

Arboricultural Assessment Arboricultural Method Statement & Remedial Works Specification

Land at
37 Henka Road
Penley
Wrexham

Ref:
AIA/HRP/09/14

Date:
9th Sept 2014

Commissioned by:
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**Arboricultural Assessment
Method Statement
&
Remedial Works Specification**

37 Henka Road
Penley
Wrexham

This Arboricultural Impact Assessment has been prepared in accordance with the protocols, standards and procedures set out in BS 5837: 2012 'Trees in relation to design, demolition and construction' & BS 3998: 2010 'Tree Work – Recommendations'

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Instruction

- 1.1 Shields Arboricultural Consultancy received instructions from Mr D. Groom to provide an arboricultural assessment and remedial proposals in respect of trees adjacent to the above site.

Scope & Limitations

- 2.1 The purpose of the report is to assess the impact on two trees that may have arisen from laying a stone base in the root zone of two trees and to provide a method statement for the installation of a wooden cabin within the part of the root zone of the trees.
- 2.2 The report is prepared with reference to the recommendations of the British Standard Document BS 5837: 2012 'Trees in relation to design, demolition and construction' and BS 3998: 2010 'Tree Work – Recommendations'.
- 2.3 This report is not an ecological assessment and does not identify habitats or constitute a protected species survey.

Statutory Controls & Obligations

- 3.1 Forestry Act; the felling of trees is controlled by the Forestry Act, which requires that a felling licence is obtained prior to cutting down any trees. The Forestry Act does not apply to the felling of trees growing within an orchard, private garden, churchyard or public open space. The Forestry Commission has the responsibility for enforcing the Forestry Act.
- 3.2 Tree Preservation Orders & Conservation Areas; Local Authorities have specific powers under the Town & Country Planning Act 1990 as amended, to protect trees through the use of Tree Preservation Orders. Where trees are protected under such orders it is a criminal offence (subject to any exemptions for which provision may be made by the act or order) to undertake, cause or permit the cutting down, topping, lopping, uprooting, wilful damage or wilful destruction of trees except with the consent of the local planning authority. Similar controls apply to all trees growing within a designated Conservation Area.
- 3.3 Bats, wild birds and other protected species; The Wildlife & Countryside Act & the Conservation (Natural Habitats & C.) Regulations make it an offence to disturb or destroy bats and bat roosts and wild birds and their nests. Other species of plant and animal are also protected. These creatures often inhabit trees and sufficient care must be taken to ensure they are not affected during forestry and arboricultural works.

Description of Site

4.1 The site, 37 Henka Road, is the garden of a recently constructed detached two story residential property with a separate garage. The trees are located within the adjacent garden to the property.

4.2 The site is level and at an elevation of 60m AOD and is not exposed.

Soils

4.3 Soils at the appeared to be slow draining, silty clay. Soils appeared to be of reasonable depth, there is some indication of impediment to root development arising from the change in levels to the south of the trees (see site plan).

*NB. This soil assessment is undertaken in situ using visual and manual techniques and is **only** for the purpose of establishing the influence of site soils on tree growth. The assessment **must not** be relied upon to inform any engineering decisions.*

Arboricultural Assessment

5.1 Details of the tree surveyed are provided in below. It is understood that the trees are subject to a Tree Preservation Order.

Tag No	Species	Size	Condition	Root Protection Area M2 (Radius)	Notes
T1	Sycamore	L	Good	84 (5.2)	Quarry stone (40mm – dust) has been laid over part of the trees root protection area (23m ²) at a distance of 1 metre to the west of the tree.
T2	Sycamore	L	Good	137 (6.6)	Quarry stone (40mm – dust) has been laid over part of the trees root protection area (12m ²) at a distance of 4.1 metres to the west of the tree.

5.2 The two trees, which form part of the mature landscape in the area, have been retained through the recent development of the site.

5.3 It is assumed that the trees were adequately protected during the construction phase of the development. However the primary construction work is now completed and all tree protection measures have been removed.

5.4 This report is considering the impact of work to install a wooden cabin – ‘Dunster House Delux Severn[®] 500’ 5.0m x 5.0m <http://dunsterhouse.co.uk/log-cabins/5m-x-5m-severnsup-sup-500> – within the rear garden area of 37 Henka Road and to construct a small extension on the rear of the existing garage.

5.5 To ensure that trees are not adversely affected by the construction works it is necessary to:

- a. The avoidance of physical damage to the aerial parts of the trees (i.e. Impact and other damage to trunk and branches)
- b. The avoidance of damage to retained trees as a result of the severance or other physical damage to their roots
- c. Preserve of the character of the soil, through the avoidance of any activity that would cause it to become compacted or otherwise disturbed or disrupted, and to avoid contamination by potentially harmful substances
- d. To ensure free gaseous exchange is permitted between the upper layers of soil and the atmosphere
- e. To ensure adequate (but not excessive) water supply to the soil and hence to tree roots

This would normally be achieved by establishing an area, known as a construction exclusion zone (CEZ) around each tree. The CEZ is derived from the root protection area (RPA) and the crown spread of the tree. The RPA represents the area occupied by the tree's root system and is calculated for each tree based on its stem diameter and the ground conditions present taking account of and any impediment to rooting. The RPA should represent the most probable position of the tree's root system. In this case the CEZ has been substituted for a precautionary area (PA), within which work will take place in accordance with the arboricultural method statement (section 6)

5.6 Work to install the cabin and construct the extension commenced without any provision being made to protect the tree. The work has consisted of a small trench being excavated along the edge of the existing retaining log wall (see site plan), through part of T2's RPA and an area of quarry stone (40mm – dust) being laid to the west of the trees affecting approximately 23m² (25%) of T1 & 12m² (10%) of T2 of their RPAs respectively. The stone has been tipped and spread using hand tools and lightly compacted using a hand controlled vibrating plate.

5.7 The site has been investigated using a hand held penetrometer. This has demonstrated that there is no significant compaction of the underlying soil and that the overlying layer of quarry stone is only lightly compacted and has not yet consolidated. The trench is approximately 150mm wide and 100mm deep. There is very little root activity in this area, the only roots identified where in the east corner of the trench

where around 10 minor roots, all below 10mm diameter, had been severed.

- 5.8 The two affected trees were in reasonable health with no major pests or diseases observed. The trees were displaying some indication of stress with a slight yellowing of the foliage and reduction in canopy density in the upper crown. Given the short space of time between the operations at 37 Henka Road and the inspection (around 2 weeks) it is very unlikely that this work has caused these symptoms and it is more probably that they are the result of other factors, such as disturbance during the primary development. That said, the trees are of species with a reasonable tolerance to root disturbance and are relatively young, it can be expected that they will recover.

Remedial Work

- 5.9 To remedy the impact to the trees it will be necessary to remove the layer of quarry stone from within the precautionary area (see site plan). This must be undertaken manually using only hand tools and working backwards off the stone layer. Under no circumstances should the underlying soil be disturbed. Once all stone has been removed the area is to be mulched using organic compost, to S 100 Compost specification, spread to a depth of 50mm.

Installation of Wooden Cabin

- 5.10 It is proposed that the wooden cabin will be installed partly within the RPA of the two trees, this is beneath the canopy but there is sufficient clearance. To avoid any damage to the tree's root systems or the surrounding soil environment the cabin will be sited on a raised frame set on load distributing pads, Dunster House 'Rapid Pads[®]'. This model of cabin uses 47 pads of which around 25 will be within the precautionary area. The pads are set on a 3 dimensional grid filled with loose gravel and no compaction of the soil is required. Gas exchange capacity of the soil will not be significantly impacted as there is an air gap beneath the cabin. To ensure that adequate water reaches the soil beneath the cabin a 'leaky pipe irrigation system connected to water butts collecting rain water from the cabin roof will be installed beneath the cabin. Access to the cabin is to be via steps located outside the RPA of the trees. All work will be undertaken in accordance with the arboricultural method statement (see section 6).

Construction of Foundations for Extension

- 5.11 The foundations for the north elevation are to be constructed immediately to the north of the existing retaining log wall. The trench has already been excavated and very little root activity was identified (see 5.7). The trench covers approximately 0.5 m² of the RPA of tree 2. This is an insignificant amount and will not impact on the health of the tree. It is proposed that the foundation wall be constructed on a concrete base laid on top of a layer of impermeable plastic to ensure that no contamination of the surrounding soil occurs. All work to be

undertaken in accordance with the arboricultural method statement (see section 6).

Arboricultural Method Statement

General Precautions

- 6.1 No materials that are likely to have an adverse effect on tree health such as oil, bitumen or cement will be stored or discharged within 10m of the trunk of a tree that is to be retained or within any part of the Precautionary Area.
- 6.2 Spills kits, suitable for the type fluids, fuels and chemicals stored on site must be available on site and site operatives must have training in their use.
- 6.3 No fires will be lit within 20m of the trunk of any tree that is to be retained.

Construction of Wall

- 6.4 All work to be undertaken by hand, no machinery or vehicle to enter the Precautionary Area.
- 6.5 Ground protection comprising 25mm thick plywood sheets placed on top of a geo-textile membrane with pollution control properties (e.g TRP 300 by *Geosynthetics Limited, Fleming Road, Harrowbrook Ind Est, Hinckley, Leicestershire, LE10 3DU. Tel: 01455 617139*) is to be installed over the PA as indicated on the Site Plan. The plywood sheets must be securely pegged into place to prevent lateral movement during construction. Scaffolding can be erected on the ground protection where required.
- 6.6 Trench is to be lined with impervious membrane e.g. DPM 1000ga. This must overlap both edges – can be trimmed off once concrete has set. Concrete base is to be poured on top of this membrane. Wall to be constructed using normal techniques

Installation of Wooden Cabin

- 6.7 All work to be undertaken by hand, no machinery or vehicle to enter the Precautionary Area.
- 6.8 Ground protection comprising 25mm thick plywood sheets placed on top of a geo-textile membrane with pollution control properties (e.g TRP 300 by *Geosynthetics Limited, Fleming Road, Harrowbrook Ind Est, Hinckley, Leicestershire, LE10 3DU. Tel: 01455 617139*) is to be installed over the PA as indicated on the Site Plan.
- 6.9 Geo-textile membrane to be laid around edge of installation area, to cover approximately 1 metre of ground either side of frame edge – this will provide weed control in this area. Pad bases to be laid on top of geo-textile in appropriate positions and back filled with clean angular stone 10mm – 25mm of neutral pH.

- 6.10 Frame, fitted with pads to be assembled to manufacturer's specification and positioned on top of pad bases. Ground protection boards are to be removed and leaky pipe irrigation system to be installed over RPA. Floor of cabin is to be installed first to provide protection for soil beneath. cabin to be assembled working from installed floor, using scaffold boards to protect ground around edges of building. Once construction is complete, leak pipe irrigation system can be connected to water butts and clean angular stone 10mm – 25mm of neutral pH spread over geo-textile around edge of building to provide decorative finish. Only very limited access is required around edge of building to undertake periodic maintenance of cabin and fence.
- 6.11 To ensure that all tree protection measures are properly installed and procedure followed the site must be monitored by Shields Arboricultural Consultancy to the following schedule. Details of the findings and photographic evidence of the site inspection visits will be reported to the LPA by email within 24 hrs of the visit.

Schedule of Inspection

1. On completion of installation of ground protection prior to commencement of works
 2. During installation of cabin frame
 3. On completion of project
- 6.12 Prior to the commencement on site of any work, a competent person is to be appointed to monitor the day to day activities on site. In the case of a tree being damaged or where an unexpected event arises it will be for this person to contact Shields Arboricultural Consultancy to seek advice on contingency measures.

S.J.A. Shields

Uni. Cert. For & F.P (Bangor), Dip. Arb. (RFS),

M.Arbor.A, MICFor.

Chartered Forester

Licensed QTRA User

9th September 2014

9 September 2014

37 Henka Road, Penley

FENCE

T1
B2

FENCE

T2
B2

37

39

Scale 1: 100

Centred on 341,682m, 340,207m UK National Grid (52° 57' 21.84" N 2° 52' 10.34" W)

Shields
Arboricultural
Consultancy

Tree & Woodland
Management Solutions

Site Plan

37 Henka Road
Penley
Wrexham

Legend

- Tree Cat B
- RPA
- RPA
- Canopy Spread
- Precautionary Area
- Construction Area Trench
- Construction Area Cabin

Drawing No:
HRP/SP/09/14/01

Drawn By: S. Shields

Scale: 1:100 @ A3

Date: 9th Sept 2014

Revision:

Do not scale from this
drawing all dimensions to be
checked on site

Drawing is colour coded and
a monochrome copy should
not be relied upon

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The grid at the western edge of the map is 0° 41' 56.05" due west of true north

The grid at the eastern edge of the map is 0° 41' 54.75" due west of true north