



L I Z A R D

Landscape Design and Ecology

Mr and Mrs Lillywhite

Wandleys Farm, Wandleys Lane, Walberton

**Arboricultural Impact Assessment and Method
Statement**

Tree Retention and Protection

Planning Issue

Prepared by	GS
Checked by	JJ
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**WANDLEYS FARM, WANDLEYS LANE, WALBERTON
RESIDENTIAL DEVELOPMENT PROPOSALS - ARBORICULTURAL METHOD
STATEMENT**

Planning Issue - Rev 00; 07.02.18

1.0 INTRODUCTION

- 1.1 Lizard Landscape Design and Ecology has been commissioned by Mr and Mrs Lillywhite to undertake a detailed tree survey and arboricultural impact assessment of the land proposed for redevelopment at Wandleys Farm, Wandleys Lane, Walberton, West Sussex (*Grid Reference: TQ 131 039 – hereafter referred to as 'the site'*).
- 1.2 The proposed development site covers an area of c. 1.0Ha and is comprised of a grassland field, surrounded by hedges and treelines. The site is located c. 21.5 metres above sea level and is bounded by residential properties to the north and south, open paddocks and grassland to the east and Wandleys Lane to the west, with paddocks beyond. Soils on site are described as freely draining slightly acid loamy soils. 6 no. mature trees on the site boundary (*5 no. oaks and 1 no. ash*) are protected by *Arun District Council - Tree Preservation Order TPO/WA/4/17*.
- 1.3 The surrounding landscape is largely rural, with horse paddocks and small-scale residential and commercial development within the villages of Fontwell, Eastergate, Westergate and Walberton.
- 1.4 The development proposals consist of the construction of 2 sets of 2 no. semi-detached affordable dwellings to the south of the site, and a large detached dwelling to the north of the site (*5 no. dwellings in total*). The dwellings will be accessed via 2 no. new access drives, and will be accompanied by hard surface access and parking areas and bin stores, and areas of soft landscape garden and planting. A new foul water drain is proposed to the south of the site, as are a number of small soakaways within proposed gardens.
- 1.5 The vegetation present on site largely consists of boundary trees and hedges, with significant trees present within roadside vegetation to the west of site. The proposals have been designed to minimise the loss of trees, taking new access drives between the root areas of significant trees and avoiding encroachment of RPAs by buildings, however due to the requirements to provide new highway access routes, 5 no. low-value trees would require removal. All other trees, including the trees protected by TPO, the majority of the boundary vegetation and trees outside of the site boundary would be retained and protected through the proposals and throughout the construction phase in accordance with the guidance contained within *BS 5837: 2012 – 'Trees in Relation to Design, Demolition and Construction – Recommendations'*.
- 1.6 The existing trees within and surrounding the proposal boundary have been surveyed in detail for condition, and are recorded within the attached report; *LLD1154-ARB-ETS – Existing Tree Schedule and Schedule of Tree Works*; and identified on the following drawings; *LLD1154-ARB-TRPP – Tree Constraints Plan* and *LLD1154-ARB-TRPP – Tree Retention and 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.

- 1.7 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 2 sets of 2 no. semi-detached affordable dwellings to the south of the site, and a large detached dwelling to the north of the site (*5 no. dwellings in total*). The dwellings will be accessed via 2 no. new access drives, and will be accompanied by hard surface access and parking areas and bin stores, and areas of soft landscape garden and planting. A new foul water drain is proposed to the south of the site, as are a number of small soakaways within proposed gardens.
- 2.2 The vegetation present on site largely consists of boundary trees and hedges, with significant trees present within roadside vegetation to the west of site. The proposals have been designed to minimise loss of trees, taking new access drives between the root areas of significant trees and avoiding encroachment of RPAs by buildings, however due to the requirements to provide new highway access routes, 5 no. low-value trees would require removal. All other trees, including tree protected by TPO, the majority of the boundary vegetation and trees outside of the site boundary would be retained and protected through the proposals and throughout the construction phase in accordance with the guidance contained within *BS 5837: 2012 – 'Trees in Relation to Design, Demolition and Construction – Recommendations'*.
- 2.3 The following trees and shrubs would require removal to accommodate the proposals:
- *T 09 – Acer pseudoplatanus; Category C; to south-western boundary of site; tree requires removal to accommodate proposed access drive to the north-west;*
 - *TG 10 – Understorey Trees; Category C; to western boundary of site; 4 no. trees require removal to accommodate proposed access drives to the north-west and south west.*
- 2.4 The proposed removal of these trees and shrubs would result in a very minor loss of boundary screening to the site. The larger and higher-value trees on the site are to be retained and protected, with the entire RPAs of all moderate- and high-value trees being preserved using tree protective fencing. The tree removal represents the minimum requirement for the development and is not considered to create pressure to remove further trees in the future. The loss of these trees should be compensated through the planting of 5 no. suitable replacement trees, shrubs and hedges within the site. Reinforcement planting of the existing roadside planting should also be considered. Replacement planting should be detailed within the development scheme's final landscape proposals and should be suited to the location, using species already present such as hawthorn (*Crataegus monogyna*), hazel (*Corylus avellana*), field maple (*Acer campestre*) and blackthorn (*Prunus spinosa*).

2.5 The following trees would require tree surgery works to accommodate the design proposals:

- T 18 – *Fraxinus excelsior*; Category C; to south of site; crown-reduction of up to 1.0 m to the north to accommodate site construction access;
- T 19 – *Eucalyptus* sp.; Category B; to south of site; crown-reduction of up to 1.4 m to the north to accommodate proposed new residential building;
- T 20 – *Crataegus monogyna*; Category C; to south of site; crown-reduction of up to 0.8 m to the north to accommodate site construction access;
- T 23 – *Salix* sp.; Category C; to south-west corner of site; crown-reduction of up to 2.0 m to all aspects to accommodate proposed highway access and foul drainage pipeline.

2.6 The above tree surgery works are mainly intended to allow safe construction access. The proposals do not significantly increase the requirement for further tree surgery works beyond those already required by the existing buildings on-site. All tree work shall be undertaken by an approved and qualified Tree Surgeon in accordance with *BS3998: 2010 – 'Tree Work: Recommendations'*.

Western Sector of Site – Proposed Highway Access Drives

2.7 2 no. new highway access drives are proposed to enter the site from Wandleys Lane. These drives would require the removal of 5 no. trees of low quality and value. The trees are relatively small, and their loss would result in very minor loss of screening within the site. The loss is considered to be insignificant and should be mitigated through the planting of trees and shrubs to the edges of the drives. This should be detailed within the proposals' final landscape scheme.

2.8 The proposed access drive to the south-west, and an associated bin store would encroach into the RPA of a willow tree of low quality and value. In addition, a new foul drainage pipe is proposed to run through the southern edge of the tree's RPA. The tree is proposed for retention; no-dig construction is not considered proportionate due to the low value of the tree, the requirement to tie-in with existing road levels, and the tree species, which should be able to withstand some root-disturbance. The areas of encroachment are proposed to be manually excavated, with significant roots retained where possible. Alternatively, the services could be installed using a trenchless boring system. Services should be protected from damage by tree roots. The willow is also proposed to be crown-reduced to all aspects to allow site construction access. Overall the impact upon the willow tree will be moderate; the tree is likely to survive and respond well to pruning. The impact upon the site overall will be minimal.

Southern Sector of Site – Proposed Tree Surgery Works

2.9 The proposals do not encroach into the root or canopy areas of trees to the southern boundary. In order to prevent harm to the canopies of several boundary trees which hang over the site, minor crown reductions have been proposed. The crown reductions would be to the northern aspects, would improve the relationship of the proposed dwelling to the existing trees, and would not significantly impact the health of the trees. All tree work shall be undertaken by an approved and qualified Tree Surgeon in accordance with *BS3998: 2010 – 'Tree Work: Recommendations'*.

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;
- *Contractor movements; site access and operations; storage and compound;*
 - *Removal of trees not for retention;*
 - *Construction of proposed highway access drives;*
 - *Construction of proposed residential buildings;*
 - *Implementation of services and utilities.*

4.0 Arboricultural Method Statement

Contractor Movements; Site Access and Operations; Storage and Compound Areas

- 4.1 The contractor site compound shall be located outside of the defined tree root protection areas as indicated on drawing; *LLD1154-ARB-TRPP – Tree Retention and Protection Plan*.
- 4.2 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 *BS 5837: 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 so as to negate damage of the surrounding environment.
- 4.3 Pre-construction access to the site area shall be made at all times via the existing access point and main entrance from Wandleys Lane to the west of the site. Pre-construction vehicular movement to facilitate the tree surgery works shall be limited to the minimum requirement in order to fulfil the tree surgery 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.
- 4.4 Once the tree removal and tree surgery works have been completed the tree protective fencing works proposed shall be put in place. During construction proposed access is via the new site access points from Wandleys Lane to the west of the site. Vehicular movements during the construction period shall be limited to the areas of existing hard ground and newly protected ground only.
- 4.5 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.
- 4.6 All 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'*.

Removal of Existing Vegetation

- 4.7 Trees proposed for removal are detailed within this *Arboricultural Impact Assessment and Method Statement*; the *LLD1154-ARB-SCH01 – Existing Tree Schedule and Schedule of Tree Works*; and the *LLD1154-ARB-TRPP – Tree Retention and Protection Plan*. All tree work shall be carried out in accordance with *BS 5837: 2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'* and *BS3998: 2010 – 'Tree Work: Recommendations'*. Tree surgery works shall be undertaken prior to the erection of the Tree Protective Fencing. Care should be taken during the tree surgery process to avoid any damage to any trees which are designated to be retained and protected.

- 4.8 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

- 4.9 Tree surgery measures and works have been identified as necessary within the attached *LLD1154-ARB-SCH01 – Existing Tree Schedule and Schedule of Tree Works*. Any significant defects found in the trees during the course of the scheduled 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 *BS3998: 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 work is detailed within the attached *LLD1154-ARB-SCH01 – Existing Tree Schedule and Schedule of Tree Works* report.

Tree and Vegetation Management

- 4.10 For tree and vegetation retention and removal proposals refer to this *Arboricultural Impact Assessment and Method Statement*; the attached *LLD1154-ARB-SCH01 – Existing Tree Schedule and Schedule of Tree Works*, and the *LLD1154-ARB-TRPP – Tree Retention and Protection Plan*. For tree and vegetation management proposals refer to the tree surgery works and management prescriptions contained within *LLD1154-ARB-ETS – Existing Tree Schedule and Schedule of Tree Works*, and displayed on the *LLD1154-ARB-TRPP – Tree Retention and Protection Plan*.

Ongoing Inspection and Maintenance of Existing Vegetation

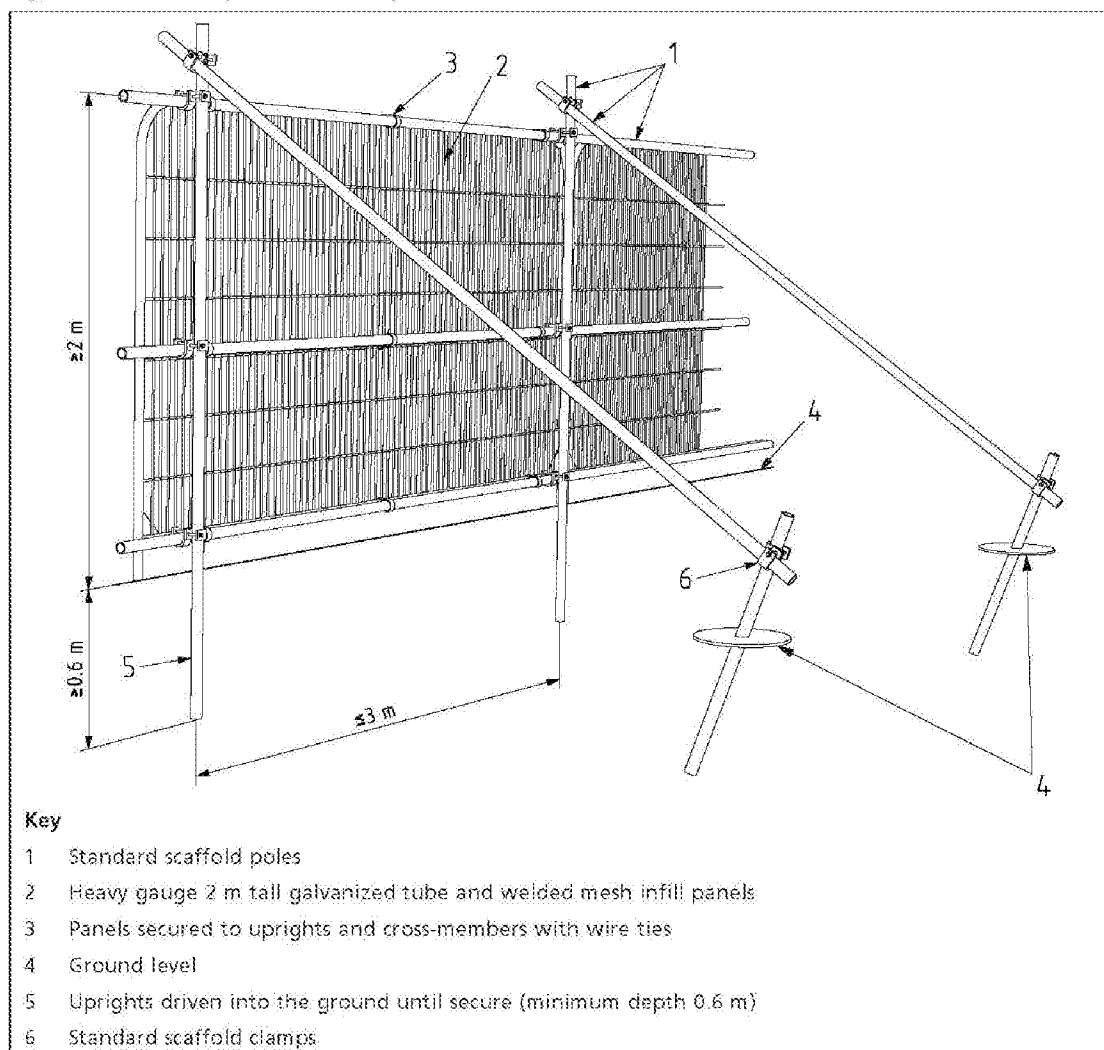
- 4.11 All retained vegetation on the site shall require ongoing regular inspection at a level deemed appropriate by the property owner. Any remedial works shall be undertaken as required to maintain trees in a safe and healthy state.

Protection and Retention of Existing Vegetation

- 4.12 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 out using hand tools, taking care not to damage or disturb any existing tree roots.
- 4.14 All trees to be retained on site shall be protected with fencing erected around the area of mature vegetation in accordance with *BS5837: 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 and 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 *LLD1154-ARB-TRPP – Tree Retention and Protection Plan*.
- 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.*
- 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.

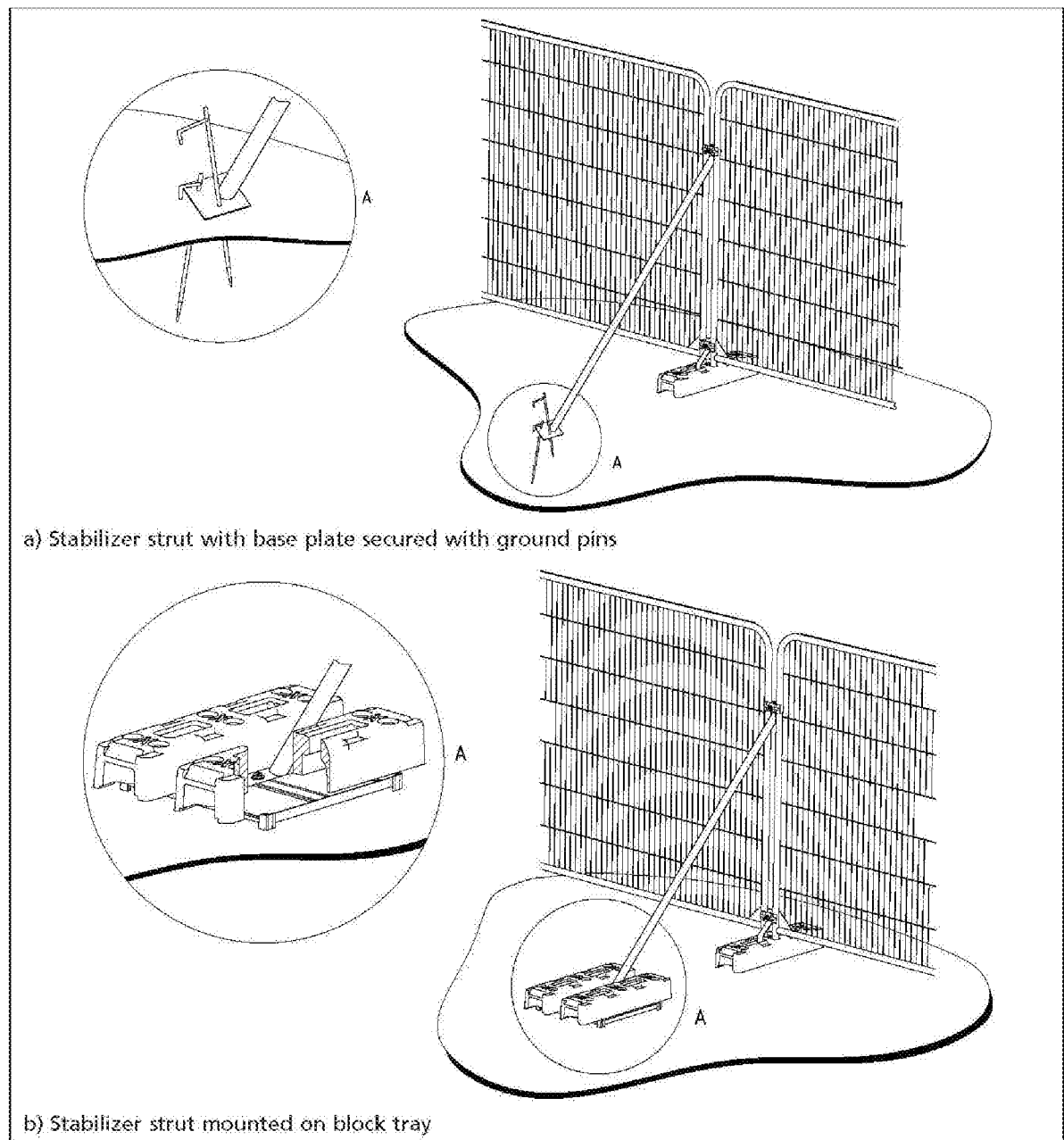
Figure 2 Default specification for protective barrier



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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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Tree Protection Measures – Operation Zone During Construction and Manual Excavation Zone

- 4.20 Whilst construction work is underway in close proximity to existing trees proposed for retention, the existing levels of unmade ground within the RPA of existing trees are to be protected with an appropriate ground protection system for the duration of the construction period in accordance with *BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'* and as detailed within the *LLD1154-ARB-TRPP – Tree Retention and Protection Plan*.
- 4.21 For pedestrian access only, protection should consist of 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 (*100 mm depth of woodchip*), laid onto a geotextile membrane. For site vehicles up to a maximum of 2 tonnes in weight, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (*such as 150 mm depth of woodchip*), laid onto a geotextile membrane would provide a suitable level of protection from compaction. No vehicular movements are to be made over unmade ground within the RPAs of existing trees. Any piling rig necessary for installation of foundation piles shall be used from an appropriate piling mat outside of tree RPAs.
- 4.22 All excavation-related operations within proximity of nearby trees (*including installation of services*) shall be executed with due care and attention by hand and using hand-held tools only, in order not to disturb exposed unmade ground and any existing tree roots present within it. Existing wearing layers and hard materials inimical to root growth can be removed using light machinery, but unconsolidated sub-base layers must be removed by hand within the tree RPAs.
- 4.23 Roots over 25 mm 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.
- 4.24 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.
- 4.25 Where the proposed routing of services impinges upon the root protection area of any existing tree to be retained, the routing shall be undertaken in accordance with a manual excavation method; to be carefully hand dug and routed most directly to and from the exterior of the tree root protection area radius. Services are to be trenched and routed together wherever possible to create the minimum impact upon the tree roots of the existing trees to be retained. Trench excavation across the tree root protection area radius beside an existing tree shall be avoided, whereby tree roots will become severed. Where services are to cross the edge of an existing tree root protection area, they should be routed through existing tree roots, via a hand dug ducting sleeve, avoiding damage to existing tree roots within the root protection zone. Alternatively a trenchless boring system might be utilised to minimise disturbance of soil structure and harm to roots.
- 4.26 **Heras – Anti-climb Smart Weld Panel Fencing**
Supplier: Safe Site Facilities; or equal and approved;
Address: Old Selden Farm, Selden Lane, Patching, West Sussex, BN13 3UL
Tel: 0845 463 5421; Email: info@safesitefacilities.co.uk;
Web: www.safesitefacilities.co.uk;
Specifications: Galvanised anti-climb mesh; 2.0m height x 3.5m width; 13.8kg weight.

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 Phasing of the construction works should be considered to minimise the requirement for ground protection and avoid vehicular movements over unmade ground.
- 5.5 Existing service runs should always be used wherever possible. Where the proposed routing of services impinges upon the root protection area of any existing tree to be retained, the routing shall be undertaken in accordance with a manual excavation method; to be carefully hand dug and routed most directly to and from the exterior of the tree root protection area radius. Services are to be trenched and routed together wherever possible to create the minimum impact upon the tree roots of the existing trees to be retained. Trench excavation across the tree root protection area radius beside an existing tree shall be avoided, whereby tree roots will become severed. Where services are to cross the edge of an existing tree root protection area, they should be routed through existing tree roots, via a hand dug ducting sleeve, avoiding damage to existing tree roots within the root protection zone.
- 5.6 Arboricultural Supervision shall be required at the following stages of work;
- *Installation of tree and ground protection measures;*
 - *Method statement briefing for site staff;*
 - *Supervision of the manual excavation proposed hard surface foundations within tree RPAs;*
 - *Supervision of the manual excavation of proposed service routes within tree RPAs;*
 - *Removal of tree protection measures.*
- 5.7 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. Replacement planting should be detailed within the development scheme's final landscape proposals and should be suited to the location, using species already present such as hawthorn (*Crataegus monogyna*), hazel (*Corylus avellana*), field maple (*Acer campestre*) and blackthorn (*Prunus spinosa*).

- 5.8 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

Arboricultural Consultant

Lizard Landscape Design and Ecology
34 South Street, Tarring, Worthing, West Sussex, BN14 7LH;
01903 216033; lizard.landscape@btconnect.com