Arboricultural Impact Assessment and Tree Protection Plan (BS5837:2012)

Blarney Residential Scheme

Blarney, Co. Cork

10-03-2026

HOLLY
ARBORICULTURE
CHAMPIONING DEVELOPMENT WITHOUT SACRIFICING CONSERVATION

DOCUMENT CONTROL SHEET

PROJECT NUMBER : 5925

PROJECT NAME: BLARNEY PART 8

PROJECT REFERENCE: BLARNEY PART 8

PROJECT LOCATION: Blarney, Co. Cork

PREPARED FOR: HRP Construction Limited, Carrig House,Main St., Ballincollig Co. Cork.

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POSITION HELD: Independent Arboricultural Consultant

WORK DESCRIPTION: Field Assessor/Author

QUALIFICATIONS: Dip Arboriculture.

Currently undertaking the Accredited Training Programme in Urban Tree Management with Tree Life Arboricultural Consultancy Ltd, Leicester, UK. Completion date, Sept'2025.

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VERSION CONTROL

Project #	Report Version	Author	Checked By	Date	Changes made
5925	V1	PH	SDM	18-10-2025	
5925	V2	PH	SDM	10-03-2026	Project description update.

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1. Introduction

1.1. Instructions and Brief

1.1.1 Holly Arboriculture was commissioned HRP Construction Limited, via email dated 13-10-2025, to undertake the following tasks in relation to the proposed development at Blarney, Co. Cork.

- Carry out a revised tree survey in accordance with *BS5837:2012 – Trees in Relation to Design, Demolition and Construction – Recommendations*;
- Prepare an updated Arboricultural Impact Assessment (AIA);
- Develop an Arboricultural Method Statement (AMS) outlining the measures necessary to protect retained trees during the construction process;
- Produce a Tree Protection Plan (TPP);
- Compile an updated Tree Survey Schedule, as per BS5837:2012.

1.1.2 This report addresses the potential impacts of the proposed development on the existing tree population. The field re-assessment was completed on 14-10-2025. The documents outlined in Table 1 were provided to Holly Arboriculture to inform the tree survey and this report:

Table 1: List of drawings to inform the tree survey and report

Document Title	Document / Drawing number	Originator
PROPOSED SITE PLAN A	23063_P_003C	DG A R C H I T E C T S
LANDSCAPE MASTER PLAN	24213-2-101	CUNNANE STRATTON REYNOLDS

1.1.3 The report should be read in conjunction with the following Holly Arboriculture plans:

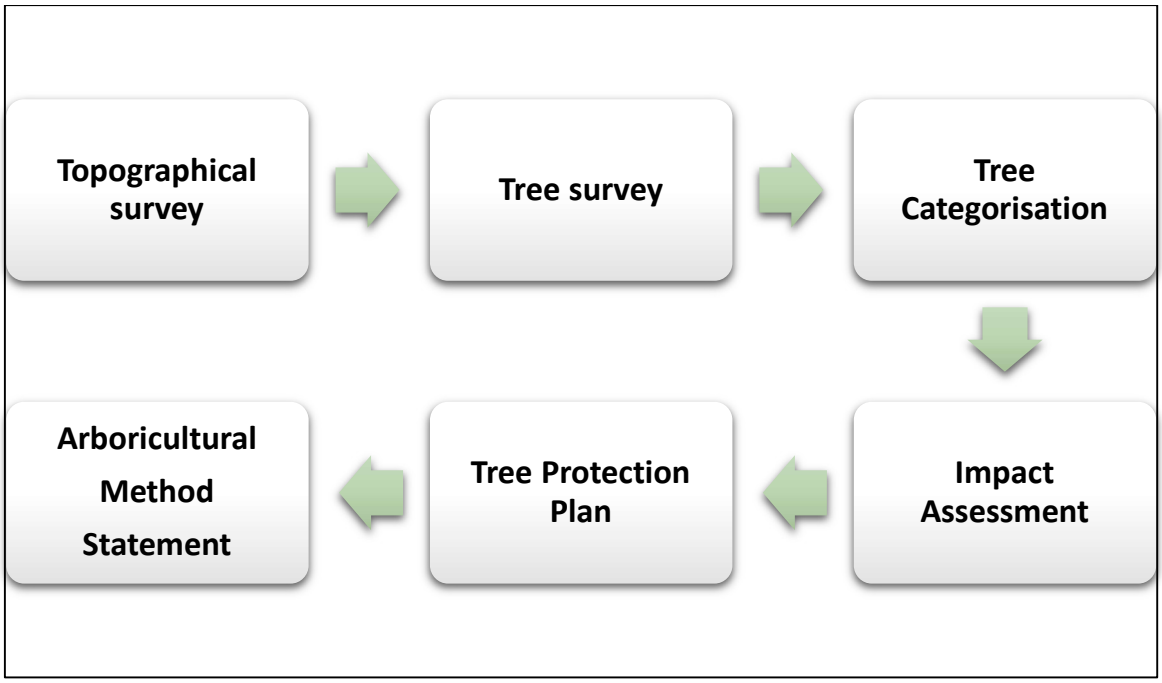
Drawing Title	Drawing Subject
1. TCP-5925	**Tree Constraints Plan**: A plan depicting the predevelopment location, size, calculated constraints, and simplified tree quality category system
2. TPP-5925	**Tree Protection Plan**; This plan depicts the nature, location and extent of tree protection measures required to provide for sustainable tree retention.

1.2. Aims and Approach

1.2.1 The aim of this report is to provide a clear assessment of the existing trees on site, and to evaluate the potential impacts of the proposed development on trees and vice versa.

1.2.2 The arboricultural impact assessment was conducted in accordance with the *British Standard BS 5837:2012 Trees in relation to design, demolition, and construction – Recommendations*. The British Standard sets out the principles and procedures to be applied to achieve a harmonious and sustainable relationship between trees and structures. The assessment process undertaken for this report is described in graph 1 below.

Graph 1: Arboricultural Impact Assessment Process



2. The Development

2.1. General Description of the Development

2.1.1 The construction of 138 residential units, a civic centre and all ancillary works.

2.2.Spatial Scope

2.2.1 The tree survey targeted 19no. individually tagged trees as well as 4no. tree groups and 4no. hedgerows in total.

2.2.2 19no. trees are located within the redline boundary on the tree survey extent image provided by Deady Gahan Architects, see Figure 1 below.

2.2.3 Several tree groups and hedgerows are located immediately outside the site boundary but will have crown branches and roots entering the site.

Fig. 1: *Red line boundary map of the site and its immediate surroundings.*

3. The Trees

3.1. Description of the Trees

3.1.1 The site comprises a former brownfield area, previously associated with hotel use, now characterised by a mixture of remnant boundary planting, natural regeneration, and unmanaged vegetation. The topography is generally level, and the boundaries are defined by various fence lines including palisade fencing and concrete post and chain-link fencing.

3.1.2 Along the eastern boundary, there is a linear formation of trees situated between the neighbouring car park fence and the internal chain-link boundary. This group is predominantly composed of Hawthorn, with Ash, Sycamore, and occasional Poplar and Horse Chestnut. The Hawthorn appears to have originated as a managed hedgerow, now lapsed due to lack of maintenance, resulting in several individuals developing into small trees. Ash within this section is small in stature and displaying advanced symptoms of Ash dieback. Naturalised Sycamore is also emerging, mostly semi-mature. A mature Poplar, approximately 24 metres in height, along with 2no. Horse Chestnut trees located outside the boundary, are likely to have root systems extending into the site. Hawthorn crowns arch slightly into the site, though not to a degree that presently constrains development.

3.1.3 At the eastern entrance, a second tree line (Tree group 1) runs east to west on the southern side of the access road. This comprises approximately eleven early-mature Beech, Ash, and Hawthorn trees, with Beech being the dominant species. Typical of linear formation, their crowns extend laterally, with several limbs projecting 6–9 metres north into the site. Root encroachment from this group is also likely. Inside the entrance and extending approximately 80 metres along the driveway, there are various young to semi-mature planted and naturally regenerated trees, including Mountain Ash, Pedunculate Oak, Ash, Willow, Cherry, and Beech, interspersed with Bramble. These trees are not expected to constrain development, and some may present opportunities for transplanting.

3.1.4 Further along the driveway, two mature Cherry trees (0369-70) are present. These trees exhibit fair structural condition and good vitality. Centrally within the site, vegetation is dominated by naturally regenerated Willow and Buddleja, typical of brownfield conditions. Among this central vegetation, two early-mature Eucalyptus trees (0379-80) are located, both in fair structural condition with good vitality although 0380 displays significant storm damage within the crown.

3.1.5 In the northern area of the site, there are 3no. Horse Chestnut trees (0373-75) and 3no. Red Oaks (0376-78), all in good structural and physiological condition. To the west of these, there is a linear group of tall Lawson Cypress and other conifer species, ranging between 20 and 22 metres in height. These trees form dense, upright clusters with closely spaced vertical stems. While most are in good condition, three to four individuals display notable canopy dieback.

3.1.6 Along the western boundary, extending from the northern corner approximately halfway south, there is a lapsed Hawthorn hedgerow. Formerly maintained, it has developed into a naturalised tree and shrub line. It is located outside the chain-link fence, with limited encroachment into the site, approximately 1 metre in places. Where the Hawthorn ceases, the boundary shifts west by roughly 6 metres before continuing south. Beyond this point, the boundary comprises naturally regenerating Willow and dense Bramble thickets, with no significant arboricultural features.

3.1.7 Along the southern boundary, there is a dense stand of semi-mature trees, likely planted for screening. Species include Ash, Scots Pine, Oak, and Cherry, along with natural regeneration of Willow and Elder. These trees display good vitality and structure, with minimal overhanging limbs impacting the site. However, long-term shading and overbearance should be considered as some species may reach heights of up to 20 metres. Towards the eastern end of this boundary, 5no. semi-mature Sycamore and Ash trees slightly overhang the site by approximately 3 metres. These are lightweight lateral limbs and do not pose an immediate concern, though future pruning for clearance may be required.

3.2. Findings

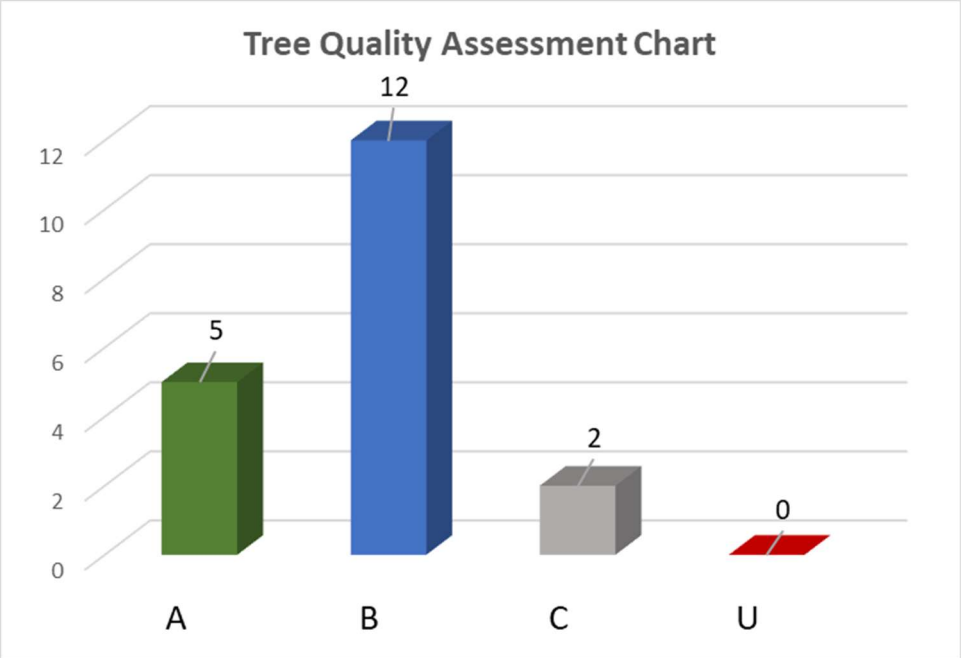
The following is a breakdown of their category grading. See table 1 below for detail.

- 0 or 0% of the trees included in this assessment were classified as category 'U' (unsuitable for long-term retention under current site conditions).
- 5 or26% of the trees included in this assessment were classified as category 'A' trees (high value)
- 12 or 63% of the trees included within this assessment were classified as category 'B' trees (moderate value)
- 2 or 11% of the trees included within this assessment were classified as category 'C' trees (low value)

Table 1: Individual Tree Quality Assessment Summary

Tree Species	A	B	C	U	Grand Total
Ash (Fraxinus excelsior)	1				**1**
Eucalyptus sp. (Eucalyptus sp.)			2		**2**
Pedunculate oak (Quercus robur)	1	1			**2**
Prunus amanagowa		2			**2**
Red Norway maple (Acer platanoides -Crimson King)		1			**1**
Red oak (Quercus rubra)		3			**3**
Small leaved lime (Tilia cordata)		5			**5**
Sweet chestnut (Castanea sativa)	3				**3**
Grand Total	**5**	**12**	**2**	**0**	**19**

Table 2: Tree Quality Assessment



[A total of 19 trees were individually tagged on site.]

Colour	Retention Category
	A - High Quality
	B- Moderate Quality
	C- Low Quality
	U- Trees to be removed as part of sound arboricultural management

4. Arboricultural Impact Assessment

4.1 Impact Assessment of the Proposed Scheme

4.1.1 This section states the impacts of the proposed scheme on trees and also assesses the likelihood and significance of the impacts on trees.

4.1.2 This section also states the impacts of the trees on the proposed development and assesses the likelihood and significance of these impacts.

4.2 Potential impacts of development on the vegetation.

4.2.1 **Tree no's. 0364-67 & 0369-81**: The proposed development footprint, including buildings, pavements, roads and attenuation tank directly conflicts with these trees. Retention is unrealistic with the proposed design and these trees will need to be removed. This leads to the loss of local amenity value and biodiversity. These trees are of mixed quality but generally considered moderate. The overall potential impact is moderate and certain to occur. The loss shall be mitigated through replacement planting with appropriate species in suitable locations to restore the site's long-term landscape and ecological value.

4.2.2 **Tree no. 0363**: This ash tree is in direct contact with the existing switch room which may be acting as a support/prop to the tree. Demolition of the existing Switch room may potentially make it more susceptible to windthrow. This is a realistic possibility with potentially high severity, as a weakened tree may fail in strong winds, posing a safety risk to people and property. Root stability testing is recommended to be carried out to avoid unnecessary tree removal and ensure the risk is as low as reasonably practicable.

4.2.3 **Tree no. 0368:** Roots may be damaged where construction traffic or the storage of materials occurs within the Root Protection Area (RPA). This type of soil compaction is likely, with the severity ranging from moderate to high depending on the tree species and the extent of the compaction. Such damage can reduce water and nutrient uptake, which may result in crown dieback or gradual decline over time. This impact can be minimised by fencing off the RPA to prevent access and or installing ground protection measures (0368).

4.2.4 **Hedgerow 1,2 & 4:** The proposed development directly conflicts with these hedgerows, requiring their full removal. Along the eastern boundary, Hedgerows 1 and 4 consist solely of beech with limited ecological value. The potential impact, which is certain, will therefore be predominantly visual, with only minor habitat impact. Hedgerow 2, composed entirely of *Griselinia*, will also be removed, and given its lack of visibility from the public realm and low wildlife support, this will result in negligible visual or ecological impact.

4.2.5 **Tree Group 4**: The proposed development directly conflicts with this group, requiring its full removal. The potential impact, which is certain is the visual loss of a cohesive

arboricultural feature on site. The habitat value of this group is low and therefore the severity of the impact is mostly visual and considered low.

4.2.6 **Tree Group 1**: Canopy conflict with the proposed structures is highly likely. The tree group currently overhangs the planned buildings, with ground clearance of approximately 1–3 metres. Pruning will be required along the northern side to provide adequate clearance for access, egress, and construction activity. The extent of pruning necessary will significantly alter the size and shape of the canopy. A substantial amount of live sapwood will be removed, which may reduce the trees' energy reserves and could result in a decline in physiological condition. This may present as shoot dieback within the crown. While pruning will create small to moderate wounds, the trees' current age and vitality suggest they should be capable of recovering without significant long-term harm. The primary impact will be visual, assessed as moderate, with a low physiological impact anticipated.

4.2.7 **Tree Group 1**: There is the potential for roots to be damaged as a result of soil compaction, trenching and soil stripping to allow for the proposed layout within this area of the site. The potential impact of this damage, which is likely, is significant dieback of crown branches to whole tree death within the group. The installation of appropriate ground protection measures and strict arboricultural monitoring of activities within the RPA are recommended throughout the construction phase to minimise the potential damage to roots.

4.3 Potential impacts of trees on the development

4.3.1 **Tree Group 1**: Shall impact on the development by obstructing sunlight entering the proposed buildings from the east and south. The impacts of this is that the eastern and southern side of the buildings shall be in shade during the summer months, which may be welcome. The likelihood of this impact is moderate during the summer months only and the severity of the impact is low.

4.4 Issues to be addressed at the Arboricultural Method Statement

1. Service installation to site;
2. Positioning of protective fencing;
3. Ground protection for Tree no. 0363 and Tree Group 1;
4. Construction exclusion zones;
5. Tree removal works;
6. Site monitoring schedule.

Signed

Paul Holly
Independent Consultant Arboriculturist

Date: 10-03-2026

Appendix 1. Tree Survey Schedule

Survey Key

All codes referred to in this report are approximate and serve as a general guide only.

Tree Number: The trees have numbered metal tags attached and these correspond with the numbers in this report.

Species: Indicates tree species, common name followed by the scientific name (*Italics*)

Reference to Life Stage is as follows:

YM- Young-Mature A tree that is less than 1/3 the expected height of the species in question.
MA - Mature: A tree that has reached the expected height of the species in question, but still increasing in size.
OM – Over Mature: A tree still close to its full height and crown size while main-stem diameter (which by now is large) increases more slowly.

Reference to Crown spread, Height, and Stem Diameter: This gives a guide to the area taken up by the tree.
SD - Stem diameter- is the diameter of the main trunk measured at a height of 1.5m from ground level and is recorded in millimeters (mm).

Height - records the overall height of the tree and is measured in meters (m).

Crown Spread - records the extent of the branches normally in a north, east, south and west direction from the base of the tree and is measured in meters (m).

Root Protection Area - The Root Protection Area (RPA) is the minimum area around individual trees to be protected from disturbance during construction works; RPA is usually expressed as a radius in meters measured from the tree stem.
Additionally, an area measured in meters squared is also presented. While a notional circle may not suit every scenario (roads, buildings) the RPA in m² must not be reduced.

Reference to General Observations and Physiological & Structural Condition:

General observations: record noted visual abnormalities and other information about the tree's health and structure.

P - Physiological Condition and **S** - Structural condition

P - Physiological condition: Normal, Good, Fair, Poor , Dead

N – Normal: Healthy tree exhibiting as expected growth.

G – Good: Vigorous growth with abundance of live shoots throughout the canopy.

F - Fair: Less dense canopy of foliage as would be expected, reduced vitality.

P - Poor: Significant decline, major leaf loss, pests, or disease present.

D - Dead: No live shoots, complete dieback of crown.

S - Structural condition: Good, Fair, Poor

G - Good: A tree with no major defects, but possibly including some small defects.

F - Fair: A tree with some minor defects such as bark Wounds, isolated decay pockets or structure affected due to overcrowding.

P - Poor: A tree with more serious defects such as extensive deadwood, decay or effective to the point of being dangerous.

Preliminary Management Recommendations – Recommendations for any necessary remedial work to be carried out.

Estimated Remaining Contribution in years. This is based on an Arboricultural assessment of the tree and is estimated based of the findings noted at time. Trees still need to be reviewed on a regular basis, preferably annually.

Less than (<) 10 years remaining contribution
10 + years remaining contribution
20 + years remaining contribution
40 + years remaining contribution.

Category of Retention & Subcategories
The purpose of the tree categorization method is to identify the quality and value of the existing tree stock, allowing informed decisions to be made concerning which trees should be removed or retained should development occur.
It is carried out in accordance with section 4.5 (Tree Categorization Method) of BS 5837 2012.
For a tree in categories A to C, it should qualify under one or more of the three subcategories (1, 2, 3). Subcategories 1, 2, 3 are intended to reflect arboricultural and landscape qualities, and cultural values, respectively.

Tree Survey Schedule

Tree No	Tree Species	Height (m)	SD (mm)	Crown Spread N/S/E/W	Age Class	Phys Cond.	Struct Cond.	Comments	Recommendations	RPA (m)	Ret Cat ULE
0363	Ash (Fraxinus excelsior)	19	660	5/4/5/7	Mature	Good	Good	Stem in contact with adjacent building suggesting significant wind induced movement in recent years. Stem growth moulded to building shape suggesting this has been in contact for several years. Stability of this tree is unknown. The building may be partially supporting it. Otherwise it is exhibiting good vitality throughout with no obvious abnormalities observed.	Demolish adjacent switch room building and carry out a root stability test.	7.9	A2 (40)
0364	Small leaved lime (Tilia cordata)	14	280	5/5/2/4	Early Mature	Good	Good	Positioned as part of a cluster of 4no. lime trees. Upright principal limbs, exhibiting good vitality throughout with no obvious abnormalities observed.	No work required	3.3	B2 (20)
0365	Small leaved lime (Tilia cordata)	17	290	3/4/2/2	Early Mature	Good	Good	Positioned as part of a cluster of 4no. lime trees. Upright principal limbs, exhibiting good vitality throughout with no obvious abnormalities observed.	No work required	3.4	B2 (20)
0366	Small leaved lime (Tilia cordata)	14	250	4/2/2/2	Early Mature	Good	Good	Positioned as part of a cluster of 4no. lime trees. Upright principal limbs, exhibiting good vitality throughout with no obvious abnormalities observed.	No work required	3	B2 (20)
0367	Small leaved lime (Tilia cordata)	13	280	4/2/2/4	Early Mature	Good	Good	Positioned as part of a cluster of 4no. lime trees. Codominant upright principal limbs from 2m, ivy obscuring view of union. Exhibiting good vitality throughout with no obvious abnormalities observed.	No work required	3.3	B2 (20)

Tree No	Tree Species	Height (m)	SD (mm)	Crown Spread N/S/E/W	Age Class	Phys Cond.	Struct Cond.	Comments	Recommendations	RPA (m)	Ret Cat ULE
0368	Small leaved lime (Tilia cordata)	16	480	3/5/5/3	Mature	Good	Good	Upright central trunk with good branch framework. Subdominant heavy lateral limb at 2m southeast. Exhibiting good vitality throughout. Neighbouring lime tree, 3.5m north (tag no.1993) is dead.	Remove neighbouring dead tree tagged 1993 as part of site clearance works.	5.7	B2 (20)
0369	Prunus amanagowa	8	630	3/6/5/5	Mature	Good	Fair	Forked at 2m. Heavy principal limbs arching east and touching ground. Active fungal bracket on trunk-branch union at 2m east. Exhibiting good vitality with full canopy of foliage.	No work required	7.5	B2 (20)
0370	Prunus amanagowa	6	480	5/5/4/4	Mature	Good	Good	Minor deadwood and storm damaged limbs throughout crown. Exhibiting good vitality with full canopy of foliage present.	No work required	5.7	B2 (20)
0371	Pedunculate oak (Quercus robur)	18	360	2/4/6/5	Early Mature	Good	Good	Upright trunk with good branch framework. Crown suppressed on northern side. Exhibiting good vitality with a full canopy of foliage present.	No work required	4.3	A2 (40)
0372	Pedunculate oak (Quercus robur)	15	400	4/1/4/5	Early Mature	Good	Good	Upright trunk with good branch framework. Crown suppressed on east side where a neighbouring tree was historically present. Mechanical damage to bark northwest at 1m.	No work required	4.8	B2 (20)

Tree No	Tree Species	Height (m)	SD (mm)	Crown Spread N/S/E/W	Age Class	Phys Cond.	Struct Cond.	Comments	Recommendations	RPA (m)	Ret Cat ULE
0373	Sweet chestnut (Castanea sativa)	13	410	2/4/5/4	Early Mature	Good	Good	Part of a 3no. cluster of sweet chestnuts planted in a triangle. Good branch framework and exhibiting good vitality throughout with no obvious abnormalities observed.	No work required	4.9	A2 (40)
0374	Sweet chestnut (Castanea sativa)	13	550	5/2/5/6	Early Mature	Good	Good	Part of a 3no. cluster of sweet chestnuts planted in a triangle. Good branch framework and exhibiting good vitality throughout with no obvious abnormalities observed.	No work required	6.6	A2 (40)
0375	Sweet chestnut (Castanea sativa)	15	450	5/5/2/5	Early Mature	Good	Good	Part of a 3no. cluster of sweet chestnuts planted in a triangle. Good branch framework and exhibiting good vitality throughout with no obvious abnormalities observed.	No work required	5.4	A2 (40)
0376	Red oak (Quercus rubra)	18	610	4/8/9/7	Mature	Good	Fair	Forked at 2m, good unions from which 4no. heavy principal stems emerge. Crown distribution predominantly south with long lateral limbs from lower and mid crown. Exhibiting good vitality but poor crown formation.	No work required	7.3	B2 (20)

Tree No	Tree Species	Height (m)	SD (mm)	Crown Spread N/S/E/W	Age Class	Phys Cond.	Struct Cond.	Comments	Recommendations	RPA (m)	Ret Cat ULE
0377	Red oak (Quercus rubra)	18	430	7/9/1/4	Mature	Good	Good	Crown distribution predominantly north and east, suppressed on southern and western side by neighbouring red oaks. Long lateral limb east at 2m. Exhibiting good vitality throughout with no obvious abnormalities observed.	No work required	5.1	B2 (20)
0378	Red oak (Quercus rubra)	18	320	1/1/6/4	Mature	Good	Fair	Subdominant among neighbouring trees. Vertical growth for light resulted in tall slender specimen. Poor crown formation but exhibiting good vitality.	No work required	3.8	B2 (20)
0379	Eucalyptus sp. (Eucalyptus sp.)	15	550	7/8/6/4	Early Mature	Good	Fair	Broad spreading crown with long leggy limbs. Good vitality throughout.	No work required	6.6	C2 (10)
0380	Eucalyptus sp. (Eucalyptus sp.)	15	750	9/4/6/8	Early Mature	Good	Fair	Broad spreading crown with long leggy limbs in all directions. Good canopy of live foliage.	No work required	9	C2 (10)
0381	Red Norway maple (Acer platanoides - Crimson King)	10	350	4/4/4/4	Early Mature	Good	Good	Dense canopy of live branches and shoots, well balanced. Exhibiting good vitality throughout with no obvious abnormalities observed.	No work required	4.2	B2 (20)

Hedgerow Schedule

Hedge No	Hedge Species	Height (m)	Width (mm)	Age Class	Phys Cond.	Struct Cond.	Comments	Recommendations	RPA (m)	Ret Cat ULE
1	Beech (Fagus sylvatica)	12	5	Mature	Good	Good	Lapsed hedgerow forming upright poles and becoming a tree group.	No work required	3	B2 (20)
2	Griselinia	7	6	Mature	Good	Good	Overgrown hedgerow.	No work required	4	C2 (10)
3	Hawthorn (Crataegus monogyna)	3-4	3	Mature	Good	Good	Unmanaged hedgerow growing into natural form and becoming a lapsed hedgerow.	No work required	3	B2 (20)
4	Beech (Fagus sylvatica)	3-4	2	Mature	Good	Good	Well maintained on public road side, left to grow Unmanaged on site side.	No work required	2	B2 (20)

Tree Group Schedule

Tree Group No	Tree Species	Approx Tree No	Height (m)	Age Class	Phys Cond.	Struct Cond.	Comments	Recommendations	RPA (m)	Ret Cat ULE
1	Beech, Ash, Hawthorn	14	18-20	Early Mature	Fair, Good	Fair, Good	A tree line of mixed species. Beech is the dominant species with hawthorn and ash also present. Lateral and arching beech limbs extending 6-8m north overhanging site. Some bark included unions present within beech trees. Ash dieback disease present among ash trees. The tree line contains clusters of trees and gaps. This tree group forms a prominent arboricultural feature adjacent the site but within influencing distance.	Carry out a detailed health and condition assessment of these trees prior to work commencing on site.	8	A2 (40)
2	Ash, Hawthorn, Horse chestnut, Sycamore	50	8-16	Mixed	Good	Good	The majority of the trees along this boundary are lapsed hawthorn hedgerow specimens. The remaining trees consist of semi mature broadleaf species in good condition and horse chestnut x3 and a tall lone poplar located in the neighbouring car park east. These trees are larger than the majority and although within falling distance of the site, are in good condition throughout with no obvious abnormalities observed.	No work required	3	B2 (20)
3	Beech, Birch, Ash, Hawthorn, Elder, Pedunculate oak, Willow sp, Scots pine	100	6-12	Semi Mature	Good	Good	Dense assemblage of mixed species planted south of boundary fence. Good vitality throughout.	No work required	2	B2 (20)
4	Lawson cypress (Chamaecyparis lawsoniana)	65	20-22	Mature	Fair, Good, Mixed	Fair, Good, Mixed	Co-dominant upright stems throughout. Closely spaced, forming a cohesive feature. Generally dense canopy of live foliage although several trees exhibit significant dieback.	No work required	6	B2 (20)

Tree Works Schedule

Tree No	No. / Species	Purpose of works	Recommended works	BS 5837 Category	Status
0364- 67 **0369- 81**	Lime, Oak, Eucalyptus, Cherry, Norway maple, Sweet chestnut	**To facilitate development**	**Remove**	**A, C, B**	**Proposed**
G4	Lawson cypress	**To facilitate development**	**Remove**	**B**	**Proposed**
H1, H2 & H4	Beech, Griselinia	**To facilitate development**	**Remove**	**C, B**	**Proposed**

Appendix 2. Survey Data Collection and Methodology

The arboricultural data which is presented within the attached tree schedule (Appendix 1), has been recorded in line with BS 5837:2012. The tree survey was conducted by collecting and assessing the following information on all significant trees located on the proposed development site and adjacent lands to the north and plotted on the land survey map provided.

- Tree Number (metal tags attached to each tree).
- Tree species both common name and botanical.
- Dimensions (Trunk diameter, height, crown spread).
- Age Class.
- Physiological Condition.
- Structural Condition.
- Preliminary Recommendations.
- Estimated remaining contribution within their present environment.
- Retention category.

Each tree included within this assessment has been marked with a small aluminium tag with a reference number that relates to the main condition report. The tree tag numbers used in this report range from **0363-0381** inclusively and are orientated in such a way to assist in their relocation on site. The compilation of this survey was guided by the recommendations of BS 5837: 2012. This survey typically includes trees of stem diameters exceeding 150mm at 1.5 metres from ground level. The survey relates to current site conditions, setting and context.

The trees have been divided into one of the following categories, in accordance with the cascade chart illustrated in Table 1 of BS 5837:2012 and Table 2 below.

The classification process begins by determining whether the tree falls within the (**U**) category, if not then the process will continue by assuming that all trees are considered according to the criteria for inclusion in the high category (**A**).

Trees that do not meet these strict criteria will then be considered in light of the criteria for inclusion in the moderate category (**B**) and failing this,

they will be allocated a low category (**C**).

The above categories can be further subdivided regarding the nature of their values or qualities–

• Sub-category 1 - Arboricultural qualities : the trees influence as a good example of its species, it's health and structure

• Sub-category 2 - Landscape qualities : the trees importance within and as landscape features

• Sub-category 3 - Cultural qualities : trees of an age that have a significant conservation and historical value.

TREES UNSUITABLE FOR RETENTION		
Category and Definition	**Criteria**	**Identification on Plan**
Category U Those 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.	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other Category U trees (eg, where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline. • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality. *NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.*	

TREES TO BE CONSIDERED FOR RETENTION				
Category and Definition	**Criteria**			**Identification on Plan**
	1. Mainly arboricultural qualities	2. Mainly landscape qualities	3. Mainly cultural values, including conservation	
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years.	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (eg, the dominant and/or principal trees within an avenue.	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features.	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e, veteran trees or wood-pasture).	
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.	Trees that might be included in category A, but are downgraded because of impaired condition (eg, presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation.	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality.	Trees with material conservation or other cultural value.	
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value, and/or trees offering low or only temporary/transient landscape benefits.	Trees with no material conservation or other cultural value.	

Table 2: Cascade Chart for Tree Quality Assessment.

The trees have been plotted as part of a topographical survey of the site and can be seen on the Tree Constraints Plan (TCP-5924). The tag numbers referred to in the 'Tree Survey Schedule' have been shown on this drawing along with their crown spreads and their retention category colour coded as recommended by BS 5837 2012. This drawing has been developed as a plan of tree constraints (Minimum Root Protection Areas) and has been prepared for the design team to aid in the detail design for the construction activity. It is of the upmost importance that further discussion takes place regarding the final design including locating underground utilities. Including the author of this report as part of this design team is critical to avoid unnecessary tree loss or windthrow.

The Root Protection Area (RPA) is the minimum area around individual trees to be protected from disturbance during construction works; RPA is usually expressed as a radius in metres measured from the tree stem.

For single stem trees, the root protection area (RPA) has been calculated as an area equivalent to a circle with a radius 12 times the stem diameter.

For trees with more than one stem, the calculation method below has been used. The calculated RPA for each tree should be capped to 707 m2.

a) For trees with two to five stems, the combined stem diameter has been calculated as follows:

√ ((stem diameter 1)2 + (stem diameter 2)2 ... + (stem diameter 5)2)

The RPA for each tree is plotted on the drawings Tree Constraints Plan (TCP-5924), any deviation in the RPA from the original circular plot takes account of the following factors whilst still providing adequate protection for the root system:

a) The morphology and disposition of the roots, when influenced by past or existing site conditions (e.g., the presence of roads, structures, and underground apparatus).
b) Topography and drainage.
c) The soil type and structure.
d) The likely tolerance of the tree to root disturbance or damage, based on factors such as species, age, condition and past management.

Appendix 3. Photos

Photo 1: Tree no's 0373-75, view north.

Photo 2: Tree no's.0376-78, view north.

Photo 3: Tree no's. 0379 – 0380, view southwest.

Photo 4: Tree no.0363 and Tree group 2, view east.

Photo 5: Tree group 3, view south.

Photo 6: Tree Group 1, view east.

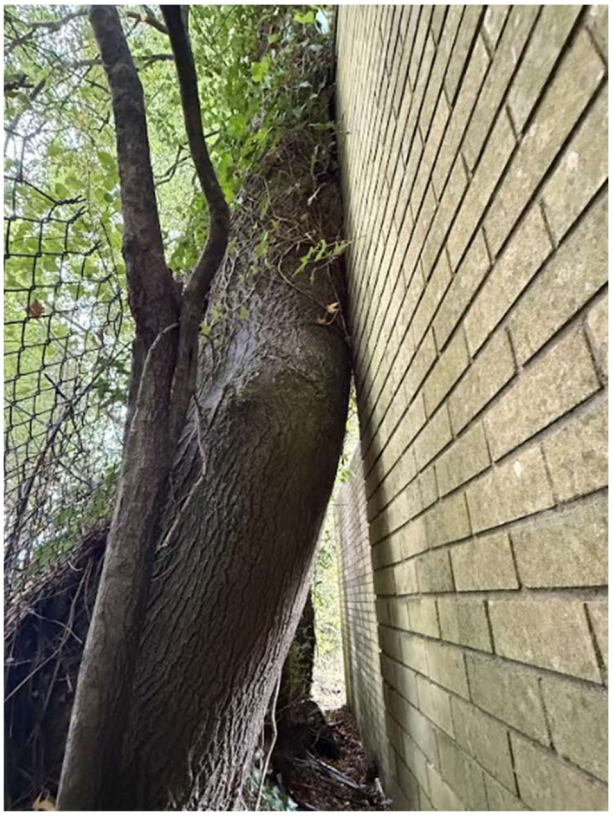


Photo 7: Tree no.0363 in direct contact with switch room.

Photo 8: Hedgerow 1, view northeast.

Photo 9: Tree no's.0369-70, view west.

Photo 10: Tree no.0373, view northeast.

Photo 11: Tree no's 0371-71, view east.

Photo 12: Aerial view west of site over entrance.

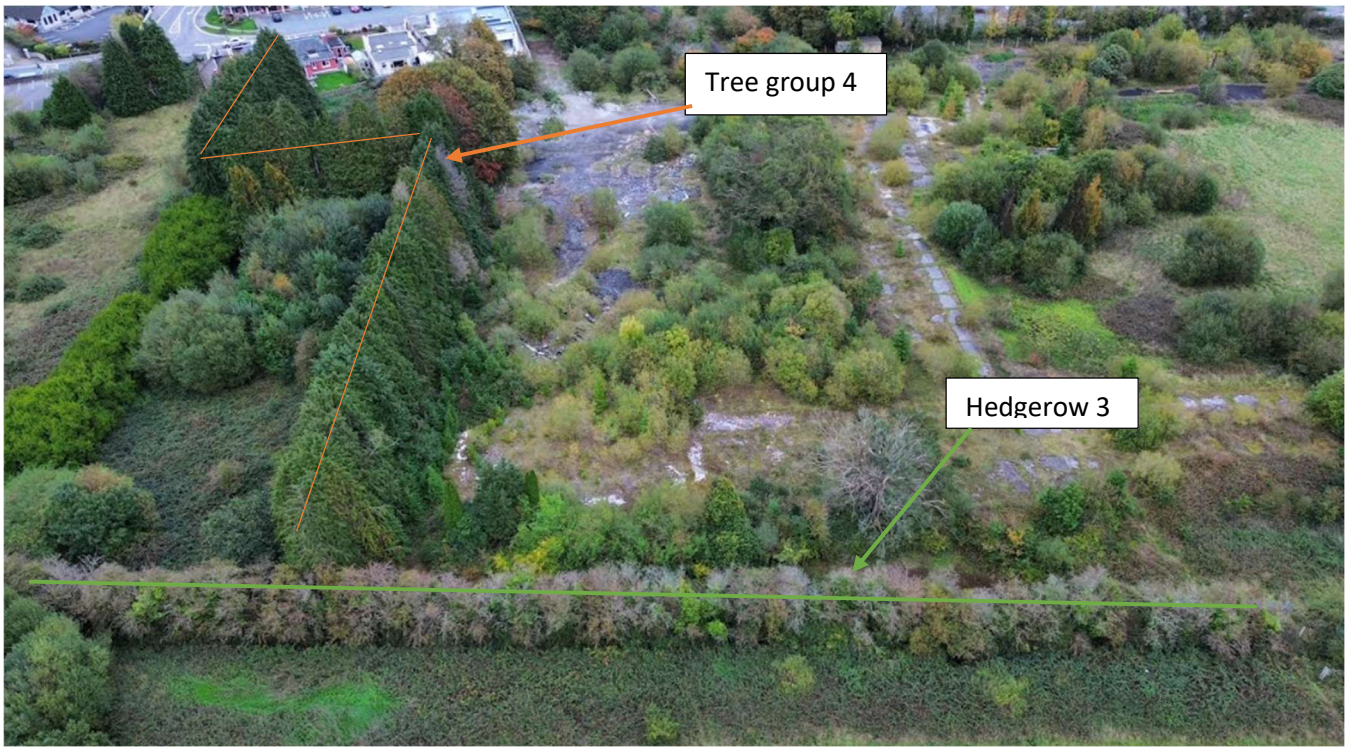


Photo 13: Aerial view east over northern area of the site.

Photo 14: Aerial view of northwest area of the site.

Photo 15: Aerial view of site, view east.

Photo 16: Aerial view of eastern area of the site and tree group 2.

Photo 17: Aerial view of southern boundary and tree group 3.

Photo 18: View southeast of tree group 2.

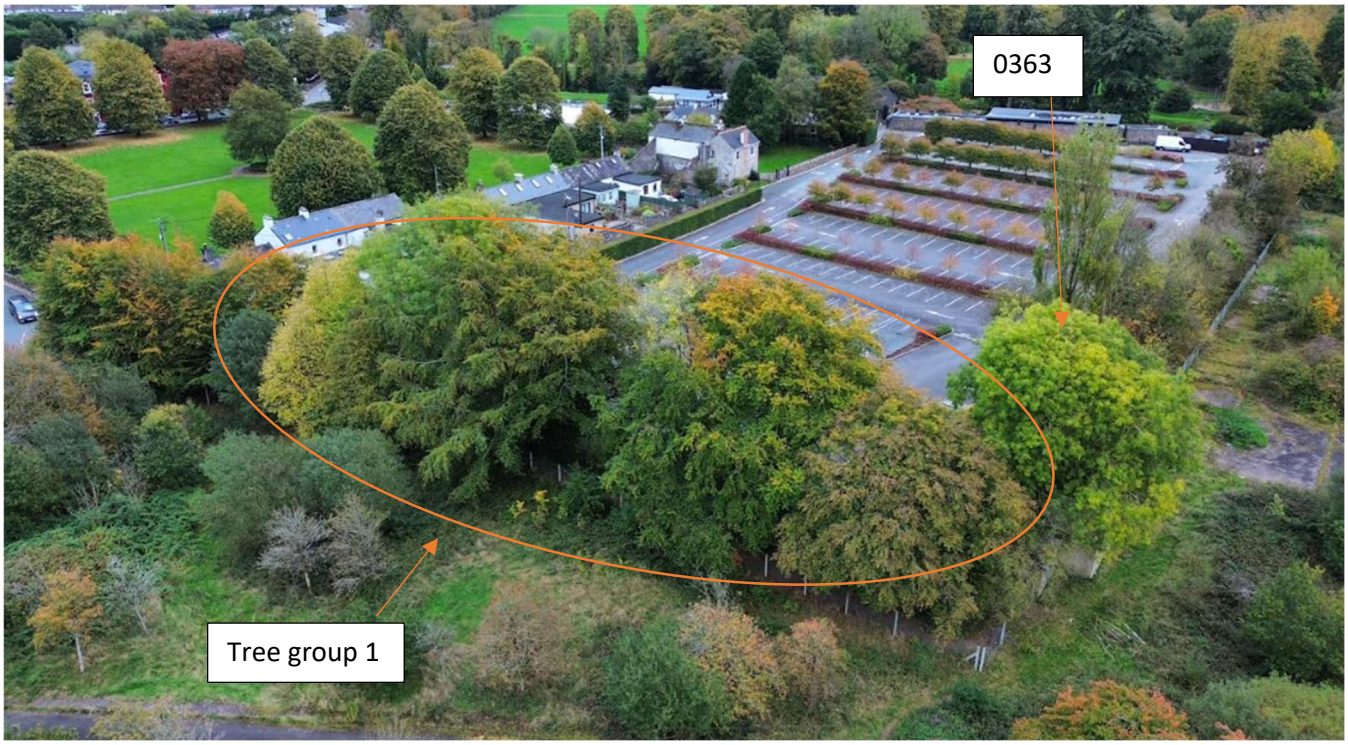
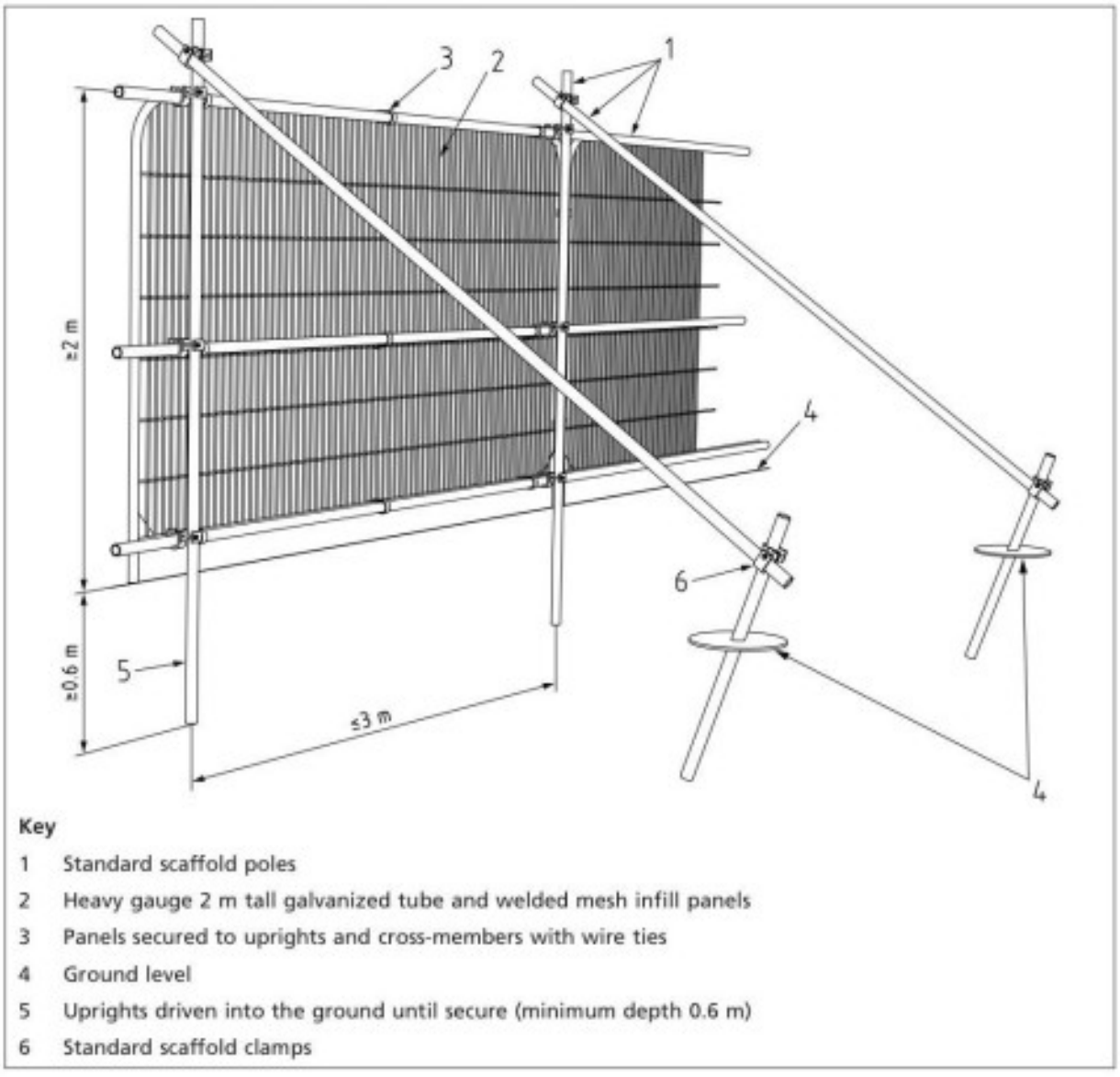


Photo 19: Aerial view southeast.

Appendix 4. Tree Protective Fencing

Below are illustrations as recommended in BS 5837. These illustrations provide a visual representation of possible options for the construction of the protective fencing.

Figure 2 **Default specification for protective barrier**



Key

1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

Sample Fencing signage