Project Name:

Tree Survey and Arboricultural Assessment at Killarney, Co. Kerry

Date:

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Prepared For:

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1.1: Client Brief

GEOTREE Ltd was asked to carry out a tree survey and arboricultural impact assessment at a site at Countess Road, Killarney, Co. Kerry. With the details obtained in the survey to prepare an Arboricultural Assessment and Method Statement that can be used to make sound arboricultural decisions relating to design and construction of a new development of houses that is proposed to being built on the site.

1.2: Site Description

The site is a greenfield. It is approximately 5.9 ha in size. It is located adjacent to Countess Road that links the main N71 on the West side of Killarney town with the R876 on the East side of the town. It is 700 m to Killarney centre by road or 550 m as the crow flies. The site presently is given over to pasture. For the most part the ground looks good. On the West side there is a section with a high water table, the ground here is wet under foot and contributing to the proliferation of pioneering species that can adapt to those conditions such as Grey willow (*Salix cinerea*). Mature trees surround the site and grow on most of the boundaries. There are some boundaries that have been cleared of vegetation and consist of mainly bramble (*Rhubus fruticosus*) and stinging nettle (*Urtica dioica*).

1.3: Methodology

The survey methodology follows the recommendations contained within BS: 5837 (2012), Trees in relation to design, demolition and construction. This provides a colour coded system that can be easily followed. It also includes the calculation of the Root Protection Area (RPA) of trees that were tagged. This is an indication of the extent of the root system and helps to offer guidance helping to protect the lifespan of any trees on site. Any tree surgery work to be carried out must follow Industry Best Practice BS: 3998 (2010).

The analysis of the trees was undertaken using the VTA method as developed by Mattheck and Breloer (1994). Diameter is measured in mm at 1.5 m on the tree trunk. Height is measured in metres using an altimeter. Recommendations will be provided based on the survey. Aluminium tree tags were placed on the trees that were surveyed. They number from 501 - 566. They are placed at 1.5m high on the North side of the tree stem wherever possible. Height is measured accurately by using an altimeter. The coordinates of each tree were captured using the Trimble Catalyst DA2 GNSS Antenna and the survey details and images were recorded using the KOREC Capture data capture application on an iPhone. Trees coordinates were plotted using the Irish Transverse Mercator (ITM) Co-ordinate System.

The Hedgerows were appraised using the Hedgerow Appraisal System (HAS). Using the guidelines provided in The Hedgerow Appraisal System Best Practise Guidance On Hedgerow Surveying, Data Collation and Appraisal by Neil Foulkes, Janice Fuller, Declan Little, Shawn McCourt, Paul Murphy. This system is endorsed by The Heritage Council Of Ireland. The objective of the methodology is to record the extent (i.e. Quantitative survey) and floristic composition, context, physical structure, condition, and management of hedgerows (i.e. Qualitative survey) in any given locality. The system is based on ranking the significance of a hedgerow on a scale of 0 – 4 (0 being the lowest) in different categories: Historical Significance, Species Diversity, Structure, Construction and Associated Features (e.g. Walls, drains etc), Habitat Connectivity Significance and Landscape Significance. A score of 4 in any category indicates a hedge of high significance (Heritage Hedgerow). Hedges can also be considered of high significance (Heritage Hedgerow) if they achieve a cumulative score of 6 or greater in the Historical, Species Diversity, or Structural Categories or a cumulative score of 16 or greater in the five categories. These hedges should be considered as high priority in terms of retention, Management Action etc.The hedgerows were also colour coded and classified using the BS 5837: 2012 (A, B, C, U) system and given a condition rating based on the structure, health, management, appearance and overall contribution to the site.

1.4: Limitations of the survey/Disclaimer

This survey should be regarded as a preliminary assessment of the trees and deals with the current condition as identified during this survey only. Any tree whether it has visible weakness or not, will fail if the force applied exceeds the strength of the tree or its parts. The details within this survey are based on the condition of the trees during the survey period only. No invasive or destructive evaluation techniques were used. All findings are based on the knowledge and expertise of George Earle. Trees are living organisms that are subject to the stresses of climatic extremes and attack from decay fungi and injurious diseases. There is no warranty or guarantee, expressed or implied in this survey that problems or deficiencies of the trees may not arise in the future. By examining the trees, rating their likelihood of causing damage and injury and recommending action to abate the hazard, we act to reduce but not eliminate the risks associated with the trees.

Signed 

1.5: Relevant Legislation

There are no Tree Protection Orders (TPOs) on any of the trees on this site. However under Section 37 of the Forestry Act: 1946, it is illegal to uproot any tree over ten years old or to cut down any tree of any age (including trees which form part of a hedgerow), unless a Felling Notice has been lodged at the Garda Station nearest to the trees at least 21 days before felling commences. A felling license can be obtained by contacting the Dept of Agriculture, forestry section.

The requirement for a felling licence for the uprooting or cutting down of trees does not apply where:

- The tree in question is a hazel, apple, plum, damson, pear or cherry tree grown for the value of its fruit
- The tree is considered dangerous and hazardous
- A tree in an urban area. An urban area is an area that comprised a city, town or borough specified in Part 2 of Schedule 5 and in Schedule 6 of the Local Government Act 2001 before the enactment of the Local Government Reform Act 2014.
- A tree within 30 metres of a building (other than a wall or temporary structure), but excluding any building built after the trees were planted.
- A tree less than five years of age that came about through natural regeneration and removed from a field as part of the normal maintenance of agricultural land (but not where the tree is standing in a hedgerow)
- A tree uprooted in a nursery for the purpose of transplantation
- A tree of the willow or poplar species planted and maintained solely for fuel under a short rotation coppice
- Trees outside a forest – within 10 metres of a public road and which, in the opinion of the
- owner (being an opinion formed on reasonable grounds), is dangerous to persons using the public road on account of its age or condition
- Trees outside a forest – the removal of which is specified in a grant of planning permission
- Trees outside a forest – of the hawthorn or blackthorn species
- Trees outside a forest – in a hedgerow and felled for the purposes of its trimming, provided that the tree does not exceed 20 centimetres in diameter when measured 1.3 metres from the ground
- Trees outside a forest – on an agricultural holding and removed by the owner for use on that holding, provided:
- It does not form part of a decorative avenue or ring of trees
- Its volume does not exceed 3 cubic metres, and

- That the removal of it, by the owner for the foregoing purpose, when taken together with the removal of other such trees by the owner for that purpose, would not result in the total volume of trees, on that holding and removed by the owner for that purpose, exceeds 15 cubic metres in any period of 12 months.

Exceptions

Other exceptions apply in the case of local authority road construction, road safety and electricity supply operations. The Act is administered by the Forest Service, Department of Agriculture, Fisheries and Food. The Felling Section of the Forest Service is based in Johnstown Castle, Co. Wexford (053-9160200 or 1890-200223) Trees may contain bats. Bats are protected under Schedule 5 of the Wildlife Act 1976 and Schedule 1 of the European Communities (Natural Habitats) Regulations 1997. Professional advice from a licenced surveyor should be sought prior to any works commencing on trees.

Health and Safety

The Health and Safety and Welfare at work Act 2005 is a legal requirement. When planning and carrying out forestry (woodland) operations, the law requires that a number of health and safety duties must be completed.

Safety Statement

This is a written document aimed at minimising exposure to risk or injury or ill-health for all people working around trees.

Tree Protection Orders

The local Government (Planning & Development) Act 1963 provides for the making of Tree Protection Orders (TPOs) by the Planning Authority where it is considered desirable to preserve trees on amenity grounds. This prevents the cutting down, topping, lopping or wilful destruction of trees without the specific consent of the Planning Authority. Such TPOs do not apply to the cutting of trees which are dead or dying or have become dangerous, or to the cutting of trees in compliance with statutory obligations to prevent or abate nuisance.

Dangerous Trees

The Roads Act 1993 requires owners or occupiers of land to take all reasonable steps to ensure that trees or other vegetation on their land are not a hazard to persons using a public road. Local authorities may issue notices to landowners requesting them to maintain or cut back trees and hedges.

1.6: Terminology

Arboricultural Comments: Refers to the tree's condition and suitability for the site

Common name: Most widely used non botanical name

Co-dominant stems: Two branches assuming the role of leading stems. When growing close together may form a weak attachment (included bark) at their point of contact. Trees with this defect may be in danger of splitting at this weak attachment.

Included Bark: Pattern of development at branch junctions where bark is turned inward rather than pushed out

Crown spread: Measured in meters North, South, East, West

Decay Fungi: Refers to those species of fungi which degrade living wood and which may, depending on the degree of degradation, render the tree structurally unsound

Defects: Refers to cracks, storm damage and any other damage mechanical or biological

Girth: Diameter of the trunk (millimetres) at 1.5m above grade level. MS inserted after this measurement means multi-stemmed

Genus & Species: Refers to the botanical name for the tree

Height: Measured in meters given to the nearest .5m

Monitor: Refers to trees which need to be re-surveyed on a yearly basis to assess their condition. This timescale may be sooner where works or adverse weather conditions have impacted negatively on the trees

Overhaul: A reference to standard tree surgery work which consists of the removal of deadwood, crossing branches and balancing of the crown where appropriate

Recommendations: Indicates surgery work necessary for the retention or, where necessary, removal of the tree

Major deadwood: Dead branch/limb that is between 150mm – 250mm in diameter

Moderate deadwood: Dead branch/limb that is between 100mm – 150mm in diameter

Minor deadwood: Dead branch/limb that is between 50mm – 100mm in diameter

Basal Cavity: Cavity or opening located at the lower region of the tree at ground level

Stem Cavity: Cavity or opening located on the main stem/trunk of the tree

RPA: Root Protection Area, calculated as a circle with a radius of 12 times the diameter of the stem of the tree measured at 1.5m. The RPA is then represented in m^2

ERC estimated remaining contribution that the tree can make if retained

Tree no: Refers to numbered tag fixed to tree during survey. The trees in this survey were numbered 0501 to 0566 so the first number would be T0501.

Age: Age cannot be exact unless invasive drilling technique are used. Therefore an estimate is given and categorised as

- Young (Y) - < 15 years old
- Early Mature (EM) -15-25 years old
- Mature (MA) – Tree has reached full maturity, over 25 years old
- Over Mature (OM) – Tree is over mature and showing signs of decline

Physiological Condition and Comments based on a three tier system:

- Good = Good health and vigour displayed
- Fair = Healthy and reasonable vigour
- Poor = Showing signs of decline, disease or decay

BS 5837: 2012 determines four retention categories following assessment

Retention Category (RC)

- Category **A:** Trees whose retention is most desirable. Those of high quality and in such condition to make a substantial contribution
- Category **B:** Trees whose retention is desirable. Those of moderate quality and value so as to make a significant contribution
- Category **C**: Trees which could be retained. Those of low quality and value, but can make a contribution until new planting is established.
- For trees in categories A to C there are further subcategories (1,2,3)
- Subcategories 1,2 and 3 are intended to reflect arboricultural and landscape qualities and cultural values, respectively.
- Category **U**: Trees for removal. Trees that should be removed for reasons of sound arboricultural management.

1.7: Colour Identification of Tree Categories

Tree Class	Colour Code
Class A	
Class B	
Class C	
Class U	

1.8: References

- BS 5837: 2012. Tree in Relation to Design, Demolition and Construction
- BS 3998: 2010. Tree Work Recommendations
- Principles of Tree Hazard Assessment and Management; David Lonsdale
- Mattheck and Breloer (1994). The body language of trees
- Forest Mensuration – A handbook for practitioners
- Native Woodland Information Notes – Woodlands of Ireland
- Ireland's Native Woodlands – John R. Cross & Kevin D Collins
- Neil Foulkes, Janice Fuller, Declan Little, Shawn McCourt, Paul Murphy
  Hedgerow Appraisal System Best Practise Guidance on Hedgerow Surveying, Data collection and appraisal

1.9: Report Overview

Completed Inspections Summary

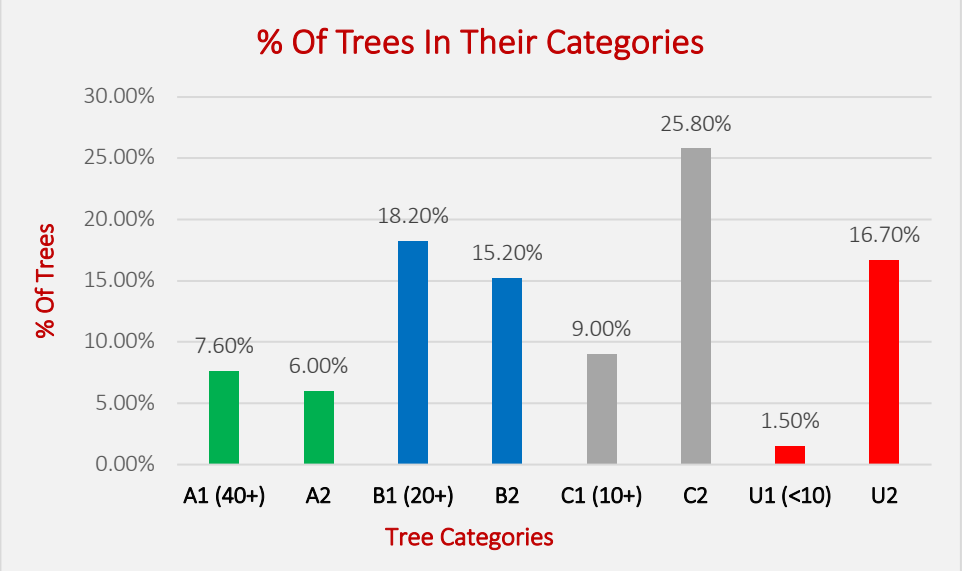
The following is a breakdown of the Inspections completed by Species.

Species	Count	%
Ash (*Fraxinus excelsior*)	31	47.5
Hawthorn (*Crataegus monogyna*)	1	1.5
Holly (*Ilex aquifolium*)	1	1.5
Pedunculate oak (*Quercus robur*)	26	39
Silver birch (*Betula pendula*)	2	3
Sitka spruce (*Picea sitchensis*)	1	1.5
Sycamore (*Acer pseudoplatanus*)	3	4.5
Wych elm (*Ulmus glabra*)	1	1.5
Total	66	100 %

Retention Summary

Overall tree retention by category.

Category	Count
A1 (40+)	5
A2	4
B1 (20+)	12
B2	10
C1 (10+)	6
C2	17
U1 (<10)	1
U2	11



Group Summary:

Group No.	Quantity Of Trees	Category	Fell	Reason
G1	10	C2	0	NA
G2	4	C2	1	Arboricultural
G3	6	C2	0	NA
G4	2	C2	0	NA
G5	4	C2	0	NA
G6	8	C2	1	Arboricultural
G7	9	C2	0	NA
G8	2	C2	0	NA

2.0: Tree Classification Key

Tag No	Tree number on a metal disk placed at 1.5 m on the tree trunk
Species	Species type of the tree, common name and Latin name
Age Profile	Young (Y), Semi-mature (SM), Early mature (EM), Mature (M)
Height	Height of the tree, in metres, measured with and altimeter
Diameter	Diameter of trunk, measured in mm, taken at 1.5 m on the trunk
Crown Spread (N E S W)	Length in metres, of the branch extension to the cardinal points N,E,S,W
Easting	Displayed in the Irish Transverse Mercator coordinates
Northing	Displayed in the Irish Transverse Mercator coordinates
Root Protection Area	Size of the Root Protection Area (RPA) presented in metres squared
Root Protection Area Radius	Size of the Root Protection Area (RPA) radius presented in metres
Structural Condition	The condition on the mechanical structural observed using the VTA method
Physiological Condition	The physiological health of the tree, relating to the overall health appearance
Vigor	Relating to the capacity of the tree to grow
Est. Remaining Contribution	Estimated remaining years that the tree will be able to contribute to the site
Ground Condition	The surrounding observable ground and soil conditions in which the tree grows
Retention Category	Retention category 1, 2, or 3, in accordance with BS 5837 - 2012
Retention Class	Retention class A, B or C, in accordance with BS 5837 – 2012
Fell This Tree	Yes or No
Reason for Felling	Arboricultural or Development
Comments	Observations and remarks based on the surveyor's knowledge and experience
Recommendations	Recommendations for tree works to improve the tree's health and public safety

2.1: Tree Classification Schedule

Tag No	T501
Species	Ash *(Fraxinus excelsior)*
Age Profile	Early Mature
Height	9 m
Diameter	500 mm
Crown Spread (N E S W)	Uneven 2.5/3/3/5
Crown Clearance	2.5 m
Easting	497353.948
Northing	590522.245
Root Protection Area	113.04 m^2
Root Protection Area Radius	6 m
Structural Condition	Dead
Physiological Condition	Dead
Vigor	Bad
Est. Remaining Contribution	0 Years
Ground Condition	Poor
Retention Category	U2
Retention Class	Landscape
Fell This Tree	Yes
Reason for Felling	Arboricultural
Comments	Dead tree, engulfed with ivy
Recommendations	Fell tree and remove



Tag No	T502
Species	Ash *(Fraxinus excelsior)*
Age Profile	Mature
Height	11 m
Diameter	550 mm
Crown Spread (N E S W)	Uneven 6/6/3/4
Crown Clearance	3 m
Easting	497357.374
Northing	590492.278
Root Protection Area	136.7784 m^2
Root Protection Area Radius	6.6 m
Structural Condition	Fair
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	5 Years
Ground Condition	Fair
Retention Category	C2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Tree grows from the side of a sod and stone embankment, heavy ivy on stem, is showing the early signs of ash dieback infection
Recommendations	Remove ivy, retain for the short term, re assess in one years time



Tag No	T503
Species	Ash *(Fraxinus excelsior)*
Age Profile	Mature
Height	12 m
Diameter	550 mm
Crown Spread (N E S W)	Uneven 7/7/2/5
Crown Clearance	3 m
Easting	497352.11
Northing	590485.78
Root Protection Area	136.7784 m^2
Root Protection Area Radius	6.6 m
Structural Condition	Poor
Physiological Condition	Poor
Vigor	Fair
Est. Remaining Contribution	1 Years
Ground Condition	Poor
Retention Category	U2
Retention Class	Landscape
Fell This Tree	Yes
Reason for Felling	Arboricultural
Comments	Tree grows on a sod and stone embankment, large amount of basal decay evident in the lower bole, cavity in the stem at .5 m, tree has the potential for failure over the laneway
Recommendations	Fell tree and remove



Tag No	T504
Species	Ash *(Fraxinus excelsior)*
Age Profile	Mature
Height	14 m
Diameter	650 mm
Crown Spread (N E S W)	Uneven 7/8/4/5
Crown Clearance	3 m
Easting	497351.108
Northing	590477.747
Root Protection Area	191.0376 m^2
Root Protection Area Radius	7.8 m
Structural Condition	Fair
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	5 Years
Ground Condition	Fair
Retention Category	C2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Tree grows on a sod and stone embankment, large lower bole, asymmetrical crown, heavy ivy on stem, tree is showing the early signs of ash dieback infection
Recommendations	Remove ivy, retain and reassess in one years time



Tag No	T505
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Mature
Height	10 m
Diameter	700 mm
Crown Spread (N E S W)	Uneven 3/9/4/4
Crown Clearance	2.5 m
Easting	497350.14
Northing	590472.857
Root Protection Area	221.5584 m^2
Root Protection Area Radius	8.4 m
Structural Condition	Fair
Physiological Condition	Good
Vigor	Fair
Est. Remaining Contribution	30 Years
Ground Condition	Fair
Retention Category	B2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Stunted tree, branches have been cut back on the West side of the lower crown, large primary branch grows East at 4 m, this branch has a large amount of decay and has a high potential for failure, large branch has cracked in the centre at 6 m
Recommendations	Remove large branch on the East side lower crown , remove broken branch in the centre at 6 m



Tag No	T506
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Mature
Height	13 m
Diameter	550 mm
Crown Spread (N E S W)	Uneven 2/8/1/1
Crown Clearance	3 m
Easting	497352.314
Northing	590466.659
Root Protection Area	136.7784 m^2
Root Protection Area Radius	6.6 m
Structural Condition	Fair
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	25 Years
Ground Condition	Fair
Retention Category	B2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	A subdominant tree, crown is suppressed by adjacent larger trees, stem leans East 80 degrees, poorly formed crown, low quality specimen
Recommendations	Remove ivy on stem, cut back branches on East side by 2 m



Tag No	T507
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Mature
Height	15 m
Diameter	600 mm
Crown Spread (N E S W)	Uneven 3/4/1/1
Crown Clearance	2 m
Easting	497348.773
Northing	590459.941
Root Protection Area	162.7776 m^2
Root Protection Area Radius	7.2 m
Structural Condition	Fair
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	25 Years
Ground Condition	Fair
Retention Category	B2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Poorly formed crown, a subdominant tree, suppressed crown on the South
Recommendations	Remove ivy, no further work required presently



Tag No	T508
Species	Ash *(Fraxinus excelsior)*
Age Profile	Early Mature
Height	12 m
Diameter	320 mm
Crown Spread (N E S W)	Uneven 2/5/2/1
Crown Clearance	1 m
Easting	497351.309
Northing	590460.611
Root Protection Area	46.301184 m^2
Root Protection Area Radius	3.84 m
Structural Condition	Fair
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	5 Years
Ground Condition	Fair
Retention Category	C2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Tree grows at the base of a sod and stone embankment, heavy lean of 80 degrees East, top heavy tree, poor formed crown, showing early signs of ash dieback infection
Recommendations	No work recommended at this time, re assess in one year's time



Tag No	T509
Species	Ash *(Fraxinus excelsior)*
Age Profile	Early Mature
Height	11 m
Diameter	320 mm
Crown Spread (N E S W)	Uneven 3/5/2/1
Crown Clearance	6 m
Easting	497351.303
Northing	590459.507
Root Protection Area	46.301184 m^2
Root Protection Area Radius	3.84 m
Structural Condition	Fair
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	5 Years
Ground Condition	Fair
Retention Category	C2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Sub dominant tree, poorly formed crown, grows East at an angle of approximately 80 degrees
Recommendations	No work required presently



Tag No	T510
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Over Mature
Height	16 m
Diameter	800 mm
Crown Spread (N E S W)	Uneven 8/10/2/7
Crown Clearance	2 m
Easting	497347.193
Northing	590455.834
Root Protection Area	289.3824 m^2
Root Protection Area Radius	9.6 m
Structural Condition	Good
Physiological Condition	Good
Vigor	Fair
Est. Remaining Contribution	35 Years
Ground Condition	Fair
Retention Category	B1 (20+)
Retention Class	Arboricultural
Fell This Tree	No
Reason for Felling	NA
Comments	Grows on top of a sod and stone embankment, fairly well developed branch structure although has an asymmetrical crown, suppressed branch growth on the South side, major deadwood at 3.5 m East side , showing signs of a lack of vigour
Recommendations	Remove ivy on the main bole, clean crown of any dead or defective branches



Tag No	T511
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Mature
Height	18 m
Diameter	858 mm
Crown Spread (N E S W)	Uneven 3/10/5/9
Crown Clearance	3 m
Easting	497345.099
Northing	590448.893
Root Protection Area	333.1226 m^2
Root Protection Area Radius	10.3 m
Structural Condition	Good
Physiological Condition	Good
Vigor	Fair
Est. Remaining Contribution	40 Years
Ground Condition	Fair
Retention Category	A1 (40+)
Retention Class	Arboricultural
Fell This Tree	No
Reason for Felling	NA
Comments	Large tree, grows on a sod and stone embankment, well formed lower bole, well formed crown with large primary branches spread out well, large crack on a primary branch lower crown East side at 8 m, this is a hazard, major deadwood at 6 m and 8 m
Recommendations	Remove ivy, clean crown of any dead or defective branches including cutting back and removal of large cracked branch on the East side



Tag No	T512
Species	Ash *(Fraxinus excelsior)*
Age Profile	Early Mature
Height	10 m
Diameter	350 mm
Crown Spread (N E S W)	Uneven 5/3/2/5
Crown Clearance	3 m
Easting	497342.072
Northing	590429.46
Root Protection Area	55.3896 m^2
Root Protection Area Radius	4.2 m
Structural Condition	Fair
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	5 Years
Ground Condition	Fair
Retention Category	C2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Heavy ivy on stem, sub dominant tree, suppressed crown on the south, tree leans North 80 degrees, showing early signs of ash dieback infection
Recommendations	Remove ivy, reassess in one year's time



Tag No	T513
Species	Ash *(Fraxinus excelsior)*
Age Profile	Mature
Height	17 m
Diameter	800 mm
Crown Spread (N E S W)	Even 8/8/8/8
Crown Clearance	2 m
Easting	497342.136
Northing	590426.056
Root Protection Area	289.3824 m^2
Root Protection Area Radius	9.6 m
Structural Condition	Fair
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	5 Years
Ground Condition	Fair
Retention Category	C2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Tree grows on a raised sod and stone embankment, extremely heavy ivy growth on main bole into upper canopy, well formed crown with good branch structure, showing early signs of ash dieback infection
Recommendations	Remove ivy, re assess in one years time



Tag No	T514
Species	Ash *(Fraxinus excelsior)*
Age Profile	Mature
Height	16 m
Diameter	500 mm
Crown Spread (N E S W)	Uneven 6/5/3/6
Crown Clearance	2 m
Easting	497339.167
Northing	590408.338
Root Protection Area	113.04 m^2
Root Protection Area Radius	6 m
Structural Condition	Fair
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	5 Years
Ground Condition	Fair
Retention Category	C2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Large tree, heavy ivy growth on main bole, well formed crown, broken branch stubs evident on the Western side of the lower crown @ 4 m, showing signs of early ash dieback infection
Recommendations	Clean crown of branch stubs and any defective branches, re assess in one year's time



Tag No	T515
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Mature
Height	15 m
Diameter	550 mm
Crown Spread (N E S W)	Uneven 5/7/5/5
Crown Clearance	1.5 m
Easting	497335.879
Northing	590383.737
Root Protection Area	136.7784 m^2
Root Protection Area Radius	6.6 m
Structural Condition	Fair
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	30 Years
Ground Condition	Fair
Retention Category	B1 (20+)
Retention Class	Arboricultural
Fell This Tree	No
Reason for Felling	NA
Comments	Large tree, very heavy ivy growth on stem into upper crown, multiple dead branches hang in the canopy from storm damage, asymmetrical crown, suppressed branch growth on the South, tree is showing signs of lack of vigour
Recommendations	Remove ivy, clean crown of all dead and defective branches



Tag No	T516
Species	Ash *(Fraxinus excelsior)*
Age Profile	Mature
Height	14 m
Diameter	630 mm
Crown Spread (N E S W)	Uneven 5/5/8/6
Crown Clearance	2 m
Easting	497334.548
Northing	590378.06
Root Protection Area	179.462304 m^2
Root Protection Area Radius	7.56 m
Structural Condition	Fair
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	5 Years
Ground Condition	Fair
Retention Category	C2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Ivy growth on main bole into the crown, asymmetrical crown, suppressed branch growth on the North, showing early signs of ash dieback infection
Recommendations	Remove ivy, re assess in one year's time



Tag No	T517
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Mature
Height	14 m
Diameter	450 mm
Crown Spread (N E S W)	Even 6/6/6/6
Crown Clearance	6 m
Easting	497274.331
Northing	590321.598
Root Protection Area	91.5624 m^2
Root Protection Area Radius	5.4 m
Structural Condition	Good
Physiological Condition	Good
Vigor	Good
Est. Remaining Contribution	30 Years
Ground Condition	Fair
Retention Category	B1 (20+)
Retention Class	Arboricultural
Fell This Tree	No
Reason for Felling	NA
Comments	Very heavy ivy growth on stem, tree leans slightly North then corrects at 4 m and straightens out, crown has a squat appearance with no lower crown development
Recommendations	Remove ivy and re assess



Tag No	T518
Species	Ash *(Fraxinus excelsior)*
Age Profile	Mature
Height	20 m
Diameter	540 mm
Crown Spread (N E S W)	Even 7/7/7/7
Crown Clearance	4 m
Easting	497251.203
Northing	590314.192
Root Protection Area	263.463584 m^2
Root Protection Area Radius	9.16 m
Structural Condition	Poor
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	20 Years
Ground Condition	Fair
Retention Category	B2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Twin stem from the base, branch failure evident at 2 m, 3 m, well formed crown, tree is showing signs of a lack of vigour
Recommendations	Clean crown of any dead or defective branches, recesses in one years time



Tag No	T519
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Mature
Height	18 m
Diameter	700 mm
Crown Spread (N E S W)	Uneven 7/2/8/5
Crown Clearance	3 m
Easting	497249.705
Northing	590313.949
Root Protection Area	221.5584 m^2
Root Protection Area Radius	8.4 m
Structural Condition	Fair
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	15 Years
Ground Condition	Fair
Retention Category	C2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Grows on a raised sod and stone embankment, well formed bole, minor and major deadwood throughout the crown, showing a clear lack of vigour
Recommendations	Clean crown of any dead or defective branches, recesses assess in one year



Tag No	T520
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Mature
Height	18 m
Diameter	750 mm
Crown Spread (N E S W)	Uneven 6/5/6/6
Crown Clearance	3 m
Easting	497238.249
Northing	590309.396
Root Protection Area	254.34 m^2
Root Protection Area Radius	9 m
Structural Condition	Fair
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	15 Years
Ground Condition	Fair
Retention Category	C1 (10+)
Retention Class	Arboricultural
Fell This Tree	No
Reason for Felling	NA
Comments	Well developed lower bole, bifurcation at 2 m, two stems make up the crown, well developed branch structure, broken branch stub at 4 m, tree is showing a clear lack of vigour with a possible root problem
Recommendations	Clean crown of any dead or defective branches, recesses in one year's time



Tag No	T521
Species	Silver birch *(Betula pendula)*
Age Profile	Mature
Height	15 m
Diameter	400 mm
Crown Spread (N E S W)	Uneven 7/5/6/4
Crown Clearance	4 m
Easting	497215.765
Northing	590299.534
Root Protection Area	72.3456 m^2
Root Protection Area Radius	4.8 m
Structural Condition	Good
Physiological Condition	Good
Vigor	Fair
Est. Remaining Contribution	25 Years
Ground Condition	Fair
Retention Category	B1 (20+)
Retention Class	Arboricultural
Fell This Tree	No
Reason for Felling	NA
Comments	Tree grows at the base of a sod and stone embankment, co dominant stems from 1 m, heavy ivy growth on stems, well formed crown
Recommendations	Remove ivy, no further work at this time



Tag No	T522
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Mature
Height	17 m
Diameter	680 mm
Crown Spread (N E S W)	Even 7/7/7/7
Crown Clearance	5 m
Easting	497201.872
Northing	590301.232
Root Protection Area	209.078784 m^2
Root Protection Area Radius	8.16 m
Structural Condition	Good
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	30 Years
Ground Condition	Fair
Retention Category	B1 (20+)
Retention Class	Arboricultural
Fell This Tree	No
Reason for Felling	NA
Comments	Clean stem to 4 m, slight basal sweep on the lower bole, well developed crown with evenly distributed branch structure, damaged branch at 7 m with large crack underside of the branch, tree is showing signs of a lack of vigour
Recommendations	Remove ivy, remove damaged branch structure 7 m



Tag No	T523
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Mature
Height	20 m
Diameter	950 mm
Crown Spread (N E S W)	Uneven 7/9/8/6
Crown Clearance	3 m
Easting	497189.17
Northing	590295.969
Root Protection Area	408.0744 m^2
Root Protection Area Radius	11.4 m
Structural Condition	Good
Physiological Condition	Good
Vigor	Fair
Est. Remaining Contribution	25 Years
Ground Condition	Fair
Retention Category	B1 (20+)
Retention Class	Arboricultural
Fell This Tree	No
Reason for Felling	NA
Comments	Large tree, grows on top of a raised sod and stone embankment, ivy growth on stem, large primary branches grow in four directions, major deadwood in the centre at 6 m and 10 m, tree is showing clear signs of a lack of vigour
Recommendations	Clean crown of all dead and defective branches, remove ivy, reassess in one years time



Tag No	T524
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Mature
Height	18 m
Diameter	970 mm
Crown Spread (N E S W)	Uneven 7/8/7/7
Crown Clearance	5 m
Easting	497174.094
Northing	590292.678
Root Protection Area	425.437344 m^2
Root Protection Area Radius	11.64 m
Structural Condition	Fair
Physiological Condition	Good
Vigor	Good
Est. Remaining Contribution	40 Years
Ground Condition	Fair
Retention Category	A1 (40+)
Retention Class	Arboricultural
Fell This Tree	No
Reason for Felling	NA
Comments	Large tree, squat appearance to the crown, wide spreading branches, well developed lower bole, heavy ivy on bole and into upper crown, large branch failure at 8 m, and 9 m, multiple dead branches throughout the crown
Recommendations	Clean crown of any deadwood, remove ivy



Tag No	T525
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Early Mature
Height	7 m
Diameter	450 mm
Crown Spread (N E S W)	Even 1/1/1/1
Crown Clearance	1 m
Easting	497170.338
Northing	590291.586
Root Protection Area	91.5624 m^2
Root Protection Area Radius	5.4 m
Structural Condition	Dead
Physiological Condition	Dead
Vigor	Bad
Est. Remaining Contribution	5 Years
Ground Condition	Fair
Retention Category	U2
Retention Class	Landscape
Fell This Tree	Yes
Reason for Felling	Arboricultural
Comments	Dead tree stump
Recommendations	Fell and remove



Tag No	T526
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Mature
Height	17 m
Diameter	670 mm
Crown Spread (N E S W)	Uneven 8/3/7/3
Crown Clearance	3 m
Easting	497164.514
Northing	590290.469
Root Protection Area	202.974624 m^2
Root Protection Area Radius	8.04 m
Structural Condition	Good
Physiological Condition	Good
Vigor	Good
Est. Remaining Contribution	40 Years
Ground Condition	Fair
Retention Category	A1 (40+)
Retention Class	Arboricultural
Fell This Tree	No
Reason for Felling	NA
Comments	Large tree, grows on a stone and sod embankment, asymmetrical crown, restricted branch growth on the East and West, bifurcation at 2 m, two large stems make up the crown, minor deadwood throughout the crown, damage to the underside of branches from machinery on the North side
Recommendations	Remove ivy, clean crown of dead and defective branches



Tag No	T527
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Mature
Height	22 m
Diameter	800 mm
Crown Spread (N E S W)	Uneven 8/7/6/4
Crown Clearance	3 m
Easting	497157.214
Northing	590284.638
Root Protection Area	289.3824 m^2
Root Protection Area Radius	9.6 m
Structural Condition	Good
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	40 Years
Ground Condition	Good
Retention Category	A1 (40+)
Retention Class	Arboricultural
Fell This Tree	No
Reason for Felling	NA
Comments	Large tree, large lower bole with good taper, major deadwood at 4 m in centre, minor deadwood throughout the crown, damage to underside of branch at 12 m from another branch failure , tree is showing slight lack of vigour
Recommendations	Clean crown of deadwood, reduce length of lower branches on North side by 4 m



Tag No	T528
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Mature
Height	22 m
Diameter	100 mm
Crown Spread (N E S W)	Uneven 7/3/12/8
Crown Clearance	4 m
Easting	497151.745
Northing	590282.516
Root Protection Area	4.5216 m^2
Root Protection Area Radius	1.2 m
Structural Condition	Fair
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	25 Years
Ground Condition	Fair
Retention Category	B1 (20+)
Retention Class	Arboricultural
Fell This Tree	No
Reason for Felling	NA
Comments	Large tree, large lower bole, structural roots exposed at the surface, stem digresses at 4 m and straightens again at 7 m, heavy ivy on stem, asymmetrical crown, large branch failure at 5 m and 9 m South side from storms, major deadwood in centre at 10 m, crown grows extensively Southward
Recommendations	Remove ivy, clean crown of all dead and defective branches, reduce outer branch length in the upper crown by 3 m



Tag No	T529
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Mature
Height	11 m
Diameter	800 mm
Crown Spread (N E S W)	Uneven 6/9/7/4
Crown Clearance	3 m
Easting	497192.352
Northing	590277.038
Root Protection Area	289.3824 m^2
Root Protection Area Radius	9.6 m
Structural Condition	Good
Physiological Condition	Good
Vigor	Good
Est. Remaining Contribution	40 Years
Ground Condition	Fair
Retention Category	A2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Tree has a squat like form, not a tall tree, very heavy ivy and bramble on the lower bole, branches have been cut back on the West side to the main stem, crown is unbalanced because of this, large wound on a primary branch at 6 m South side, difficult to inspect the tree due to heavy bramble and ivy , appears to be in good health
Recommendations	Remove ivy and re assess, remove bramble, reduce length of outer branches in the lower crown by 3 m



Tag No	T530
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Mature
Height	18 m
Diameter	550 mm
Crown Spread (N E S W)	Uneven 7/8/2/6
Crown Clearance	3 m
Easting	497200.564
Northing	590249.743
Root Protection Area	136.7784 m^2
Root Protection Area Radius	6.6 m
Structural Condition	Good
Physiological Condition	Good
Vigor	Good
Est. Remaining Contribution	40 Years
Ground Condition	Fair
Retention Category	A2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Tree grows on top of a sod and stone embankment, heavy ivy on stem, major deadwood at 4 m North side, unbalanced crown, restricted branch growth on the South, major deadwood at 8 m West side, minor deadwood throughout the crown
Recommendations	Remove ivy, clean crown of all dead and defective branches reduce length of branches on the West, North and East by 2 m



Tag No	T531
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Mature
Height	18 m
Diameter	750 mm
Crown Spread (N E S W)	Uneven 5/6/2/8
Crown Clearance	3 m
Easting	497206.507
Northing	590245.076
Root Protection Area	254.34 m^2
Root Protection Area Radius	9 m
Structural Condition	Fair
Physiological Condition	Good
Vigor	Good
Est. Remaining Contribution	30 Years
Ground Condition	Fair
Retention Category	B2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Large lower bole, large branch failure at 1 m, well developed branch structure, restricted branch growth on the South side, unbalanced crown minor deadwood throughout the crown
Recommendations	Remove ivy, clean crown of all dead and defective branches reduce length of outer branches by 3 m



Tag No	T532
Species	Ash (*Fraxinus excelsior*)
Age Profile	Mature
Height	22 m
Diameter	650 mm
Crown Spread (N E S W)	Even 10/10/10/10
Crown Clearance	4 m
Easting	497207.185
Northing	590241.58
Root Protection Area	464.297984 m^2
Root Protection Area Radius	12.16 m
Structural Condition	Good
Physiological Condition	Good
Vigor	Good
Est. Remaining Contribution	5 - 10 Years
Ground Condition	Fair
Retention Category	A2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Enormous tree, multi stemmed (3) from .5 m, three large stems support a large crown, well developed branch structure, heavy ivy growth on stems, large branch failure in the centre , dead branch lies in the centre at 2 m, no clear indication that the tree is infected with ash dieback
Recommendations	Remove ivy, clean crown of all dead and defective branches, re assess in one years time



Tag No	T533
Species	Ash *(Fraxinus excelsior)*
Age Profile	Mature
Height	16 m
Diameter	650 mm
Crown Spread (N E S W)	Uneven 6/7/9/3
Crown Clearance	5 m
Easting	497219.534
Northing	590222.607
Root Protection Area	191.0376 m^2
Root Protection Area Radius	7.8 m
Structural Condition	Fair
Physiological Condition	Fair
Vigor	Good
Est. Remaining Contribution	5 - 10 Years
Ground Condition	Fair
Retention Category	B2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Clean bole to 5 m, ivy growth on stems, stem digresses at 1 m and straightens again at 5 m, large primary branches grow North and South broken leading stem in the centre at 10 m, minor deadwood throughout the crown
Recommendations	Remove ivy, clean crown of deadwood, re assess in one years time



Tag No	T534
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Mature
Height	17 m
Diameter	600 mm
Crown Spread (N E S W)	Uneven 8/1/6/6
Crown Clearance	5 m
Easting	497217.296
Northing	590218.736
Root Protection Area	162.7776 m^2
Root Protection Area Radius	7.2 m
Structural Condition	Fair
Physiological Condition	Good
Vigor	Fair
Est. Remaining Contribution	30 Years
Ground Condition	Fair
Retention Category	B2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Heavy ivy on main bole into upper crown, co dominant stems from 3 m, restricted branch growth on the East, unbalanced crown as a result, minor deadwood throughout the crown
Recommendations	Remove ivy, clean crown of dead and defective branches, reduce length of outer branches by 2 m



Tag No	T535
Species	Ash *(Fraxinus excelsior)*
Age Profile	Early Mature
Height	14 m
Diameter	500 mm
Crown Spread (N E S W)	Even 5/5/5/5
Crown Clearance	4 m
Easting	497210.862
Northing	590211.899
Root Protection Area	113.04 m^2
Root Protection Area Radius	6 m
Structural Condition	Poor
Physiological Condition	Poor
Vigor	Poor
Est. Remaining Contribution	1 Years
Ground Condition	Fair
Retention Category	U2
Retention Class	Landscape
Fell This Tree	Yes
Reason for Felling	Arboricultural
Comments	Medium sized tree, very heavy ivy growth on main stem into upper crown, tree is heavily infected with ash dieback and is nearly dead, will be a hazard when targets are introduced
Recommendations	Fell tree and remove



Tag No	T536
Species	Ash *(Fraxinus excelsior)*
Age Profile	Early Mature
Height	14 m
Diameter	320 mm
Crown Spread (N E S W)	Uneven 4/4/2/1
Crown Clearance	6 m
Easting	497204.297
Northing	590205.6
Root Protection Area	46.301184 m^2
Root Protection Area Radius	3.84 m
Structural Condition	Fair
Physiological Condition	Poor
Vigor	Poor
Est. Remaining Contribution	5 Years
Ground Condition	Fair
Retention Category	C2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Poorly developed tree, no lower crown branch structure, top heavy tree, showing early signs of ash dieback infection
Recommendations	Retain for the short term, re assess in one years time



Tag No	T537
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Mature
Height	16 m
Diameter	600 mm
Crown Spread (N E S W)	Uneven 7/5/7/3
Crown Clearance	3 m
Easting	497202.108
Northing	590204.324
Root Protection Area	162.7776 m^2
Root Protection Area Radius	7.2 m
Structural Condition	Fair
Physiological Condition	Good
Vigor	Fair
Est. Remaining Contribution	30 Years
Ground Condition	Fair
Retention Category	B2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Poorly developed tree, straight stem to 4 m, suppressed crown, ivy growth in stem, minor deadwood throughout the crown
Recommendations	Remove ivy, clean crown of deadwood, reduce length of outer branches growing North by 3 m



Tag No	T538
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Early Mature
Height	14 m
Diameter	420 mm
Crown Spread (N E S W)	Uneven 1/1/1/3
Crown Clearance	5 m
Easting	497198.919
Northing	590200.977
Root Protection Area	79.761024 m^2
Root Protection Area Radius	5.04 m
Structural Condition	Fair
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	15 Years
Ground Condition	Fair
Retention Category	C2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Straight stem, heavy ivy on stem, no lower or mid crown branch structure, a sub dominant tree, top heavy
Recommendations	Remove ivy, retain and re assess in one years time



Tag No	T539
Species	Ash *(Fraxinus excelsior)*
Age Profile	Early Mature
Height	6 m
Diameter	250 mm
Crown Spread (N E S W)	Uneven 0.5/0.5/1/3
Crown Clearance	5 m
Easting	497195.196
Northing	590197.859
Root Protection Area	28.26 m^2
Root Protection Area Radius	3 m
Structural Condition	Poor
Physiological Condition	Poor
Vigor	Poor
Est. Remaining Contribution	1 Years
Ground Condition	Fair
Retention Category	U2
Retention Class	Landscape
Fell This Tree	Yes
Reason for Felling	Arboricultural
Comments	Stunted tree, almost dead, heavily engulfed with ivy
Recommendations	Fell and remove



Tag No	T540
Species	Ash *(Fraxinus excelsior)*
Age Profile	Mature
Height	16 m
Diameter	750 mm
Crown Spread (N E S W)	Uneven 8/8/7/9
Crown Clearance	4 m
Easting	497161.949
Northing	590180.623
Root Protection Area	254.34 m^2
Root Protection Area Radius	9 m
Structural Condition	Poor
Physiological Condition	Poor
Vigor	Fair
Est. Remaining Contribution	1 Years
Ground Condition	Poor
Retention Category	U2
Retention Class	Landscape
Fell This Tree	Yes
Reason for Felling	Arboricultural
Comments	Two stems from 2 m, Large amount of basal decay evident, large cavity at the bottom of one stem at 2 m, large dead branch growth in the centre at 7 m, very heavy ivy growth, unbalanced crown, unhealthy tree
Recommendations	Fell tree and remove



Tag No	T541
Species	Silver birch *(Betula pendula)*
Age Profile	Early Mature
Height	14 m
Diameter	250 mm
Crown Spread (N E S W)	Even 2.5/2.5/2.5/2.5
Crown Clearance	9 m
Easting	497177.276
Northing	590186.365
Root Protection Area	28.26 m^2
Root Protection Area Radius	3 m
Structural Condition	Good
Physiological Condition	Good
Vigor	Good
Est. Remaining Contribution	25 Years
Ground Condition	Fair
Retention Category	B2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Tree grows on the South side of the hedgerow possibly outside the boundary, was not tagged, difficult to see the exact condition as visibility was restricted by the vegetation, straight stem, healthy crown of leaves, no obvious signs of defects or ill health
Recommendations	No work recommended at this time



Tag No	T542
Species	Hawthorn *(Crataegus monogyna)*
Age Profile	Mature
Height	9 m
Diameter	270 mm
Crown Spread (N E S W)	Uneven 1/1/3/3
Crown Clearance	3 m
Easting	497160.23
Northing	590178.546
Root Protection Area	32.962464 m^2
Root Protection Area Radius	3.24 m
Structural Condition	Fair
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	15 Years
Ground Condition	Fair
Retention Category	C2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Tree grows on top of a sod and stone embankment, restricted branch growth on the East, branches grow West , asymmetrical crown, branch growing from the base is decayed
Recommendations	None at this time



Tag No	T543
Species	Ash *(Fraxinus excelsior)*
Age Profile	Mature
Height	15 m
Diameter	550 mm
Crown Spread (N E S W)	Uneven 4/7/6/5
Crown Clearance	6 m
Easting	497124.873
Northing	590166.133
Root Protection Area	322.217066 m^2
Root Protection Area Radius	10.13 m
Structural Condition	Poor
Physiological Condition	Poor
Vigor	Fair
Est. Remaining Contribution	3 Years
Ground Condition	Fair
Retention Category	U2
Retention Class	Landscape
Fell This Tree	Yes
Reason for Felling	Arboricultural
Comments	3 no. Stems from the base, very heavy ivy on the stems and into the upper crown, basal decay evident on 2 no. Stems, dieback evident in the outer branches, tree is showing signs of ash dieback infection
Recommendations	Fell tree and remove



Tag No	T544
Species	Holly *(Ilex aquifolium)*
Age Profile	Mature
Height	14 m
Diameter	400 mm
Crown Spread (N E S W)	Uneven 3/2/4/5
Crown Clearance	1 m
Easting	497119.612
Northing	590163.692
Root Protection Area	127.811816 m^2
Root Protection Area Radius	6.38 m
Structural Condition	Good
Physiological Condition	Good
Vigor	Good
Est. Remaining Contribution	40 Years
Ground Condition	Fair
Retention Category	A2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Large Holly tree, grows on top of a sod and stone embankment, large crown, healthy leaf colour, asymmetrical crown with extended branch growth West
Recommendations	No work recommended at this time



Tag No	T545
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Mature
Height	10 m
Diameter	850 mm
Crown Spread (N E S W)	Uneven 3/2/5/1
Crown Clearance	7 m
Easting	497109.712
Northing	590180.032
Root Protection Area	326.6856 m^2
Root Protection Area Radius	10.2 m
Structural Condition	Dead
Physiological Condition	Dead
Vigor	Bad
Est. Remaining Contribution	10 Years
Ground Condition	Fair
Retention Category	U2
Retention Class	Landscape
Fell This Tree	Yes
Reason for Felling	Arboricultural
Comments	Dead tree snag, large tree stump that stands on top of the sod and stone embankment, has been pollarded in the past, now dead and is an imposing structure in this section, will pose a hazard in the long term if targets are placed nearby, it is contributing ecologically as standing deadwood
Recommendations	Fell tree and remove



Tag No	T546
Species	Ash *(Fraxinus excelsior)*
Age Profile	Mature
Height	17 m
Diameter	550 mm
Crown Spread (N E S W)	Uneven 6/5/9/5
Crown Clearance	8 m
Easting	497111.545
Northing	590218.305
Root Protection Area	136.7784 m^2
Root Protection Area Radius	6.6 m
Structural Condition	Poor
Physiological Condition	Poor
Vigor	Fair
Est. Remaining Contribution	2 Years
Ground Condition	Poor
Retention Category	U2
Retention Class	Landscape
Fell This Tree	Yes
Reason for Felling	Arboricultural
Comments	Tree stands on the edge of the field, clean bole to 6 m, well developed crown with good branch structure, extensive infection with Ganoderma applanatum at the base of the stem, this tree is a structural hazard
Recommendations	Fell tree and remove



Tag No	T547
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Mature
Height	19 m
Diameter	700 mm
Crown Spread (N E S W)	Even 9/9/9/9
Crown Clearance	4 m
Easting	497111.71
Northing	590254.86
Root Protection Area	358.155936 m^2
Root Protection Area Radius	10.68 m
Structural Condition	Good
Physiological Condition	Good
Vigor	Fair
Est. Remaining Contribution	30 Years
Ground Condition	Fair
Retention Category	B1 (20+)
Retention Class	Arboricultural
Fell This Tree	No
Reason for Felling	NA
Comments	Medium sized tree, twin stem from the base, well developed crown, evenly distributed branch structure, tree looks well, showing a lack of vigour
Recommendations	Cut back branches in the lower crown East side by 2 m



Tag No	T548
Species	Ash *(Fraxinus excelsior)*
Age Profile	Early Mature
Height	12 m
Diameter	400 mm
Crown Spread (N E S W)	Uneven 4/4/3/6
Crown Clearance	3.5 m
Easting	497110.769
Northing	590267.555
Root Protection Area	72.3456 m^2
Root Protection Area Radius	4.8 m
Structural Condition	Good
Physiological Condition	Good
Vigor	Good
Est. Remaining Contribution	20 Years
Ground Condition	Fair
Retention Category	B1 (20+)
Retention Class	Arboricultural
Fell This Tree	No
Reason for Felling	NA
Comments	Straight stem, fairly symmetrical form, good vigour, no evidence presently that it is infected with ash dieback, a healthy tree at the moment
Recommendations	Cut back lower branches on the East side by 2 m



Tag No	T549
Species	Pedunculate oak *(Quercus robur)*
Age Profile	Mature
Height	14 m
Diameter	650 mm
Crown Spread (N E S W)	Uneven 2/2/9/8
Crown Clearance	1 m
Easting	497142.521
Northing	590280.134
Root Protection Area	191.0376 m^2
Root Protection Area Radius	7.8 m
Structural Condition	Fair
Physiological Condition	Good
Vigor	Good
Est. Remaining Contribution	30 Years
Ground Condition	Fair
Retention Category	B1 (20+)
Retention Class	Arboricultural
Fell This Tree	No
Reason for Felling	NA
Comments	Tree grows on a raised sod and stone embankment, ivy growth on stem, twin stem from 2 m, tree grows as a sub dominant to T528, asymmetrical and unbalanced crown as the branches grow extensively South
Recommendations	Reduce length of branches on the South by 3 m, remove ivy, clean lower bole of epicormic growth to 2 m



Tag No	T550
Species	Ash *(Fraxinus excelsior)*
Age Profile	Semi Mature
Height	11 m
Diameter	240 mm
Crown Spread (N E S W)	Even 3/3/3/3
Crown Clearance	6 m
Easting	497145.817
Northing	590346.083
Root Protection Area	26.044416 m^2
Root Protection Area Radius	2.88 m
Structural Condition	Good
Physiological Condition	Good
Vigor	Fair
Est. Remaining Contribution	10 Years
Ground Condition	Poor
Retention Category	C2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Tree grows as part of the hedgerow, presently healthy but showing a slight lack of vigour, possibly the very initial stages of ash dieback infection
Recommendations	No work at this time, reassess in one year from now



Tag No	T551
Species	Ash *(Fraxinus excelsior)*
Age Profile	Early Mature
Height	9 m
Diameter	450 mm
Crown Spread (N E S W)	Even 6/6/6/6
Crown Clearance	1 m
Easting	497143.295
Northing	590453.001
Root Protection Area	91.5624 m^2
Root Protection Area Radius	5.4 m
Structural Condition	Poor
Physiological Condition	Poor
Vigor	Fair
Est. Remaining Contribution	5 Years
Ground Condition	Fair
Retention Category	C2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Low quality specimen, was coppiced in the past, heavy ivy growth on stem, basal decay evident on lower bole
Recommendations	Remove ivy, re coppice to manage the hedgerow dimensions



Tag No	T552
Species	Ash *(Fraxinus excelsior)*
Age Profile	Mature
Height	17 m
Diameter	550 mm
Crown Spread (N E S W)	Even 7/7/7/7
Crown Clearance	4 m
Easting	497213.578
Northing	590579.823
Root Protection Area	209.078784 m^2
Root Protection Area Radius	8.16 m
Structural Condition	Fair
Physiological Condition	Good
Vigor	Good
Est. Remaining Contribution	25 Years
Ground Condition	Fair
Retention Category	B1 (20+)
Retention Class	Arboricultural
Fell This Tree	No
Reason for Felling	NA
Comments	Twin stem from the base, one stem has been cut to .5 m in height, straight stem to 9 m, well-formed crown, symmetrical form
Recommendations	No work required presently, reassess this tree in one year from now



Tag No	T553
Species	Ash *(Fraxinus excelsior)*
Age Profile	Mature
Height	20 m
Diameter	400 mm
Crown Spread (N E S W)	Uneven 7/10/9/7
Crown Clearance	5 m
Easting	497223.302
Northing	590581.75
Root Protection Area	217.358336 m^2
Root Protection Area Radius	8.32 m
Structural Condition	Good
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	25 Years
Ground Condition	Fair
Retention Category	B1 (20+)
Retention Class	Arboricultural
Fell This Tree	No
Reason for Felling	NA
Comments	Large tree, 3 no. Stems from the base, well-formed crown, minor dieback in the outer tips suggest a physiological problem, tree still appears to have good vigour
Recommendations	Re assess in one year from now



Tag No	T554
Species	Ash *(Fraxinus excelsior)*
Age Profile	Mature
Height	16 m
Diameter	280 mm
Crown Spread (N E S W)	Uneven 6/4/8/5
Crown Clearance	3 m
Easting	497245.316
Northing	590584.268
Root Protection Area	119.149184 m^2
Root Protection Area Radius	6.16 m
Structural Condition	Poor
Physiological Condition	Poor
Vigor	Poor
Est. Remaining Contribution	10 Years
Ground Condition	Fair
Retention Category	C1 (10+)
Retention Class	Arboricultural
Fell This Tree	No
Reason for Felling	NA
Comments	3 no. Stems from the base, basal decay in one stem, cavity at the base of this one stem, tree is showing clear signs of poor health, dead branches in the upper crown, diminishing vigour evident
Recommendations	Reduce to a height of 2 m, let this tree contribute to the hedgerow structurally and ecologically for the short to medium term



Tag No	T555
Species	Ash *(Fraxinus excelsior)*
Age Profile	Mature
Height	15 m
Diameter	300 mm
Crown Spread (N E S W)	Uneven 3/2/4/3
Crown Clearance	8 m
Easting	497250.793
Northing	590584.99
Root Protection Area	81.351434 m^2
Root Protection Area Radius	5.09 m
Structural Condition	Dead
Physiological Condition	Dead
Vigor	Bad
Est. Remaining Contribution	0 Years
Ground Condition	Fair
Retention Category	U1
Retention Class	Arboricultural
Fell This Tree	Yes
Reason for Felling	Arboricultural
Comments	Tree stands among dense undergrowth, now a dead tree and a hazard over the public roadway
Recommendations	Fell tree and remove



Tag No	T556
Species	Ash *(Fraxinus excelsior)*
Age Profile	Mature
Height	22 m
Diameter	500 mm
Crown Spread (N E S W)	Uneven 9/6/6/5
Crown Clearance	5 m
Easting	497259.374
Northing	590586.494
Root Protection Area	293.617946 m^2
Root Protection Area Radius	9.67 m
Structural Condition	Fair
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	5 Years
Ground Condition	Fair
Retention Category	C1 (10+)
Retention Class	Arboricultural
Fell This Tree	No
Reason for Felling	NA
Comments	Multi stemmed (4) from the base, was coppiced many years ago, large crown that is well formed, heavy ivy on stems, tree is thinning in the upper canopy, early signs of ash dieback infection evident
Recommendations	Reduce height to 7 m, remove ivy



Tag No	T557
Species	Ash *(Fraxinus excelsior)*
Age Profile	Early Mature
Height	16 m
Diameter	360 mm
Crown Spread (N E S W)	Uneven 6/5/5/2
Crown Clearance	6 m
Easting	497261.422
Northing	590586.44
Root Protection Area	58.599936 m^2
Root Protection Area Radius	4.32 m
Structural Condition	Good
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	5 Years
Ground Condition	Fair
Retention Category	C1 (10+)
Retention Class	Arboricultural
Fell This Tree	No
Reason for Felling	NA
Comments	Tree grows as a subdominant to adjacent larger tree, asymmetrical crown, clean stem to 8 m, crown is thinning slightly and showing early signs of ash dieback infection
Recommendations	Retain for the short term, reassess in one year from now



Tag No	T558
Species	Sycamore *(Acer pseudoplatanus)*
Age Profile	Mature
Height	17 m
Diameter	760 mm
Crown Spread (N E S W)	Uneven 6/3/5/6
Crown Clearance	3 m
Easting	497273.572
Northing	590586.607
Root Protection Area	261.167616 m^2
Root Protection Area Radius	9.12 m
Structural Condition	Good
Physiological Condition	Good
Vigor	Good
Est. Remaining Contribution	40 Years
Ground Condition	Fair
Retention Category	A1 (40+)
Retention Class	Arboricultural
Fell This Tree	No
Reason for Felling	NA
Comments	Well formed lower bole, twin stem from 2 m, well developed crown, restricted branch growth in the past on the East side from an adjacent larger tree that has been felled since, asymmetrical crown, healthy tree
Recommendations	Clean lower blow and crown raise to 2.5 m



Tag No	T559
Species	Ash *(Fraxinus excelsior)*
Age Profile	Mature
Height	21 m
Diameter	650 mm
Crown Spread (N E S W)	Uneven 8/3/7/3
Crown Clearance	3 m
Easting	497292.141
Northing	590592.119
Root Protection Area	191.0376 m^2
Root Protection Area Radius	7.8 m
Structural Condition	Poor
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	5 Years
Ground Condition	Fair
Retention Category	C1 (10+)
Retention Class	Arboricultural
Fell This Tree	No
Reason for Felling	NA
Comments	Poorly formed tree, mature specimen, 2 no. stems, was coppiced to 2 m in height in the past, one stem was cut again to 4 m, one stem has a large crown that is well developed, crown is thinning and tree is infected with ash dieback, decay evident in both stems at 2.5 m with potential for failure such as breakage
Recommendations	Reduce in height to 2 m, retain as part of the hedgerow



Tag No	T560
Species	Ash *(Fraxinus excelsior)*
Age Profile	Mature
Height	20 m
Diameter	850 mm
Crown Spread (N E S W)	Uneven 7/10/9/3
Crown Clearance	2 m
Easting	497298.398
Northing	590593.54
Root Protection Area	326.6856 m^2
Root Protection Area Radius	10.2 m
Structural Condition	Poor
Physiological Condition	Poor
Vigor	Poor
Est. Remaining Contribution	5 Years
Ground Condition	Fair
Retention Category	C1 (10+)
Retention Class	Arboricultural
Fell This Tree	No
Reason for Felling	NA
Comments	Large tree, restricted branch growth in the West, large branches grow East and South, major dieback in the outer crown, tree is in poor health
Recommendations	Reduce height to 2 m, retain as part of the hedgerow



Tag No	T561
Species	Sycamore *(Acer pseudoplatanus)*
Age Profile	Mature
Height	16 m
Diameter	420 mm
Crown Spread (N E S W)	Uneven 5/6/6/1
Crown Clearance	2 m
Easting	497299.735
Northing	590593.868
Root Protection Area	79.761024 m^2
Root Protection Area Radius	5.04 m
Structural Condition	Fair
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	15 Years
Ground Condition	Fair
Retention Category	C2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Poorly formed tree, growing in close proximity to larger ash tree, suppressed crown, low quality specimen with no potential to become a tree of merit
Recommendations	Reduce crown on North, East and South by 5 m and prune to reshape the crown



Tag No	T562
Species	Sycamore *(Acer pseudoplatanus)*
Age Profile	Early Mature
Height	14 m
Diameter	400 mm
Crown Spread (N E S W)	Uneven 5/6/4/4
Crown Clearance	3 m
Easting	497319.351
Northing	590590.753
Root Protection Area	72.3456 m^2
Root Protection Area Radius	4.8 m
Structural Condition	Good
Physiological Condition	Good
Vigor	Good
Est. Remaining Contribution	30 Years
Ground Condition	Fair
Retention Category	B2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Tree grows 1 m from a masonry block wall, 3 no. Stems from 2.5 m, well formed crown, slightly asymmetrical crown
Recommendations	No work recommended at this time



Tag No	T563
Species	Wych elm *(Ulmus glabra)*
Age Profile	Early Mature
Height	5 m
Diameter	180 mm
Crown Spread (N E S W)	Uneven 2/4/1/1
Crown Clearance	0.5 m
Easting	497320.714
Northing	590582.423
Root Protection Area	14.649984 m^2
Root Protection Area Radius	2.16 m
Structural Condition	Fair
Physiological Condition	Fair
Vigor	Fair
Est. Remaining Contribution	10 Years
Ground Condition	Fair
Retention Category	C2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Stunted tree, stem leans 70 degrees South, poorly formed crown, low quality tree, dead stem of another tree leans against it
Recommendations	Cut back branches on the East side by 3 m



Tag No	T564
Species	Ash *(Fraxinus excelsior)*
Age Profile	Early Mature
Height	14 m
Diameter	380 mm
Crown Spread (N E S W)	Uneven 2/4/2/1
Crown Clearance	6 m
Easting	497320.427
Northing	590579.536
Root Protection Area	65.291904 m^2
Root Protection Area Radius	4.56 m
Structural Condition	Poor
Physiological Condition	Poor
Vigor	Poor
Est. Remaining Contribution	1 Years
Ground Condition	Fair
Retention Category	U2
Retention Class	Landscape
Fell This Tree	Yes
Reason for Felling	Arboricultural
Comments	Tree is almost dead, poorly formed crown, dead branches hang over house on the East side
Recommendations	Fell tree and remove



Tag No	T565
Species	Ash *(Fraxinus excelsior)*
Age Profile	Mature
Height	14 m
Diameter	270 mm
Crown Spread (N E S W)	Uneven 1/2/5/3
Crown Clearance	8 m
Easting	497319.783
Northing	590578.545
Root Protection Area	73.556384 m^2
Root Protection Area Radius	4.84 m
Structural Condition	Poor
Physiological Condition	Poor
Vigor	Poor
Est. Remaining Contribution	2 Years
Ground Condition	Fair
Retention Category	U2
Retention Class	Landscape
Fell This Tree	Yes
Reason for Felling	Arboricultural
Comments	Twin stemmed tree from 1 m, major dieback in the crown is evidence of a distinct lack of vigour and poor physiological health, tree is almost dead
Recommendations	Fell tree and remove



Tag No	T566
Species	Sitka spruce *(Picea sitchensis)*
Age Profile	Mature
Height	20 m
Diameter	600 mm
Crown Spread (N E S W)	Even 4/4/4/4
Crown Clearance	5 m
Easting	497297.308
Northing	590548.995
Root Protection Area	162.7776 m^2
Root Protection Area Radius	7.2 m
Structural Condition	Good
Physiological Condition	Good
Vigor	Good
Est. Remaining Contribution	10 Years
Ground Condition	Fair
Retention Category	C2
Retention Class	Landscape
Fell This Tree	No
Reason for Felling	NA
Comments	Non-native specimen that is more suitable to forestry plantations, provided shelter to the houses on the East that are now derelict, very heavy ivy on stem, no lower crown, top heavy tree
Recommendations	Remove ivy, reduce height by 6 m, reduce length of side branches by 2 m



2.2: Tree Groups

Group No	G1
Species	Grey willow (*Salix cinerea*)
Approximate Number of Trees	10
Height Range	4 - 5 m
Average Stem Diameter	100
Life Stage	Semi Mature
Structural Condition	Fair
Physiological Condition	Fair
Retention Category	C2
Retention Class	Landscape
Trees to be Felled	0
Reason for Felling	NA
Comments	Self seeded pioneering species that proliferated along the embankment in this section, locality trees, young trees
Recommendations	Reduce height to 3 m



Group No	G2
Species	Holly (*Ilex aquifolium*)
Approximate Number of Trees	4
Height Range	6 m
Average Stem Diameter	70
Life Stage	Early Mature
Structural Condition	Fair
Physiological Condition	Fair
Retention Category	C2
Retention Class	Landscape
Trees to be Felled	1
Reason for Felling	Arboricultural
Comments	A group of small poorly formed Holly trees, low quality specimens growing in a congested space, broken branches and dead branch stubs evident, 1 no. Dead tree on the South side
Recommendations	Fell and remove 1 no. Small dead tree



Group No	G3
Species	Grey willow, (*Salix cinerea*)
Approximate Number of Trees	6
Height Range	5 m
Average Stem Diameter	60
Life Stage	Semi Mature
Structural Condition	Fair
Physiological Condition	Fair
Retention Category	C2
Retention Class	Landscape
Trees to be Felled	0
Reason for Felling	NA
Comments	A group of small self-seeded pioneering species that are suited to the ground conditions in this section, high water table and wet ground in this section, low quality spall trees/large bushes
Recommendations	None at this time



Group No	G4
Species	Grey willow (*Salix cinerea*)
Approximate Number of Trees	2
Height Range	4 - 6 m
Average Stem Diameter	180
Life Stage	Early Mature
Structural Condition	Fair
Physiological Condition	Fair
Retention Category	C2
Retention Class	Landscape
Trees to be Felled	0
Reason for Felling	NA
Comments	Self-seeded pioneering species, low quality specimens
Recommendations	Cut back side branches by 2 m, reduce height to 3 m to manage the hedgerow dimensions



Group No	G5	
Species	Sitka spruce (*Picea sitchensis*)	
Approximate Number of Trees	4	
Height Range	15 - 20 m	
Average Stem Diameter	380	
Life Stage	Mature	
Structural Condition	Fair	
Physiological Condition	Fair	
Retention Category	C2	
Retention Class	Landscape	
Trees to be Felled	0	
Reason for Felling	NA	
Comments	Heavy ivy on stems, minor deadwood in one tree, 2 no. Dead tree stumps in the line	
Recommendations	Remove 2 no. Dead tree stumps, remove ivy, remove any dead wood reduce height of all trees by 6 m	

Group No	G6	
Species	Sitka spruce (*Picea sitchensis*)	
Approximate Number of Trees	8	
Height Range	15 - 20 m	
Average Stem Diameter	400	
Life Stage	Mature	
Structural Condition	Poor	
Physiological Condition	Poor	
Retention Category	C2	
Retention Class	Landscape	
Trees to be Felled	1	
Reason for Felling	Arboricultural	
Comments	Trees are poorly formed, very heavy ivy on stems, 1 no. Dead tree in centre, contributing very little in arboricultural terms to the site	
Recommendations	Fell 1 no. tree, remove ivy from stems, reduce height by 6 m	

Group No	G7
Species	Sitka spruce (*Picea sitchensis*), Leyland cypress (x *Cupressocyparis leylandii*)
Approximate Number of Trees	9
Height Range	18 m
Average Stem Diameter	400
Life Stage	Mature
Structural Condition	Fair
Physiological Condition	Fair
Retention Category	C2
Retention Class	Landscape
Trees to be Felled	0
Reason for Felling	NA
Comments	Very heavy ivy growth on stems, deadwood in the lower crowns, provided shelter to the two houses to the North that are now derelict, top heavy trees
Recommendations	Remove ivy, clean crowns of any deadwood, reduce height by 6 m, reduce length of side branches by 2 m



Group No	G8
Species	Ash (Fraxinus excelsior)
Approximate Number of Trees	2
Height Range	12 m
Average Stem Diameter	280
Life Stage	Semi Mature
Structural Condition	Fair
Physiological Condition	Fair
Retention Category	C2
Retention Class	Landscape
Trees to be Felled	0
Reason for Felling	NA
Comments	2 no. Low quality die one a, self-seeded, showing signs of ash dieback infection
Recommendations	Retain for the short term, re assess in one year's time for ash dieback



2.3: Hedgerows

Hedgerow No	H1
Latitude	52.05740486
Longitude	-9.49688876
Species	Bramble (*Rhubus fruticosus*) stinging nettle (*Utica dioica*)
Height	2.5
Width	2.5
Age Profile	Mature
Condition	Poor
Historical	1
Species Diversity	3
Ground Flora	2
Structure Habitat	5
Connectivity	5
Landscape	2
Comments	Largely comprised of overgrown bramble and stinging nettle, no trees in this section
Recommendations	None at this time



Hedgerow No	H2
Latitude	52.05691144
Longitude	-9.49686508
Species	Elm (*Ulmus procera*), Hawthorn (*Crataegus monogyna*), Holly (*Ilex aquifolium*)
Height	4
Width	3
Age Profile	Mature
Condition	Poor
Historical	1
Species Diversity	3
Ground Flora	2
Structure Habitat	5
Connectivity	5
Landscape	2
Comments	Comprised mainly of stinging nettle and bramble, 1 no. Semi mature field elm grows in the hedge, 2 no. Small Hawthorn bushes
Recommendations	Inter plant by infilling the spaces with two year old Hawthorn saplings, cut back sides by 1 m



Hedgerow No	H3
Latitude	52.05583042
Longitude	-9.49710209
Species	Holly (*Ilex aquifolium*), Hawthorn (*Crataegus monogyna*), Elm (*Ulmus procera*)
Height	4
Width	2.5
Age Profile	Mature
Condition	Fair
Historical	2
Species Diversity	4
Ground Flora	1
Structure Habitat	5
Connectivity	5
Landscape	3
Comments	Hedgerow is comprised of small Hawthorn bushes, interspersed with Holly and some Elm saplings, dense growth of bramble, stinging nettle and bracken
Recommendations	None at this time



Hedgerow No	H4
Latitude	52.05533994
Longitude	-9.49797595
Species	Holly (*Ilex aquifolium*), Hawthorn (*Crataegus monogyna*), Ash (*Fraxinus excelsior*)
Height	5
Width	2.5
Age Profile	Mature
Condition	Good
Historical	2
Species Diversity	3
Ground Flora	1
Structure Habitat	5
Connectivity	5
Landscape	5
Comments	Comprised of mainly Holly (*Ilex aquifolium*) , dense growth, healthy bushes, good habitat and connectivity
Recommendations	Reduce height to 3 m, maintain as a hedgerow going forward by cutting yearly



Hedgerow No	H5
Latitude	52.05419748
Longitude	-9.49909344
Species	Holly (*Ilex aquifolium*), Hawthorn (*Crataegus monogyna*), Hazel (*Corylus avellana*)
Height	4
Width	2.5
Age Profile	Mature
Condition	Fair
Historical	1
Species Diversity	2
Ground Flora	1
Structure Habitat	3
Connectivity	4
Landscape	4
Comments	Comprised mainly of mature trees that have been noted, intermittent growth of Hawthorn, Holly and Hazel bushes growing between the trees
Recommendations	No recommendations at this time



Hedgerow No	H6
Latitude	52.05413094
Longitude	-9.49927185
Species	Hawthorn (*Crataegus monogyna*), Holly (*Ilex aquifolium*)
Height	4
Width	2.5
Age Profile	Mature
Condition	Fair
Historical	1
Species Diversity	2
Ground Flora	2
Structure Habitat	2
Connectivity	4
Landscape	4
Comments	Some Cherry Laurel at the East end of this hedgerow, healthy Holly bushes in the centre and Hawthorn bushes at the West end, the mature trees in the hedgerow are all that add structure, a poorly formed hedgerow
Recommendations	No recommendations at this time



Hedgerow No	H7
Latitude	52.0549572
Longitude	-9.49920065
Species	Willow sp. (*Salix* sp.)
Height	2
Width	2.5
Age Profile	Young
Condition	Fair
Historical	0
Species Diversity	1
Ground Flora	2
Structure Habitat	1
Connectivity	1
Landscape	0
Comments	Low scrub, low quality hedgerow
Recommendations	None at this time



Hedgerow No	H8
Latitude	52.05454059
Longitude	-9.50021656
Species	Bramble (*Rhubus fruticosus*), Montbretia, Stinging nettlen(*Urtica dioica*)
Height	1
Width	2.5
Age Profile	Young
Condition	Fair
Historical	0
Species Diversity	2
Ground Flora	2
Structure Habitat	1
Connectivity	1
Landscape	0
Comments	Low quality hedgerow, low growing scrub
Recommendations	None at this time



Hedgerow No	H9
Latitude	52.05458103
Longitude	-9.5002157
Species	Holly (*Ilex aquifolium*), Hawthorn (*Crataegus monogyna*), Elder (*Sambucus nigra*)
Height	5
Width	2.5
Age Profile	Mature
Condition	Fair
Historical	1
Species Diversity	2
Ground Flora	1
Structure Habitat	3
Connectivity	3
Landscape	1
Comments	Low number of poorly formed bushes that grow as understorey to the mature trees in this section
Recommendations	Reduce height to 3m, cut back sides on East and West by 1 m



Hedgerow No	H10
Latitude	52.05481701
Longitude	-9.50022521
Species	Stinging nettle (*Utica dioica*)
Height	1
Width	2.5
Age Profile	Young
Condition	Fair
Historical	1
Species Diversity	2
Ground Flora	2
Structure Habitat	2
Connectivity	3
Landscape	1
Comments	Low quality hedgerow consisting of low scrub
Recommendations	None at this time



Hedgerow No	H11
Latitude	52.05508589
Longitude	-9.49974984
Species	Hawthorn (*Crataegus monogyna*)
Height	4
Width	2.5
Age Profile	Mature
Condition	Good
Historical	2
Species Diversity	3
Ground Flora	2
Structure Habitat	5
Connectivity	5
Landscape	4
Comments	Well formed hedgerow, mature Hawthorn bushes that grow closely together, large amount of bramble, some bindweed grow at the base of the hedgerow
Recommendations	Reduce height to 3 m, reduce length of side branches by .5 m



Hedgerow No	H12
Latitude	52.0560185
Longitude	-9.49978242
Species	Bramble (*Rhubus fruticosus*)
Height	3
Width	2.5
Age Profile	Young
Condition	Poor
Historical	1
Species Diversity	2
Ground Flora	2
Structure Habitat	4
Connectivity	4
Landscape	2
Comments	Low scrub, low quality hedgerow, mainly bramble and bindweed growing in this hedgerow
Recommendations	Remove all bramble and bindweed and replant with native species such as Hawthorn and Blackthorn



Hedgerow No	H13
Latitude	52.05761311
Longitude	-9.49867976
Species	Holly (*Ilex aquifolium*), Hawthorn (*Crataegus monogyna*), Ash (*Fraxinus excelsior*)
Height	6
Width	2.5
Age Profile	Mature
Condition	Good
Historical	1
Species Diversity	3
Ground Flora	1
Structure Habitat	5
Connectivity	5
Landscape	5
Comments	Well formed hedgerow, creating a good screen between the public roadway and the inner site, well developed bushes that grow densely together
Recommendations	Reduce height to 4 m, cut back sides on North and South by .5 m



2.4: Identification of Preliminary Tree Constraints

- Please read in conjunction the topographical AutoCAD file 'Tree Constraints Plan' also see Tree Constraints Plan in appendix Fig 13 & Fig 14 page 68.
- **Please note: There will be RPA infringement of T524. Please refer to the Tree Protection Plan for details on tree and root protection measures**

In accordance with BS 5837: 2012, below ground constraints, or root protection areas (RPAs), the surveyed trees have been plotted onto the tree survey plan for the site. These are represented as a circle centred on the base of each tree stem with a radius of 12 times diameter measured at 1.5m above ground level. In this plan the RPA of any tree that might be affected by construction activity is defined by a magenta dashed circle around each tree in the supplied Tree Constraints map and in AutoCAD file 'Tree Constraints Plan'.

With reference to BS 5837: 2012, a root protection area (RPA) is defined as 'a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure should be treated as a priority'. 'The default position (when considering design layout in relation to RPAs) should be that structures are located outside the RPAs of trees to be retained'.

BS 5837: 2012 states (4.6.2) that, 'where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area should be produced' The BS goes on to state that, 'modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution', and that any deviation from the original circular plot should take into account:

- Morphology and disposition of roots
- Topography and drainage
- Soil type and structure
- The likely tolerance of the tree to root damage / disturbance

Root systems can be damaged in a number of ways as follows:

- Severance of a root will destroy all parts of the root beyond that point. The larger the root severed, the greater the impact on the tree. If the roots are damaged close to the trunk, the anchorage and stability of the tree can be affected.

- The root bark protects the root from decay and is essential for further root growth. If damage to the bark extends around the whole circumference, the root beyond that point will be killed.
- Soil compaction, which may occur from storage of material or passage of heavy equipment over the root area, can restrict and even prevent gaseous diffusion through the soil, and thereby asphyxiate the roots. The roots must have oxygen for survival, growth and effective functioning.
- Lowering the soil level will strip out the mass of roots near the surface
- Raising soil levels will have the same effect as soil compaction
- Incorrect selection and application of herbicide
- Spillage of oils or other harmful materials

Above Ground Constraints:

- The current and ultimate height and spread of the trees, in relation to any new building final position.

- The effect that construction requirements might have on the amenity value of trees, both on and near the site, including pruning to facilitate access and working space. This may be the case with the trees on the entrance driveway and neighbouring trees overhanging branches.

- The requirement to protect the overhanging canopies of trees where they could be damaged by machinery, vehicles, barriers or scaffolding, where it will be necessary to increase the extent of the tree protection barriers to contain the canopy.

- The proposed end use of the space adjacent to the retained trees.

2.5: Tree Protection Plan

- Please read in conjunction with the topographical AutoCAD file 'Tree Protection Plan' also Tree Protection Plan in appendix Fig 15 & Fig 16 page 69.
- **Please note: Due to RPA infringement, special root protection measures will need to be employed for T524. Please see Section 2.11 in Appendix 2, page 70**

Protection of trees. Section 6.2.2 of BS 5832: 2012 states that a protective barrier, 2.3m high and comprising a vertical and horizontal framework of scaffolding, well braced to resist impacts and securely supporting weldmesh panels, (as illustrated in Fig 2 & Fig 3 supplied), shall be erected around the base of all trees to be retained on site. Section 6.2.2.4 states that this barrier shall be clearly identified on site by the attachment of **all – weather signs** of suitable dimension stating: **'CONSTRUCTION EXCLUSION ZONE – NO ENTRY'**. The line of this fence shall be at least the distance defined in the AutoCAD file Tree Protection Plan. No construction traffic, materials or debris will be permitted within this zone of protection. See below for example of RPA and tree protection signage



Example of Tree Protection Signage

Access facilitation pruning. If it is deemed appropriate to trim back retained trees to provide adequate access to approved construction works, all such tree works should be undertaken by a competent and suitably qualified tree surgeon. Such works shall remedy any tree related conflict with proposed structures or access in a way that ensure that not less than 70% of live buds are retained within the tree canopy. The aim of the tree works shall be to retain the general form of the tree by a combination of crown thinning, reduction of end weight and the re-forming of the trees crown to create a pleasing and balanced crown. No branch, limb of trunk greater than 100mm diameter shall be cut in the process of reducing end weight.

Demolition within the zone of protection. If it is deemed necessary to carry out demolition works within a construction exclusion zone surrounding retained trees, for example to remove existing paths or kerbs, only pedestrian operated plant or low ground pressure plant that is less than 2 tonnes gross weight fully loaded shall be permitted. Such plant shall only be operated on existing hard surfaces, or

where temporary surfaces have been established. No excavations within the root protection zone of these retained trees shall be permitted, except only under supervision, with the use of an air spade or by careful use of hand tools in a way that retains, without damage, all exposed roots with a diameter greater than 25mm.

Scaffolding within zone of protection. Where scaffolding is to be established within the 'zone of protection' surrounding retained trees, the existing undisturbed ground surface shall be protected by a layer of sharp sand, approximately 50mm thick, overlaid with a geotextile membrane. Stout planks, such as closely side butted scaffold boards, will be laid over the geotextile membrane and scaffolding will be constructed on these planks with additional stays as directed by a competent person. Adequate protection fencing as illustrated in Fig 1 and Fig 2 will be maintained between scaffolding and adjacent trees.

Construction of hard surfaces close to retained trees. Where permanent surfaces are to be constructed close to retained trees, within the zone of protection as defined by BS 5837: 2012, carefully remove accumulated organic material and loose soil, leaving existing topsoil in situ. Protect the root zone with a layer of sharp sand and geotextile membrane and a three dimensional cell product as defined by a competent Civil or Structural Engineer. Construct the paved area on this sub-base using established design guidelines and a no fines granular material with a porous surface finish such as pavers or porous bitmac.

Alterations of levels on lands adjoining construction exclusion zones. Where it is deemed appropriate to lower ground levels on land adjoining a root protection zone established around a retained tree, all excavations and the subsequent construction supporting structures shall be managed in a way that excludes access by construction traffic to the construction exclusion zone. Where such alterations result in the lowering of existing surfaces, the existing ground water environment within the root protection zone shall be maintained by the insertion of a root barrier behind proposed supporting structures. This shall consist of a non-porous barrier carefully inserted in a way that maintains the existing soil moisture regime surrounding the retained tree. Where alterations result in the raising of levels, these shall be designed and detailed by a competent Civil of Structural Engineer to ensure no alterations to ground conditions within the root protection zones.

Landscaping within the root protection zone. If it is deemed necessary to carry out landscaping, planting or re-instatement works within a construction exclusion zone surrounding retained trees, only pedestrian operated plant, or low ground pressure plant that is less than 2 tonnes gross weight

fully loaded, shall be permitted. Such works should be supervised by a competent Horticulturalist and be timed and designed to ensure that no soil compaction occurs. No excavations within the root protection zone of these trees shall be permitted, except under supervision using an air spade or by carful use of hand tools in a way that retains, without damage, all exposed roots with a diameter greater than 25mm.

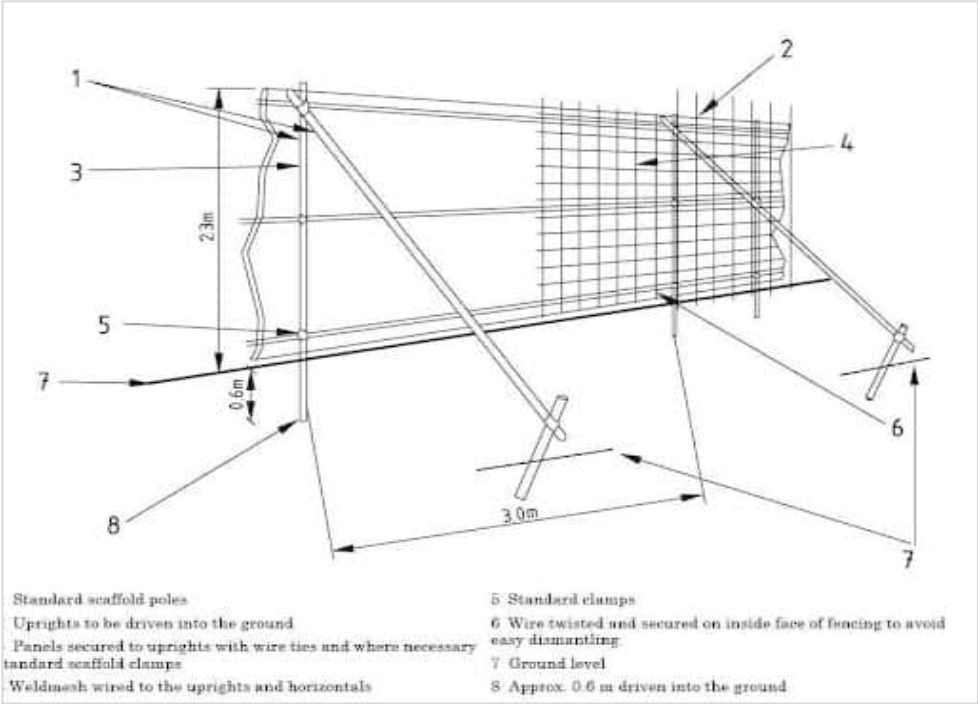


Fig 1: Tree Protective Barrier

The protective barrier will be appropriate to the degree and proximity of likely construction works. The default specification of BS 5837: 2012 recommends a vertical and horizontal, scaffold framework, well braced to resist impacts, with vertical tubes at no more than 3m intervals. These should be driven into the ground. Weld mesh panels should be affixed to this framework with scaffold clamps – see image 1 and 2. Heras fencing is a reliable option or a similar structure of sturdy, wooden construction would be acceptable. It should typically comprise of the following:

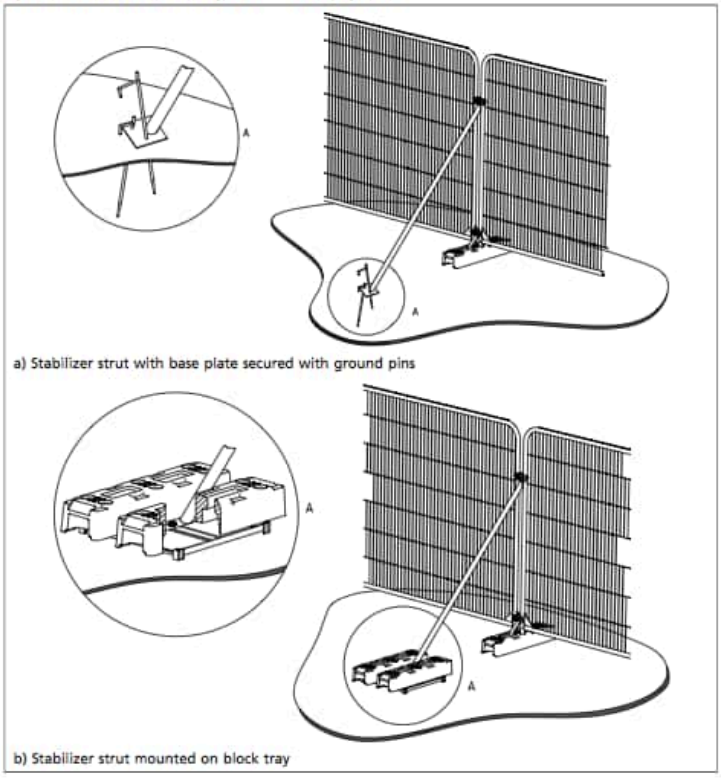


Fig 2: Temporary Protective Fencing

- Temporary protective fencing panels should be weldmesh Heras panels of at least 2.0m in height
- The panels shall stand on rubber or concrete feet
- The panels shall butt together and be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence
- The panels shall be supported on the inner side by stabiliser struts, which shall be clamped to the scaffold framework at a 45^0 angle and extended back into the Construction Exclusion Zone and shall be attached to a base plate, which shall be secured to the ground with pins
- No fixing shall be made to any tree and all possible precautions shall be taken to prevent damage to tree roots when locating posts
- A 600mm x 300mm warning sign reading 'Construction Exclusion Zone Keep Out' shall be fixed to every 10.0 metre length of protection fencing
- On completion of erection, and prior to any demolition or construction works, site preparation, excavation or delivery or plant and materials, the Consulting Arboriculturist shall inspect the Temporary Protective Fencing

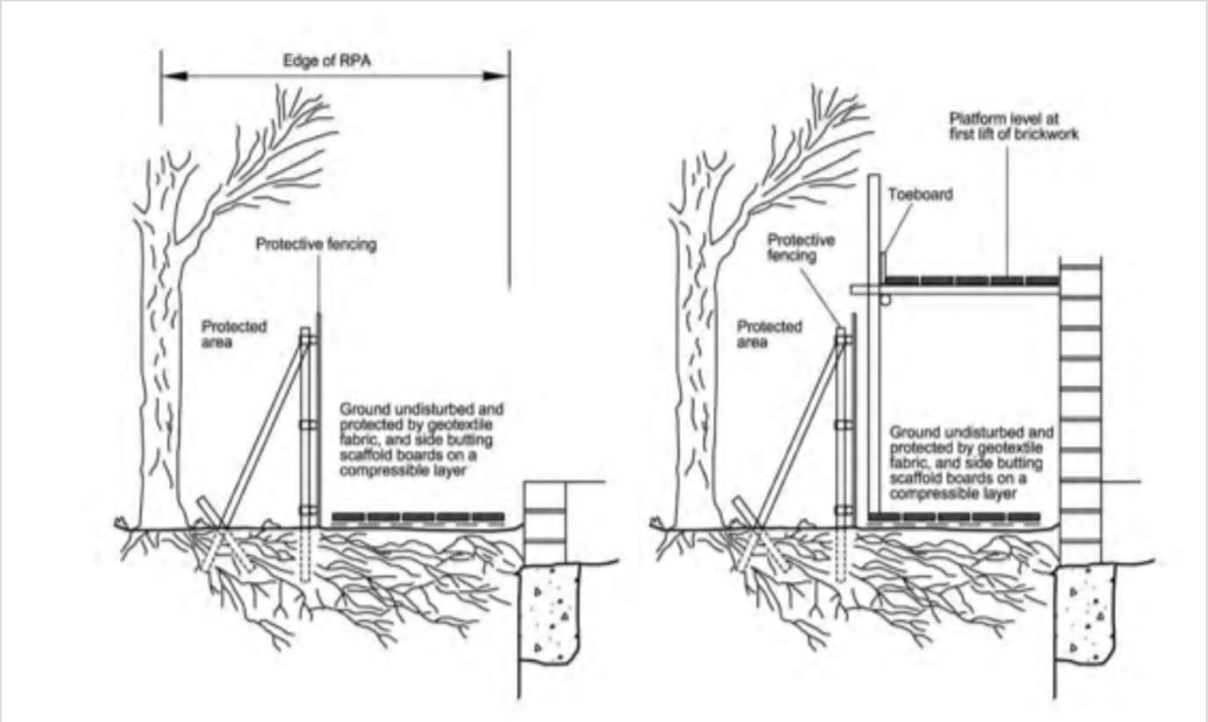


Fig 3: Temporary Protective Scaffold

Temporary surfaces within zone of protection. Where temporary access is to be established within the 'zone of protection' surrounding retained trees, ground surfaces will be protected by a layer of sharp sand, approx. 50mm thick, overlaid with a geotextile membrane on which temporary surface of no fines granular material (compression resistant for example woodchip) at least 150mm thick is laid. Where traffic is turning on this surface, stout planks will be laid over the geotextile membrane and below the granular material.

2.6: Arboricultural Method Statement

Roadway/Driveway

If the case arises whereby a driveway or roadway has to be moved or situated within the RPA of a tree then any proposal for new surfacing within the RPA must be able to demonstrate a minimal impact on soil structure and roots and this includes the ability for movement of water and air in and out of the soil. The use of no-dig cellular confinement systems using porous sub-base and finished surface materials can be acceptable in some circumstances.

Hand dig exploratory holes is suggested to try and locate feeder roots and or determine how much of a root system exists.

Services

If it is unavoidable for new services to be installed in the RPA, conventional excavation techniques are unacceptable. Trenchless installation should be the preferred option but if that's not feasible, any excavation is likely to have to be carried out by hand or by using a compressed air lance under arboricultural supervision. The methodology used must comply with *NJUG Volume 4: Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees.*

Plant/Machinery

Piling rigs, cranes and other high and wide plant and machinery have the potential to damage trees and site operations must be planned to take account of retained trees in advance of any potential conflict. Proposed locations and routes on and off the site should be supplied to the project arboriculturist.

Contamination

Accidental spillage of any materials which could cause damage to a tree even if outside of an RPA, including dust.

Barriers and other protection must remain in place until all construction activity is complete and there is no realistic risk of damage to soil surfaces.

Fires must be avoided where heat could affect foliage or branches.

It is the responsibility of the main contractor or assigned agent to ensure that details regarding tree protection are understood and followed by all site personnel and should be incorporated into site inductions.

The location of site facilities, areas for loading, unloading and storage of materials must be sited to ensure minimal impact on the tree. No discharge of potential contaminants should occur within 10m of any tree on the site or where there is a risk of run off into an RPA.

2.7: Arboricultural Impact Assessment

Total Stand Alone Tree Quantity for the Survey in Their Categories

Retention Category	A High Value	B Moderate Value	C Low Value	U Removal
Quantity	9 (13.6 %)	22 (33.3 %)	23 (34.8 %)	12 (18.2 %)

Fig 4

Trees To be Felled To Facilitate The Development

Tree Tag No	Category	Colour	Reason	Quantity
526	A1		Internal Road	1
527	A1		Internal Road	1
552	B1		Site Lines	1
553	B1		Site Lines	1
554	C1		Site Lines	1
556	C1		Site Lines	1
557	C1		Site Lines	1
558	A1		Site Lines	1
559	C1		Site Lines	1
560	C1		Site Lines	1
561	C2		Site Lines	1
562	B2		Buildings	1
563	C2		Buildings	1
566	C2		Buildings	1
			Total	**14**

Fig 5

Tree Groups Recommended To Be Felled To Facilitate The Development

Group No	Category	Colour	Reason	Tree Quantity
G3	C2		Buildings	6
G5	C2		Buildings	4
G6	C2		Buildings	8
G7	C2		Buildings	9
G8	C2		Buildings	2
			Total	**28**

Fig 6

Total Tree Quantity Of Stand Alone Trees in their Categories For Felling *To Facilitate The Development*

Retention Category	A High Value	B Moderate Value	C Low Value	U Removal
Quantity	3 (4.5 %)	3 (4.5 %)	8 (12 %)	0

Fig 7

Total Tree Quantity Of Trees Including Tree Groups in their Categories For Felling *To Facilitate The Development.* The percentage is of total number of trees surveyed including tree groups.

Retention Category	A High Value	B Moderate Value	C Low Value	U Removal
Quantity	3 (2.7 %)	3 (2.7 %)	36 (32.4 %)	0

Fig 8

2.7.1: Summary

Fig 4 shows the total number of stand alone trees, excluding trees within tree groups, in their respective categories. The standard of trees on this site was fair to good as reflected by this table. Just under half (47 %) were in the Fair – Good category, with 13.6 % in the Good category (A – Green). There was a total of 66 no. individual trees surveyed. However, there were also trees that grew in a line or in obvious clumps or groupages and so were surveyed as a group because they all bore the same characteristics and qualities. The total number of trees surveyed including tree groups was 111.

The percentage of trees that are recommended to be felled to facilitate the development are shown in Fig 7 and Fig 8. Fig 7 has the individual trees shown and the percentage is of 66 no. total individual trees. Fig 8 shows the total number of trees recommended to be felled including trees groups. The percentages of the trees are of 111 no. total trees surveyed including those in the groups. Of the trees in the tree groups all were in the low quality category (C).

1 no. tree (T524) will have RPA infringement. This tree will need special root protection measures employed in order to ensure that any exposed roots will not dry out and compaction of the root zone will not occur. Special root protection measures are shown in Appendix 2, Section 2.11.

There are two small sections that need to be removed from Hedgerow 11 to facilitate pedestrian access. These are minor removal works and will not affect the integrity of the hedgerow.

If You have any questions please do not hesitate to contact me, my details are below.



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Appendix

2.8: Maps



Fig 9: General Site Location



Fig 10: Site Boundary Outline



Fig 11: Tree Numbers and their Locations



Fig 12: Trees Groups & Hedgerows

2.9: Tree Constraints Plan



Fig 13: Tree Constraints Plan – World Imagery

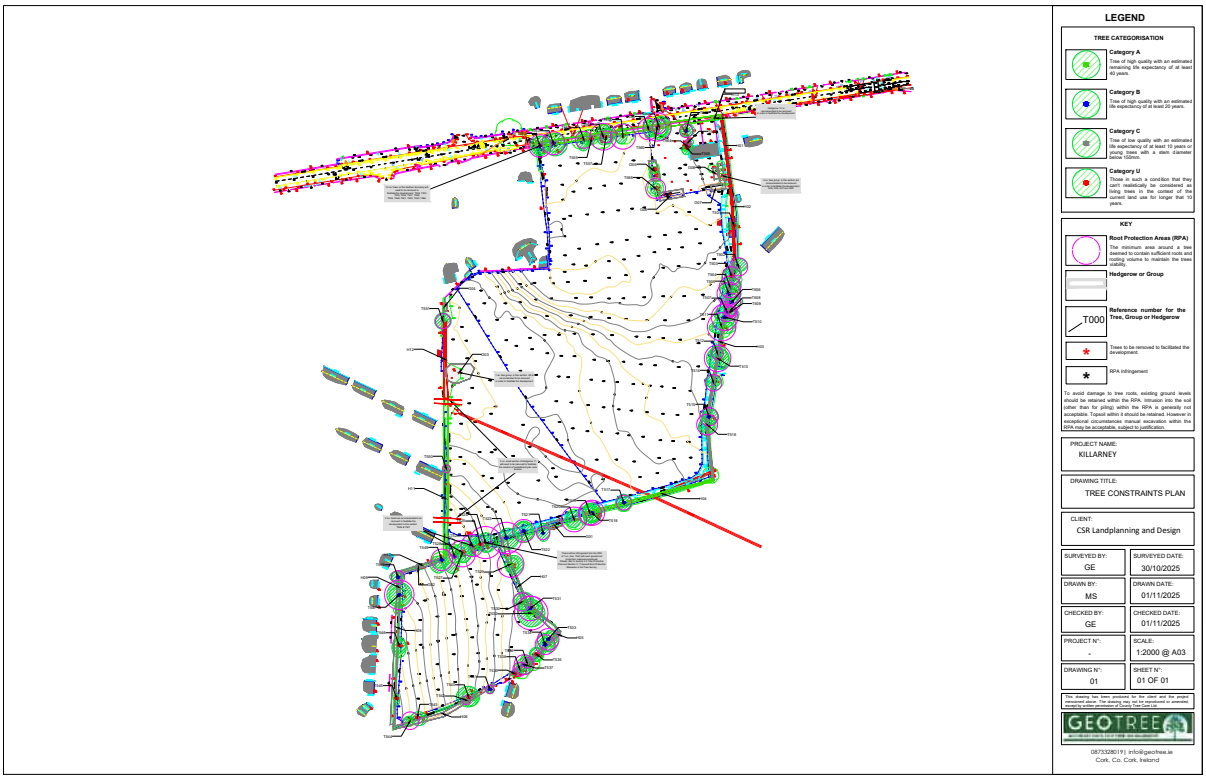


Fig 14: Tree Constraints Plan – AutoCAD

2.10: Tree Protection Plan



Fig 15: Tree Protection Plan – World Imagery

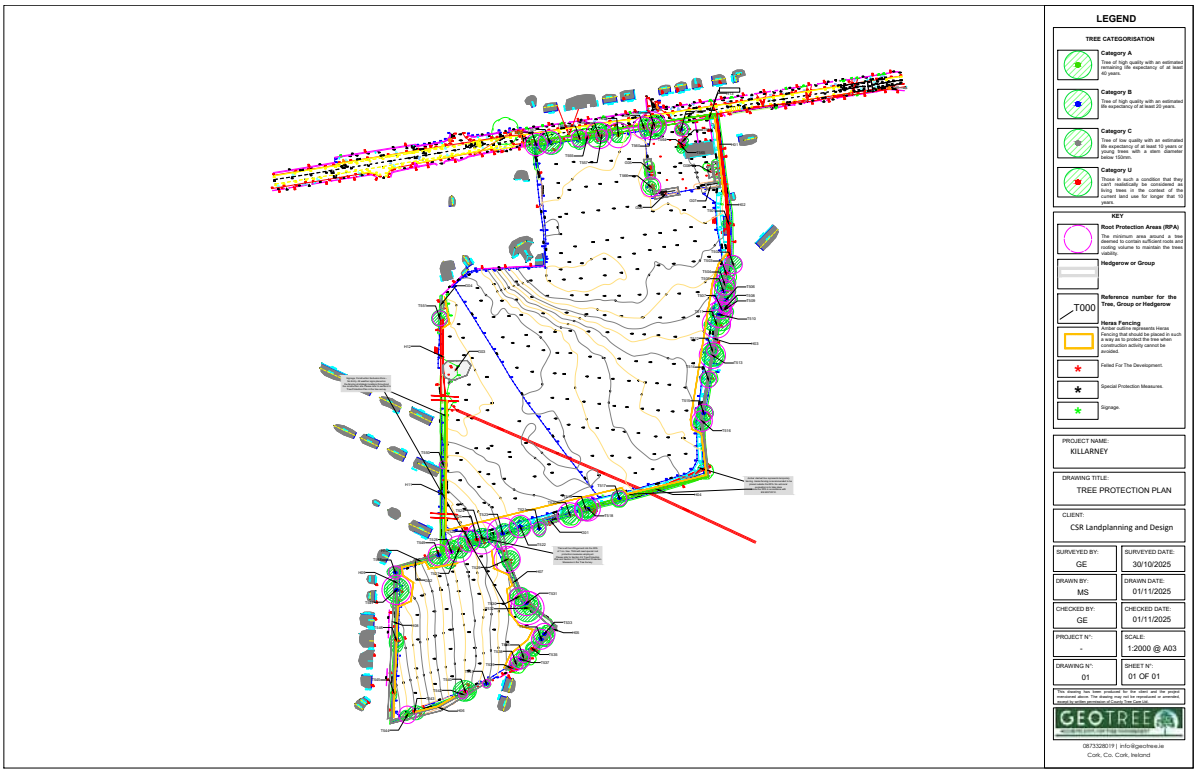


Fig 16: Tree Protection Plan - AutoCAD

Appendix 2

2.11: Extra Tree Protection Measures
Tree Number T524 will have an infringement into the RPA

2.11.1: Reduction In RPA: In BS 5837: 2012 - Tree Protection Plan section 5.5.2 states that in the situation where construction activity cannot be fully excluded from the RPA additional physical measures can be taken to ensure the protection of the tree.

BS 5837: 2012 section 6.2.1.1 states that all trees that are being retained on site should be protected by barriers and/or ground protection before any materials or machinery are brought onto the site, and before any demolition, development or stripping of soil commences. Where all activity can be excluded from the RPA, vertical barriers should be erected to create a construction exclusion zone. Where, due to site constraints, construction activity cannot be fully or permanently excluded in this manner from all or part of a tree's RPA, appropriate ground protection should be installed. Barriers should be fit for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained tree(s). Barriers should be maintained to ensure that they remain rigid and complete.

The amber dashed lines in the Tree Protection Plan indicates the Heras fencing that should be placed around the RPA of each tree. However, it is acceptable to move this fencing if construction activity prevents the placing of the fencing around the RPA. Please note that every effort should be made to maintain the RPA to its fullest.

Section 6.2.3 states that an example of an adequate protective measure in situations where construction cannot be avoided within the RPA would be a 2 m tall welded mesh panel on rubber or concrete feet.

Section 8.8.1 of BS 5837: 2012 states that pre-emptive pruning may be necessary to branches but also to roots. Ripping up of tree roots by machinery is not allowed. Hand digging only is allowed within the RPA.

Exposure to roots should be taken seriously. Fibrous roots are responsible for the absorption of water and nutrient from the soil. They dry out quickly and die. Place a layer of mulch of between 100 mm to 200 mm thick around these roots and keep moist at all times, see section 2.11.2 Temporary Ground Protection Measures below.

2.11.2: Temporary Ground Protection Measures

Tree numbers T524 will need temporary ground protection measures

Temporary ground protection measures should be employed for trees that will have root protection area (RPA) infringement and where damage from vehicular traffic may occur

BS 5837: 2012 states the following

6.2.3.3 New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil.

NOTE The ground protection might comprise one of the following:

a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane;

b) for pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane;

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

(Standards, 2012)

If infringement into the RPA of T524 will involve the possible movement of vehicular equipment then it will be necessary to install root protection in the form of a geocellular material. Please see the following guidlelines as per recommendations in the Arboricultural Association Guidance Note 12

2.11.3: Temporary Ground Protection and Geo-cellular material for Root Protection

BS 5837:2012 – Trees in Relation to Design, Demolition and Construction and the Arboricultural Association Guidance Note 12 states the following;

Principles

- No excavation of existing soil within the RPA.
- Preservation of soil structure by avoiding compaction.
- Permeability maintained throughout the build-up to allow water and gas exchange for root health.
- Load distribution achieved through a cellular confinement system filled with no-fines aggregate.
- Edge restraint formed above ground without excavation.

Construction Method

- Pre-Works
- Hand-clear vegetation/turf only; no mechanical stripping.
- Protect soil from compaction with ground protection boards during works.

Mark off RPA working zone and brief contractors.

- Base Build-Up
- Lay a separation geotextile membrane directly over existing soil.
- Install a cellular confinement system (e.g. 75–100 mm deep geocell panel, Cellweb TRP or equivalent).
- Fix panels with pins/staples as per manufacturer's instructions.
- Infill cells with angular, clean, no-fines stone (e.g. 4/20 mm or 20/40 mm).

Do not use Type 1 or any material containing fines.

- Light compaction only by "tracking in" with a light roller (no vibrating plates).

Wearing Course – Porous Asphalt

- Lay a 25–40 mm open-graded binder course (e.g. 10 mm porous asphalt, designed for pedestrian/light traffic use).
- Asphalt must be porous/permeable, not standard dense macadam.
- Ensure joints are sealed to maintain permeability.

Edge Restraint

- Provide above-ground edge restraint using pinned timber boards, pinned steel edging, or containment by adjacent features.
- Avoid kerbs or excavated haunches within the RPA.

Finishing

- Ensure final surface level is at or above existing ground (never reduced levels).
- Do not raise levels against tree buttresses or cover root flares.
- Maintain a setback of ~500 mm from the tree stem.

Aftercare

- Inspect surface annually for settlement or clogging.
- If porosity reduces, clean using suction/sweeping, not jet washing.
- Avoid use of de-icing salts within the RPA.

Compliance & References

BS 5837:2012 – Trees in relation to design, demolition and construction

Arboricultural Association Guidance Note 12 (2020): Driveways, paths & parking areas near trees

Cellweb TRP Installation Guide (Geosynthetics Ltd.)

2.11.4: Damage to the trunk of the tree should be avoided. Machinery damage against the bark (cambium) will allow disease to enter and could mean the death of the tree.

If damage to the tree truck is likely then it is recommended to use a protective measure named Trunk Protecta. This is sold by Green Grid Systems in the UK. See URL: https://greengridsystems.com/products/trunk-protecta

This barrier is easy to install and meets the criteria set out in BS 5837 see below

The Protecta is designed for use in conjunction with ground protection where the standard CEZ (construction exclusion zone) cannot be maintained and construction activity cannot be fully or permanently excluded from the RPA. (BS5837:2012 - clause 5.5.2). It also meets 6.2.1.1 and 6.2.2.1 in the standard, see above.

2.11.5: Tree Box Protection Image

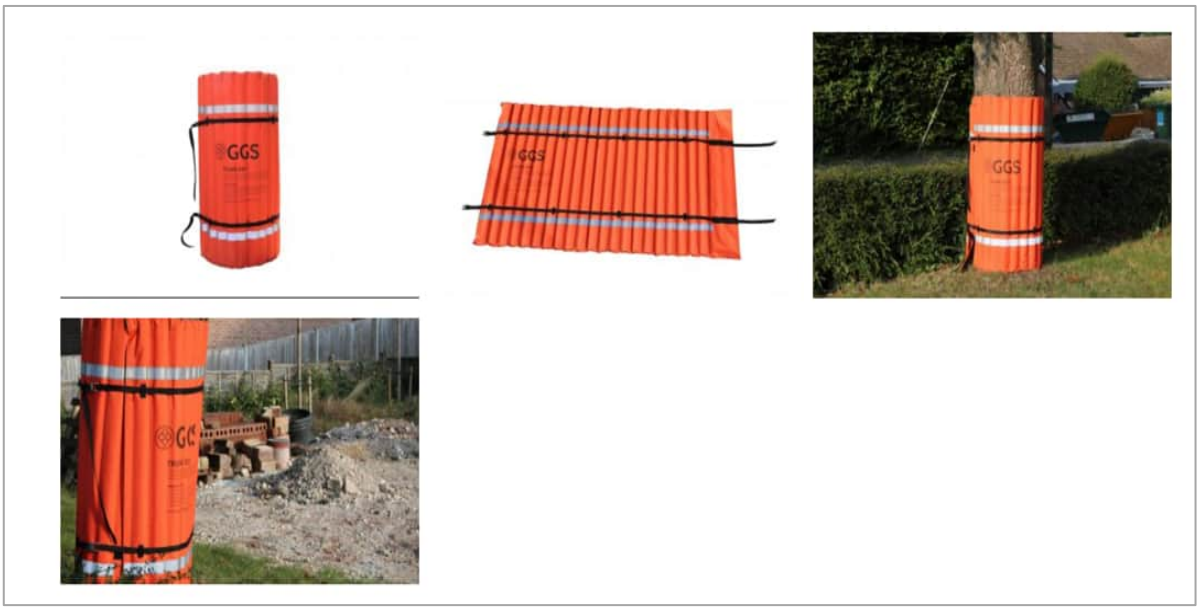


Fig 17: Trunk Protecta (Solutions, 2024)



Fig 18: Trunk Protecta Side (Solutions, 2024)

Citations

Solutions, G. G. (2024). *Tree Ptotecta.* Winchester: Green Grid Solutions.

Standards, B. (2012). *BS 5837: 2012.* BSI.