robur Hawthorn Crataegus monogyna Sycamore Acer pseudoplatanus English Elm Ulmus procera Hazel Corylus avellana	7	upto 250	3	EM	F	Branch stubs evident Dead elms noted Dense undergrowth at the base Sporadic self-seeded group of trees Group formed around dilapidated sheds	To be removed to facilitate residential plots	Yes
TG19	Ash Fraxinus excelsior Elder Sambucus nigra Holly Ilex aquifolium	12	upto 270	4	EM	F	Low crown form Minor dead wood evident in the crown Typical crown forms within the group	No work required	No
TG20	Hawthorn Crataegus monogyna Holly Ilex aquifolium	4	upto 150	1.5	EM	F	Browsing damage noted on main stem Situated offsite No obvious defects	Remove outer edge thicket growth and lateral growth with flail mower to reinstate boundary hedgerow	No

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Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	Tree Work Recomendations	To Be Removed
TG21	Beech Fagus sylvatica	16	upto 750	9	EM	F	Broken branches evident Compacted ground at the base Minor dead wood evident in the crown No major defects were noted Situated offsite Unable to gain access	Crown raise to 4m to allow installation of Tree Protection Fencing	No
TG22	Austrian Pine Pinus nigra ssp. Nigra Common Larch Larix decidua Ash Fraxinus excelsior English Oak Quercus robur Silver Birch Betula pendula Wild Cherry Prunus avium English Elm Ulmus procera Norway Maple Crimson King Acer platanoides 'Crimson King'	12	est 400	4	EM,M	F	Base obscured Dense undergrowth at the base Minor dead wood evident in the crown Multi leadered form Pruning wounds noted Single stem forms Situated offsite within garden	No work required	No
TG23	Elder Sambucus nigra Goat Willow Salix caprea Hawthorn Crataegus monogyna Holly Ilex aquifolium Rowan Sorbus aucuparia Hazel Corylus avellana	7	est 250	3	SM,EM	F	Base obscured Dense undergrowth at the base Interlocking crowns Minor dead wood evident in the crown	No work required	No

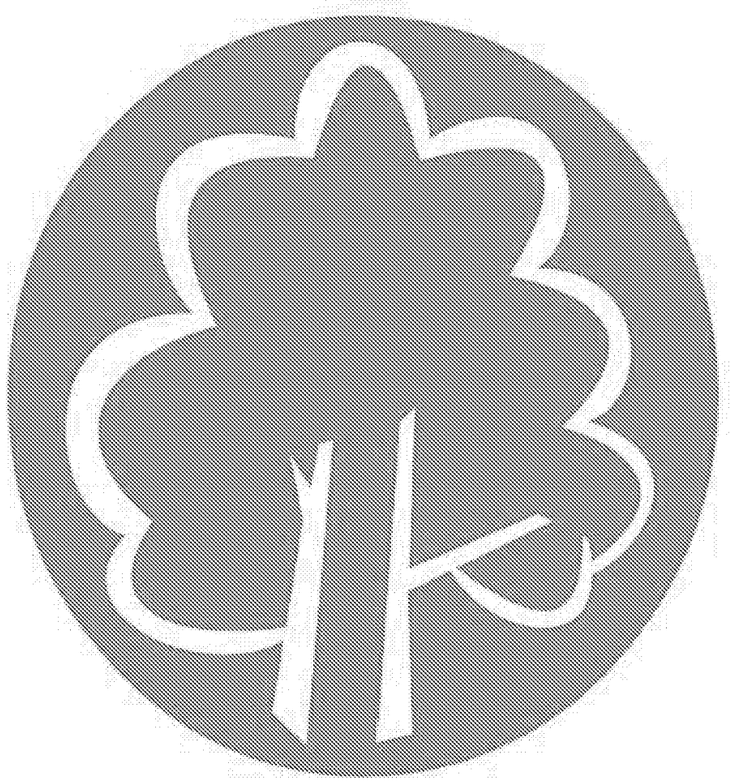
Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	Tree Work Recomendations	To Be Removed
TG24	Field Maple Acer campestre Goat Willow Salix caprea Hawthorn Crataegus monogyna Wild Cherry Prunus avium	8	est 350	4	EM	F	Base obscured Crossing and rubbing branches Interlocking crowns Low crown form Minor dead wood evident in the crown	No work required	No
TG25	English Oak Quercus robur Field Maple Acer campestre Sycamore Acer pseudoplatanus Hazel Corylus avellana Holly Ilex aquifolium	14	upto 500	6	SM,M	G	Base obscured Coppiced forms within the group Dense ivy cover on main stems Interlocking crowns Minor dead wood evident in the crowns Outgrown hedgerow	Crown raise to 4m to allow installation of Tree Protection Fencing	No
TG26	Austrian Pine Pinus nigra ssp. Nigra Lawson Cypress Chamaecyparis lawsoniana Blackthorn Prunus spinosa English Oak Quercus robur Field Maple Acer campestre Horse Chestnut Aesculus hippocastanum Sycamore Acer pseudoplatanus Hazel Corylus avellana Holly Ilex aquifolium	19	700	8	SM,M	G	Base obscured Coppiced form Crown had been topped Dense ivy cover on main stem Interlocking crowns Minor dead wood evident in the crown Overhead cables Pruning wounds noted Un-maintained hedgerow	Crown raise to 4m to allow installation of Tree Protection Fencing	No

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	Tree Work Recomendations	To Be Removed
TG27	Ash Fraxinus excelsior Horse Chestnut Aesculus hippocastanum Common Walnut Juglans regia Norway Maple Crimson King Acer platanoides 'Crimson King'	16	700	6	SM,M	F	Compacted ground at the base Dense crown formations Interlocking crowns Typical garden forms Multiple pruning wounds throughout the trees within the group	No work required	No
TG28	Ash Fraxinus excelsior Beech Fagus sylvatica Elder Sambucus nigra Hawthorn Crataegus monogyna Horse Chestnut Aesculus hippocastanum Norway Maple Acer platanoides Silver Birch Betula pendula Common Walnut Juglans regia Copper Beech Fagus sylvatica purpurea Hazel Corylus avellana Lawson Cypress Chamaecyparis lawsoniana	13	680	5	SM,M	F	Compacted ground at the base Fenced off from the horses in surrounding field parcels Unable to gain access Dense undergrowth at the base Possibly a pond within the group	Crown raise to 4m to allow installation of Tree Protection Fencing	No

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	Tree Work Recomendations	To Be Removed
TG29	Elder Sambucus nigra Field Maple Acer campestre Hawthorn Crataegus monogyna	6	200	3	M	F	Interlocking crowns Multi leadered form Typical crown form	Remove to allow for landscaping around T57	Yes
TG30	Common Ash Fraxinus excelsior Hawthorn Crataegus monogyna	10	est 250	3	EM	F	Outgrown hedgerow with offsite trees Unable to gain access	No work required	No
TG31	Hawthorn Crataegus monogyna	6	est 6x80	2	EM	F	Outgrown hedgerow Unable to gain access	To be removed to facilitate residential plots	Yes
TG32	Lawson Cypress Chamaecyparis lawsoniana	6	est 200	2	EM	F	Typical forms Unable to gain access	To be removed to facilitate residential plots	Yes
TG33	Common Ash Fraxinus excelsior Hawthorn Crataegus monogyna	8	est 200	2	EM	F	Outgrown hedgerow Unable to gain access	Remove required section for access road	Partial
TG34	Ash Fraxinus excelsior Elder Sambucus nigra Hawthorn Crataegus monogyna Laural Prunus Laurocerasus Monterey Pine Pinus radiata	11	avg 300	3	SM / EM	F	Branch stubs evident Broken branches evi+l36:M37dent Crossing and rubbing branches Dense ivy cover on main stem Dense undergrowth at the base Interlocking crowns Low crown form Minor dead wood evident in the crown (<75mm)	May require works to facilitate highway alterations Works to be confirmed	No

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	Tree Work Recomendations	To Be Removed
TG35	Ash Fraxinus excelsior Beech Fagus sylvatica Elder Sambucus nigra Field Maple Acer campestre Hazel Corylus avellana Holly Ilex aquifolium Scots Pine Pinus sylvestris Dogwood Cornus sanguinea	11	avg 250	3	SM / EM	F	Branch stubs evident Crossing and rubbing branches Dense undergrowth at the base Interlocking crowns Low crown form Trees roadside of fence low in quality	May require works to facilitate highway alterations Works to be confirmed	No
TG36	Hybrid Black Poplar Populus x canadensis	16	est 450	6	EM	F	Etiolated form Interlocking crowns Minor dead wood evident in the crown (<75mm) Situated within field parcel	No work required	No

Hedge No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	Tree Work Recomendations	To Be Removed
H1	Field Maple Acer campestre Hawthorn Crataegus monogyna Holly Ilex aquifolium	3	avg 50 50 50	0.5	EM	F	Maintained hedgerow Typical form	Remove outer edge thicket growth and lateral growth with flail mower to reinstate boundary hedgerow	No
H2	Field Maple Acer campestre	6	est 50 50 50	1	SM	F	Gaps present within hedgerow Gaps covered with bramble	To be removed to facilitate residential plots	Yes
H3	Elder Sambucus nigra English Oak Quercus robur Field Maple Acer campestre Hawthorn Crataegus monogyna Holly Ilex aquifolium	6	est 6x 70	2	SM	F	Crossing and rubbing branches Dense undergrowth at the base Interlocking crowns Un-maintained hedgerow	Remove requires sections for highway infrastructure Remove outer edge thicket growth and lateral growth with flail mower to reinstate central hedgerow	Partial
H4	Elder Sambucus nigra English Oak Quercus robur Field Maple Acer campestre Hawthorn Crataegus monogyna	6	est 6x 70	2	SM	F	Crossing and rubbing branches Dense undergrowth at the base Interlocking crowns Un-maintained hedgerow	To be removed to facilitate residential plots	Yes
H5	Privet Ligustrum ovalfolium	2	est 6x60	1	SM	F	Maintained hedgerow Typical form	To be removed to facilitate residential plots	Yes
H6	Privet Ligustrum ovalfolium	1	est 6x60	1	SM	F	Maintained hedgerow Typical form	No work required	No



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



TREE PROTECTION AREA
KEEP OUT !

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

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

The following points are to be considered at all times:

1. Protective fencing has been installed at the extend of the calculated root protection area (RPA) - DO NOT USE OR ACCESS the ground within the fenced area. This is particularly the case for placement of site offices, stockpiles of soil or fuel and material storage, storing machinery or parking vehicles, debris or building materials or fires.

2. AVOID excavations, changes in ground levels or tracking machinery within the fenced area at ALL TIMES. These activities can seriously compromise the long term survival of trees due to the impact on a trees roots.

3. REPORT any instances where the fencing has been removed, repositioned, damaged or is not fit for purpose to the Site Manager. This shall help the Site Manager to ensure that the fencing is maintained throughout the construction process. It will also reduce the risk of any staff and contractors accidentally and inadvertently causing damage to trees as a result.

Retained trees are protected by planning law and reckless damage or non consented tree removal could result in the serving of a stop notice or prosecution by the LPA

For more information on Tree Protection please visit the website link https://goo.gl/hpBkTv or scan the QR code on a Smartphone or Tablet.

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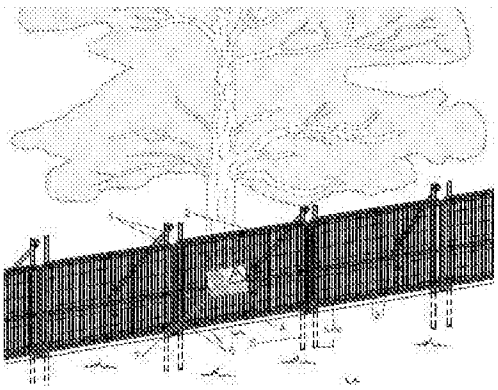
WHAT YOU NEED TO KNOW ABOUT WORKING NEAR TREES

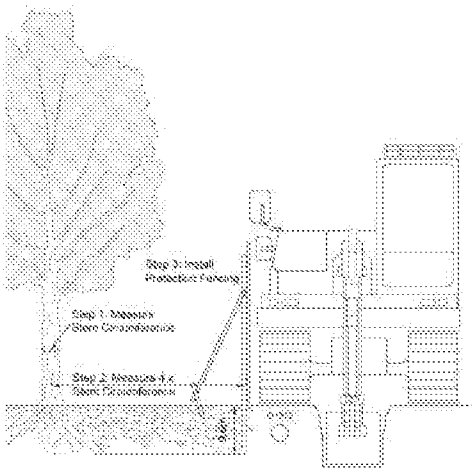
This advice note provides a brief overview of the methods of protection for trees located across the site. Compliance with these guidelines will be a requirement of all contractors working near retained trees.

Any construction works which are to be carried out near to or within the fenced off areas should be carried out in accordance with the Arboricultural Method Statement and as explained by the Site Manager during the site induction. Failure to adhere to the correct sequence, manner and timing of operations detailed in the Arboricultural Method Statement may result in irremediable damage to trees or disturbance to retained tree cover.

Retained trees are protected by planning law and reckless damage or non consented tree removal could result in the serving of a stop notice or prosecution by the LPA.

Trees make a significant contribution to the landscape character of the development and they are to be treated as important assets. To protect these assets, tree protective fencing has been installed where required across the site.





The following points are to be considered at all times.

1. Protective fencing has been installed at the extent of the calculated root protection area (RPA) - Do not use or access the ground within the fenced area. This is particularly the case for placement of site offices, stockpiles of soil or fuel and material storage, storing machinery or parking of vehicles, debris or building materials or fires.
2. Avoid excavations, changes in ground levels or tracking of machinery within the fenced area at all times. These activities can seriously compromise the long term survival of trees due to the impact on a trees roots.
3. Report any instances where the fencing has been removed, repositioned, damaged or is not fit for purpose (see images below) to the Site Manager. This shall help the Site Manager to ensure that the fencing is maintained throughout the construction process. It will also reduce the risk of any staff and contractors accidently and inadvertently causing damage to trees as a result.



Unacceptable example of tree protection due to a lack of adequate fencing and poor site management. Note mounds of soil have been placed within the Root Protection Area.

Tree Protection Fencing which has been erected prior to the commencement of any site works and the correct signage has been provided to clearly highlight that this is a protected zone.

Please acknowledge you have read and understand this document by visiting the website http://bit.ly/2EprKu8 or scanning the QR Code on a Smartphone or Tablet.

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Appendix D1 Tree Surgery Contractors – Tree Work Methodology

Table 1: Related Reference Material

Plan Name	Drawing Number
Tree Retention Plans	6233-T-05, 6233-T-06, 6233-T-07
Tree Protection Plans	6233-T-08, 6233-T-09, 6233-T-10, 6233-T-11
Appendices	**Appendix Title**
Appendix A	Tree Schedule

The Site Manager and tree surgery contractor must ensure that any necessary consent has been received from the local authority and that no protected species are harmed whilst carrying out site clearance or tree surgery works.

The trees to be removed are shown on the Tree Retention Plan as red circles hatched with red criss-crossing lines. A key has been provided on each of the plans to assist with identification.

All individual trees have been tagged with round, numbered aluminium tags and the corresponding identification number has been recorded within the Tree Schedule and Works Recommendations. The trees to be removed will be marked up by the project Arboricultural consultant during the pre-commencement site meeting and, where required, with the tree surgeon present. Highly visible fluorescent paint will be used to assist in identification. A pre-commencement tool box talk will be given and the works will only be carried out once the project ecologist is satisfied that there are no ecological constraints.

Works on all trees cannot commence until all pre-commencement conditions have been discharged.

Crown lifting is the removal of the lowest branches and/or preparing of lower branches for future removal. Good practice dictates crown lifting should not normally include the removal of large branches growing directly from the trunk as this can cause large wounds which can become extensively decayed leading to further long-term problems or more short term biomechanical instability. Crown lifting on older, mature trees should be avoided or restricted to secondary branches or shortening of primary branches rather than the whole removal wherever possible. Crown lifting should be restricted to less than 15% of the live crown height and leave the crown at least two thirds of the total height of the tree.

As a general rule branches should be removed at their point of attachment or shortened to a lateral which is at least 1/3 of the diameter of the removed portion of the branch, and all cuts should be kept as small as possible.

Where required – limited to where Tree Protection Fencing in required

Crown reduction is the pruning of branch material to reduce the overall height and/or spread of a tree by means of a general shortening of twigs and/or branches. The main framework of the tree is retained. A crown reduction should be carried out in proportion to its original shape. Pruning cuts should not exceed 100mm in diameter except on very large trees.

Where required – N/A

Dead branches should be shortened or removed if they pose an unacceptable risk to people or property. The removal of dead branches should be done without injuring living bark or sapwood.

Where required – N/A

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All works shall be in accordance with BS 3998:2010 '*Tree work. Recommendations*'. The use of a competent tree surgery contractor is necessary to comply with this.

Within root protection areas (RPA), stumps, shrubs and other vegetation must be removed by hand or using stump grinding machinery to minimize root damage to retained trees. Where poisoning of stumps is specified, this must be carried out by competent operatives. Only chemicals approved for this purpose and used in accordance with the manufacturer's instructions will be used.

Stump grinding – Stumps of felled trees are removed by a mechanical stump grinder to reduce the impact upon surrounding retained trees. All of the stumps on site are to be removed using this method with a pedestrian size or tracked machine. Spoil is to be left on site if appropriate.

No stumps are to be excavated due to the potential to damage existing rooting material of retained trees.

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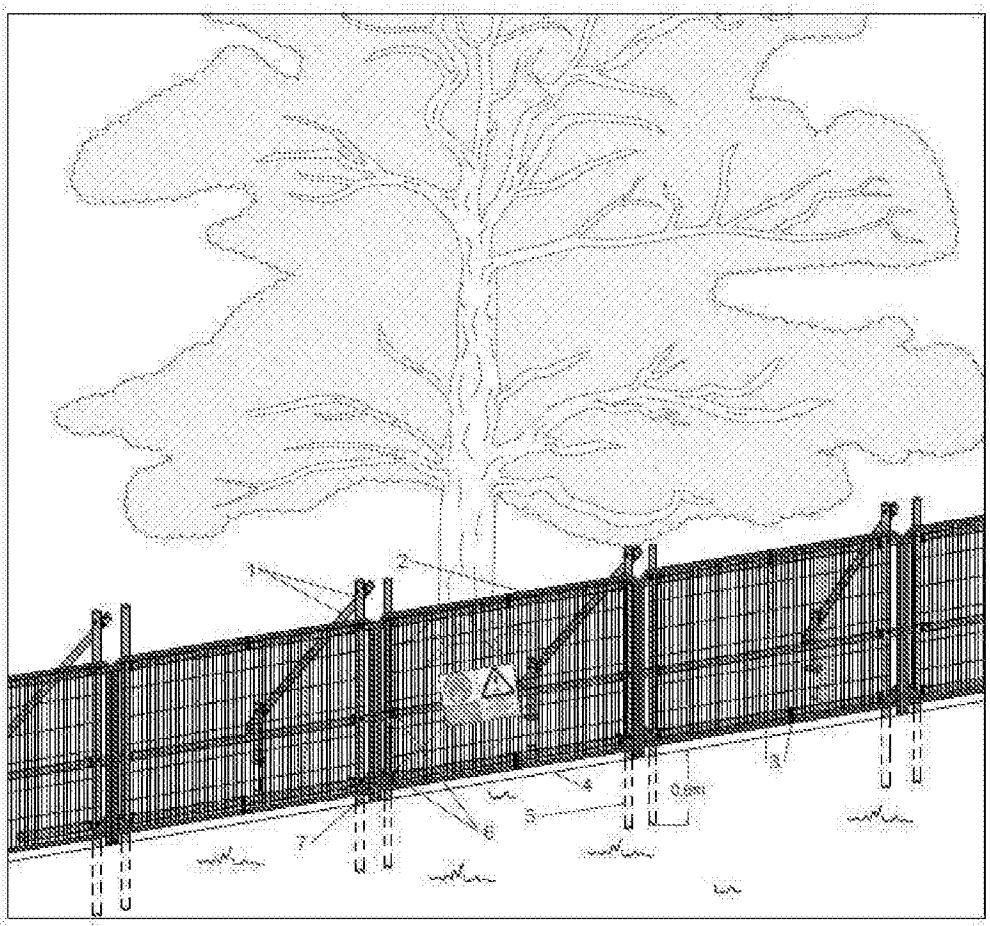
Appendix D2 Fencing Contractors – Working Methodology

Table 1: Related Reference Material

Plan Name	Drawing Number
Tree Protection Plans	6233-T-08, 6233-T-09, 6233-T10, 6233-T-11
Appendices	**Appendix Title**
Appendix A	Tree Works Schedule
Appendix B	Tree Fencing Signs

Fencing will be installed, as detailed in Tree Protection Plan, at the extent of the root protection areas of retained trees using the dimension indicated on the plan. The positioning of the protective fencing shall be measured out during the initial pre-commencement site meeting by the project Arboricultural Consultant during and, where required, with the Site Manager present. Highly visible fluorescent paint and marker pegs / stakes will be used to assist in identification where deemed necessary.

Barriers will comprise a Heras panel framework supported by scaffold poles driven into the ground as per the specification below. Where scaffold poles cannot be driven then rubber block feet will be used:



Standard specification for High Intensity Protective Barrier

1. Standard scaffold poles
2. Heavy gauge 2m tall galvanized tube and welded mesh infill panels
3. Panels secured to scaffold frame with wire ties
4. Ground level
5. Uprights driven into the ground until secure (min depth of 0.6m)
6. Standard scaffold clamps
7. Construction Exclusion Zone signs

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The fencing will be strong and suitable for the location, type and proximity of construction activity and prevent access of machinery, plant or operative beyond the area required to construct the development.

Tree protection barriers and work exclusion zones will be clearly marked using appropriate signage, an example of which has been included as Appendix B.

All tree protective fencing will remain rigid and in place for the duration of the development and should be inspected at weekly intervals by the Site Manager alongside regular inspections to be carried out by the Arboricultural Consultant.

Following the completion of construction works and in agreement with the project Arboricultural Consultant, the tree protection barriers will be removed carefully as to avoid causing root disturbance or leaving in situ any lengths of scaffold framework. This operation can be carried out prior to soft landscaping works such as new planting, mulching grass sowing etc.

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Appendix D3 Installation of No-dig Cellular Confinement – Working Methodology

Table 1: Related Reference Material

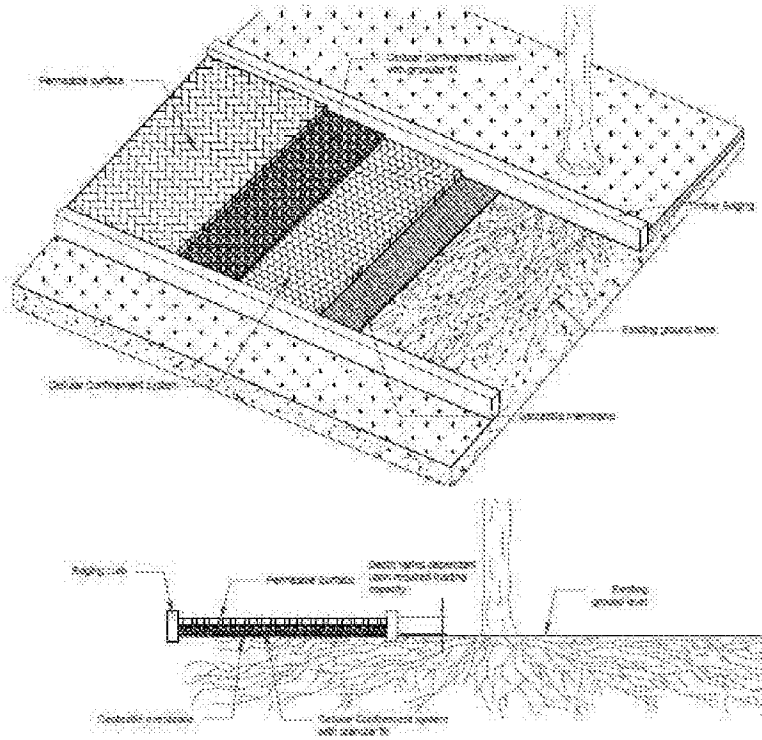
Plan Name	Drawing Number
Tree Protection Plans	6233-T-08, 6233-T-09, 6233-T-10, 6233-T-11
Appendix A	Tree Works Schedule
Appendix E	Cellweb TRP Installation Guide

The purpose of the Method Statement is to ensure that damage to the rooting area of all retained trees is protected from unnecessary damage. Therefore digging down, compacting the soil and creating an impermeable surface will be prevented.

A method to spread and support the load of the hard surface and anticipated usage without causing compaction of the soil structure beneath will be used. The use of "no-dig" industry led specialist engineering solutions i.e. three dimensional "load bearing" cellular confinement systems shall be used to construct the relevant driveways and footpath RPAs.

Figures 1 and 2 demonstrates the specification for No-dig Permanent Road Construction and No-dig Footpath Construction (further details and product specifications are available upon request).
Figure 3 and Appendix E provide information from the appointed supplier Geosynthetics Ltd.

Figure 1: No-dig Road Construction



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Figure 2: No-dig Footpath Construction

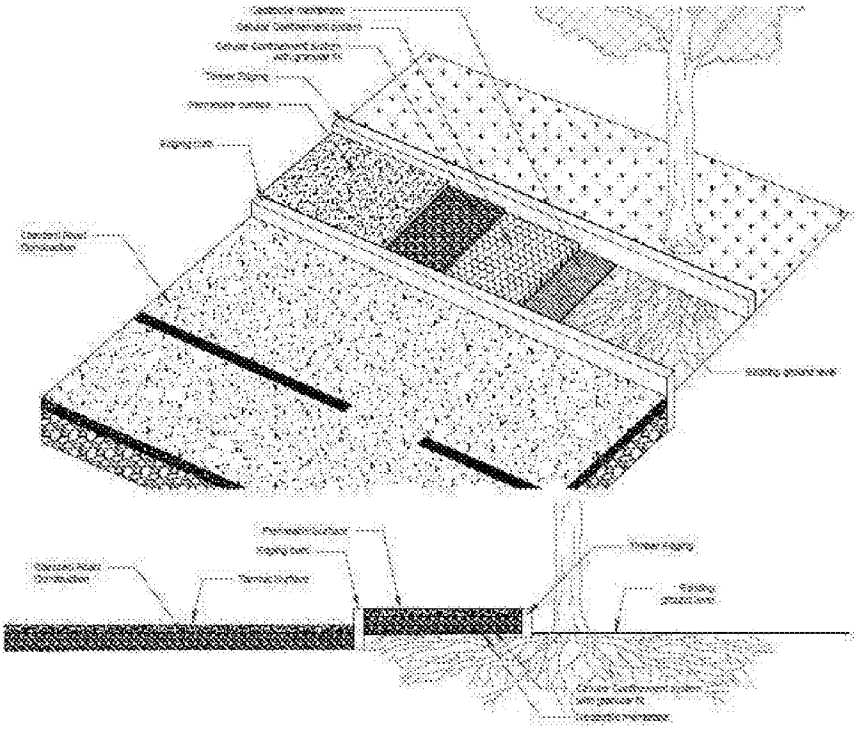
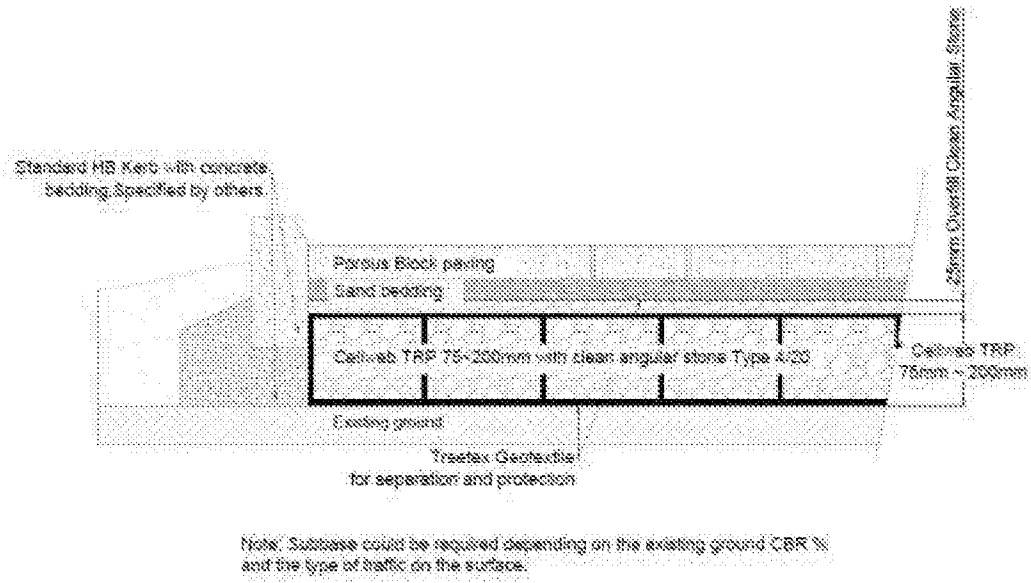


Figure 3: Cellweb 75-200mm Block Paving Standard Detail



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The principal rules to apply when constructing such a system as described above are as follows:

- Roots must not be severed, cut or broken;
- Original ground levels must not be changed;
- Soils must not be compacted;
- Oxygen and water must be able to diffuse into the soil beneath the engineered surface.

The initial task will include the removal of the existing vegetative surface. It is of paramount importance that particular care is taken when removing the top surface layer. This operation will need to be supervised by the Project Arboriculturalist.

The use of a geotextile membrane will help support the sub-base and form a partial filter (a last line of defence) for contaminants such as oil and road salt. The sub-base will be porous to enable gaseous exchange and water infiltration. A suitable material is washed angular stone with a diameter between 20 – 40mm with no fine aggregates. Aggregates or stones must have a near neutral PH.

The surface material will be permeable paving. The exact specification of the hard surface is a matter for the Structural Engineer.

The following methodology should be used as a guideline for the installation of cellular confinement systems:

1. Under **arboricultural supervision** remove the upper surface layer vegetation / turf. The depth of the excavation will be determined by the arboriculturalist and shall commence until the shallowest root with a diameter greater than 25mm, or a matt of fine fibrous tree roots, is encountered. Holes shall be filled with clean angular stone and sharp sand. Do not level off high spots or compact the soil through rolling.

2. Immediately after an even soil surface layer has been prepared, a geo textile membrane will be laid. The geo-textile membrane sheets should overlap by a minimum of 300mm.

3. The sub-base will be laid to a depth and specification prescribed by the Structural Engineer.

4. Lay out the collapsed cellular confinement system on-top of the membrane. Use a J pin (usually supplied) into the centre cell at the end of the panel and secure into the ground.

5. Pull the cellular confinement sheet out to its full length and secure its length with another J pin. Measure its width to 2.56m and secure in each of the corners with the J pins. Use 10 pins per panel to create a panel measuring 8.1m x 2.56m. **Each cell must be fully extended and under tension.**

6. Staple adjacent panels together at each cell (200mm: 5 staples. 150mm: 4 staples. 100mm: 3 staples. 75mm: 3 staples).

7. If a curved path or shape is required, this should be cut when the cellular confinement panel is pinned out to 8.1 x 2.56m, ensuring complete cells remain. **Do not try to curve or bend the panels into place.**

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8. Infill the Clean Angular Stone. The infill material must be a clean angular stone, Type 4/20mm or Type 20/40mm. **Do not use M.O.T type 1 or crushed stone with fines for tree root protection.**

9. Infill the cells with the clean angular stone, working towards the tree and using the infilled panels as a platform – working from one end to the other. Minimum 25mm overfill of clean angular stone when used in conjunction with a hard surface. **No compaction is required of the infill. Do not use a whacker plate or other means of compaction.**

10. Encourage settlement of the stone with the use of a light roller or with 2-3 passes of the construction plant used for installation.

11. Where edging is required for footpath and light structures, the edge will comprise treated timber boards pegged every 500mm with a wooden peg on the outside. The top of the peg will be flush with the top of the board.

12. **All surfaces in Root Protection Areas must be porous**. Surfaces can include porous block paving, porous asphalt, loose gravel, grass and gravel retention systems (e.g Golpla), resin bound gravel, concrete and Astro turf.

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Appendix D5 Hard and Soft Landscaping – Working Methodology

Table 1: Related Reference Material

Plan Name	Drawing Number
Tree Retention Plans	6233-T-05, 6233-T-06, 6233-T-07
Tree Protection Plans	6233-T-08, 6233-T-0-, 6233-T-10, 6233-T-11

Following the completion of construction works and in agreement with the project Arboricultural Consultant, the tree protection barriers will be removed carefully as to avoid causing root disturbance or leaving in situ any lengths of scaffold framework, to allow for the landscaping works.

All existing ground flora, including bramble, soft rush, rose bay willow herb etc. which has grown in previously fenced areas will be cleared by strimming and all arising raked up. After a period of at least one month, the regrowth shall be sprayed off with appropriate herbicides. For herbaceous vegetation this will be a Glyphosate based herbicide and for coarser growth a brushwood killer based on Triclopyr.

Stumps should be treated with appropriate herbicide to prevent regrowth. Stumps outside the root protection area may be removed using appropriate machinery. If it is necessary to remove small stumps within the root protection area, then they can be dug out by hand. Large stumps may be removed using a stump grinder with ground protection where necessary.

Within the root protection areas of trees to be retained, the preparation of soil for planting and turfing will be carried out by hand. Cultivation will be kept to a minimum and new topsoil must not exceed 100mm in depth within 1m of the stem. Topsoil and other materials will be transported by wheelbarrow on running boards when working near trees. Areas outside the root protection area can be carried out using suitable machinery provided it does not enter the rooting area of retained trees.

Finished levels shall not be compacted.

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Appendix D5: Excavation Under Supervision – Working Methodology

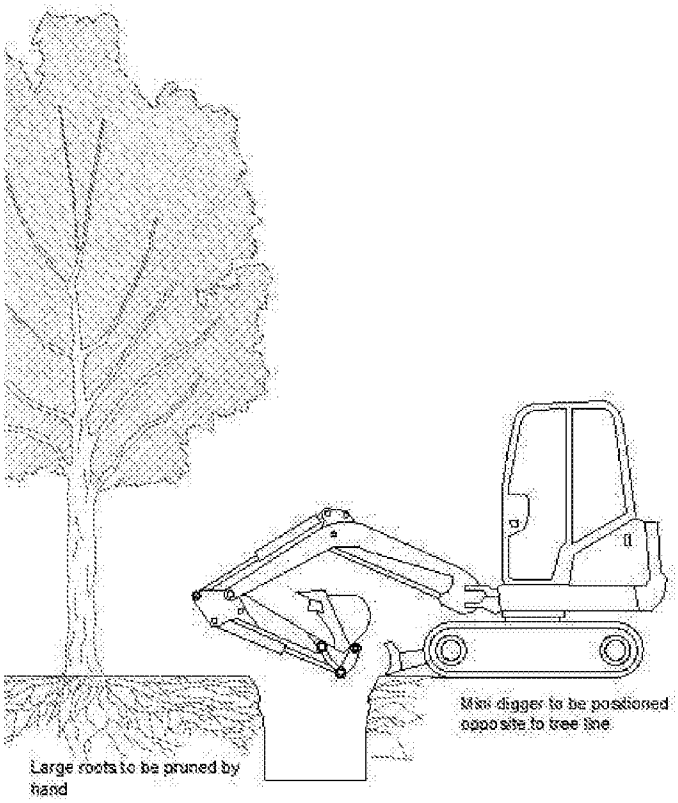
Table 1: Related Reference Material

Plan Name	Drawing Number
Tree Protection Plans	6233-T-08, 6233-T-09, 6233-T10, 6233-T-11

The purpose of the Method Statement is to ensure that damage to the rooting area of all retained trees is protected from unnecessary damage. Due to the requirement for excavation within the root protection areas of trees forming TG28, it is not possible to use "no-dig" construction for all proposed works.

The cutting of roots shall not entirely be avoidable during the removal of existing ground material to construct the certain parts of access road and residential plots. As such the excavation of this material is to be carried out under the supervision of the project Arboriculturalist. Any roots located / identified during these works shall be pruned back to the face of the trench as they became exposed. Roots shall be wrapped with hessian material, which is to be kept damp, until the area can be back filled.

Tree Protection Fencing positioned as shown on the Tree Protection Plans is not to be removed or moved back. No heavy machinery is to be positioned within the RPA of the tree and excavation is to be carried out with bucket of the excavator moving away from the tree.



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Appendix D6 - Installation of Temporary Ground Protection & Scaffolding – Working Methodology

Table 1: Related Reference Material

Plan Name	Drawing Number
Tree Protection Plans	6233-T-08, 6233-T-09, 6233-T10, 6233-T-11
Appendix A	Tree Works Schedule

Temporary Ground Protection shall be required within the RPA of trees T67.

Where temporary access is required within the root protection area during construction works, fencing should be set back the minimum amount to achieve the required room. If there is existing hard surfacing in this area, it should remain during the works as ground protection. The suitability of this surfacing as ground protection and whether it needs to be reinforced to bear the weight of machinery, should be assessed by a suitable qualified structural engineer and discussed with the project Arboricultural Consultant.

It may be necessary to provide temporary ground protection in other areas across the site during various times throughout the development. When and where this becomes a requirement, the below guidance should be used in correspondence with the ACoW.

1. **For pedestrian movements only**, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100mm depth of woodchip), laid onto a geotextile membrane.

2. **For pedestrian-operated plant up to a gross weight of 2 tonnes**, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150mm depth of woodchip), laid onto a geotextile membrane.

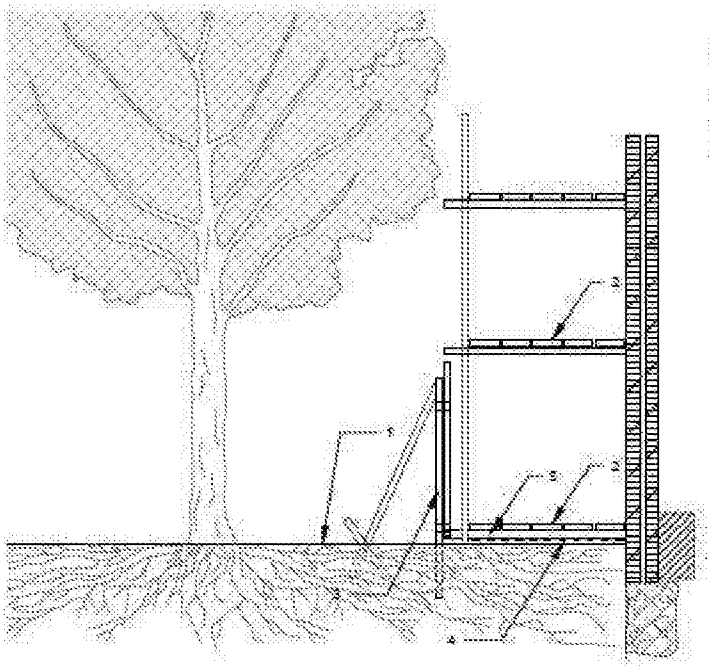
3. **For wheeled or tracked construction traffic exceeding 2 tonnes gross weight**, an alternative system (e.g. proprietary systems or pre-cast reinforced ground protection boards) placed on top of a compression-resistant layer (e.g. 150mm depth of woodchip), laid onto a geotextile membrane.

The location for temporary ground protection is shown on the Tree Protection plan and clearly annotated for ease of reference.

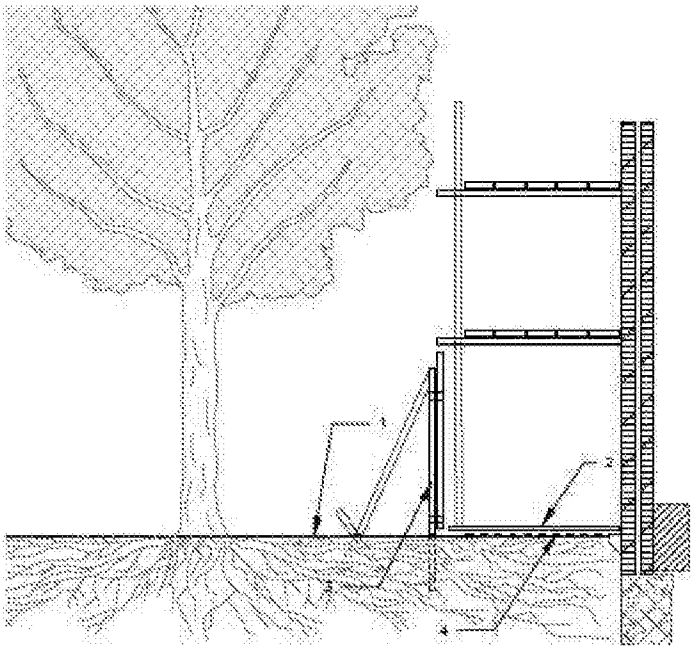
Once the Temporary Ground Protection has been installed the contractor responsible for the tree protection should seek **written confirmation from the ACoW** that it has been installed in the correct position and is to the required standard.

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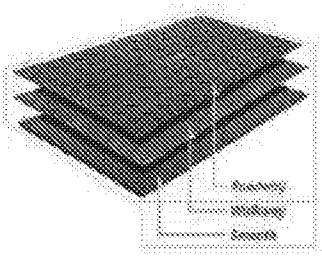
In most instances the ground within the RPA must be protected before any works take place on site. The ground protection might comprise of one of the following (section 6.2.3.3 of BS5837):



Scaffolding with scaffold boards
1. Ground level
2. Scaffolding boards
3. Protective fencing
4. Geotextile membrane installed beneath boards
5. Scaffold pole providing bridge above ground level



Scaffolding with ground guards
1. Ground level
2. Ground guards
3. Protective fencing
4. Geotextile membrane installed beneath the mats



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