
Arboricultural
Impact Assessment
at

**Hill Street
Penycae
Wrexham**

August 2012

Client: Eryl Roberts

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Hill Street, Penycae, Wrexham

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Signed on behalf of Godwin's Arboricultural Limited:

R Godwin

Robert Godwin MSc, MArborA.
Arboricultural Consultant

Contact Details:

Godwin's Arboricultural Limited

Digital World Centre
1 Lowry Plaza, The Quays
Salford
Manchester
M50 3UB

www.godwins.co.uk
info@godwins.co.uk
0800 030 4045

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1. Introduction

1.1. Purpose of this report

- 1.1.1. This report has been commissioned to provide independent, detailed advice from a qualified arboriculturist in compliance with *British Standard 5837: 2012 Trees in relation to design, demolition and construction* in the context of potential development at **Hill Street, Penycae, Wrexham**.

1.2. Scope of this report

- 1.2.1. To identify arboricultural constraints by producing a detailed plan showing tree location and root protection area, retention category of each tree/group of trees and recommended works required to maintain a sustainable tree population. For this purpose I have been supplied with a topographical survey, Drawing Ref: *S11397-2DrevA* by the client; this plan can be found at *Appendix 1A* and is the basis for which the arboricultural constraints have been assessed.
- 1.2.2. To provide an arboricultural impact assessment detailing trees to be retained, trees to be removed and any remedial pruning works to facilitate the proposed development. For this purpose I have been supplied with Drawing Ref: *037_050_011_site_EXTRALAND* by the client; this plan can be found at *Appendix 1B* and is the basis for which this impact assessment has been prepared.

1.3. Survey details

- 1.3.1. A ground level inspection was undertaken by Robert Godwin MSc, MArborA on 26th July 2012 during dry, sunny weather conditions, recording trees both within and immediately adjacent to the site with a stem diameter above 75mm.
- 1.3.2. Measurements were made using a compass, diameter tape, clinometer and laser distometer. Dimensions are estimated where trees are inaccessible or located off-site.

2. Site Overview

2.1. Site description

- 2.1.1. The site is comprised of a disused chapel with adjacent graveyard and surrounding vegetation. To the north and west of the site is an embankment with many overgrown, self-seeded semi-mature trees. Historically, the north and west of the site was occupied by residential dwellings; stone walls and foundations remain that can still be seen though this area of the site. Many self-seeded trees grow from the old stone structures, and what were once maintained hedges have now become overgrown groups with poor structure. A public footpath forms the eastern boundary.

2.2. Site location

- 2.2.1. The site is located within a quiet residential area. To the north and west of the site lies Hill Street, to the east and south of the site there is a graveyard, chapel and chapel car park.

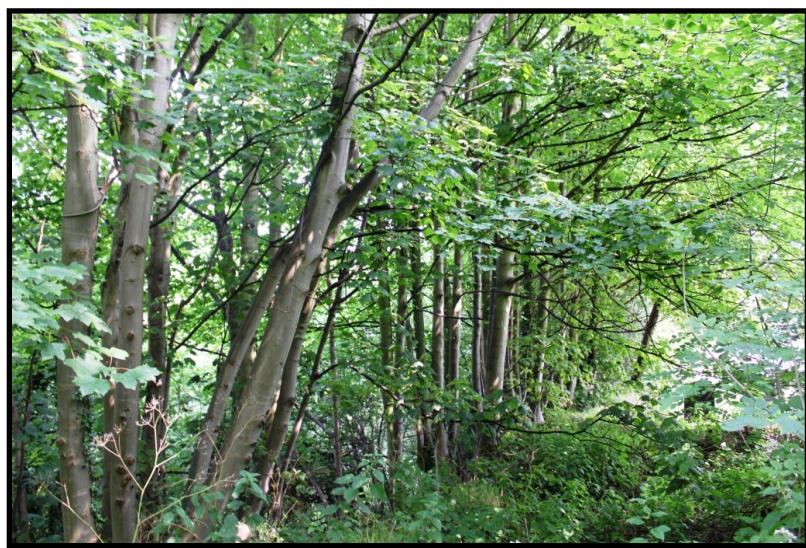
3. Arboricultural Constraints

3.1. Tree condition

- 3.1.1 The tree survey revealed a total of 29 individual trees and 15 groups of trees. Of these, 39 trees/groups were identified as retention category 'C' and 5 trees were recommended for removal. Please refer to *Appendix 2* for the details of each tree or group and *Appendix 3* for retention category and definition criteria.
- 3.1.2 The trees were generally found to be in a fair to poor structural condition with many trees having been self-seeded, growing from existing structures such as stone walls or on top an embankment.



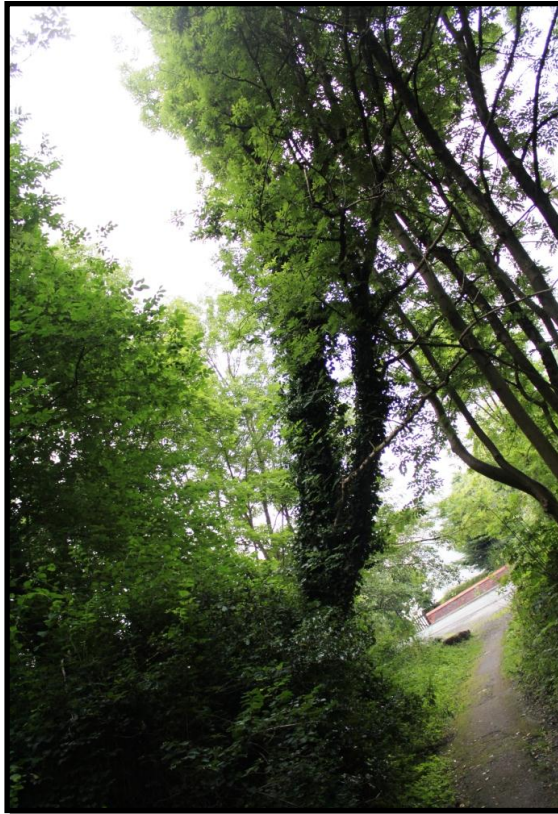
G15: Many self-seeded saplings.



G16: Linear group of multiple-stemmed Sycamore. Many have weak trunk unions and minor basal decay. These trees are located on embankment edge with exposed roots to the lower side.

3.2. Recommended tree works

- 3.2.1 **Five** trees have been recommended for removal for arboricultural reasons regardless of any on site development. Three of these trees (**T34**, **T41** and **T44**) are considered unsafe and should be removed as soon as is reasonable practicable. Two of these trees (**T8** and **T25**) are potentially hazardous trees with a limited long term future. Please refer to *Appendix 2* for the full details of each tree.



T34: This tree has fallen in the past and hung up in adjacent trees. It overhang a quiet footpath and should be removed as soon as is reasonable possible.

- 3.2.2 Remedial pruning works to remove deadwood overhanging the footpath have been recommended to **T40** for reasons of public safety and to ensure the long-term health of the tree. The recommended work should be carried out as a matter of high priority.
- 3.2.3 Those trees which overhang the public footpaths or public highways, as detailed in *Appendix 2*, shall require future maintenance in order to maintain clearance heights for vehicular or pedestrian traffic. These heights should be 5.6m above a road and 2.5m above a footpath.
- 3.2.4 No soil samples were taken during the site visit. It is recommended that soil assessment it undertaken by a competent person to determine whether the soil is shrinkable, and that foundation design is undertaken in line with detailed guidance given in National House Building Council (NHBC) publication *Building near trees, Chapter 4.2*.

3.3. Tree protection status

- 3.3.1 A check was made on 3rd August 2012 with: ***Wrexham County Borough Council***.
- 3.3.2 We are informed that the site is within the **Penycae Conservation Area**.
- 3.3.3 Before any work is organised, all the necessary steps to get the permission of the Local Planning Authority must be taken.
- 3.3.4 **No work must be done to any trees until this permission has been granted.**

4. Arboricultural Impact Assessment

4.1. Proposed development

- 4.1.1 The proposed development will consist of the construction of a detached residential property to the north of the existing chapel. Drawing Ref: *037_050_011_site_EXTRALAND* been supplied by the client; this plan can be found at *Appendix 1B* and is the basis for which this impact assessment has been prepared.

4.2. Impact on existing trees

- 4.2.1 Fourteen trees/groups (**G16, T23, T24, T26, T27, T28, G29, G30, G31, G32, G33, G35, T36 and T37**) shall require removal, as they are situated either within the footprint, or so close to the proposed development that protecting them during construction is not practical as they will not survive the construction phase.
- 4.2.2 The majority of these trees are low quality self-seeded specimens. Their removal provides an opportunity to reopen views to the chapel and allowing replanting of good quality new planting that will add to the quality of the area.
- 4.2.3 The remaining trees will be unaffected by the development but shall require protection by fencing to BS 5837: 2012 during the development phase.

4.3. Protection of retained trees

- 4.3.1. The erection of a protective barrier, in accordance with BS 5837: 2012, will be required prior to the start of construction activity. The barrier should ideally be positioned to protect the entire Root Protection Area (RPA) of the retained trees.
- 4.3.2. Routes for pedestrian and site traffic will be located outside, and diverted away from the RPA of any retained tree.
- 4.3.3. Where utilities need to be brought onto the site, these should ideally be routed away from the RPA of the trees. Where this is not possible, methodologies on the installation of underground services without damage to tree roots should be considered. All service providers should be consulted prior to commencement of works with the aim of minimising the number of service runs on the site.
- 4.3.4. The site compound, which typically includes the storage of materials, should be located away from trees and outside any RPA. Care should also be taken to prevent soil contamination with chemical spillages, including fuel and oils.

4.4. Remedial measures

- 4.4.1. The site offers scope for landscaping and tree planting. These areas should be protected by ground protection during the construction phase to prevent the compaction and contamination of the soil.

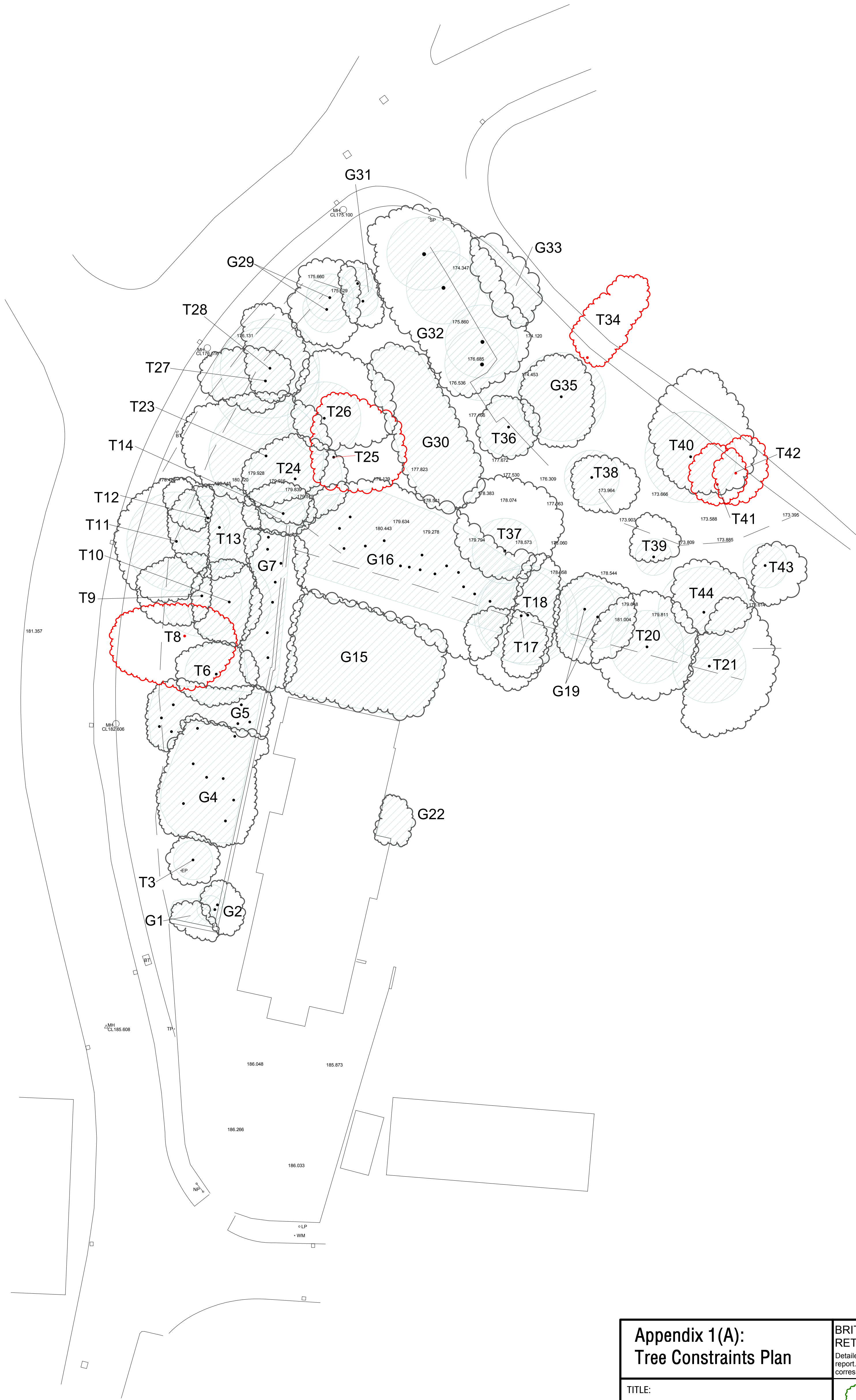
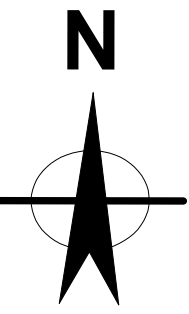
- 4.4.2. In order to protect the retained trees during the construction phase, protective fencing needs to be installed. Protective fencing specifications and on site positioning, along with details of any necessary specialist construction methods can be provided in an Arboricultural Method Statement (AMS).

5. Conclusions

- 5.1 The trees surveyed were generally found to be in a fair to poor structural condition.
- 5.2 All trees are protected by the Penycae Conservation Area and no works should be undertaken to any protected trees on site until permission has been granted by Wrexham Council.
- 5.3 **Five** trees have been recommended for removal for arboricultural reasons and remedial pruning works have been recommended to **T40**, as discussed in *Section 3.2*.
- 5.4 The arboricultural implications of the development have been considered and discussed in *Section 4*, which will result in the removal of fourteen trees/groups of trees to facilitate the proposed development.
- 5.5 All development work carried out in close proximity to trees should be done so in a manner sympathetic to their needs. Otherwise the condition of the trees may deteriorate in the months and years following the development, leading to a loss of amenity and potentially hazardous trees.
- 5.6 The protection of retained trees can be achieved by the creation of a Construction Exclusion Zone based on the Root Protection Area of a tree. The Root Protection Area of each tree or group is marked on the Tree Constraints Plan at *Appendix 1A*.
- 5.7 The proposed development should be accompanied by an Arboricultural Method Statement (AMS) detailing the specific protection measures necessary for each tree. This should specify fencing standard and positions (the creation of the Construction Exclusion Zone), acceptable construction techniques and necessary tree works.

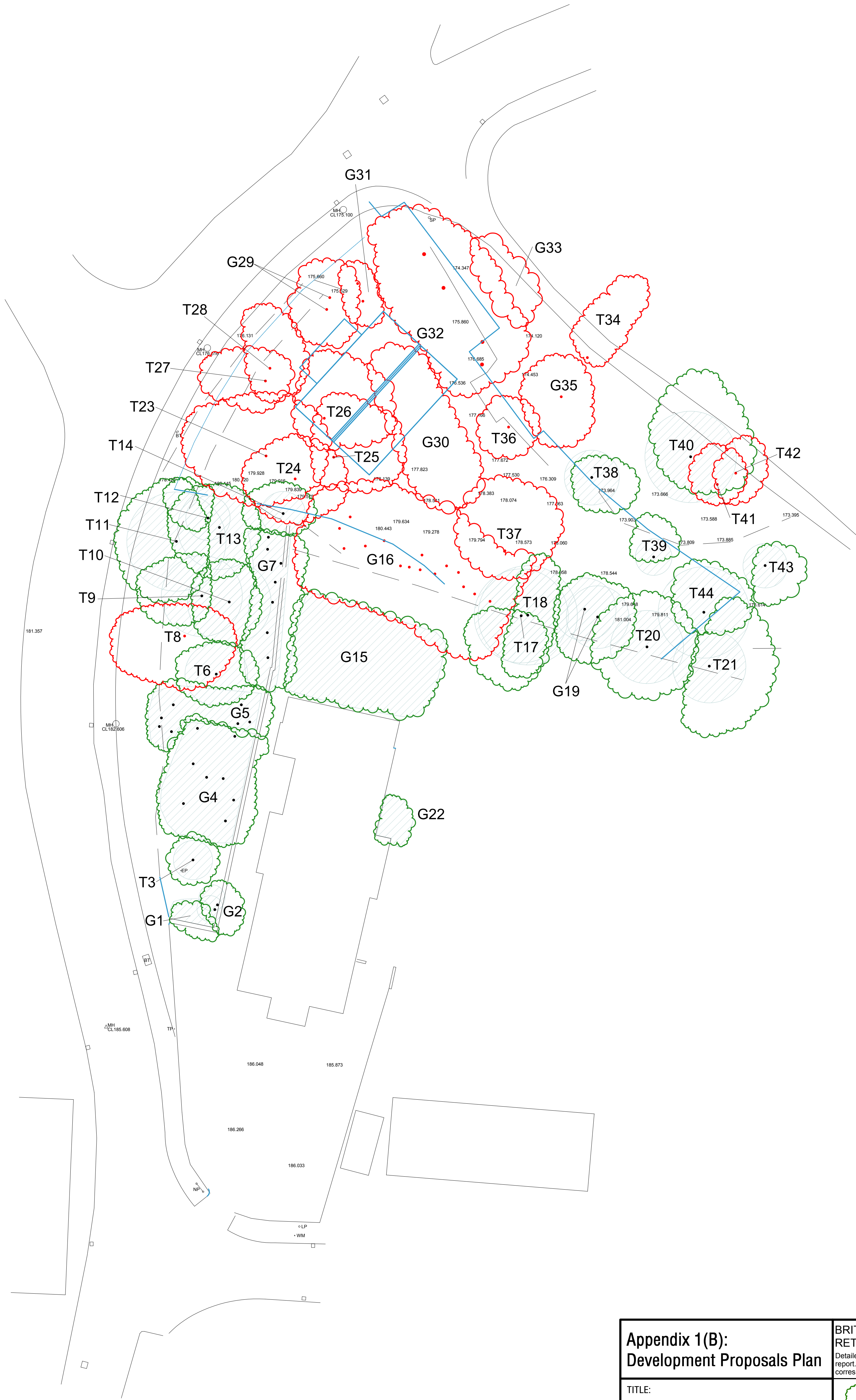
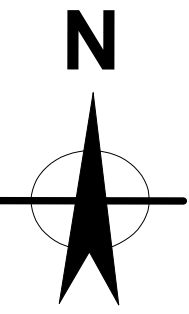
Appendices

Appendix 1. (A) Tree Constraints Plan



Appendix 1(A): Tree Constraints Plan			BRITISH STANDARD 5837:2012: 4.5 RETENTION CATEGORIES	
TITLE: Hill Street, Penycae, Wrexham Project: AIA.11989.02				CATEGORY A: 'RETENTION MOST DESIRABLE'
SCALE 1:200		PAPER SIZE A1		CATEGORY B: 'RETENTION DESIRABLE'
SURVEYED BY: RG	DRAWN BY: RG	APPROVED BY: KG		CATEGORY C: 'TREE WHICH COULD BE RETAINED'
Godwin's Tree Consultants Tel: 0800 030 4045 Email: info@godwins.co.uk				CATEGORY R: 'TREE FOR REMOVAL'
				CENTRE OF TREE/SHRUB
				CENTRE OF TREE/SHRUB TO BE REMOVED
				ROOT PROTECTION AREA

Appendix 1. (B) Development Proposals Plan



Appendix 1(B): Development Proposals Plan			BRITISH STANDARD 5837:2012: 4.5 RETENTION CATEGORIES	
TITLE: Hill Street, Penycae, Wrexham Project: AIA.11989.02				TREE TO BE RETAINED
SCALE 1:200		PAPER SIZE A1		TREE TO BE REMOVED
SURVEYED BY: RG	DRAWN BY: RG	APPROVED BY: KG		CENTRE OF TREE/SHRUB
Godwin's Tree Consultants Tel: 0800 030 4045 Email: info@godwins.co.uk				CENTRE OF TREE/SHRUB TO BE REMOVED
				ROOT PROTECTION AREA
				ROOT PROTECTION AREA ENCROACHED BY THE PROPOSED DEVELOPMENT
				PROPOSED DEVELOPMENT

Appendix 2. Tree Descriptions and Recommendations

	No.	Species	Hgt (m)	Min Cwn Hgt (m)	Stem @ 1.5m	Dia. (cm)	N	E	S	W	Life stage	Phys Cond	Struct Cond	Form	Remainig contribution (years)	Recommendations	Retention category
G	1	Ash	5	0	S	Ave <10	See plan				Y	G	P	Many self seeded specimens. Predominantly single-stemmed and vertical with slightly unbalanced crowns.	40+	No action required	C
G	2	Ash	7	2	S	2x 10	See plan				Y	G	P	One tree single-stemmed and vertical with an unbalanced crown. One tree single-stemmed and vertical with a balanced crown.	40+	No action required	C
T	3	Goat Willow	3	0	M	5x 9	2.5	2.5	2.5	2.5	SM	F	P	Multi-stemmed at ground level - regrowth from stump.	20+	No action required	C
G	4	Ash	9	4	S	Ave <15	See plan				SM	G	P	8 specimens, predominantly single-stemmed and vertical with slightly unbalanced crowns.	40+	No action required	C
G	5	Hawthorn	4	0.5	M	Ave <10	See plan				SM	G	F	4 trees - multi-stemmed at ground level with slightly unbalanced crowns.	20+	No action required	C
T	6	Ash	10	6	M	24	3	4	3	4	SM	G	F	Multi-stemmed at 3m with a balanced crown. Ivy on stem restricted inspection.	40+	No action required	C
G	7	Ash	11	Ave 3	S	Ave <20	See plan				Y to SM	F	P	Several self seeded specimens. Growing along and out of stone wall.	20+	No action required	C
T	8	Goat Willow	8	0	M	8x 12	3	5	5	7	M	F	P	Multi-stemmed at ground level with an unbalanced crown. Split stem with major deadwood.	<10	Remove for arboricultural reasons.	U
T	9	Goat Willow	8	2	M	3x 18	4	1	3	6	M	F	P	Multi-stemmed at ground level with an unbalanced crown. Ivy and deadwood noted.	10+	No action required	C
T	10	Goat Willow	9	4	M	4x 16	4	3	4	4	M	G	P	Multi-stemmed at ground level with a slightly unbalanced crown. Deadwood within crown.	20+	No action required	C
T	11	Goat Willow	8	2	M	3x 22	6	3	6	6	M	G	F	Multi-stemmed at ground level with an unbalanced crown. Deadwood noted. Dense understorey restricted inspection.	20+	No action required	C
T	12	Goat Willow	8	2	M	2x 12	3	0	2	5	EM	F	P	Twin-stemmed at ground level with an unbalanced crown. Minor deadwood noted.	10+	No action required	C

	No.	Species	Hgt (m)	Min Cwn Hgt (m)	Stem @ 1.5m	Dia. (cm)	N	E	S	W	Life stage	Phys Cond	Struct Cond	Form	Remainig contribution (years)	Recommendations	Retention category
T	13	Goat Willow	9	4	M	32	4	4	5	5	EM	G	F	Twin-stemmed at 2m with a slightly unbalanced crown. Minor deadwood.	20+	No action required	C
T	14	Ash	11	5	S	17	3	3	2	4	SM	G	F	Single-stemmed and vertical with a slightly unbalanced crown. Ivy restricted inspection.	40+	No action required	C
G	15	Mixed	4	0	S	Ave <7	See plan				Y	F	P	Many self seeded specimens including Goat Willow and Ash. Understorey of brambles.	40+	No action required	C
G	16	Sycamore	14	2	M	Ave <30	See plan				SM to EM	G	P	Located on embankment - restricted inspection. Multi-stemmed at ground level with slightly unbalanced crowns. Some trees with basal cavities.	20+	Remove to facilitate the proposed development	C
T	17	Ash	16	3	S	36	0	4	7	6	EM	G	P	Single-stemmed and leaning with an unbalanced crown. Minor deadwood noted.	20+	No action required	C
T	18	Ash	16	5	S	38	6	4	6	2	EM	G	P	Single-stemmed and leaning with a slightly unbalanced crown. Minor deadwood noted. Embankment location restricted inspection.	20+	No action required	C
G	19	Sycamore	14	5	M	Ea 3x 14	See plan				SM	G	P	Predominantly multi-stemmed at ground level with slightly unbalanced crowns. Ivy and embankment location restricted inspection.	20+	No action required	C
T	20	Sycamore	16	2	M	3x 16	5	5	5	5	EM	G	P	Multi-stemmed at ground level with a balanced crown. Ivy and embankment location restricted inspection.	20+	No action required	C
T	21	Ash	14	3	M	8X 16	7	6	6	2	EM	F	P	Multi-stemmed at ground level with a slightly unbalanced crown. Embankment location restricted inspection. Tight union and deadwood noted.	20+	No action required	C
G	22	Ash	8	2	S	Ave <9	See plan				Y	G	P	3 self seeded specimens - single-stemmed and vertical with slightly unbalanced crowns.	40+	No action required	C
T	23	Ash	14	3	M	6x 18	6	6	5	8	SM	F	P	Multi-stemmed at ground level with a slightly unbalanced crown. Ivy and embankment location restricted inspection.	20+	Remove to facilitate the proposed development	C
T	24	Sycamore	14	1	M	3x 15	4	5	4	5	SM	G	P	Multi-stemmed at ground level with a slightly unbalanced crown.	20+	Remove to facilitate the proposed development	C

	No.	Species	Hgt (m)	Min Cwn Hgt (m)	Stem @ 1.5m	Dia. (cm)	N	E	S	W	Life stage	Phys Cond	Struct Cond	Form	Remainig contribution (years)	Recommendations	Retention category
T	25	Ash	16	7	M	2x 17	6	7	3	2	EM	G	P	Twin-stemmed at ground level with an unbalanced crown. Tight union with partially included bark.	<10	Remove for arboricultural reasons.	U
T	26	Ash	15	8	M	2x 20	6	7	3	3	EM	G	F	Twin-stemmed at ground level with an unbalanced crown. Ivy and dense understorey restricted inspection.	20+	Remove to facilitate the proposed development	C
T	27	Ash	16	3	S	41	3	2	3	6	EM	G	P	Single-stemmed and vertical with an unbalanced crown. Ivy and dense understorey restricted inspection.	20+	Remove to facilitate the proposed development	C
T	28	Ash	16	3	S	38	6	4	3	2	EM	G	P	Single-stemmed and vertical with an unbalanced crown. Ivy and dense understorey restricted inspection.	20+	Remove to facilitate the proposed development	C
G	29	Ash	12	2	S	Ea 18	See plan				SM	G	F	Single-stemmed and vertical with a slightly unbalanced crown.	40+	Remove to facilitate the proposed development	C
G	30	Hawthorn	12	3	M	Ave <25	See plan				M	F	F	Linear group. Dense ivy on stems restricted inspection.	20+	Remove to facilitate the proposed development	C
G	31	Holly & Ash	6	1	S	Ave <12	See plan				SM	G	F	Single-stemmed and vertical with slightly unbalanced crowns and multi-stemmed at ground level with slightly unbalanced crowns.	20+	Remove to facilitate the proposed development	C
G	32	Ash	15	3	M	Ave 4x 10	See plan				SM	G	F	4 trees - multi-stemmed at ground level with slightly unbalanced crowns. Growing on stone wall. Dense understorey restricted inspection.	20+	Remove to facilitate the proposed development	C
G	33	Goat Willow	5	2	S	Ave 9	See plan				SM	G	P	Single-stemmed and leaning with an unbalanced crown. Suppressed specimen.	20+	Remove to facilitate the proposed development	C
T	34	Ash	15	6	S	44	3	9	3	0	EM	F	P	Single-stemmed and leaning with an unbalanced crown. Fallen over footpath in past.	<10	Remove for arboricultural reasons.	U

Appendix 3. Methodology

A3.1 Measurements

- A3.1.1 *HEIGHT* of the tree is measured from the stem base in metres. Where the ground has a significant slope the higher ground is selected.
- A3.1.2 *CROWN HEIGHT* is an indication of the average height at which the crown begins.
- A3.1.3 *STEM DIAMETER* is measured at 1.5 metres above (higher) ground level. Where the tree is multi-stemmed at this point; the diameter is measured close to ground level, just above the root buttress.
- A3.1.4 *CROWN SPREAD* is measured from the centre of the stem base to the tips of the branches in all four cardinal points.
- A3.1.5 *MEASUREMENTS* may be estimated where trees are located off-site or access is restricted due to dense vegetation. Dimensions that are estimated are suffixed with a '#’.

A3.2 Evaluations

- A3.2.1 *LIFE STAGE* of the tree is described as young, semi-mature, early-mature, mature, or over-mature.
- A3.2.2 *PHYSIOLOGICAL CONDITION* is classed as good, fair, poor, or dead. This is an indication of the health of the tree and takes into account presence of disease and dieback.
- A3.2.3 *LIFE EXPECTANCY* is classed as; less than 10 years, 10 plus years, 20 plus years, or more than 40 years. This is an indication of the number of years before removal of the tree is likely to be required.

A3.3 Tree species

- A3.3.1 The trees surveyed ranged in age from young, self-seeded to mature. The following species were recorded:

Ash	<i>Fraxinus excelsior</i>
Goat Willow	<i>Salix caprea</i>
Hawthorn	<i>Crataegus monogyna</i>
Sycamore	<i>Acer pseudoplatanus</i>
Hazel	<i>Corylus avellana</i>
Elm	<i>Ulmus sp.</i>

A3.4 Retention categories

A3.4.1 *A (marked green on the plan) = retention most desirable.*

These trees are of high quality and value with a good life expectancy. They may be further sub-divided as follows:

- A1) Particularly good examples; perhaps rare or unusual species, or forming an essential part of arboricultural features e.g. avenues.
- A2) Groups of trees having a significant landscape impact or with excellent screening properties, or those softening the effect of existing structures.
- A3) Those having significant conservation or historical value e.g. veteran trees.

A3.4.2 *B (marked in blue on the plan) = retention desirable.*

These trees are of moderate quality and value with a significant life expectancy. They may be further sub-divided as follows:

- B1) Trees that might be included in the high category but because of their numbers or slightly impaired condition, are downgraded in favour of the better individuals.
- B2) Groups of trees forming distinct landscape features, thereby attracting a higher collective rating than they might as individuals.
- B3) Trees with clearly identifiable conservation or other cultural benefits.

A3.4.3 *C (marked in grey on the plan) = trees which could be retained.*

These trees are of low quality and value, and are in adequate condition to remain until new planting could be established. They may be further sub-divided as follows:

- C1) Trees not qualifying in higher categories.
- C2) Groups of trees which do not form a distinct landscape feature.
- C3) Trees with very limited conservation or other cultural benefits.

A3.4.4 *U (marked in red on the plan) = trees for removal.*

These trees are in such a condition that any existing value would be lost within 10 years. This may be due to any of the following:

- 1) Failure is likely due to serious, irredeemable, structural defects.
- 2) Removal of other category R trees will render them exposed and unstable.
- 3) They are in serious, overall decline or are dead.
- 4) They are of low quality and suppressing adjacent trees of better quality.
- 5) Diseases are present which may affect the health of adjacent trees.

These trees should be removed or treated in such a way as to make them safe where they have high ecological value, such as in a woodland setting.