



LIZARD

Landscape Design and Ecology

RANDMERE LIMITED

Mistletoe Farm, Horsemere Green Lane, Climping, West Sussex

Arboricultural Impact Assessment and Method Statement

Tree Retention and Protection

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Date	4 th December 2020
Document Reference	LLD2175-ARB-REP-001
Revision	00

Planning Issue

- 1.0 Introduction 1
- 1.1 The development site is situated south of the disused aerodrome at Ford and north of the A259 in a predominantly rural area. The site comprises an existing house building with adjacent large residential garden. The southern and western boundaries of the existing property are adjacent to scattered garden fruit trees and mature conifer hedge located along Wooldridge Walk. The northern boundary is edged with an mature mixed species treeline and understory shrubbery of different species, height and maturity. The eastern boundary includes scattered tree and overgrown and fragmented mixed species shrub groups. The southern boundary includes overgrown unmanaged hedge. The ornamental shrub areas are located to the front and the rear of the existing building.
- 1.2 The development proposals consist of the construction of a total 4 no. dwellings with associated parking arrangements, new vehicular access, alteration of existing vehicular access to the eastern boundary and associated landscape areas.
- 1.3 The existing trees within the site boundary and directly adjacent to the site, have been surveyed in detail for condition and are recorded within the attached report: LLD2175-ARB-SCH-001-00 Existing Tree Schedule and identified on the following drawings; LLD1394-ARB-DWG-001-02 Tree Constraints Plan, LLD2175-ARB-DWG-001 Tree Retention & Protection Plan. The Tree Retention and Protection Plan illustrates the impact of the proposed development upon the existing trees and setting out where vegetation is proposed to be removed and specifically measures for tree and root protection wherever existing trees and vegetation are proposed to be retained and protected.
- 1.4 Following the proposed removal of existing vegetation from the site in accordance with the drawing Tree Retention & Protection Plan and accompanying Existing Tree Schedule, there is some existing vegetation within the vicinity of the development proposals that would remain and would be directly impacted upon by the development proposals.
- 1.5 The status, impact, and protective measures upon the existing trees and vegetation within the site affected by the development proposals are subject to the protective measures and construction method statement detailed in the following Arboricultural Method Statement.
- 2.0 Arboricultural Impact Assessment
- 2.1 The development proposals consist of the construction of a total 2 no. dwellings with associated parking arrangements, new vehicular access, alteration of existing vehicular access to the north-eastern corner and associated landscape areas.
- 2.2 The proposals would affect the existing vegetation on site; mature and semi-mature trees, mature hedges and the ornamental shrub groups would require removal in order to accommodate proposed development; and other vegetation and trees would require detailed protection to enable their retention within the proposed scheme. The existing trees to be retained shall be protected in accordance with BS 5837: 2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations' and BS 3998: 2010 - 'Tree Work: Recommendations'.

- 2.3 The following trees and vegetation would require removal from the site due to their condition: 2
- ¿ TG37 - 2 no. Malus sp.; Category U; eastern boundary;
- 2.4 The trees proposed for removal are Category U, unsuitable for retention. The loss of these trees is recommended to be mitigated through the planting of suitable trees within the site boundaries.
- 2.5 The following vegetation would require removal from the site in order to accommodate the development proposal:
- ¿ T07 - Cupressus x leylandii; Category C;
 - ¿ T08 - Ilex aquifolium; Category C;
 - ¿ T09 - Ilex aquifolium; Category C;
 - ¿ SH10 - Mixed Species Shrub; Category C; Partial removal;
 - ¿ T17 - Crataegus monogyna; Category C;
 - ¿ TL23 - 4 no. Populus nigra 'Italica'; Category C;
 - ¿ H27 - Cupressus x leylandii Hedge; Category B;
 - ¿ T28 - Crataegus monogyna; Category C;
 - ¿ T29 - Quercus robur; Category C;
 - ¿ T30 - Malus sp.; Category C;
 - ¿ T31 - Malus sp.; Category C;
 - ¿ T32 - Prunus sp., Category C;
 - ¿ T33 - Prunus sp., Category C;
 - ¿ T34 - Malus sp., Category C;
 - ¿ T35 - Malus sp., Category C;
 - ¿ T38 - Salix sp., Category B;
 - ¿ T40 - Fagus sylvatica, Category B;
 - ¿ TG42i - Prunus sp., Category C;
- 2.6 The proposed works should be carried out in the following phases:
- Removal of vegetation, as detailed in Tree Retention of Protection Plan;
 - Installation of Tree Protective Fencing and ground protection where necessary, as detailed in Tree Retention of Protection Plan;
 - Widening of the main access, contractor movements thereafter to be restricted to areas outside of RPAs and protected ground;
 - Commencement of construction works.
- Recommendations'.
- 2.7 The access is proposed to be widened to the west; in the absence of mitigation this would damage roots of retained trees along the northern treeline. It is proposed to excavate the area under supervision, with the excavator sited outside of RPAs and arisings piled outside of RPAs. Any significant roots shall be cleanly cut, or where possible wrapped and protected before being re-buried.
- 2.8 The existing drive is proposed to be used as site construction traffic; the driveway is unlikely to have been built for the weight of construction traffic and its repeated use may result in compaction of the soil beneath and damage to roots on the eastern boundary. For any traffic over 2 tonnes, a system of proprietary ground protection mats or boards shall be employed on top of a 150mm depth of woodchip, which shall be restrained with timber boards.
- 2.9 Small areas of soft ground within RPAs may be trafficked over during construction. To prevent compaction of soil and damage to roots in these areas, ground protection as specified within 2.8 shall be employed.

- 2.10 The service runs largely avoid RPAs but do cut through the edges of several RPAs. 3
In the absence of mitigation, standard service trenches here may cut roots and cause harm to trees. In this situation, trial excavation shall determine whether any significant roots are present; if not, standard trenching can be used. If roots are present, a trenchless method such as directional drilling or boring shall be used, beginning and ending outside the RPA.

3.0 Stages of Work / Programme

- 3.1 The site development proposals shall involve the following site operations that could impact upon the existing tree / vegetation cover;
- ¿ Removal of existing vegetation not for retention;
 - ¿ Contractor movements; site access and operations; storage and compound;
 - ¿ Widening of Site Access;
 - ¿ Construction of new residential buildings and ground work operations;
 - ¿ Implementation of services and utilities.

4.0 Arboricultural Method Statement

Removal of Existing Vegetation

- 4.1 All existing trees and vegetation designated for removal are to be removed in accordance with the Tree Protection and Retention Drawing Tree Retention & Protection Plan. All tree work and removal shall be carried out in accordance with BS 5837: 2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations' and BS 3998: 2010 - 'Tree Work: Recommendations'. Trees designated for removal and felling shall be clearly marked on site with white paint. Prior to the removal and felling of trees, the required work and tree positions shall be agreed on site with the Landscape Architect / Arboricultural Consultant. Trees shall be felled, and tree surgery works undertaken prior to the erection of the Tree Protective Fencing. Care should be taken during the tree removal process to avoid any damage to any trees which are designated to be retained and protected.

- 4.2 Stumps shall be removed and cut away so that the top of the tree stump shall be at least 450mm below the final topsoil level in order that the site can be reinstalled in accordance with the existing site levels. Stumps are to be treated with an approved herbicide to be agreed with the Landscape Architect / Arboricultural Consultant. Where the depth is greater than 450mm the areas shall be backfilled with topsoil to the required level.

- 4.3 The removal of shrub or scrub material within the tree root protection area of any tree to be retained shall employ a manual removal method; the use of hand tools shall be used in order to maintain the ground surface of the tree root protection area, and reduce any damage to existing tree roots within the protected tree root zone. Adjacent trees shall not be utilised as anchors or levers to facilitate the removal of adjacent vegetation.

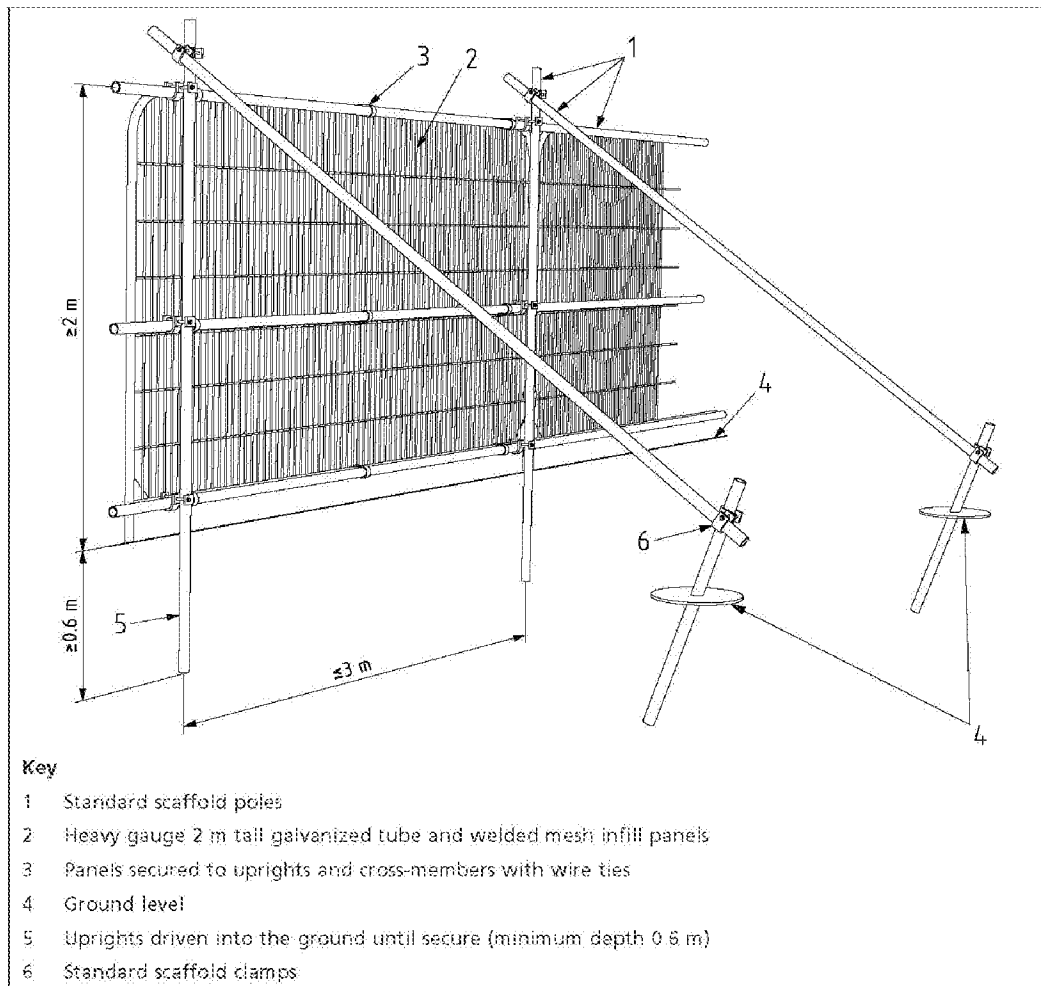
Tree Surgery

- 4.4 Any significant defects found in the trees during the course of the work shall be reported to the Landscape Architect / Arboricultural Consultant. Any arising tree work shall be undertaken by an approved and qualified Tree Surgeon in accordance with BS 3998: 2010 - 'Tree Work: Recommendations'. Care should be taken to avoid damage to neighbouring trees to be retained. Branches in confined spaces shall be removed and taken down in sections. All arisings shall be transported and disposed of away from site to the contractor's tip. All Tree surgery is detailed within the attached LLD1394 - Existing Tree Schedule and Schedule of Tree Works report.

- Contractor Movements; Site Access and Operations; Storage and Compound Areas 4
- 4.5 The contractor site compound shall be located outside of the defined tree root protection areas as indicated on drawing; Tree Retention & Protection Plan.
- 4.6 The contractor's site compound shall be located so as to not incur damage or injury to the tree root systems or canopy of any existing trees or vegetation within or adjacent to the site, in accordance with BS5837: 2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'. All operations associated with the usage of the compound area shall be undertaken with due care and attention to negate damage of the surrounding environment.
- 4.7 Pre-construction access to the site area shall be made at all times via the existing access road from the Horsemere Green Lane. Pre-construction vehicular movement to facilitate the removal of existing vegetation shall be limited to the minimum requirement in order to fulfil the vegetation removal works and no vehicular access shall be permitted over unmade ground within the defined tree root protection area of existing trees to be retained and protected. Once the tree removal has been completed the tree protective fencing works proposed shall be put in place. During the construction phase proposed development access is via existing access road from the Horsemere Green Lane to the proposed Plot 1. Vehicular movements during the construction period shall be limited to the areas of existing hard ground and newly protected ground only as illustrated on Tree Retention and Protection Plan.
- 4.8 All site clearance / demolition works shall be undertaken once the tree protective fencing measures have been put in place in order to protect existing tree canopies and tree root protection areas from vehicle movements and material storage.
- 4.9 Site operations and construction procedures for the duration of the construction period shall seek to protect the existing site vegetation and tree root protection areas in accordance with BS 5837: 2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'.
- 4.10 **Tree and Vegetation Management**
For tree and vegetation management including tree and vegetation retention and removal to accommodate the development proposal refer to the attached Existing Tree Schedule report.
- 4.11 **Ongoing Inspection and Maintenance of Existing Vegetation**
All retained vegetation on the site is recommended to undergo regular inspection (annual inspection recommended) and any remedial works undertaken as required to maintain trees in a safe and healthy state.
- 4.12 **Protection and Retention of Existing Vegetation**
The contractor shall exercise extreme care when performing operations beneath the canopy of existing mature trees and vegetation and within the specified tree root protection areas designated for protection and avoid at all times damage to the roots, trunk and branches of existing trees proposed to be retained.
- 4.13 All excavations, cultivation, and grading beneath the canopy of existing mature trees and within the specified tree root protection areas of the existing trees and vegetation shall be carried with Manual Excavation Method, taking care not to damage or disturb any existing tree roots. Widening of the main access to the west ca be undertaken mechanically but this must be supervised, with excavator and arisings kept out of RPAs at all times.

- 4.14 All trees to be retained on site shall be protected with fencing erected around the area of mature vegetation in accordance with BS 5837: 2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'. The fencing shall be installed, protected, and maintained during the main works by the contractor who shall be responsible for protecting any area beneath the canopy of the existing trees and within the specified tree root protection areas.
- 4.15 The installed protective fencing shall be 2.0 metres height 'Heras' Welded Wire Mesh Fencing secured to a scaffolding framework, set into the existing ground, and positioned to the outside edge of the existing tree root protection area. The fencing should be strained, and fixed to fences, walls, knee rails where possible to provide a complete protected area (Refer to Figure No. 2 and Figure No. 3 below; © British Standards Institute 2012). All tree protection to be in accordance with BS 5837: 2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations' set out as specified within Drawing Tree Retention & Protection Plans.
- 4.16 Day-glo ribbons shall be maintained during the main works by the contractor attached to the top of the fencing to ensure that the fencing is clearly visible during the works. The tree protection fencing shall display all-weather notices stating 'Construction Exclusion Zone - NO ACCESS'.
- 4.17 All such fencing shall be maintained for the full contract period. All necessary excavations, earthworks, and cultivation beneath the canopy spread of any existing tree; shrub or hedge shall be undertaken by hand. No commencement of construction operations may occur prior to the inspection of the installed tree and ground protection by the Landscape Architect / Arboricultural Consultant. Repositioning of the protective fencing during the course of the contract as the contract works progress shall need prior agreement with the Landscape Architect / Arboricultural Consultant.
- 4.18 Within the protected area the following activities must not take place;
- ¿ No vehicles are to be used in the fenced off areas;
 - ¿ No materials are to be stockpiled or stored;
 - ¿ No chemicals are to be stored;
 - ¿ No excavation or increase in the soil level shall occur;
 - ¿ No fires shall be lit on site.

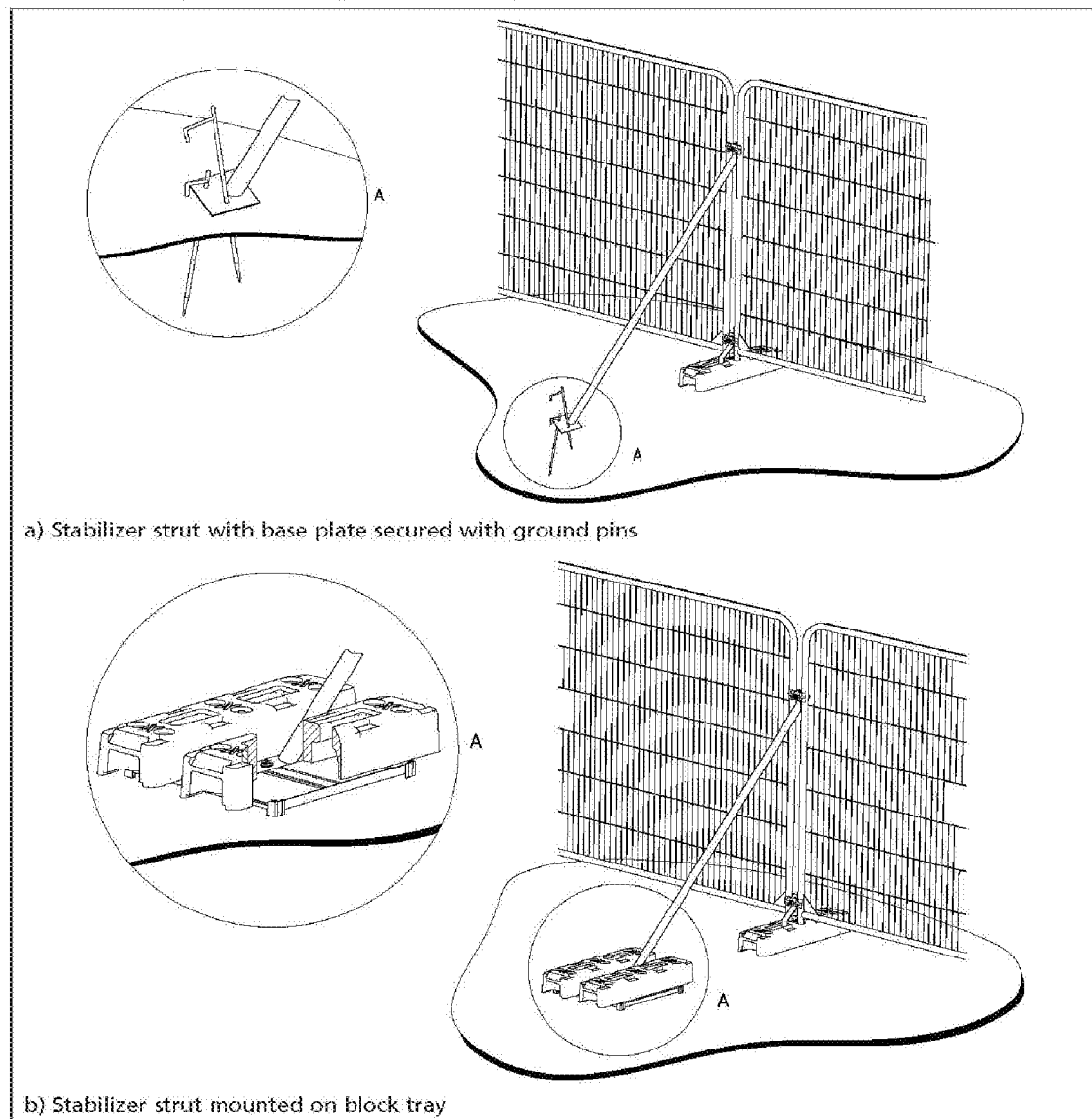
Figure 2 Default specification for protective barrier



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(Care should be taken to avoid damage to unseen tree roots and underground services; a secondary fencing support system may be implemented to accommodate these as outlined in Figure No. 3 below).

Figure 3. Examples of above-ground stabilizing systems



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- 4.19 At the end of the contract period, the contractor shall remove the tree protective fencing from the site. All retained vegetation shall be healthy and thriving at the handover date.
- 4.20 **General Ground Protection - Manual Excavation in Proximity to Trees**
All excavation related operations within proximity of nearby trees shall be executed with due care and attention not to disturb exposed unmade ground and any existing tree roots present within it. Hand-held tools or appropriate machinery should be used (under arboricultural supervision) to remove the existing surface, working backwards over the area, so that the machine is not moving over the exposed ground. If a new hard surface is to be laid, it might be preferable to leave any existing sub-base in situ, augmenting it where required.

- 4.21 Roots over 25mm diameter or those occurring in clumps must not be severed without Arboricultural advice. Roots below such size may be cut cleanly using specialised hand tools only and to the minimum extent to allow provision. 8
- 4.22 All exposed roots should be immediately wrapped in dry Hessian to avoid drying. On completion of the excavation and at the earliest opportunity the wrapping should be removed, and the roots surrounded and protected with a loose granular fill (clean washed sharp sand or topsoil free of contaminants or matter injurious to rooting systems) prior to backfilling the excavation to the desired levels.
- 4.23 Trench excavation across the tree root protection area radius beside an existing tree shall be avoided, whereby tree roots will become severed.
- 4.27 Ground Protection Zone - Operation Zone During Construction
Should any construction traffic be required over soft ground or the access track over 2 tonnes in gross weight, proprietary ground protection boards or mats shall be installed above a compression resistant layer (150mm depth of woodchip, restrained by timber boards at the edges) for the duration of the construction period in accordance with BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'. When construction work is completed the ground protection can be removed.
- 4.28 No general trenching shall occur within the Root Protection Area. No roots shall be severed greater than 25mm thickness within the Root Protection Zone without specialist advice.
- 4.29 Where the proposed routing of services impinges upon the root protection area of any existing tree to be retained, trial excavation shall determine whether any significant roots are present; if not, standard trenching can be used. If roots are present, a trenchless method such as directional drilling or boring shall be used, beginning and ending outside the RPA and routed most directly to and from the exterior of the tree root protection area radius. Services are to be routed together wherever possible to create the minimum impact upon the tree roots of the existing trees to be retained.
- 5.0 Arboricultural Method Statement - Notes; General
- 5.1 The principles and recommendations of BS5837: 2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations' shall be adhered to where possible in order to prevent damage or undue stress upon the existing trees, soils and roots potentially impacted upon by the development proposals.
- 5.2 Destruction of soil structures through soil compaction, excavation or contamination shall be avoided at all times within the tree root protection areas. Physical damage to existing trees to be retained; roots, stems, branches shall be prevented wherever possible.
- 5.3 All tree protection measures are to be carried out, on site and within the development proposals, in accordance with the relevant approved drawings accompanying this method statement.

5.4 Arboricultural Supervision shall be required at the following stages of work; 9

- ¿ Installation of tree protection measures;
- ¿ Method statement briefing for site staff;
- ¿ Supervision of the Widening of the Access Track;
- ¿ Supervision of Trial Excavation for Services within RPAs;
- ¿ Removal of tree protection measures.

5.5 The loss through development of existing trees may occasionally be unavoidable. Wherever existing trees are removed to accommodate development, contingency should be made for relocation of removed trees if possible or the replanting of young trees with suitable species for the site location where relocation of existing trees is not viable.

5.6 The phasing of works might be appropriate in order to implement the proposed development. Where the construction operations impact upon existing trees to be retained the trees shall be fully protected where possible in accordance with BS 5837: 2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations' for the duration of the construction period. The phased retraction of construction operations may allow for tree protection measures to be withdrawn / re-sited. The re-alignment or withdrawal of any Tree Protection Measure shall only be permitted with the agreement of the Project Arboricultural Consultant / Local Planning Authority.

6.0 Contact Details

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