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West Barn, Norton, West Sussex

Arboricultural Impact Assessment and Method Statement

Tree Retention and Protection

Planning Issue

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**ARBORICULTURAL IMPACT ASSESSMENT – METHOD STATEMENT
WEST BARN, NORTON LANE, NORTON, WEST SUSSEX
PROPOSED B1 COMMERCIAL DEVELOPMENT**

1.0 INTRODUCTION

- 1.1 The proposed development for West Barn, Norton Lane, Norton, West Sussex includes proposed 6 no. residential properties in a mews development alongside the existing commercial property and units at West Barn, Norton with associated garden areas; car parking areas; and bin and cycle storage areas. The development site is accessed to the north from a private driveway leading off Norton Lane.
- 1.2 The development site is located due west of Norton Lane on a site currently housing a tennis court and storage compound. The development site is located within the residential area of Norton, Chichester. The site is approximately 16.00 metres above sea level and measures approximately 0.5 hectares. The site is comprised in the majority of an existing tennis court and hard standing. Borders of the site area composed of intact hedging and fencing. The site boundaries are edged by residential areas to the northern, eastern, and southern aspects with agricultural land to the western aspect. Soil on site is described as being freely draining, slightly acid, loamy soil. There are no areas of ancient woodland or woodland highlighted on *The National Inventory of Woodland and Trees* within the development area or immediately adjacent to the site area. Nor are there any *Tree Preservation Orders* on or close to the site area.
- 1.3 The immediate surrounding landscape is suburban / semi-rural with large areas of open farmland between scattered residential areas. The residential area of Norton extends at least 200.00 metres to the south. Land to the east and west of the site extends to open agricultural land approximately 50.00 metres from the site boundary. The land is relatively open with no large areas of woodland in the immediate vicinity of the site. The nearest area listed on *The National Inventory of Woodland and Trees* is 780.00 metres north-east. This woodland also incorporates a 1.61ha block of ancient woodland at *Aldingbourne House*.
- 1.4 The site vegetation comprises of an unmaintained mixed species hedgerow spanning the length of the southern boundary at an average of 3.0m in height. The species included are Cherry Laurel, Hawthorn, Elder, Ash, Hazel and Beech. Within the hedgerow are 5 no. scattered trees. A large mature B category Ash tree dominates the hedgerow and there are 4 no. smaller self-seeded C category trees including Ash, Hornbeam, Hawthorn and Rowan. (*Refer to LLD1469 – Existing Tree Schedule*).
- 1.5 The eastern boundary has two different types of hedgerow along its length. A semi-mature evergreen Yew hedge runs from the northern boundary for approximately 10.0 m in an adjoining property set 30.0cm away from the fence line. The remainder of the boundary is mixed-species hedge with species including *Photinia x fraseri* and *Prunus laurocerasus* which forms a dense mass and provides screening. There is one large Ash tree T03 in a neighbouring property with a canopy that extends to the boundary line (*Refer to LLD1469 – Existing Tree Schedule*).
- 1.6 The existing trees within the boundary of the development site have been surveyed and are recorded within *LLD1469 - Existing Tree Schedule*; the initial impact of the proposed development on the existing trees has been indicated within the drawing *LLD1469 - Tree Retention and Protection Plan*. The Tree Retention and Protection Plan illustrates the impact of the development upon the existing trees to be retained, specifying detailing measures for protection of existing trees and vegetation to be retained.

- 1.7 The existing retained trees are to be protected in accordance with the guidance of *BS 5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations'*.
- 1.8 The status, impact and protective measures upon existing trees and vegetation within the site are subject to the protective measures detailed in the following report.

Drawings and Reports

- 1.9 The Tree Retention and Protection Proposals comprise the following;
- LLD1469-ARB-DWG-001-TRPP - *Tree Retention and Protection Plan*;
 - LLD1469-ARB-SCH-001-ETS - *Existing Tree Schedule*;
 - LLD1469-ARB-REP-001-AIA - *Arboricultural Impact Assessment and Method Statement*.

2.0 ARBORICULTURAL IMPACT ASSESSMENT

- 2.1 The development proposals comprise the construction of 6 no. residential properties in a mews development to be constructed on areas of rough ground and hard standing adjacent to West Barn. The proposals affect one of the existing trees on site and shall require detailed protection to enable the retention of the tree within the proposed scheme. All existing trees to be retained shall be protected in accordance with *BS 5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations'*.
- 2.2 The proposed parking area to the southern edge of the development area would impact upon one tree to the southern boundary. The proposed residential units and new garden areas / fence lines would be constructed in close proximity to the hedge line and existing tree to the eastern site boundary. The tree / hedge and associated Root Protection Area (RPA) that shall require protection include:
- H01 - *Mixed-Species Hedge - (Photinia x fraseri and Prunus laurocerasus)*;
 - T03 – *Fraxinus excelsior (Ash); B Category*;
 - T09 – *Fraxinus excelsior (Ash); B Category*.
- 2.3 The above trees and hedge shall be protected in accordance with the guidance of *BS 5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations'* and detailed as illustrated within drawing *LLD1469-ARB-DWG-001-TRPP - Tree Retention and Protection Plan*. To accommodate the development proposals the following protection measures method should be implemented and shall include Tree Protection Fencing; Ground Protection Zone; Manual Excavation and 'No-Dig' Permeable Construction; specified within the following Method Statement and on the associated drawing.

3.0 EXISTING VEGETATION – RETENTION AND PROTECTION

Northern and Western Boundary

- 3.1 The northern and western boundaries are clear of vegetation within the site area and there are no significant trees beyond the boundaries which would be affected by the site development proposals.

Eastern Boundary

- 3.2 An evergreen hedgerow comprising of Yew (*Taxus baccata*) extends one quarter of the way down the eastern boundary. The remaining three quarters of the eastern boundary is taken up by a mixed species hedgerow consisting of *Photinia x fraseri* and *Prunus laurocerasus*.

- 3.3 One B category mature Ash tree is located approximately 6.0 m from the site boundary in a neighbouring property with an RPA that extends 2.0 m into the site boundary but would only be marginally affected by the development proposals. The development proposals would be constructed in close proximity to the RPA of T03 – *Fraxinus excelsior* and H01 – *Mixed Species Hedge line* and the adjacent ground would need to be ground protected and maintained during construction in order to protect the root zones of both the hedge line and the existing tree adjacent.

Southern Boundary

- 3.4 The southern boundary of the site has a mixed species hedgerow along its length, the species include; Hawthorn, Cherry Laurel, Hazel, Beech, Elder and Ash. There are 5 no. semi-mature to mature scattered trees within the hedgerow including one B category Ash tree. Inside the boundary there is an area of rough ground which has sporadic tall ruderal / herbaceous perennial growth.
- 3.5 There is a proposed car park area located to the west of the proposed residential units close to the southern boundary. The proposals have been developed with regard to the hedgerow and scattered trees to the site boundaries and located so as to minimise any potential significant impacts upon the Root Protection Areas associated with the trees. However, the proposals encroach on the RPA of T09 – *Fraxinus excelsior* (Refer to LLD1469-ARB-DWG-001-00 – *Tree Retention and Protection Plan*) so it is recommended that a 'No Dig Construction' method is implemented, and all existing hard landscape and sub-base materials are to be removed manually by hand within the trees RPA. All existing ground levels shall be maintained. The proposed area of hard landscape surfacing within the specified tree root protection area is to be undertaken with a 'No-Dig' permeable paving construction. Proposed ground levels above existing soil levels are to be supported upon a perforated structural cellular geo-web infilled with granular fill Type 3, above which a permeable surface treatment shall be applied.
- 3.6 A previous planning application (AL / 56 / 13) was approved for the proposed development of West Barn and its associated parking spaces permitting construction of parking within the RPA of T09 as detailed above.
- 3.7 The above trees shall be protected in accordance with the recommendations of BS 5837; 2012; with *Tree Protection Fencing* located to the outer edge of the tree canopy or Root Protection Area (RPA) as specified within drawing LLD1469-ARB-DWG-001-TRPP – *Tree Retention and Protection Plan*.

4.0 STAGES OF WORK / PROGRAMME

- 4.1 The development proposals shall involve the following site operations that shall impact upon the existing trees:
- *Contractor movements; site access and operations; storage and compound;*
 - *Installation of Construction elements; Ground Work / General Site Operations;*
 - *Removal of protective measures;*
- 4.2 The supervision of work stages and periodic attendance of an Arboricultural Consultant should be undertaken as part of an approved development scheme by the Local Planning Authority in order to implement a Programme of Works and monitor progress of works on site in relation to the protection of existing retained trees.
- 4.3 Site attendance should be arranged with all parties and undertaken with the agreement of Local Planning Authority for the scheme.

4.4 The key stages of work outlined for site attendance could be as follows:

- *Pre-commencement meeting;*
- *Installation of Tree Protection measures;*
- *Method Statement briefing for site staff;*
- *Removal of Tree Protection measures.*

5.0 ARBORICULTURAL METHOD STATEMENT

Protection and Retention of Existing Habitats – Scattered Trees / Vegetation

5.1 The Contractor shall exercise extreme care when performing operations beneath the canopy of existing mature trees and vegetation designated for protection and avoid at all times damage to the roots, trunk and branches. The Contractor shall train all members of the construction workforce operating within the proximity of valued habitats and make such persons aware that there shall not be, without having sought prior notification, the following operations undertaken within the Root Protection Areas:

- *Dumping of spoil or rubbish, excavation or disturbance of topsoil, parking of vehicles or plant, storing of materials or placing of temporary accommodation within an area which is of the branch spread of the tree or within the specified Root Protection Areas;*
- *Roots exceeding 25 mm in diameter must not be severed. If unintentionally severed; notice shall be given and specialist arboricultural advice sought;*
- *Changes to the level of the ground within the specified RPAs.*

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

5.2 If required a Contractor Site Compound shall ideally be located to the areas of existing hard surfacing outside of any RPA and shall be permitted for the storage and securement of materials only within a temporary compound. The compound shall be fenced (*2.0 metres minimum height Heras*) and shall allow designated contractor access without obstruction for construction vehicles only entering the development site.

5.3 The compound area shall be located so as to not incur damage or injury to the 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.

5.4 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 Root Protection Area of existing trees to be retained. Vehicular movements during the construction period shall be limited to the areas of protected ground only. The Proposed Temporary Construction Access - '*Ground Protection Zone*' shall allow for the passage of construction vehicles to the site and shall be implemented without intrusion or change of existing ground levels within the Root Protection Areas of existing trees. The Ground Protection measures shall be capable of supporting all anticipated construction traffic without deformation of the underlying existing ground structure and be implemented prior to the main construction works.

- *The existing ground within the Root Protection areas of existing trees to be protected using a double layer of Ground-Guards RoadTrack panels with 150mm of wood chips placed between which creates a suitably cushioned roadway for this purpose;*

- *All temporary retaining kerb restraints / edge supports are to be secured above ground and no general excavation within existing RPAs shall be permitted access.*

- 5.5 All site operations and construction procedures for the duration of the construction period shall seek to protect the existing site vegetation and root protection areas in accordance with *BS 5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations'*.

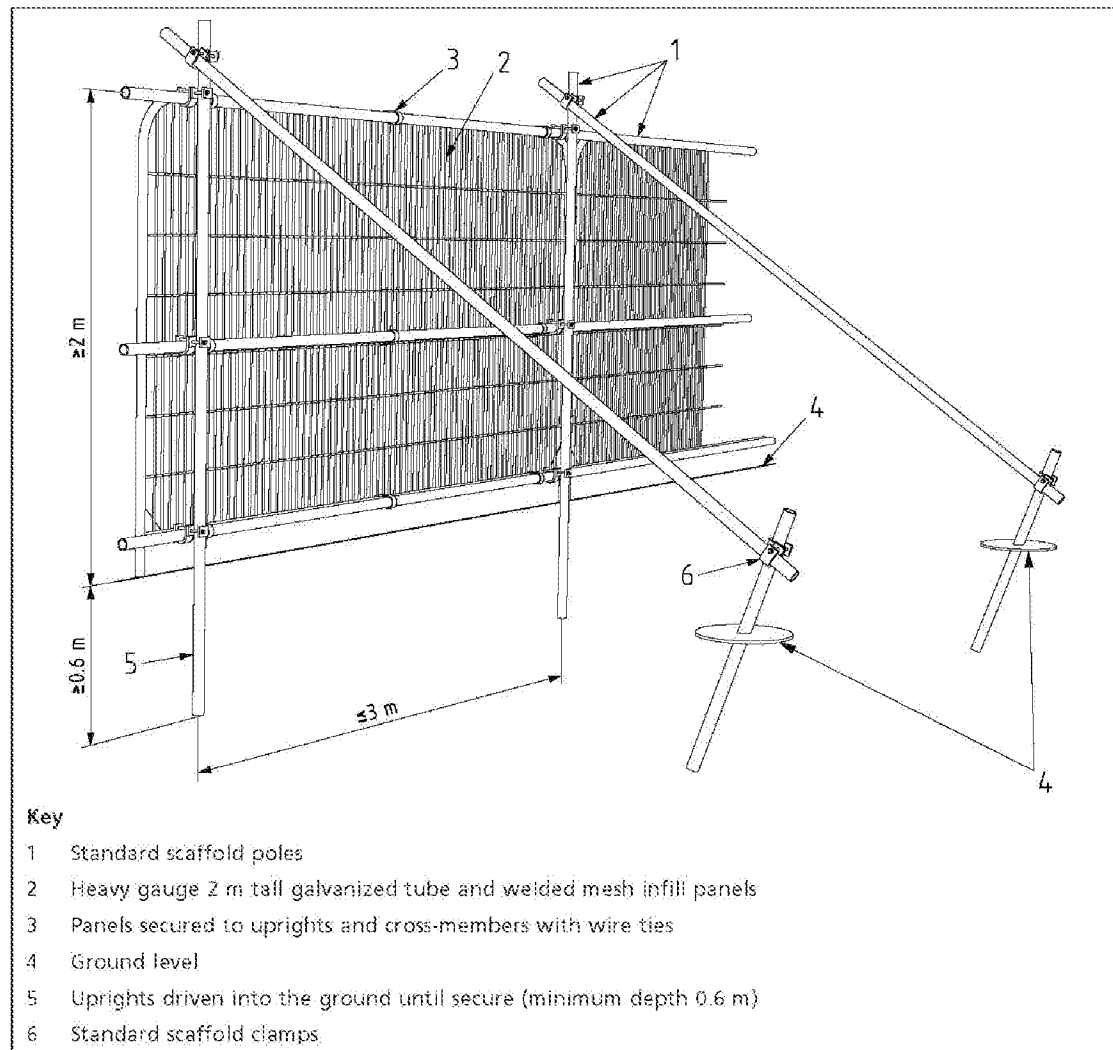
Tree and Vegetation Management

- 5.6 For Tree and Vegetation Retention and Protection Proposals refer to the accompanying *LLD1469-ARB-SCH-001 - Existing Tree Schedule*.

Protection and Retention of Existing Vegetation

- 5.7 The Contractor shall exercise extreme care when performing operations beneath the canopy of existing mature trees and vegetation and within the specified 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.
- 5.8 All excavations, cultivation and grading beneath the canopy of existing mature trees and within the specified 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.
- 5.9 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 Root Protection Areas.

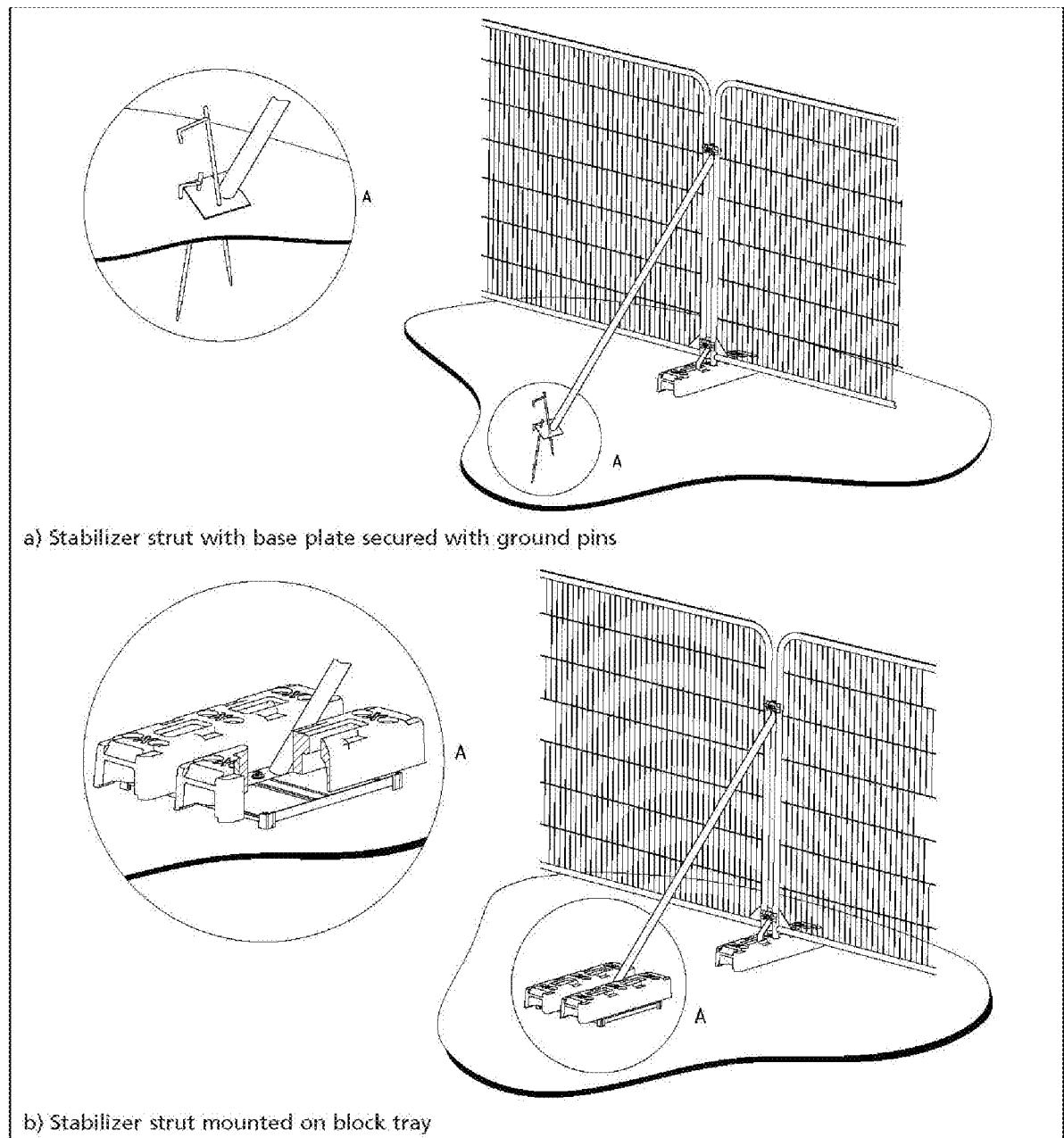
Figure 2 Default specification for protective barrier



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- 5.10 The installed protective fencing 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 or as specified in *LLD1469-ARB-DWG-001-TRPP - 'Tree Retention and Protection Plan'*. 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 drawing *LLD1469-ARB-DWG-001-TRPP - 'Tree Retention and Protection Plan'*.
- 5.11 Day-glo ribbons shall be maintained during the main works by the Main 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*'.
- 5.12 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.
- 5.13 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.*
- 5.14 Care should be taken to avoid damage to unseen tree roots and underground services; a secondary fencing support system may be implemented as outlined in *Figure 3 below*.

Figure 3 Examples of above-ground stabilizing systems



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- 5.15 At the end of the contract period the Contractor shall remove protective fencing from the site. All retained vegetation shall be healthy and thriving at the handover date.

Tree Protection Zone-Ground Protection Zone - Temporary Contractor Access

- 5.16 Where necessary a temporary 'Ground Protection Zone' shall allow for the passage of construction vehicles to the site and shall be implemented without intrusion or change of existing ground levels within the Root Protection Areas of existing hedges / trees. The Ground Protection measures shall be implemented prior to the main construction works.
- 5.17 Ground levels should not be raised or lowered within the existing Root Protection Areas. A permeable open graded surface treatment shall be laid over the existing ground which will allow water to flow through to the tree roots and allow for nutrient and gaseous exchange.
- 5.18 The surface material shall be contained with timber edging boards and spikes for pathways; timber sleepers shall be used as a kerb edge restraint for vehicular areas and anchored with non-intrusive pinning (*such as road pins*) in order to maintain the existing levels within the Tree Root Protection areas.
- 5.19 The existing ground within the Root Protection areas of existing trees is to be protected using a double layer of Ground-Guards RoadTrack panels with 150mm of wood chips placed between which creates a suitably cushioned roadway for this purpose.
- 5.20 All temporary retaining kerb restraints / edge supports are to be secured above ground and no general excavation within existing RPAs shall be permitted.
- 5.21 Where the development proposals necessitate the tying in and re-grading of existing and proposed levels for vehicular access or include the implementation of underground services such services, cables, pipe work; a Manual Excavation Method must be implemented using hand held tools to minimise the impact on existing trees. The excavation shall be executed with due care and attention not to disturb exposed unmade ground and any existing tree roots present within it.
- 5.22 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. 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.
- 5.23 Existing service runs should always be used wherever possible. Where the proposed routing of services impinges upon the RPA 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 RPA 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 Root Protection Radius beside an existing tree shall be avoided, whereby tree roots will become severed. Where services are to cross the edge of an existing RPA, 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.

Ground Protection: 'No-Dig' Construction – Car Park Area

- 5.24 To allow for the construction and implementation of the new car park area within the tree root protection zone of *T09 – Fraxinus excelsior* without changing existing ground levels or intruding on the roots of existing trees a 'No-Dig' construction method is sought in accordance with *BS 5837:2012 'Trees in Relation to Design, Demolition and Construction - Recommendations'*.

- 5.25 The existing ground shall be overlain with a Ground Stabilising Mesh, overlain with a Cellular Confinement System, and infilled with a Type 3 Granular Material, in accordance with Highways Agency Specification, to a depth of 150 mm depth. The Cellular Confinement System would be overlain with a Geo-Textile Separating Layer and covered with a Gravel Driveway Surface Treatment to a depth of 50 mm.
- 5.26 All excavation shall be limited to the manual removal of the herb layer / existing construction material only and no change to the existing ground level is permitted.

6.0 ARBORICULTURAL METHOD STATEMENT – NOTES; GENERAL

- 6.1 The principles and recommendations of BS 5837: 2012; '*Trees in Relation to Design, Demolition and Construction - Recommendations*' shall be adhered to at all times in order to prevent damage or undue stress upon the existing trees, soils and roots potentially impacted upon by the development proposals.
- 6.2 Destruction of soil structures through soil compaction, excavation or contamination shall be avoided at all times within the Root Protection Areas. Physical damage to existing trees to be retained; roots, stems, branches shall be prevented wherever possible.
- 6.3 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.
- 6.4 Arboricultural Supervision may be required at the following stages of work:
- *Pre-commencement meeting;*
 - *Installation of Tree Protection measures;*
 - *Method Statement briefing for site staff;*
 - *Removal of Tree Protection measures.*
- 6.5 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.
- 6.6 The method statements relating to the tree protection measures are set out as outlined above; following the above measures of habitat protection any impact to the existing tree and hedge line habitat is considered to be mitigated.

7.0 Contact Details

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