

CANMOOR

**DUNHAM BUSH SITE, DOWNLEY ROAD,
HAVANT**

ARBORICULTURAL METHOD STATEMENT
TO BS 5837:2012



our ref:	2442 / EH / AMS001
date:	8 th July 2024
prepared by:	E.C.H
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project: Dunham Bush Site, Downley Road

date: 8th July 2024

1.0 Context

- 1.1 The works included within this arboricultural method statement are part of the demolition and redevelopment proposed for the former Dunham Bush site at Downley Road, Havant as described within the Design & Access Statement.
- 1.2 As part of the planning application a tree survey was carried out for the area affected by the works (refer to Tree Survey 2442/EH/TR001). The tree survey includes the Tree Constraints Plan 24-042-02 which identifies the root protection areas of the surveyed trees.
- 1.3 The Arboricultural Impact Assessment (refer to 2442/EH/AIA001). identifies those trees to be removed and those to be retained (refer to the Retention & Removal Plan 24-042-04) including the need for special construction techniques required to mitigate for the proposed development.
- 1.4 This method statement refers to the protection of those trees in proximity of the works to be retained as part of the proposals T01 and T03 and provides details of the special construction techniques outlined within the Arboricultural Impact Assessment.

2.0 Tree Protection Informative:

- 2.1 Trees that are in good health have grown and adapted to their surroundings. Any building works or construction activity which affects their surrounding could affect their vigour, future growth and safety.
- 2.2 The tree root system is the most susceptible to damage and can affect the health, growth, life expectancy and safety of the tree. Damage to the trunk and branches of a tree is not usually sufficient to kill the tree, but it can affect the shape and growth potentially making a tree unsafe.
- 2.3 Tree roots are typically concentrated within the uppermost 600mm of the existing ground level and form a network of small diameter woody roots (typically less than 1cm or pencil thickness) with mass of finer roots. These tree roots can extend for a distance much greater than the height and spread of the tree, except where prevented by unfavourable surroundings or obstructions. These fine roots are essential for the continued health and vitality of the tree and are dependent on the existing soil conditions being maintained.
- 2.4 All parts of the root system, but especially the fine roots, are vulnerable to damage from uncontrolled activities. It is also known that mature trees recover slowly, if at all, from damage to their roots, whilst younger trees with good vitality do have a chance to adapt.

3.0 Construction Proposals

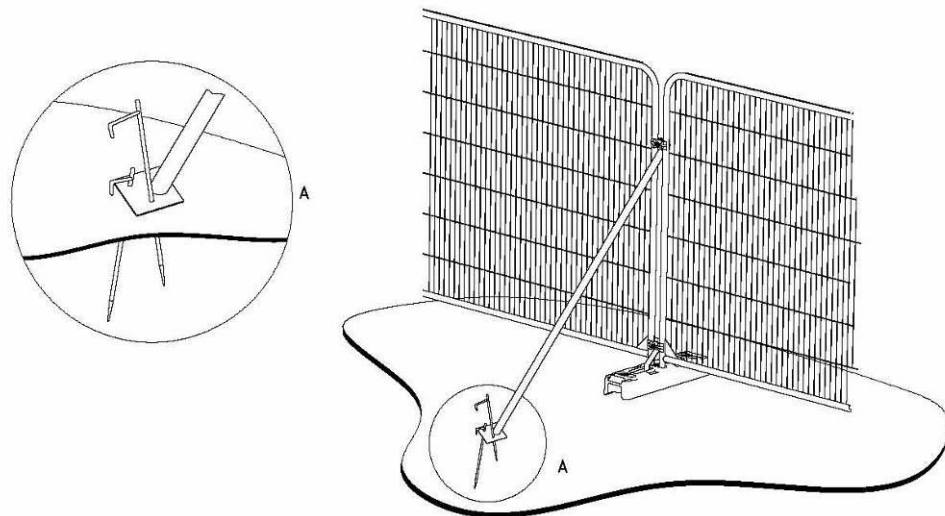
- 3.1 The redevelopment of the site includes the demolition of the existing buildings and their replacement with light industrial units complete with service yards, car parking and landscaping.

4.0 Tree Protection & Ground Protection

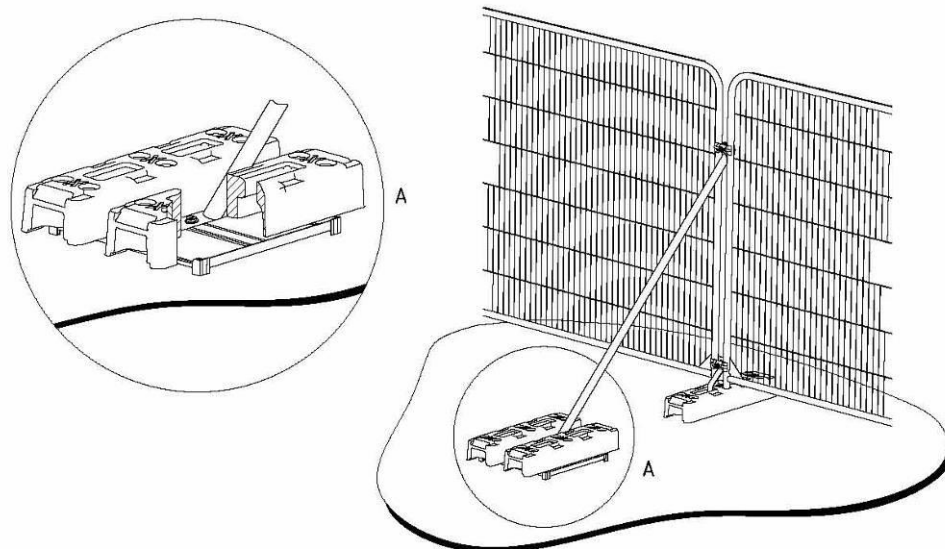
- 4.1 All trees that are being retained on site are to be protected by barriers and/or ground protection prior to any site activity and before any materials or machinery are brought onto the site, before any demolition, development or stripping of soil commences. Where all activity can be excluded from the RPA, vertical barriers are to be erected to create a construction exclusion zone. The default barrier specification is to be in accordance with Figure 3. of BS 5837:2012 'Trees in Relation to Design, Demolition and Construction - Recommendations' as illustrated below and identified within the Tree Protection Plan 24-042-05.
- 4.2 The protected area is to be regarded as sacrosanct, and, once installed, barriers and ground protection is not to be removed or altered without prior recommendation by the project arboriculturalist and, where necessary, approval from the local planning authority.
- 4.3 All weather tree protection posters as detailed below are to be securely fixed to the tree protection fencing at 10 metre centres in plain view.



- 4.4 The tree protection fencing to the retained trees T01 and T03 is to be erected as detailed below and on the Tree Protection plan 24-042-05 and maintained in place until the completion of the main construction works for the project.
- 4.5 The presence of existing concrete hard surfacing precludes the use of driven poles, therefore an alternative specification that provides an equal level of protection is to be installed as illustrated within Figure 3 of BS 5837:2012.



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

BS 5837 Figure 03; Examples of above-ground stabilising systems

5.0 Excavations within the RPA

- 5.1 To avoid damage to tree roots, existing ground levels are to be retained within the RPA. Intrusion into soil within the RPA is not acceptable, and topsoil within it is to be retained in situ.

6.0 Site Compound and Working Area

- 6.2 The site compound area is to be located on an area of existing hard standing close to the Downley Road access and outside of the Construction exclusion zones of the retained trees.

7.0 Haul Routes

- 7.1 The route for the haulage of materials and deliveries within the site is to be on the existing hard standing during demolition or during construction along the line of the proposed internal hard standing, which is to be constructed to base course prior to the commencement of building construction.
- 7.2 The planning of site operations is to take sufficient account of wide loads, tall loads and plant with booms, jibs and counterweights (including drilling rigs), in order that they can operate without coming into contact with retained trees. Any transit or traverse of plant in proximity to trees are to be conducted under the supervision of a banksman, to ensure that adequate clearance from trees is maintained at all times. Access facilitation pruning is to be undertaken as specified to maintain this clearance.

8.0 Temporary Topsoil Storage

- 8.1 The stripped topsoils are to be stored in temporary mounds outside of the construction exclusion zones of the retained trees. In accordance with BS 4428 topsoil heaps should not exceed 3m in height.

9.0 Demolition

- 9.1 The redevelopment of the site requires the demolition of the existing buildings within proximity to the tree T01 & T03.
- 9.2 Prior to the demolition works, access facilitation pruning is to be carried out to as scheduled within Table 2 of the Arboricultural Impact Assessment (see below) to prevent damage to the tree canopies by demolition plant during the works

Table 2: Trees to be retained:

No.	Common Name	Cat.	Pruning Works Required
T01	Silver birch	B2	Remove adjacent Elder Crown lift to facilitate access.
T03	Goat willow	C1	

- 9.3 Prior to the demolition works tree protection fencing is to be erected as specified above and detailed on the Tree Protection Plan 24-042-05.
- 9.4 Where trees stand adjacent to structures to be removed, the demolition should be undertaken inwards within the footprint of the existing building (often referred to as "top down, pull back").

10.0 Removal Of Existing Hard Surfacing

- 10.1 Prior to the removal of the existing concrete hard standing areas to the rear of the existing buildings the tree protection fencing is to be installed to protect the existing trees in accordance with Figure 3. Of BS 5837:2012.
- 10.2 Once the main area of existing concrete outside of the Construction Exclusion Zone has been removed the areas within the protected areas are to be removed with the Tree protection fencing temporarily relocated to the edge of the hard surfacing.

- 10.3 Care is to be taken not to disturb tree roots that might be present beneath the existing surfacing. Hand-held tools or appropriate pedestrian operated machinery is to be used (under arboricultural supervision) to remove the existing surface, working backwards over the area, so that the machine is not moving over the exposed ground
- 10.4 Any exposed tree roots are to be treated in accordance with section 7.2 of BS5837:2012 and as detailed below.
- a) Exposed roots are to be immediately wrapped or covered to prevent desiccation and to protect them from rapid temperature changes. Any wrapping are to be removed prior to backfilling, which is to take place as soon as possible.
 - b) Roots smaller than 25 mm diameter may be pruned back, making a clean cut with a suitable sharp tool (e.g. bypass secateurs or handsaw), except where they occur in clumps.
 - c) Roots occurring in clumps or of 25 mm diameter and over are to be severed only following consultation with an arboriculturalist.
 - d) Prior to backfilling, retained roots are to be surrounded with topsoil or uncompacted sharp sand (builders' sand is not be used), or other loose inert granular fill.
 - e) Soils or other suitable material are then to be replaced. This material should be free of contaminants and other foreign objects potentially injurious to tree roots and approved by the project arboriculturalist.

11.0 Soft Landscape Implementation

- 11.1 The proposals require the installation of grass and shrub planting within and at the edge of the RPA of trees T01 & T03 and therefore careful consideration is required to ensure the existing trees are protected during implementation including how the shrubs are to be planted whilst causing minimal damage to the trees.
- 11.2 To limit the risk of ground compaction, access to the planting areas is to be from the proposed hard standing to the rear of the proposed units with the preparation, cultivation and planting works carried out after the completion of the main construction activities.
- 11.3 To avoid unnecessary root damage, no cultivation of the topsoil is to be carried out within the Tree Protection Areas of the retained trees. Shrub transplants or whips are to be pit planted. No standard tree pits are to be excavated within the root protection areas of retained trees.
- 11.4 The soft landscape areas outside of the construction exclusion zones / RPAs of the retained trees are to be set out, cultivated and planted as required prior to the removal of the tree protection fencing. The landscape works within the construction exclusion zones area to be carried out by hand only.
- 11.5 Prior to planting within the RPA the proposed locations of the transplants / whips are to be set out in advance and trial pit investigations using handheld tools to a maximum depth of 150 mm are to be carried out. Where large roots (greater than 25mm in diameter) are exposed the planting locations are to be changed to avoid damaging the roots.

11.6 During planting the following guidance should be followed:

- 1) Exposed roots are to be immediately wrapped or covered to prevent desiccation and to protect them from rapid temperature changes. Any wrapping are to be removed prior to backfilling, which is to take place as soon as possible.
- 2) Roots smaller than 25 mm diameter may be pruned back, making a clean cut with a suitable sharp tool (e.g. bypass secateurs or handsaw), except where they occur in clumps.
- 3) Roots occurring in clumps or of 25 mm diameter and over are to be severed only following consultation with an arboriculturalist.
- 4) Prior to backfilling, retained roots are to be surrounded with topsoil or uncompacted sharp sand (builders' sand is not be used), or other loose inert granular fill.
- 5) Soils or other suitable material are then to be replaced. This material should be free of contaminants and other foreign objects potentially injurious to tree roots and approved by the project arboriculturalist.

12.0 Arboricultural Supervision

- 12.1 The erection of the Tree Protection fencing is to be inspected and approved by a suitably qualified arboriculturalist prior to the commencement of demolition and /or construction.
- 12.2 All excavation works within the construction exclusion zones / root protection areas of those trees to be retained including the removal of the existing concrete hard standing are to be supervised by a suitably qualified arboriculturalist.
- 12.3 Tree surgery recommendations are to be carried out prior to construction. The access facilitation pruning is to be carried out to trees T01 & T03 to prevent any damage during construction. Tree works are to be carried out by a Arboricultural Association registered Tree Surgeon.
- 12.4 A programme of works is to be provided at the prior to the commencement of the project onsite and two weeks advance notification is to be given for site inspections.

Appendix A: Technical Definitions

Access Facilitation Pruning:	One off tree pruning operation, the nature and effects of which are without significant adverse impact on tree physiology or amenity value, which is directly necessary to provide access for operations on site.
Arboricultural Impact Assessment	An evaluation of the direct and indirect effects of the proposed design on the trees identified within the Tree Survey, where necessary recommending mitigation or amendments to the design.
Arboricultural Method Statement	Methodology for the implementation of any aspect of development that is within the root protection area, or has the potential to result in loss of or damage to a tree to be retained.
Construction Exclusion Zone	An area based on the root protection area from which access is prohibited for the duration of a project
Root Protection Area (RPA)	The minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is considered a priority
Tree Protection Plan	A scale drawing informed by descriptive text where necessary, based upon finalised proposals, showing trees for retention and illustrating the tree and landscape protection measures.

Appendix B: References

1. BSI (2012) '*British Standard 5837:2012 Trees in relation to design demolition and construction – recommendations*' British Standards Institution, London
2. NJUG Volume 4 (2007) '*Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees.*' The National Joint Utilities Group
3. BSI (2010) '*Tree work – Recommendations*' British Standards Institution, London
4. AA (2020) '*The Use of Cellular Confinement Systems Near Trees: A Guide to Good Practice*' Guidance Note 12. Arboricultural Association.

TREE PROTECTION NOTES:
'Trees in relation to design demolition and construction' BS5837:2012

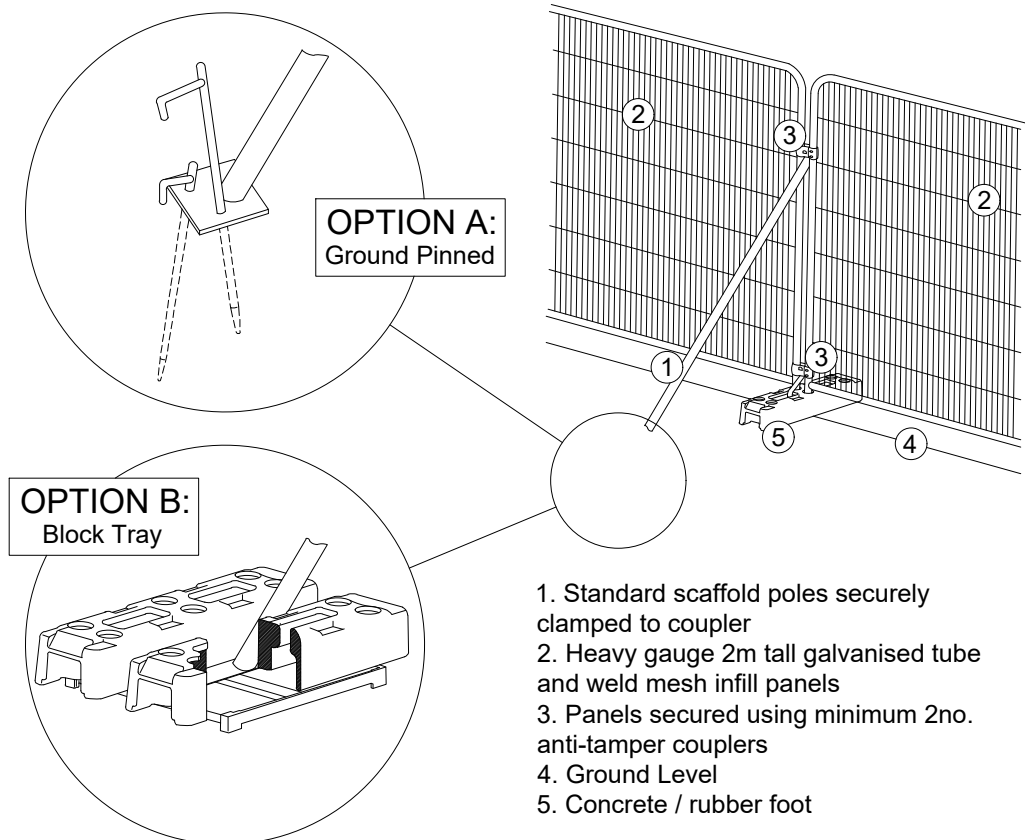
1.0 PRIOR TO COMMENCEMENT OF WORKS:

1.1 PRIOR TO COMMENCEMENT: all trees that are being retained onsite shall be protected by barriers and / or ground protection before any materials or machinery are brought onto the site, and before any demolition, development or stripping of soil commences. The 'Root Protection Area' (RPA) associated with existing trees designated for retention shall be protected from damage by erection of scaffold framework barriers in accordance BS 5837:2012 Figure 3 including where specified appropriate ground protection.

1.2 EXTENT OF ROOT PROTECTION AREA (RPA): as shown on the Tree Protection Plan (TPP) the RPA is generally to be in accordance with Annex D, Table D.1 'Root Protection Area' - as an area equivalent to a circle radius 12 times the stem diameter (single stem trees) or based on the combined stem diameter for multi-stem trees (trees with more than one stem arising below 1.5m above ground level) refer to Clause 4.6.

1.3 TREE PROTECTION BARRIER: a 2m high mesh panel fence line, well braced to resist impacts as illustrated below (refer to Figure 3 of BS5837:2012). Panels to be attached using a minimum 2m anti-tamper couplers at minimum 1m centres and uniform throughout fence line. Panels to be secured at base with rubber or concrete feet. Panels to be supported on inner side using scaffold stabiliser struts, clamped to fence and secured to ground using either base plates and ground pins or (where services and roots dictate) mounted onto block tray as illustrated.

All weather site notices should be attached to the barrier with words such as "CONSTRUCTION EXCLUSION ZONE - NO ACCESS". Once installed barriers and ground protection shall be not be removed or altered without prior approval of the project arboriculturalist and where necessary approved form the local planning authority.



2.0 ADDITIONAL PRECAUTIONS:

2.1 Planning of site operations should take sufficient account of wide or tall loads, or plant with booms, jibs or counterweights (including drilling & piling rigs) in order that they can operate without coming into contact with retained trees. The transit or traverse of plant in proximity to trees shall be conducted under supervision of a bankman to ensure adequate clearance from trees is maintained at all times. Access facilitation pruning as agreed with the project arboriculturalist and/or local authority should be undertaken where necessary to maintain clearance. NB Works to trees protected by a Tree Preservation Order or within a Conservation Area will need approval by the local authority.

2.2 Any materials whose accidental spillage would cause damage to a tree should be stored and handled well away from the outer edge of its RPA e.g. concrete mixings, diesel oil and vehicle washings. Allowances shall be made for sloping ground to avoid damaging materials running towards retained trees.

2.3 Fires on sites should be avoided. Where they are unavoidable, they should not be lit in a position where heat could affect foliage or branches. The potential size of a fire and wind direction should be taken into account when determining its location, and should be attended at all times until safe to leave.

2.4 Trees are not to be used as anchorages for equipment, or for other purposes. Notice boards, telephone cables, or other services should not be attached to any part of the tree.

2.5 The dumping of spoil or rubbish, placing of temporary accommodation and storage of materials within the root protection area is prohibited.

2.6 The change of ground level, excavating, stripping or disturbing topsoil within the RPA is prohibited.

3.0 GROUND PROTECTION DURING DEMOLITION & CONSTRUCTION

3.1 Where construction working space or temporary construction access is specified within the RPA, this should be facilitated by a set-back in the alignment of the tree protection barrier. In such areas, suitable existing hard surfacing that is not proposed for re-use as part of the finished design should be retained to act as temporary ground protection during construction, rather than being removed during demolition. The suitability of such surfacing for this purpose should be evaluated by the project arboriculturalist and an engineer as appropriate.

3.2 Where the set-back of the tree protection barrier exposes unmade ground to construction damage, new temporary ground protection should be installed as part of the implementation of physical tree protection measures prior to work starting on site.

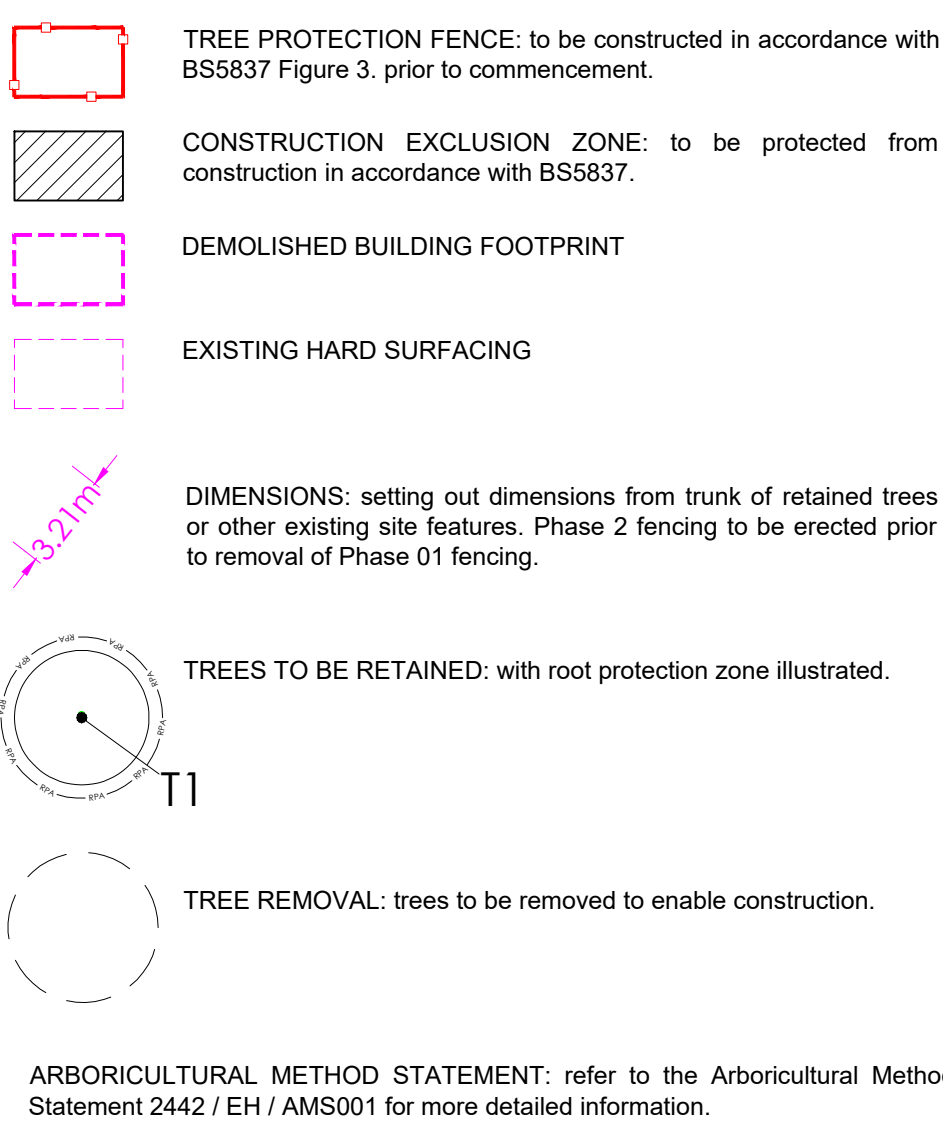
3.3 New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil, for example:

a) 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;

b) 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;

c) for wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected. If necessary sand should be laid on the ground as a compressible layer.

LEGEND: TREE PROTECTION TO BS 5837:2012



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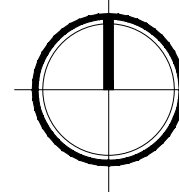
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P02 27/06/24 Layout amendment E.H.

P03 06/07/24 Detailed Tree Protection. E.H.



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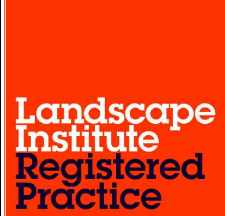
project:
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DOWNLEY ROAD, HAVANT

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