

Shields Arboricultural Consultancy

'Derwen Deg', 59 Oakhurst Road, Oswestry, Shropshire, SY11 1BL

Stephen Shields Dip.Arb. (RFS), MJCFor, M.Arbor.A

Tel: 07989 626923 | 01691 657189

Email: info@shieldsac.co.uk



Shields
Arboricultural Consultancy

Arboricultural Implication Assessment

Reference:

GWL/03/12/AIA.

Rev:

11th March 2010

At the Site of:

Gladwyn Lodge
Chester Road
Gresford

Commissioned by:

Blueprint
Architectural Services

Inspection commenced:
February 2012

-
- | | |
|-------------------------------|---|
| ▪ Trees, Litigation & the Law | ▪ Tree-related Environmental Impact Assessments |
| ▪ Planning & Appeals | ▪ Subsidence Risk Assessment |
| ▪ Mortgage Surveys | ▪ Trees & Development Sites (BS 5837) |
| ▪ Tree Preservation Orders | ▪ Tree Hazard & Risk Assessment |



Shields
Arboricultural Consultancy

Arboricultural Implication Assessment

Land at
Gladwyn Lodge
Chester Road
Gresford
Wrexham

Introduction

- 1.1 Shields Arboricultural Consultancy received instructions from Mr D. Edwards ACIOB Senior Architectural Technician for Blueprint Architectural Services to provide an arboricultural implication assessment in respect of the above development site.
- 1.2 Planning permission is being sought to erect a detached garage adjacent to the lodge.

Scope & Limitations

- 2.1 The purpose of the report is to assess the environmental and amenity values of all trees on or adjacent to the area affected by the proposed development. The report will assess the long-term contribution that the trees can make to the area and the arboricultural implications of retaining them and seek to find a satisfactory juxtaposition between the trees and the new development. The report will assess the potential impact that may arise as a result of the proposed construction works and make recommendations for protecting trees, hedges and shrubs where appropriate
- 2.2 The report is prepared in accordance with the recommendations of the British Standard Document BS 5837: 2005 'Trees in Relation to Construction'.
- 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.

Stephen Shields *Dip.Arb. (RFS), MJCFor, M.Arbor.A*

'Derwen Deg', 59 Oakhurst Road, Oswestry, Shropshire, SY11 1BL

Tel: 07989 626923/ 01691 657189

Email: info@shieldsac.co.uk



Shields
Arboricultural Consultancy

- 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.

Site Description

- 4.1 The proposed development site is within the curtilage of Gladwyn Lodge, a single story private residential dwelling situated on the outskirts of the village of Gresford. The property is currently being extensively modernised and there is construction work currently taking place at the site.
- 4.2 The site has boundaries with open fields to the north and east and with the grounds of a private nursing home to the south (the property was originally the gate house to the main house now used as part of the nursing home) and with the public highway to the west. The site is away from the main part of the village and the surrounding land is open agricultural field systems with hedges and individual specimen trees. There is also some formal tree planting along the public highway and lining the driveway to the nursing home.
- 4.3 The site is level and at an elevation of 75m ASL and reasonably sheltered. Soils appear to be free draining and there is no indication of water logging on the site. There is some minor compaction of soils in the garden area from construction activities.

Tree Survey Methodology

- 5.1 All trees within and adjacent to the site have been assessed where they are within 15 m of any area that may be disturbed as a result of the proposed development and have a stem diameter over 120mm at 1.5 metres. Measurements have been taken in accordance with the

Stephen Shields *Dip.Arb. (RFS), MJCFor, M.Arbor.A*

'Derwen Deg', 59 Oakhurst Road, Oswestry, Shropshire, SY11 1BL

Tel: 07989 626923 / 01691 657189

Email: info@shieldsac.co.uk



Shields
Arboricultural Consultancy

procedures and protocols set out in BS 5837 and the Forest Mensuration Handbook. Height measurements are approximate unless otherwise stated. Trees have been assessed as individuals, groups or woodlands as appropriate. Where access to trees has been restricted, either as a result of their situation on private land or where vegetation or ground conditions are unfavourable, an estimation of trunk diameter has been made. This entails using a set of callipers to approximate the measurement. Estimates are rounded up to provide a margin. This technique has only been used where there is a sufficient buffer between the RPAs and any area disturbed by development. Where trees are in a woodland or groups only the outside edge trees are assessed unless there are larger trees with RPAs or crowns that would overlap the edge trees.

- 5.2 BS 5837: 2005 provides the framework through which tree can be categorised in terms of their health, amenity value and long-term viability for retention on a development site. There are four categories, A,B,C & R. The most significant or valuable trees are placed in the categories, A & B. Site design should make provision to retain trees in these categories and most Local Planning Authorities will insist upon this (or in exceptional circumstances will require that significant compensation planting is incorporated into the design), whilst trees that should not be a constraint to development are recorded with a C category. Trees categorised as R are in a poor condition and should be removed prior to the commencement of work.
- 5.3 Where trees are to be retained, it is necessary to ensure that they are suitably protected to avoid damage during the construction phase of the development. It is also important to consider any long term implications, such as issues with shading or leaf litter that may arise as a result of tree retention.
- 5.4 To ensure that trees are not adversely affected by the construction works it is necessary to:
- The avoidance of physical damage to the aerial parts of the trees (i.e. Impact and other damage to trunk and branches)
 - The avoidance of damage to retained trees as a result of the severance or other physical damage to their roots
 - 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
 - To ensure free gaseous exchange is permitted between the upper layers of soil and the atmosphere

Stephen Shields *Dip.Arb. (RFS), MJCFor, M.Arbor.A*

'Derwen Deg', 59 Oakhurst Road, Oswestry, Shropshire, SY11 1BL

Tel: 07989 626923 / 01691 657189

Email: info@shieldsac.co.uk



Shields
Arboricultural Consultancy

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 any impediment to rooting. The RPA should represent the most probable position of the tree's root system.

The CEZ must be considered sacrosanct and be maintained completely undisturbed. No construction should take place within this area and it should not be used for storage of materials or fuels. Access for vehicles machinery or personnel is prohibited and to ensure that it is not damaged by construction activity it must be suitably protected during the construction phase, using robust fencing or alternative ground protection methods, to prevent disturbance and damage occurring.

- 5.5 In addition to the implications that a new development may have for existing trees it is also important to assess any long term issues or concerns that may arise as a result of retaining trees close to a new dwelling or structure. This can include problems associated with leaf litter and other debris that may fall from trees, the potential that a tree has to cause damage to a structure in the future, any on going maintenance requirements that may arise and the level of shade that the tree may cast. Trees can also cause feelings of apprehension to the occupiers of nearby buildings and can have an over bearing impact on a property if adequate space is not provided.
- 5.6 The report assesses all trees with regard to their size, position and natural characteristics, and taking into account of their future growth makes provides recommendations as to their long term suitability for retention.

Arboricultural Implication Assessment

- 6.1 Full details of the tree survey are provided in appendix A. and the relative positions, crown spreads and root protection areas are indicated on the attached plans.
- 6.2 The survey identified the most significant trees to be the large, mature specimens on land adjacent to the south of the site. There is also a single lime tree immediately to the north of the site, adjacent to the road which is part of a row of trees that form an important arboricultural feature.

Stephen Shields *Dip.Arb. (RFS), MJCFor, M.Arbor.A*

'Derwen Deg', 59 Oakhurst Road, Oswestry, Shropshire, SY11 1BL

Tel: 07989 626923 | 01691 657189

Email: info@shieldsac.co.uk



Shields
Arboricultural Consultancy

- 6.3 It can be seen on the tree protection plan the all the significant trees can be protected and retained.
- 6.4 It is proposed to remove the line of trees immediately in front of the property. These are poor quality specimens that provide little amenity value and, given their condition and species are not considered sustainable in this location. Removing the trees will allow for the construction of a wall to the front of the property. Any loss of amenity can be ameliorated through planting trees elsewhere on the site.

Arboricultural Operations

- 7.1 If tree removal or pruning will be required, subject to a grant of planning permission, to implement this development the work should be undertaken by a suitably qualified person, holding public liability insurance for the sum of £5,000 000. All operators must hold relevant NPTC certificates. A site specific risk assessment must be prepared and operators must work to a health and safety method statement.
- 7.2 The contractor undertaking the work is responsible for any loss or damage arising as a result of the operations and agrees to indemnify the owner against such occurrences.

Arboricultural Method Statement

- 8.1 This arboricultural method statement (AMS) sets out the details of tree protection measures and the methodology for all proposed works that affect the retained trees on and adjacent to the site.
- 8.2 This document should be read in conjunction with the Tree Protection Plan (TPP). The TPP indicates the construction exclusion zone (CEZ) that must be maintained around each retained tree. These areas must remain undisturbed during the construction process (except where work is identified and undertaken in accordance with this report) and must be protected using suitable fencing or ground protection as specified.
- 8.3 Copies of the TPP & the AMS must be available on site and all tree protection requirements explained to all persons undertaking activities on the site during the site induction process.
- 8.4 All tree protection measures must be installed and inspected prior to bringing onto the site any plant, materials or equipment or undertaking any works or demolition, (with the exception of those works outlined in the arboricultural works specification detailed below) the LPA must be informed in writing once the tree protection measures are installed.

Stephen Shields *Dip.Arb. (RFS), MJCFor, M.Arbor.A*

'Derwen Deg', 59 Oakhurst Road, Oswestry, Shropshire, SY11 1BL

Tel: 07989 626923 | 01691 657189

Email: info@shieldsac.co.uk



*Shields
Arboricultural Consultancy*

- 8.5 The site is to be inspected by the consulting arboriculturalist in accordance with the schedule of inspections.
- 8.6 All measurements are given in metric using standard abbreviations.

Fencing and ground protection

- 8.7 The TPP indicates the position all protective fences and ground protection.
- 8.8 Protective fencing will comprise a 2.4 m high scaffold frame work with vertical and horizontal poles, driven into the ground to a depth of 0.6 m and well braced to resist impact. Onto this framework 'weldmesh' or 'herres' fencing panels must be securely fixed using scaffolding clamps or as agreed with the Local Planning Authority.
- 8.9 Where ground protection is specified this will consist of a proprietary system such as Ground Guard. This must extend over the entire ground protection area and be securely fastened in place. The type of guard used must be suitable for loads up to 20 tonnes or more.
- 8.10 The protective fencing and ground protection will remain in place until completion of the construction phase and then only removed with the consent of the LPA.
- 8.11 Other than works approved in writing by the LPA, no works including storage or dumping of materials shall take place within the exclusion zones defined by the protective fencing.

General Precautions

- 8.12 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.
- 8.13 No fires will be lit within 20m of the trunk of any tree that is to be retained.
- 8.14 Positions of site huts, toilets, storage and mixing areas are identified on the TPP. Contractor parking should be off site or in areas identified on the TPP.
- 8.15 Access to the work area is via the route indicated on the TPP.
- 8.16 All service and drainage routes, below or above ground must avoid the CEZ. All services are to be installed in accordance with NJUG volume 4 Guidelines.
- 8.17 To ensure that all tree protection measures are properly installed it is recommended that the site be monitored by Shields Arboricultural Consultancy to the following schedule.

Stephen Shields Dip.Arb. (RFS), MJCFor, M.Arbor.A

'Derwen Deg', 59 Oakhurst Road, Oswestry, Shropshire, SY11 1BL

Tel: 07989 626923 / 01691 657189

Email: info@shieldsac.co.uk



Shields
Arboricultural Consultancy

Schedule of Inspection

1. On completion of erection of fencing and installation of ground protection prior to commencement of development works
2. Monthly through out project
3. On completion of project

Conclusion

- 9.1 If the recommendations in this report are followed the proposed development will not have a significant detrimental impact on the arboreal environment of the site and surrounding area in the long-term.

S.J.A. Shields

**Dip. Arb. (RFS), M.Arbor.A, MICFor.
Chartered Forester**

11th March 2012

Stephen Shields *Dip.Arb. (RFS), MICFor, M.Arbor.A*

'Derwen Deg', 59 Oakhurst Road, Oswestry, Shropshire, SY11 1BL

Tel: 07989 626923 | 01691 657189

Email: info@shieldsac.co.uk

11th March 2012

GWL/03/12/AIA



Shields
Arboricultural Consultancy

Arboricultural Implications and Recommendations

Tree No.	Species	Height (m)	Stem Dia (mm)	Crown Spread (m)				Comments	RPA (m2)	Cat
				N	E	S	W			
T1	Lime (<i>Tilia x europaea</i>)	16	458	5.9	4.5	4.1	4.4	Structural Condition: Good Physiological Condition: Good RPA: A circular RPA is appropriate for this specimen. AIA: T1 is in the rear garden of the property and is not in a prominent location. This tree can be satisfactorily protected during the development and retained.	95	B1
T2	Lime (<i>Tilia x europaea</i>)	25	750	5.8	4	4	4.5	Structural Condition: Good Physiological Condition: Good RPA: Will have been slightly influenced by the adjacent driveway and thus biased towards the more amenable soils in the garden and field area to the north and east of its position. However, the extent of this bias is would not be expected to be considerable given the relatively low use of the driveway and the length of time the trees have been established. AIA: Part of a prominent avenue of trees lining the driveway to a neighbouring property This tree can be satisfactorily protected during the development and retained.	254	A1,2

11th March 2012

GWL/03/12/AIA



Shields
Arboricultural Consultancy

T3	Lime (<i>Tilia x europaea</i>)	25	700	5.9	5	6	4	Structural Condition: Good Physiological Condition: Good RPA: As T2. AIA: As T2.	222	A1,2
T4	Lime (<i>Tilia x europaea</i>)	25	842	7.3	9.6	5	6.3	Structural Condition: Good Physiological Condition: Good RPA: As T2 AIA: As T2	321	A1,2
T5	Yew (<i>Taxus baccata</i>)	12	600	4	5	5	5	Structural Condition: Good Physiological Condition: Good RPA: Will have been slightly influenced by the adjacent driveway and thus biased towards the more amenable soils in the area to the south of its position. AIA: This tree is situated on adjacent land to the south of the site. This tree's RPA does not extend into the site and it will not be affected by the development. Given the nature of the proposed development and the fact that it will not be occupied, it is not consider that any long term pressures on the T5 will arise as a result of the development.	163	B2
T6	Yew (<i>Taxus baccata</i>)	12	350	4	4	4	4	Structural Condition: Good Physiological Condition: Good	55	B2

11th March 2012

GWL/03/12/AIA



Shields
Arboricultural Consultancy

								RPA: As T5 AIA: As T5		
T7	Yew (<i>Taxus baccata</i>)	15	350	4	4	4	4	Structural Condition: Good Physiological Condition: Good RPA: As T5 AIA: As T5	55	B2
T8	Sycamore (<i>Acer pseudoplatanus</i>)	20	900	8.5	9	9	9	Structural Condition: Good Physiological Condition: Good RPA: As T5 AIA: As T5	366	B1
T9	Horse Chestnut (<i>Aesculus hippocastanum</i>)	18	650	6	6	6	6	Structural Condition: Good Physiological Condition: Fair RPA: As T5 AIA: As T5	191	B1
T10	Sycamore (<i>Acer pseudoplatanus</i>)	8	152	3	0	2.5	5	Structural Condition: Fair Physiological Condition: Poor RPA: Influenced by the public highway to the west. AIA: It is an unattractive specimen with an asymmetrical crown. It is proposed to remove this tree to allow for the	10	R

11th March 2012

GWL/03/12/AIA



Shields
Arboricultural Consultancy

								construction of a wall to the front of the property.		
T11	Elm (<i>Ulmus glabra</i>)	14	284	3.2	3.7	5	6	Structural Condition: Good Physiological Condition: Good RPA: Influenced by the public highway to the west. AIA: A minor specimen with a short life expectancy owing to the probability of the tree succumbing to Dutch Elm Disease. It is proposed to remove this tree to allow for the construction of a wall to the front of the property. Any loss to amenity could be offset through replanting elsewhere on the site.	36	C
T12	Horse Chestnut (<i>Aesculus hippocastanum</i>)	14	270	1	4.5	3.7	1	Structural Condition: Good Physiological Condition: Good RPA: Influenced by the public highway to the west. AIA: A minor specimen with a short life expectancy owing to the probability of the tree succumbing to bacterial canker of horse chestnut. It is proposed to remove this tree to allow for the construction of a wall to the front of the property. Any loss to amenity could be offset through replanting elsewhere on the site.	33	C
T13	Elm (<i>Ulmus glabra</i>)		125	1	0	0	5	As T12	7	R
T14	Horse Chestnut (<i>Aesculus hippocastanum</i>)	14	260	1.7	4.7	4.9	2.4	As T12	31	R

11th March 2012

GWL/03/12/AIA



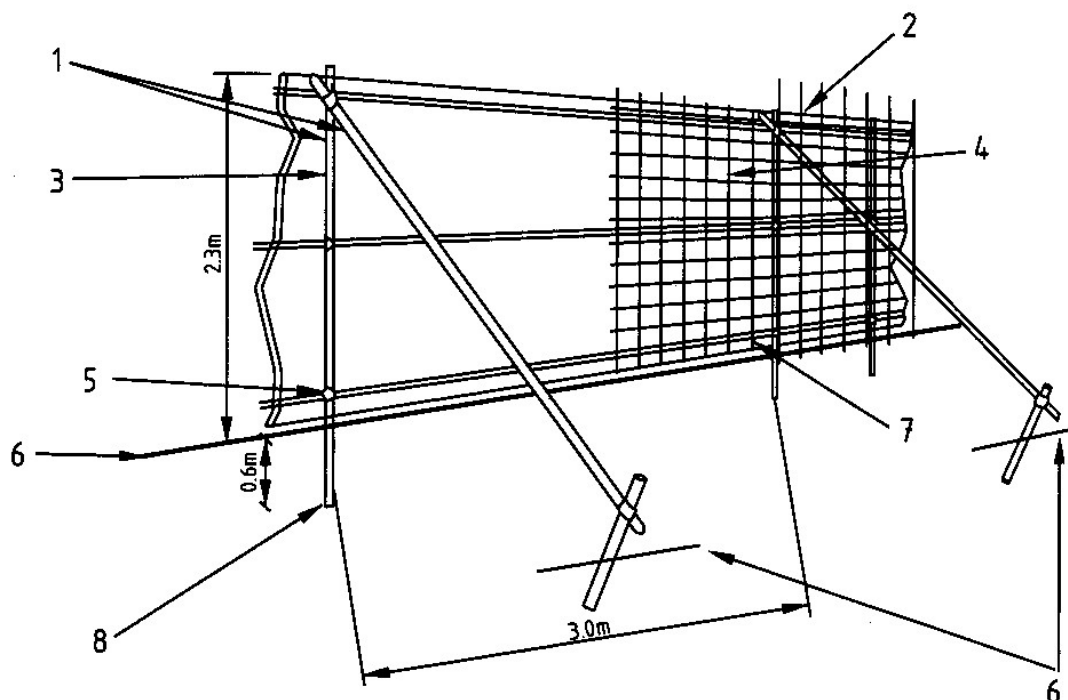
Shields
Arboricultural Consultancy

T15	Sycamore (<i>Acer pseudoplatanus</i>)	15	337	3.2	4	2.1	5	As T12	51	C
T16	Lime (<i>Tilia x europaea</i>)	17	580	4.3	4.1	3.6	4.8	Structural Condition: Good Physiological Condition: Good RPA: Influenced by the public highway to the west. AIA: A significant tree, part of a row of large mature trees lining the public highway. This tree can be protected and retained.	152	A1,2



Shields
Arboricultural Consultancy

Recommended Design of Tree Protection Fencing



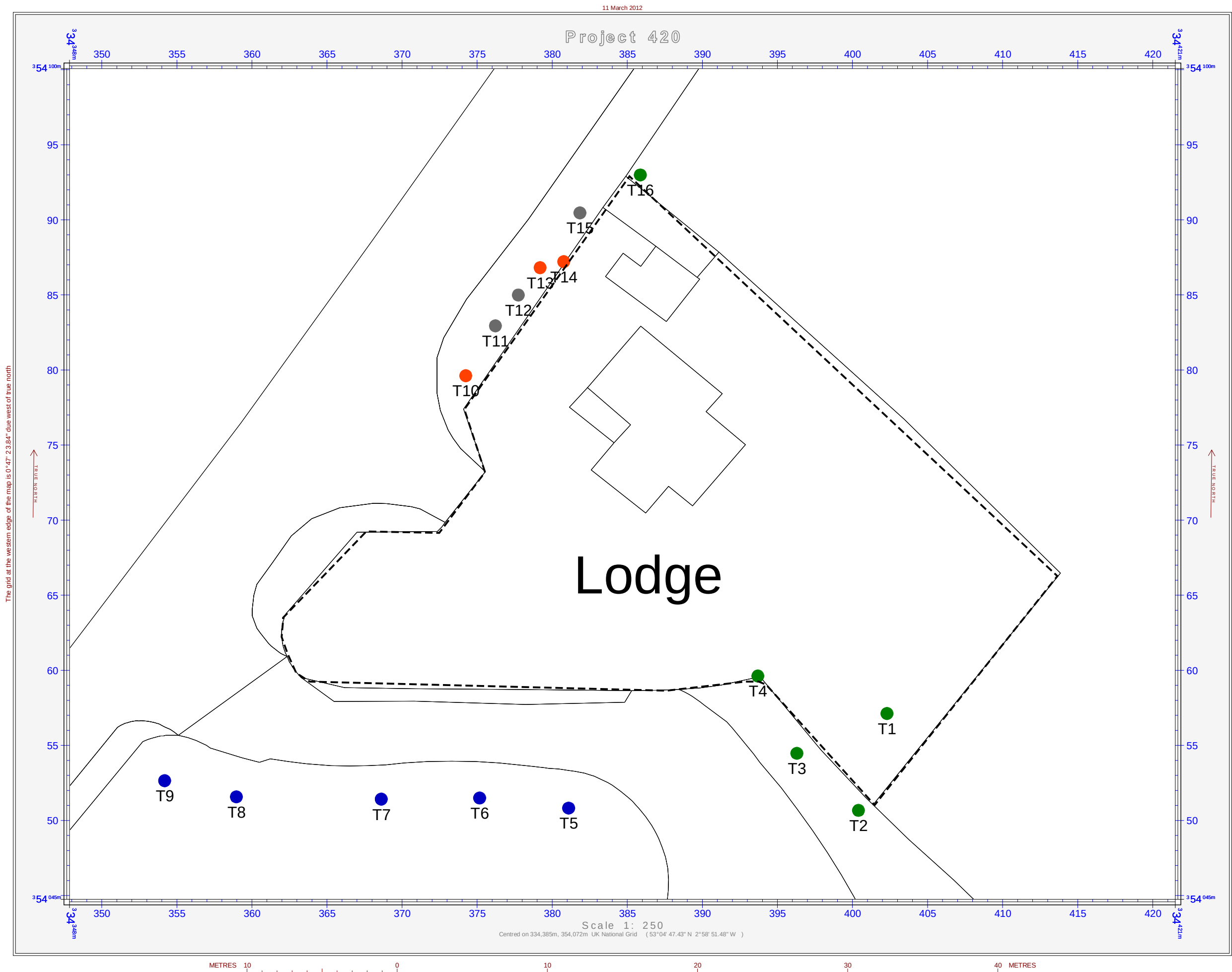
1 Standard scaffold poles **2** Uprights to be driven into the ground **3** Panels secured to uprights with wire ties and/or standard scaffold clamps **4** Weldmesh wired to the uprights and horizontals **5** Standard clamps **6** Ground level **7** Wire twisted and secured on inside face of fencing to avoid easy dismantling **8** Approx. 0.6 m driven into the ground

Stephen Shields *Dip.Arb. (RFS), MJCFor, M.Arbor.A*

'Derwen Deg', 59 Oakhurst Road, Oswestry, Shropshire, SY11 1BL

Tel: 07989 626923 | 01691 657189

Email: shields.arbconsult@yahoo.co.uk



Tree Location Plan

Land at
Gladwyn Lodge
Gresford Road
Wrexham

Legend

- Tree Cat A
- Tree Cat B
- Tree Cat C
- Tree Cat R
- Site Boundary

Drawing No: GWL/TLP/03/12/01

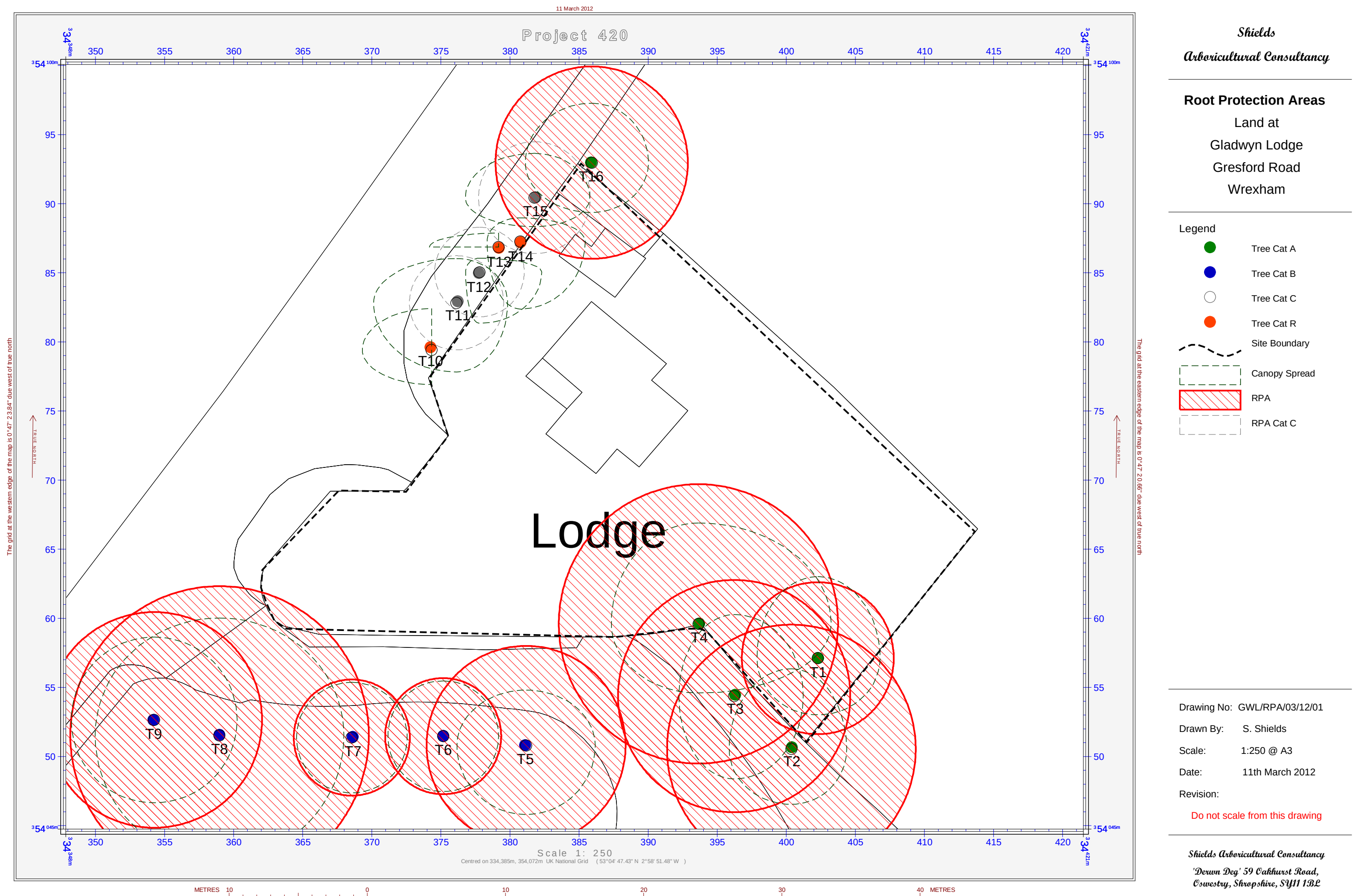
Drawn By: S. Shields

Scale: 1:250 @ A3

Date: 11th March 2012

Revision:

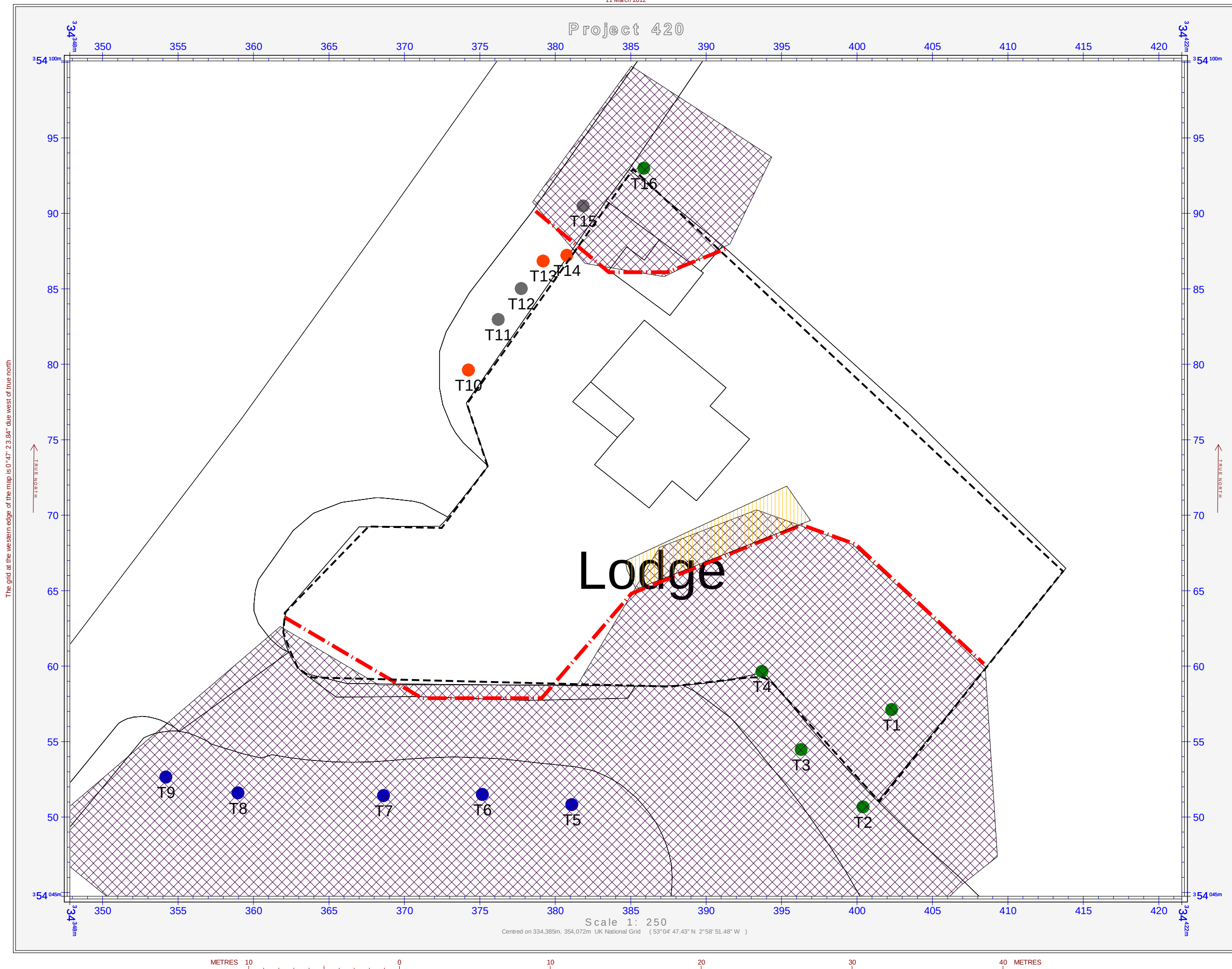
Do not scale from this drawing



Shields Arboricultural Consultancy
'Derwn Deg' 59 Oakhurst Road,
Oswestry, Shropshire, SY11 1BL
Tel: 01691 657189 | 07989 626923

11 March 2012

Project 420



Shields
Arboricultural Consultancy

Tree Protection Plan

Land at
Gladwyn Lodge
Gresford Road
Wrexham

- Legend**
- Tree Cat A
 - Tree Cat B
 - Tree Cat C
 - Tree Cat R
 - Site Boundary
 - Canopy Spread
 - CEZ
 - Ground Protection
 - Tree Protection Fencing

Drawing No: GWL/TPP/03/12/01

Drawn By: S. Shields

Scale: 1:250 @ A3

Date: 11th March 2012

Revision:

Do not scale from this drawing

Shields Arboricultural Consultancy
'Dewn Deg' 59 Oakhurst Road,
Cowestry, Shropshire, SY11 1BL
Tel: 01691 657189 | 07989 626923