Arboricultural Impact Assessment and Method Statement

Land west of Hanger Down House

South Downs Ecology

Arboricultural Impact Assessment and Method Statement

New dwelling on land west of Hanger Down House, Priory Lane, Arundel

Version 1 – 29th January 2025

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1.0 Introduction

1.1 A tree survey and tree protection package have been commissioned for the proposals for a new dwelling on land west of Hanger Down House, Priory Lane, Arundel.

1.2 A detailed tree survey was carried out on 5th December 2024 by George Sayer (*BScHons PgDip MArborA; LANTRA Professional Tree Inspection 2019*); from which a schedule and constraints plan of existing trees on and surrounding the site was produced in accordance with *BS 5837:2012 – 'Trees in Relation to Design, Demolition and Construction – Recommendations'*. From this information an arboricultural impact assessment was undertaken, and a plan of tree protection devised to ensure the long-term retention of the trees on-site.

Proposals

1.3 The proposals are for the construction of a new dwelling in the centre of the plot, accessed from an existing gate to the north. The driveway would be extended to an existing garage to the south-east.

Site Description

1.4 The site consists of a small lawned area, which is an extension to the garden of hanger down house. The field covers approximately 0.21 ha.

Surrounding Landscape

1.5 The site is located within a rural area, mid-way between the western portion of Arundel and the village of Tortington, within Arun District. To the east lies Hanger Down House. To the south and west lies an arable field. To the north lies Priory Lane with arable field beyond. The surroundings consist largely of arable and pasture land, with the Binsted Woods 275.0 m north-west and the River Arun 600.0 m east.

Existing Site Vegetation

1.6 The site is lined with a narrow hedge which contains a small number of trees, mostly of moderate value. To the north-west corner is a high value oak tree. To the east the existing gardens of Hanger Down House contain several moderate value trees, whilst the road frontage contains a number of elms and moderate value oaks and ashes. The roadside trees are on the other side of a brick wall from the site.

1.7 No trees on site are noted as having Tree Preservation Orders, nor are any within a conservation area. Tree Preservation Order TPO/AB/1/21 is on the northern side of Priory Lane.

2.0 Arboricultural Impact Assessment

Removal of Trees

2.1 Of the existing trees, none require removal. Proposals have been designed to keep distance to trees.

Disturbance to Roots and Rooting Environment

2.2 The formalisation of the access drive to the north, and installation of new services (if required) would potentially result in excavation of an area of RPA belonging to a low value elm tree. The elm trees are in varying condition here and of a size whereby they will likely fail in due course due to Dutch Elm Disease. As such, this minor encroachment and potential damage to the tree's roots is considered acceptable. Efforts should be made during any excavation to cleanly cut roots back to minimise damage.

2.3 The new areas of driveway around the existing garage would encroach into the RPAs of several moderate and low-value trees. Such encroachments are relatively minor, but in the absence of mitigation might cause harm to the trees, and would potentially limit the potential of trees to grow further. To minimise this risk, these areas are proposed to be laid to a 'no-dig' geocellular construction with a suitable porous wearing layer over the top such as a gravel retention system. Turf layers could be removed and some minor manual excavation undertaken to enable tying in of levels and to ensure a level surface into the garage.

Construction in Proximity to Trees and Hedges

2.4 The construction works would bring the built form slightly closer to existing trees, but the increase in pressure on trees would be negligible as the site remains as a single residential property and garden, and the garage is existing and already in use for storage. There would be no need for vehicular access over RPAs other than the aforementioned elm RPA at the entrance.

2.5 To protect trees from vehicular collision and damage to RPAs outside of the operation zones, Tree Protection Barriers will be installed surrounding the existing hard surfaces in proximity to trees.

Further Protection Measures

2.6 If any new surface water drainage is required, such as soakaways or French drains, these should be designed to avoid all RPAs. There is ample room in the site for such drainage.

Replacement Planting

2.7 No replacement planting is required. New native tree planting shall be incorporated into the design, with trees infilling gaps along the roadside and a new hedge to the eastern boundary. Species should be natives such as field maple, wild cherry, hawthorn, crab apple, silver birch, holly, whitebeam or rowan. This should ultimately result in an ecological and Arboricultural gain.

Summary of Impacts

2.8 Overall, the proposals require removal of no trees. The proposals present a low risk of harm to several low and moderate value trees; this risk can be avoided through basic protection measures. The proposals are therefore supportable.

3.0 Arboricultural Method Statement

Site Movements, Storage and Compound

3.1 No vehicular or pedestrian movements shall be permitted during construction over unmade ground within RPAs. The site storage, waste and compound areas must be located either within existing hard surfaces or outside of tree RPAs. Fuel and chemicals shall be stored in appropriate containers to prevent spillage into unmade ground. All site movements, storage and compound shall seek to protect trees during construction in accordance with *BS 5837:2012 – Trees in Relation to Design, Demolition and Construction – Recommendations*.

Tree Protective Fencing

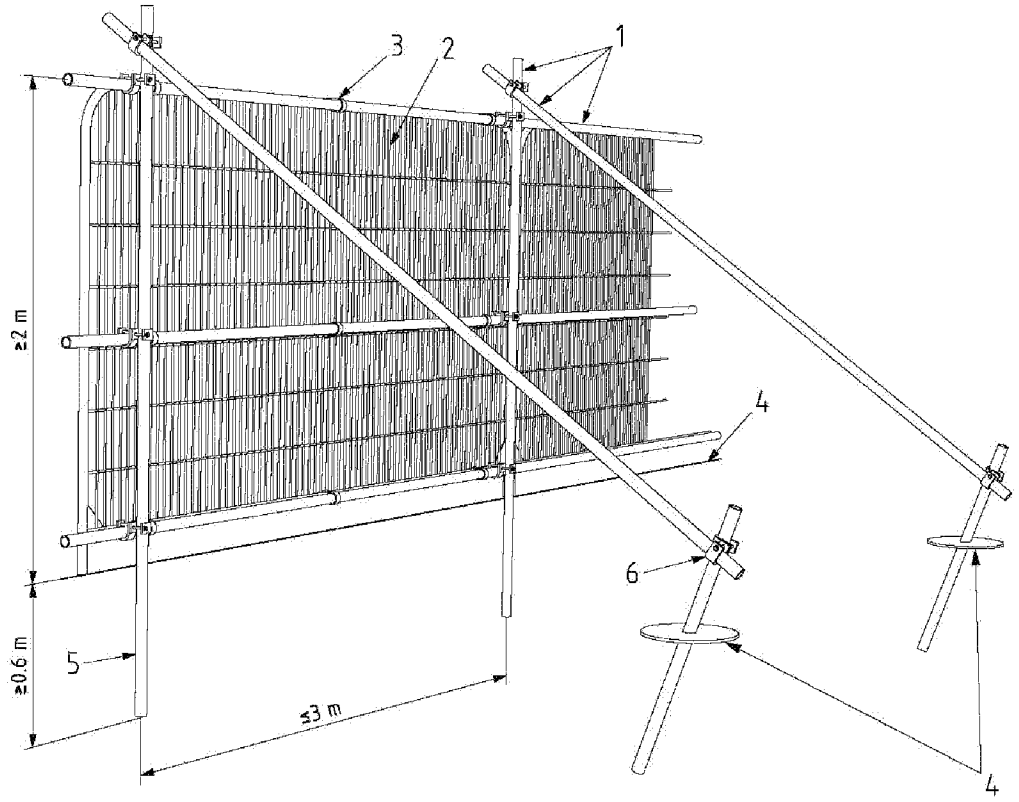
3.2 The RPAs of trees to be retained shall be protected through the installation of tree protective fencing to the outside of the root protection area. The installed protective barriers shall be 2.0 metres minimum height 'Heras' Welded Wire Mesh Fencing secured to a scaffolding framework, set into the existing ground, and positioned to the outside edge of the existing Tree Root Protection Area. Where existing ground conditions do not allow for the above method, the Welded Wire Mesh Fencing Panels may be mounted on concrete or rubber feet, supported on the inner side with stabilizer struts fixed on a block tray or secured with ground pins; and positioned as specified. The fencing should be strained, and fixed to fences, walls, knee rails where possible to provide a complete protected area *(refer to Figure 2 and Figure 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 figures 2and 3 below.

3.3 In locations where no construction is being undertaken, but there is a risk of inappropriate storage or vehicle parking, exclusion zones shall be created through the use of barrier tape, traffic bollards or low level traffic barriers. Such measures shall be pinned down to prevent easy removal.

3.4 Signs shall be affixed to the barriers stating '*Tree Protection Zone – No Access*' in addition to day-glo tapes to the top of the fencing, in accordance with *BS 5837:2012 – 'Trees in Relation to Design, Demolition and Construction – Recommendations'*. Within the protected area, no construction activities shall be permitted, to include:

- *Lighting of fires*
- *Storage of chemicals or building materials*
- *Dumping of spoil or rubbish*
- *Driving of vehicles*
- *Alteration of soil levels.*

Figure 2 **Default specification for protective barrier**



Key

1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

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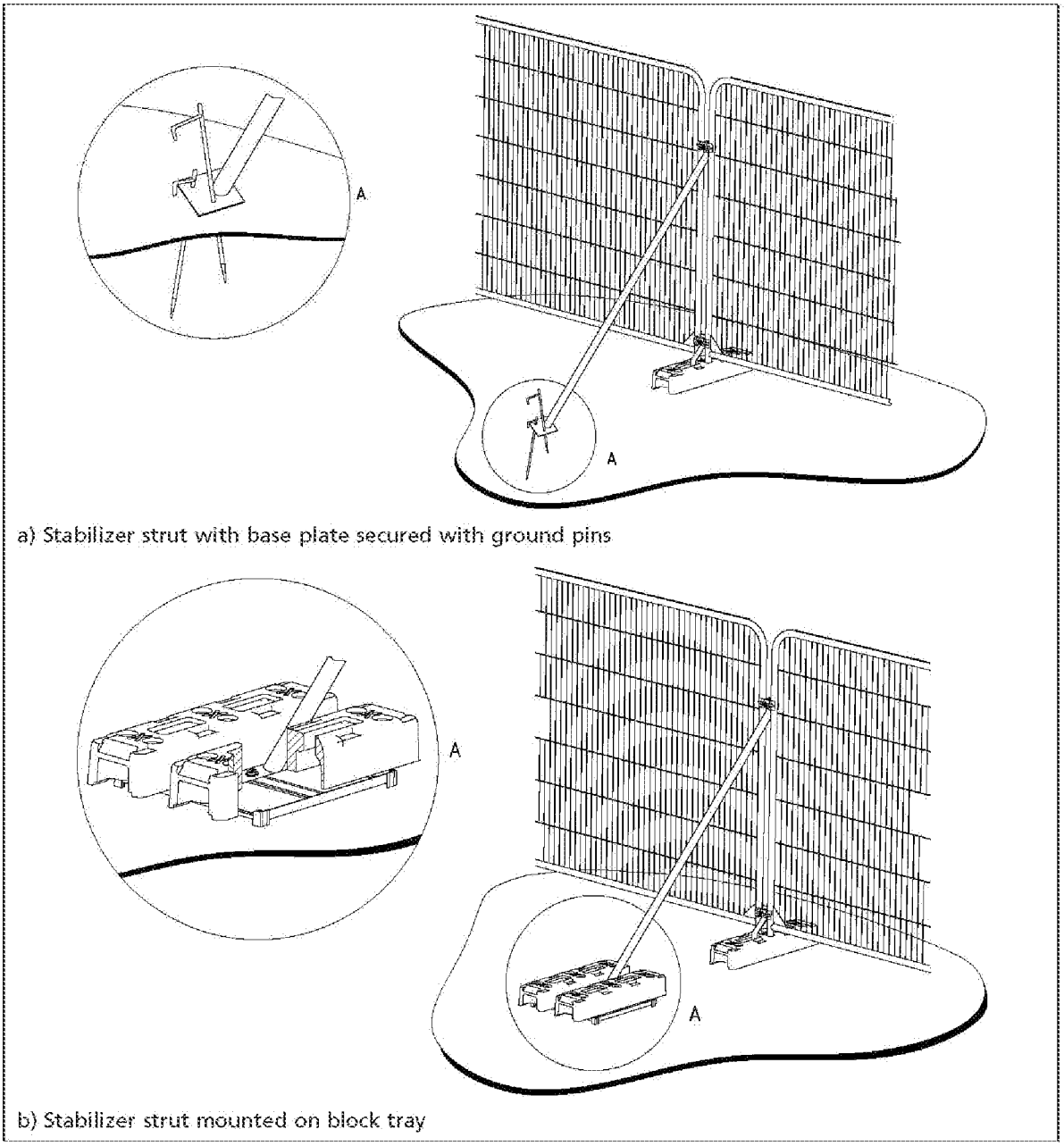
Figure 3 **Examples of above-ground stabilizing systems**



a) Stabilizer strut with base plate secured with ground pins

b) Stabilizer strut mounted on block tray

3.5 Tree protective barriers shall be installed and maintained throughout the construction phase by the main contractor, who shall be responsible for ensuring the fencing remains in place and is properly maintained. The fencing shall be installed in accordance with the *Tree Retention and Protection Plan*. Adjustment or relocation of the fencing during the construction phase shall be undertaken only following prior agreement by the arboriculturalist.

3.6 Wherever possible, tree protective fencing shall surround the entirety of the tree RPA. Where this is not possible, ground protection measures shall be utilised within designated operation zones to prevent damage to roots or compaction of soil. The locations of tree protective fencing and ground protection measures are detailed within the *Tree Retention and Protection Plan*.

New Surfaces within RPAs

3.7 Any new hard surfaces within RPAs shall be built without significant excavation into the soil or deep subbase in a 'no-dig' manner to minimise risks. Any minor excavation shall be done manually and with great care using hand tools only. Any major roots found (over 25mm diameter) must be reinterred into surrounding soil. Minor roots may be cleanly cut back using pruning tools, and the ends sealed with hessian wrapping.

3.8 Any surfacing within RPAs shall be permeable to drain into the soil below, utilizing a 'no-dig' approach. Appropriate surfacing methods shall be determined by the engineer, contractor or supplier but is proposed to consist of the following construction:

- Careful removal of top turf layer, filling of hollows to provide a level surface;
- A geotextile layer;
- A geocellular confinement system, filled with porous aggregate, of appropriate depth to support the proposed weight of traffic;
- A further layer of geotextile to prevent silt and other debris blocking the porous aggregate;
- A bedding layer e.g. of sand;
- A porous top wearing layer, such as resin-bound or loose gravel, permeable block paving or permeable asphalt.

3.9 The final construction method shall be approved and checked by the arboriculturalist.

Vegetation Removal

3.10 All remaining tree surgery works (i.e. stump removal) shall be undertaken in accordance with BS3998:2010 – Tree Works: Recommendations. Stumps shall either be stumpground or carefully pulled up and away from trees, taking care to check for larger entangled tree roots and cutting the stump away from these. Log piles shall be created in the site from the arisings to create new habitat.

Installation of Services

3.11 Wherever possible, the proposals utilise existing service routes. Any new drainage shall be sited outside of the RPAs of any trees. The new drainage shall be sited so as to be as far as possible from any tree stems.

3.12 Where the proposed routing of other new services such as electrical wiring impinges upon the tree RPA of any existing tree to be retained; the routing should be undertaken as a minimum standard in accordance with *NJUG Volume 4, issue 2: 'Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees'*. A 'Manual Excavation Method' to be followed to carefully hand dug and route the apparatus most directly to and from the exterior of the RPA radius. Services are to be sleeved to ensure protection of the services and surrounding roots.

Supervision of Works

3.13 Arboricultural supervision of works would be required as follows:

- Review of proposed ground protection and specialist surface designs
- Inspection of protection measures prior to commencement
- Supervision of excavation within RPAs