

5.0 ARBORICULTURAL METHOD STATEMENT

Removal of Existing Vegetation

- 5.1 All existing trees to be designated for removal are to be removed in accordance with the *LLD2183-ARB-REP-001- Tree Retention and Protection Plan*. All tree work and removal shall be carried out in accordance with *BS 5837:2012*. Trees designated for removal and felling shall be clearly marked on site with white paint. Trees shall be felled 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.
- 5.2 Stumps shall be removed and cut away so that the top of the stump shall be at least 450mm below the final topsoil level in order that the site can be reinstated in accordance with the existing site levels. Stumps are to be treated with an approved herbicide to be agreed with the Landscape Architect. Where the depth is greater than 450mm the areas shall be backfilled with appropriate material to the required level.
- 5.3 The removal of shrub or scrub material within the 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 Root Protection Area and reduce any damage to existing tree roots within the protected root zone. Adjacent trees shall not be utilised as anchors or levers to facilitate the removal of adjacent vegetation.
- 5.4 Vegetation clearance to site boundaries should take place outside the bird nesting season (*nesting season: March-September inclusive*) and with consideration to roosting bats; or alternatively under a watching brief from a suitability qualified ecologist.

Protection and Retention of Existing Scattered Trees

- 5.5 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 the retained trees and make such persons aware that there shall not be the following operations undertaken within the Protected 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 the larger of the branch spread of the tree or an area*

with a radius of half the tree's height, measured from the trunk, and 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 Root Protection Areas;*
- Vegetation clearance should take place outside the bird nesting season (nesting season: March-September inclusive) and with consideration to roosting bats; or alternatively under a watching brief from a suitability qualified ecologist.*

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

- 5.6 Construction Site Access to utilise the existing access to the north-eastern corner of the site with tarmacadam surface left in place for the duration of construction phase.
- 5.7 The Contractor Site Compound shall be located outside of any prescribed tree Root Protection Area of trees to be retained and shall be permitted for the storage and securement of materials only within a temporary compound. The compound shall be fenced (2.0m minimum height Heras Weld Mesh Fencing) and shall allow designated contractor access without obstruction for construction vehicles entering the site.
- 5.8 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 site 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.
- 5.9 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*.

Tree Surgery

5.10 Any significant defects found in the trees during the course of the scheduled work shall be reported to the Landscape Architect / Arboricultural Consultant. All scheduled and 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.

Tree and Vegetation Management

5.11 For Tree and Vegetation Retention and Removal Proposals refer to the accompanying Existing Tree Schedule

Protection and Retention of Existing Vegetation – Tree Protection Fencing

5.12 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.

5.13 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.

5.14 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. 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.

5.15 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 drawings LLD2183-ARB-DWG-001 - Tree Retention and Protection Plan.

Figure 2 Default specification for protective barrier

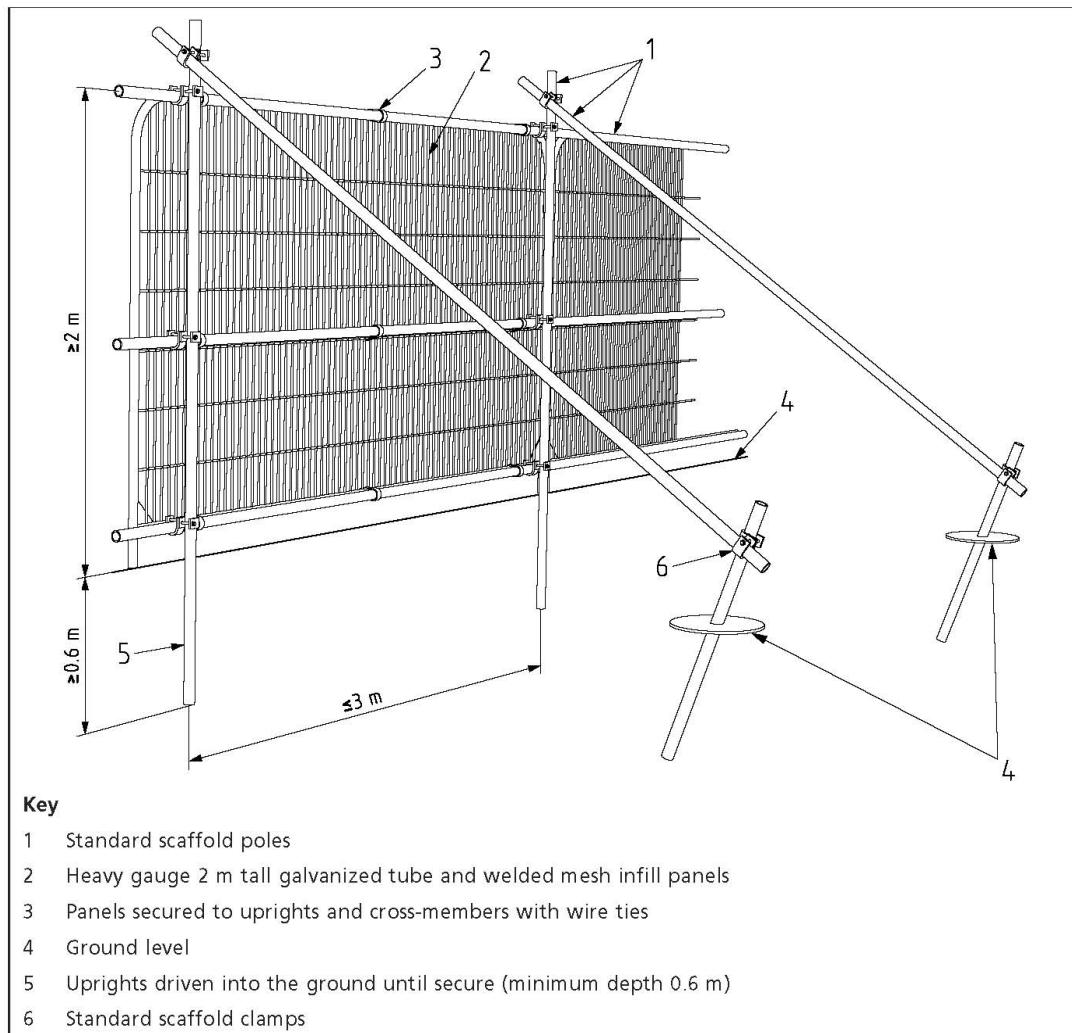
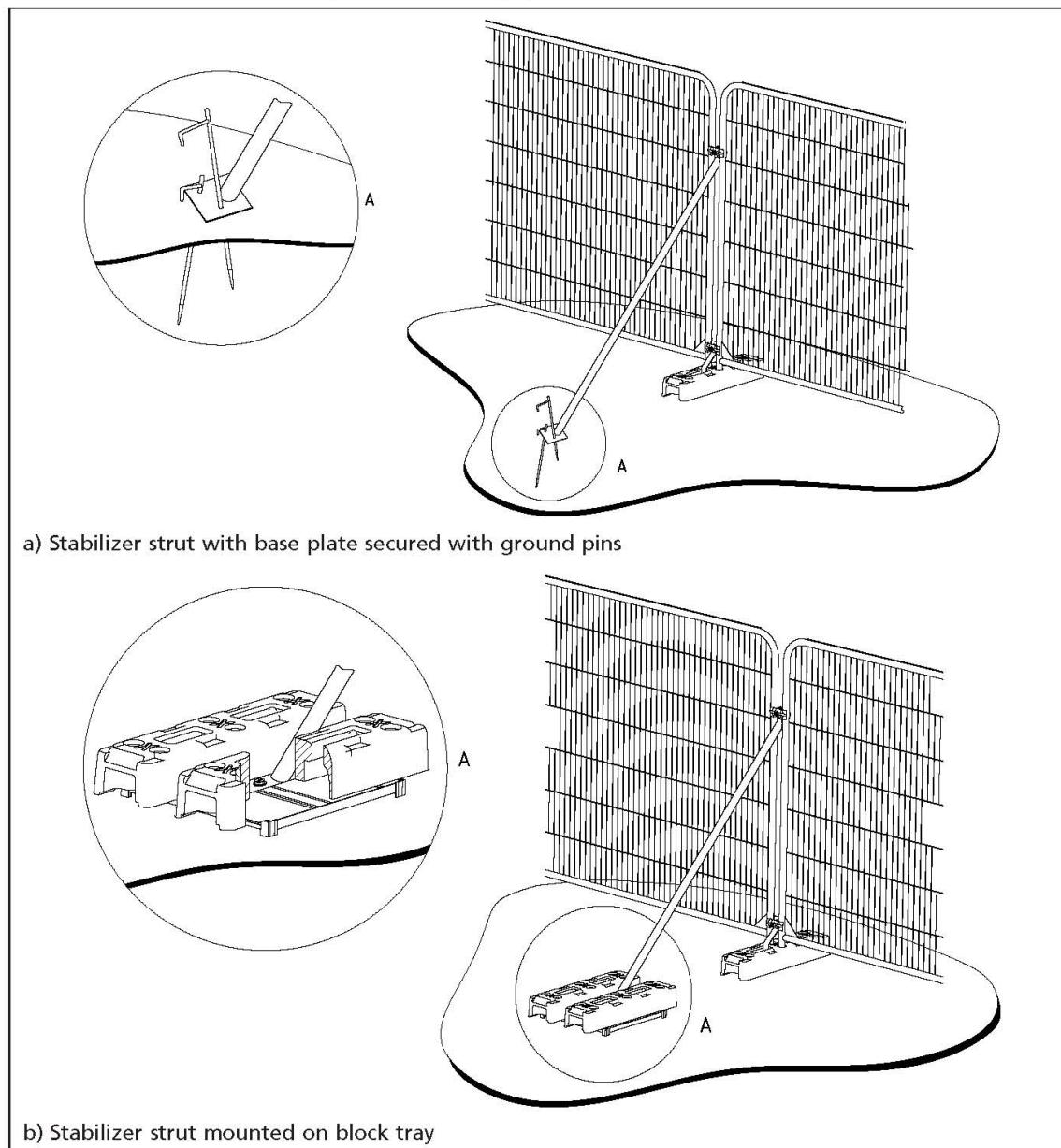


Figure 3 Examples of above-ground stabilizing systems



- 5.16 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 starting '*Construction Exclusion Zone – NO ACCESS*'.
- 5.17 All such fencing shall be maintained for the full contract period. All necessary excavations, earthworks and cultivation within Root Protection Areas of any existing tree; shrub or hedge shall be undertaken by hand. *No commencement of construction operations should 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.
- 5.18 Within the protected areas 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.*
- 5.19 At the end of the contract period the Contractor shall remove fencing from the site. All retained vegetation shall be healthy and thriving at the handover date.

General Ground Protection - Excavation in proximity to trees

- 5.20 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.
- 5.21 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.

- 5.22 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.
- 5.23 In areas where movement or use of machinery is required within the RPAs of existing trees, Ground Protection Measures are to be used to prevent compaction of the soil. Protection measures a proprietary interlocking-metal plate system placed on top of a non-compressible base layer (such as woodchip).

Tree Protection Zone – Manual Excavation

- 5.24 Where the development proposals necessitate the tie-ing in and re-grading of existing and proposed levels, including the installation of fencing, retaining walls or the implementation of underground services such services, cables, pipe work etc; a Manual Excavation Method must be implemented using hand held tools to minimise the impact on existing trees.
- 5.25 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.
- 5.26 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 routed together wherever possible to create the minimum impact upon the tree roots of the existing trees to be retained.
- 5.27 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.

General Ground Protection - Excavation in proximity to trees

- 5.28 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.
- 5.29 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.
- 5.30 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.
- 5.31 In areas where movement or use of machinery is required within the RPAs of existing trees, Ground Protection Measures are to be used to prevent compaction of the soil. Protection measures a proprietary interlocking-metal plate system placed on top of a non-compressible base layer (such as woodchip).

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 shall be required at the following stages of work;
 - *Pre-commencement meeting;*
 - *Installation of Tree Protection Fencing;*
 - *Method Statement briefing for site staff responsible for the demolition and construction phases;*
 - *Realignment of the tree protection fencing;*
 - *Removal of existing hardstanding surfaces within RPA in accordance with Manual Excavation Method;*
 - *Removal of Tree Protection measures.*
- 6.5 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 hedgeline habitat is considered to be mitigated.



L I Z A R D

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