

NOTES
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General
This illustrative plan is intended to inform the location of protective barriers, other relevant physical protection and highlight precautionary areas for retained trees prior to site enablement and excavation. This plan should be incorporated into the overarching Method statement for the works, subsequent drawings and construction drawings and issued for use on site, to ensure that all parties are fully aware of the areas in which access and works may and may not take place. The Contractor will be required to prepare detailed Risk Assessments and Method Statements which take into account relevant health and safety requirements, including those associated with the Construction Design and Management (CDM) Regulations, specific phasing and other Client requirements to ensure the works are undertaken in a safe, economic, sustainable, legal and appropriate manner. This document may therefore require review and therefore presents only the conceptual understanding of how the works will be undertaken and is not a substitute for the detailed Risk Assessment and Method Statements required to be prepared by the Contractor as part of the future works.

Excavation and Installation has potential to have an adverse impact on trees located within within the site (T9 - T10). Any discrepancies must be reported to tree:fabrik immediately.

- Site Boundary**
- Indicative site boundary
- Tree Constraints**
- U Category tree: Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.
 - A Category tree: Trees of high quality and value.
 - Crown spread
 - B Category tree: Trees of moderate quality and value.
 - C Category tree: Trees of low quality and value.
 - Preliminary root protection area: Illustrated as a radius centered on the trunk.

Statutory Designations (trees)
The site lies within the Bloomsbury Conservation Area. As such, six weeks prior notice must be given to Camden Council in writing prior to carrying out tree works. All tree works must be carried out by a competent person experienced in arboriculture and in accordance with British Standards 3998 (2010) Recommendations for tree work. Attention is drawn to the responsibilities under the Wildlife & Countryside Act (1981) as amended by the Countryside and Rights of Way Act 2000.

Arboricultural Method Statement
The primary purpose of this plan is to aid the preservation of retained trees through setting out the appropriate working practices, demolition techniques and tree protection measures that are to be adopted when excavation works are undertaken in the proximity of trees. The methodology of this Tree Protection Strategy follows a logical sequence of events. Variations to the sequence could significantly reduce the efficiency of the tree protection measures.

This plan should be incorporated into subsequent drawings and method statements used for design purposes or issued for use on site, to ensure that all parties are fully aware of the areas in which access and works may and may not take place. A summary of tree protection will be provided to all personnel through the Site Induction. This summarises the key precautionary measures and responsibilities of all site personnel to ensure an awareness of trees during site works and that they are successfully protected throughout the demolition and site enablement works. Contractor - It is the responsibility of the Contractor to ensure that the Tree Protection Plan is implemented on site, maintained during the process and understood by all site personnel and contractors prior to commencement of works.

Site Traffic

- Access prohibited following installation of Protective barriers (Pedestrian access only)

Site Set-Up

Responsibilities of key personnel & site induction - Equally as important as the physical measures of tree protection are the links of communication. Pre-commencement discussions will be carried out between the Project Arboriculturist and members of the Technical Team to ensure that all issues are considered within the complexities of detailed construction and site management.

A summary of Tree Protection will be provided to all personnel through the Site Induction. This summarises the key precautionary measures and responsibilities of all site personnel to ensure an awareness of trees during site works and that they are successfully protected throughout the excavation process.

Site Manager - It is the responsibility of the Site Manager to ensure that details of this Arboricultural Method Statement is implemented on site, maintained during the complete process and understood by all site personnel and contractors prior to commencement of works. The Site Manager will notify the appointed Project Arboriculturist of any programmed or unscheduled works within the RPA or Construction Exclusion Zone. It is the responsibility of the Site Manager to inform the appointed Project Arboriculturist at least 72hrs before commencement of each operation within the arboricultural scope of works outlined within Arboricultural Monitoring & Recording (below) and of any unscheduled works or variations to enable action by the Project Arboriculturist.

Site Personnel - Information on the required protection measures will be provided at the site induction to personnel. All damage to protective barriers or accidental damage to trees must be reported to the Site Manager immediately. Works occurring within the vicinity will cease immediately until adequate tree protection measures are rectified.

Project Arboriculturist - It is the responsibility of the Project Arboriculturist to liaise with the Client and Council representative to ensure appropriate tree protection and precautionary measures are designed and implemented prior to commencement of works. Once the site is active, the appointed Project Arboriculturist will monitor compliance with the arboricultural conditions through regular site visits and provide supervision and technical support on tree issues arising during the development as agreed with the client.

Unscheduled works - The Site Manager will notify the appointed Project Arboriculturist of any unscheduled works within the RPA or construction exclusion zone. The extent of works will be discussed and a method statement and provision for tree protection implemented. All unscheduled works must be agreed by the appointed Project Arboriculturist and if appropriate the Local Authority Representative consulted prior to commencement of the works.

Breaches of tree protection & unforeseen events - All damage to protective barriers or accidental damage to trees must be reported to the Site Manager immediately. Works occurring within the vicinity will cease immediately until adequate tree protection measures are rectified. A record of the damage will be made by the Site Manager and, if appropriate in consultation with the appointed Project Arboriculturist, remediation measures carried out. In the event of spillage the area is to be secured with sandbags on the line of the tree protection area and measures taken to drain/soak any spillage away from the protected area.

Storage and delivery of materials - During site enablement and installation of tree protection fencing within the site, all delivery vehicles will unload in the designated area and materials carefully stored outside the tree protection barriers.

Pre-commencement meeting - A pre-commencement meeting shall be held on site prior to commencement of enabling or excavation works. This shall be attended by the Client's Representative, Excavation Contractor, Installation Contractor and Project Arboriculturist. The Local Authority Tree Officer will be notified and invited to attend. The methods of tree protection outlined within this statement and revisions shall be fully discussed at the meeting, so that all aspects of their implementation and sequencing are made clear to all parties. Any clarifications or modifications to this statement shall be recorded and circulated to all parties in writing.

- In brief, the work stages for the site enablement and demolition phase will be as follows;
- Stage 1: Pre-commencement meeting and identify facilitate pruning works (Not required)
 - Stage 2: Execute agreed facilitate pruning works (Not required)
 - Stage 3: Installation of tree protection and protective mesh
 - Stage 4: Removal of flagstones along route of new services
 - Stage 5: Airspade excavation of proposed route of services and installation of drainage provision
 - Stage 6: Reinstatement of excavated soil into trench
 - Stage 7: On completion, Site Manager to review tree protection

Tree Roots - The majority of tree roots are typically concentrated within the top 600mm of soil. Repeat tracking by vehicles, excavation or cement (including washings and crush) over soft ground near trees is likely to cause root damage. This may have an adverse impact on the trees health and stability. Any tree roots exposed during operations should be treated at once. Exposed roots smaller than 25mm diameter should be pruned back, preferably to a side branch, using proprietary cutting tools. In the event that roots are required to be pruned, sharp cutting tools are to be used to ensure the minimum damage is caused. Clean cuts can result in the redevelopment of fine roots. Poor quality cuts can, however, result in root die back and decay. No roots greater than diameters of 25mm are to be pruned without prior agreement with the Project Arboriculturist. Exposed roots will be wrapped in dry, clean Hessian sacking to prevent desiccation and to protect from rapid temperature changes. Following completion of works within the immediate vicinity all exposed roots will be covered with good quality topsoil before backfilling. In the event that large quantities of structural roots are found, a re-evaluation of the proposed works and impact is to be made by the Project Arboriculturist and a record made.



Tree Protection Barriers - A scheme for the protection of trees shall be implemented to avoid damage or loss of retained trees. All barriers are to be erected prior to commencement of any works on site, including site enablement and excavation, or the delivery of machinery, materials, plant or equipment to the site or any adjacent land thereto. Where sequential installation is required, barriers will be erected prior to commencement of operations as specified. Where appropriate the protection barriers may be aligned with the site hoarding. Barriers are to be retained throughout the appropriate phase of development process and are to be fit for purpose. The area between the tree and the protection barriers forms the Construction Exclusion Zone. The construction exclusion zone is to remain acrosscut with storage of materials, machinery or equipment prohibited. No excavation or changes in land levels are to occur within this area unless agreed in writing by the Local Planning Authority. All Weather tree protection notices are to be fixed to the outside of all tree protection barriers. See Example - Tree Protection Signage.

Any damage to protective barriers or accidental damage to trees must be reported to the Site Manager immediately. Works occurring within the vicinity will cease immediately until adequate tree protection measures are rectified. All personnel using the site including site managers, agents, supervisors, operatives and other relevant personnel are to be informed of the role of the tree protective fences and its importance.

- Tree Protection Barriers Type 2 (temporary)**: Barriers to be installed prior to any works commencing and dismantled only immediately prior to reinstatement of excavated soil and re-laid hard surfacing. Barriers should consist of weldmesh panels on rubber or concrete feet and secured with two anti-tamper couplers installed so that they can only be removed from inside the fence. The panels should be supported on the inner side by with ground pins unless similar fencing is agreed with the Local Planning Authority.
- Tree Protection mesh lining (temporary)**: Mesh lining to protective fencing to be installed immediately following the installation of tree protection barriers.
- Temporary Ground Protection** will be required within the RPA of retained tree T9 - The existing hard surfacing around the excavated trench will remain intact and act a ground protection during excavation. Any works within areas inside the RPA of retained trees and are not connected with hard surfacing will be protected during the excavation phase through ground protection and minimize root disturbance.
 - For pedestrian movements only, 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 (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane.
 - For pedestrian-operated plant up to a gross weight of 2 T, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane.
- Arboricultural supervision of service trench excavation**: Any work within RPAs requires a high level of care. Qualified arboricultural supervision will be present to minimise the risk of misunderstanding and misinterpretation. Site personnel will be properly briefed before any work starts. Ongoing work will be inspected regularly and, on completion, the work will be signed off by the arboriculturist to confirm compliance by the contractor. In the context of this method statement, an appropriate supervising officer is to be an arboriculturist.
- Air spade excavation of proposed service trench**: Specialist tools for removing soil around roots using compressed air will be employed as an appropriate alternative to hand digging. All soil removal will be undertaken with care to minimise the disturbance of roots beyond the immediate area of excavation. Where possible, flexible clumps of smaller roots, including fibrous roots, will be retained if they can be displaced temporarily or permanently beyond the excavation without damage.

Exposed roots to be removed (if required) will be cut cleanly with a sharp saw or secateurs 10-20cm behind the final face of the excavation. Roots temporarily exposed will be protected from direct sunlight, drying out and extremes of temperature by appropriate covering. Roots greater than 2.5cm in diameter will be retained where possible. Roots 2.5-10cm in diameter will only be cut in exceptional circumstances. Roots greater than 10cm in diameter will only be cut after consultation with the appropriate supervisory officer.

Arboricultural Monitoring & Recording
All works within the Root Protection Area (RPA) and close to the crown extents of retained trees will be carried out under an Arboricultural Watching Brief by the Project Arboriculturist.

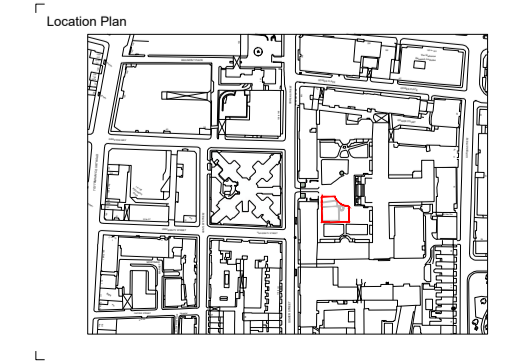
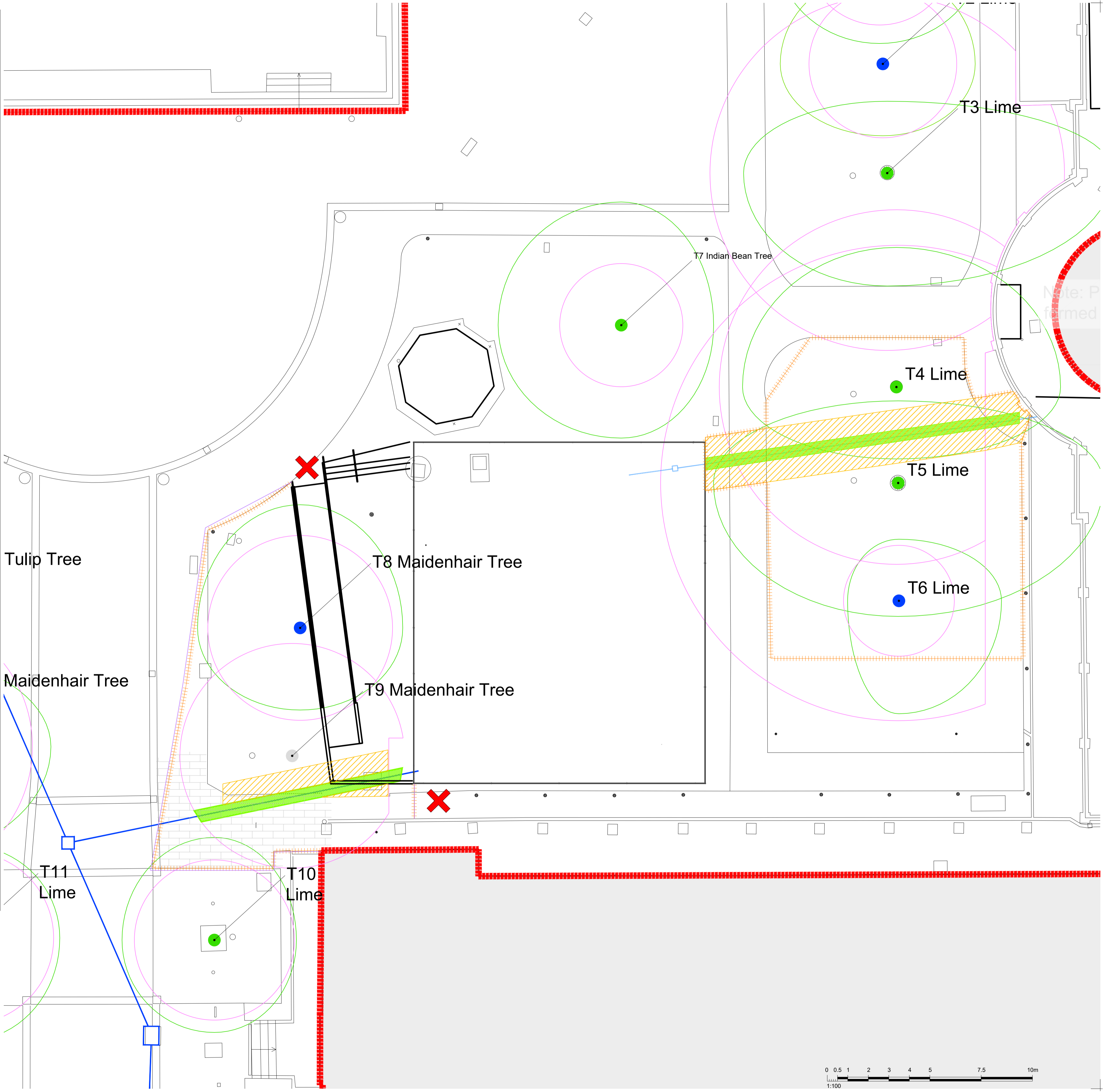
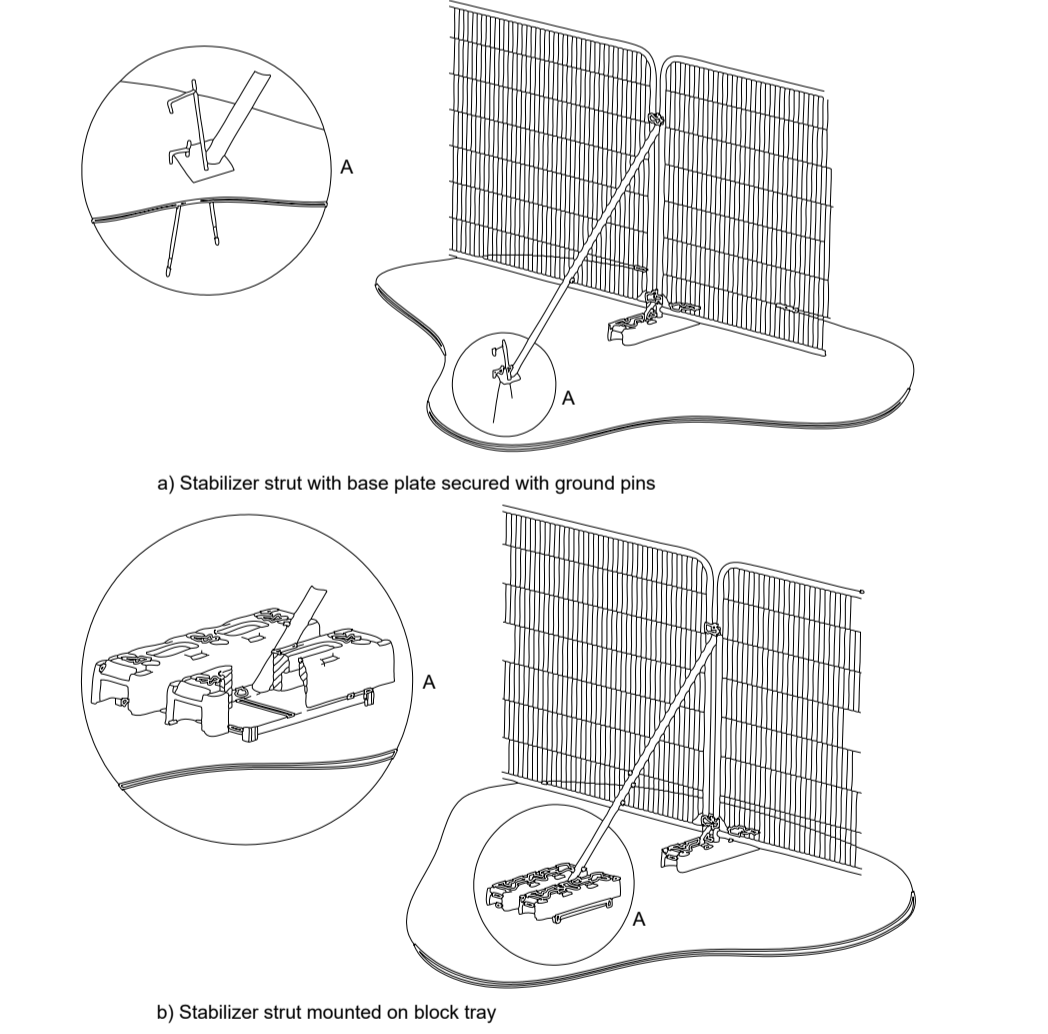
It is the responsibility of the Client to appoint a Project Arboriculturist and agree the level of monitoring and recording prior to commencement. The frequency of site visits will be determined by the scope of works and complexities of development prior to commencement of key work stages. As a minimum, a site visit will be made at the key work stages identified and within 1 month of commencement. Following each site visit, the appointed Project Arboriculturist will circulate a report to the Site Manager and LPA Tree Officer within 5 working days. The reports shall be retained to form an auditable log for inspection by the LPA at such time as is requested. The key work stages and associated scope of works for Arboricultural Monitoring forms Table 1 below.

It is the responsibility of the demolition contractor to inform the Client's Representative of works within the RPA at least 72hrs prior to commencement.

TABLE 1 - ARBORICULTURAL MONITORING AND RECORDING

Work Stage	Scope	Site Inspection	Site Monitoring
Pre-commencement meeting	Prior to site enablement or excavation - discuss tree protection outlined within this statement and revisions for the particular phase with main contractor so that all aspects of their implementation and sequencing are made clear to all parties. Any clarifications or modifications to this statement shall be recorded and circulated to all parties in writing.	No	-
Tree Protection Barriers	Prior to site enablement - inspect tree protection identifying any outstanding works or action required. On completion of any outstanding actions sign off on completion. Report breaches to Site Manager for action.	YES TBC	Vald -
Excavation Phase	During excavation phase - inspect tree protection identifying any outstanding works or action required. On completion of any outstanding actions sign off on completion. Report breaches to Site Manager for action.	YES TBC	Vald -
Tree Protection Barriers	Following dismantling of scaffold - inspect tree protection identifying any outstanding works or action required. On completion of any outstanding actions sign off on completion. Report breaches to Site Manager for action.	No	-

Figure 3 Examples of above-ground stabilizing systems



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External Reference:
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