Arboricultural Assessment Report

Capdoo

Clane

Co. Kildare

Project No.	Project name	Date	Revision
TCAP001	Capdoo	26/03/19	A

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1. Client brief & Methodology

CMK Hort + Arb were commissioned by Ardstone Homes to undertake an assessment of trees on lands at Capdoo, Clane, Co. Kildare. The fieldwork was undertaken on various dates between February and May 2018.

The survey is designed to be an independent analysis of the trees therefore this assessment does not take into consideration any plans for the future development of the site; however, it is recognised that there are proposals to re-develop the site therefore some of the comments within sections 2 and 6 may reference the suitability of trees for retention in this context.

The survey methodology, supporting drawings and documentation follow the recommendations contained within BS 5837 (2012). The analysis of the trees was undertaken using the VTA methodology as developed by Mattheck and Breloer (1994).

Image 1. Site boundary

2. General description of trees

The site is located to the eastern edge of Clane village (image 1) and is a former pony stud / stables. A total of 119 trees were identified and surveyed for this report and they are located within three distinct areas i.e. internal hedgerows, boundaries with public roads and neighbouring properties and the lands associated with the house and stable yards to the east of the site.

There are a number of hedgerows which form field boundaries. These mainly traverse the site in an east-west direction though smaller sections are orientated on a north-south axis (refer to drawing TCLA001 101 Rev C).

The condition of the trees is mixed with a relatively high percentage within the moderate to low categories (refer to table 1 & section 6 of this report). The hedgerows have been poorly managed in recent times. The structure is poor and the diversity of plant species low as a result.

The trees and hedges around the house and stable area include a large Leyland cypress hedge (xCuprocyparis leylandii) along the entrance road to the house (image 2). The Leyland hedge is large, casts extensive shade and is a management liability. A large mature sycamore (*Acer pseudoplatanus*) is located at the entrance to the house on the eastern boundary (image 3) with further large mature ash (*Fraxinus excelsior*) and sycamore trees on the boundary with a neighbouring property near the eastern boundary of the site.

Category	Number	% of total
A	0	0
B	51	43
C	57	48
U	11	9

Table 1. Tree Categories

Image 2. Leyland cypress within stable yard

Image 3. Mature sycamore at eastern entrance to site

The trees on the northern boundary are a mixture of ash and sycamore with occasional elm (*Ulmus procera*). They range from young to old and their condition is mixed with strong competition between trees a factor in their condition and form (image 4). Very limited management inputs have led to very heavy ivy establishment which can be a contributor to a windsail effect and tree failure during storm events.

Image 4. Northern boundary

The hedgerows were most likely managed as clipped hawthorn (*Crataegus monogyna*) with occasional standard trees however due to limited management inputs the hawthorn element in most instances has either been shaded out or become overgrown. With the exception of one hedgerow, standard trees are relatively rare. Where they do occur, the main species represented is ash. The vast majority of these trees are multi-stemmed specimens (image 5) which developed from continual cutting back. When neglected, as in this situation it results in trees of poor structural integrity as areas of weakness develop between stems.

There is a history of horse management on the site and this has had a negative impact on trees particularly the ash within the hedgerows as the horses have de-barked a large percentage of these trees. Though the majority of the trees are alive their long-term potential is limited as a result. Their potential inclusion within any development is thereby reduced.

The extensive bramble (*Rubus fruticosus* agg) growth (image 6) which has developed due to limited management inputs has smothered out most of the potential ground flora within the hedgerows limiting these elements to occasional ferns and grasses. Ultimately the hedgerows are degraded in quality due to mismanagement and neglect.

A small forestry plantation (*Abies spp*) is present on the south-western corner of the site. It has been mostly felled. The remaining trees are un-thinned and of low quality as a result.

Image 5. Hedgerow with multi-stemmed ash

Image 6. Typical hedgerow composition with hawthorn in poor condition and extensive bramble growth smothering ground flora

3. Limitations of Survey

This survey should be regarded as a preliminary assessment of the trees and deals with the current condition as identified during this survey only. Every attempt was made to identify hazardous trees in this report however; this survey was carried out from the ground and therefore cannot be held to have identified elements of decay, which may be hidden out of sight within the crown or beneath ivy or other obstructions. To counter this limitation in the survey process it is vital that during tree works any additional defects found by the climbing arborist are communicated to the consulting arborist to allow appropriate action to be taken.
The details within this survey are based on the condition of the trees during the survey period only. The findings in this survey cannot be held to be valid after any site disturbance, man-made or natural, which may have an adverse effect on any trees present.

4. Relevant legislation

There are no Tree Protection Orders (TPOs) on any of the trees on this site. However unless planning permission which clearly identifies trees for removal has been granted then under Section 7 of the Forestry Act 2014 a person wishing to fell trees must apply to the minister for a licence to do so.
Exempted trees: Section 19 states that the requirement for a felling licence for the uprooting or cutting down of trees does not apply where:

- The tree in question is standing in an urban area
- The tree is considered dangerous and hazardous.
- The tree is within 10m of a public road and regarded as hazardous
- The tree in question is less than 100 ft. / 30m from a dwelling other than a wall or temporary structure;
- The tree in question is a hazel, apple, plum, damson, pear, or cherry tree grown for the value of its fruit or any ozier;

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).

If you have any queries about felling in general or are unsure whether or not the trees fall under any of the above cases, it is recommended that you seek the advice of the Felling Section or of your local forestry development officer for further information.

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.

5. Terminology

Tree categories	
A	Trees of high quality and value due to their size, age, condition, historical/visual merit and/or conservation potential (a minimum of 40 years).
A1	Mainly arboricultural values. Particularly good examples of species, essential components of groups or of formal or semi-formal arboricultural features.
A2	Mainly landscape values. Trees, groups or woodlands which provide a definite screening or softening effects to the locality in relation to views into or out of site, or those of particular visual importance.
A3	Mainly cultural values, including conservation. Trees, groups or woodlands of significant conservation, historical, comparative or other value (e.g. veteran trees or wood-pasture).
B	Trees of moderate quality and value (a minimum of 20 years).
B1	Mainly arboricultural values. Trees that might be included in high categories but are downgraded because of impaired condition (e.g. presence of remedial defects including unsympathetic past management and minor storm damage).
B2	Mainly landscape values. Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal features (e.g. trees of moderate quality within an avenue that includes better A category specimens) or trees situated internally to the site, therefore individually having little visual impact on the wider locality.
B3	Mainly cultural values including conservation. Trees with clearly identifiable conservation or other cultural benefits.
C	Trees of low quality and value (a minimum of 10 years).
C1	Not qualifying in higher categories.
C2	Trees present in groups or woodlands but without conferring on them greater landscape value and/or trees offering low or only temporary screening benefit.
C3	Trees with very limited conservation or other cultural benefits.
U	Trees in such condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management. Trees that are dead, dying or showing immediate and irreversible decline.

Terminology (cont.)

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

Common name: Most widely used non-botanical name.

Co-dominant: Two branches assuming the role of leading shoots. 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.

Crown Spread: Measured in meters north, south, east and 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.

Diameter: Diameter of the trunk (millimetres) at 1.5m. M.S. after the measurement refers to the tree being multi-stemmed.

Genus & Species: Refers to the botanical names for the tree.

Height: Measured in meters.

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 where appropriate.

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

Tree No. Refers to numbered tag fixed to tree during survey.

6. Tree condition analysis & preliminary recommendations

Tag No.	Species	Age Category	General vigour	Comments	Preliminary Recommendations	Landscape and Arboricultural Category	Useful Life Expect-any
135	Ash Fraxinus excelsior	Mature	Good	A large specimen on boundary with the public road. Trunk co-dominant from 500mm with a wide union between stems. Extensive ivy growth up trunk obscuring view for assessment. A number of lower limbs over-extended toward road.	Remove over-extended limbs toward road. Cut ivy.	B2	40
136	Ash Fraxinus excelsior	Early-mature	Poor	A sub dominant specimen with a strong lean over road. Unsuitable for retention.	Fell	U	<10
137	Elm Ulmus procera	Early-mature	Fair	Co-dominant from base with a tight union between stems. Bark damage present at base but not significant at present. Upper canopy somewhat restricted toward south due to competition from neighbouring tree. Of limited landscape or arboricultural value. Long term potential may be further reduced due to Dutch elm disease.	No action necessary	C2	10
138	Ash Fraxinus excelsior	Mature	Fair	A relatively well developed specimen though trunk with a strong lean toward east. Very heavy ivy growth up trunk obscuring view for assessment. Basal stems present. Very heavy ivy growth up trunk obscuring view for assessment.	Cut ivy	C2	20
139	Ash Fraxinus excelsior	Mature	Good	Located on edge of site adjacent to public road. Very heavy ivy growth up trunk obscuring view for assessment. Upper canopy appears relatively well developed with no visible defects. Ivy becoming a potential hazard through wind-sail development	Cut ivy. Re-assess	B2	40
140	Sycamore Acer pseudoplatanus	Mature	Poor	A poorly developed specimen with extensive bark damage at base. Directly beneath overhead lines. Long term potential limited.	No action necessary	C2	10

Tag No.	Species	Age Category	General vigour	Comments	Preliminary Recommendations	Landscape and Arboricultural Category	Useful Life Expect-any
141	Elm Ulmus procera	Early-mature	Poor	Co-dominant from base. Upper canopy cut back to facilitate overhead line clearance. A tree of very limited landscape or arboricultural value. Potential for contracting Dutch elm disease.	No action necessary	C2	10
142	Sycamore Acer pseudoplatanus	Early-mature	Good	A poorly developed specimen which has been topped to facilitate overhead utility line clearance resulting in a tree of very limited landscape or arboricultural value...	No action necessary	C2	10
143	Elm Ulmus procera	Early-mature	Good	A well-developed specimen with no visible defects. Long term potential may be limited due to Dutch elm disease.	No action necessary	C2	10
144	Ash Fraxinus excelsior	Mature	Fair	A sub dominant specimen with a lean toward south due to competition from a neighbouring tree. Upper canopy limited in extent and swamped in ivy. Long term potential limited.	Cut ivy	C2	10-15
145	Ash Fraxinus excelsior	Mature	Good	A relatively well developed specimen. A number of basal stems present with one with a strong lean toward road to north. Very heavy ivy growth up trunk obscuring view for assessment but upper canopy relatively well developed.	Cut ivy and remove basal stem with lean toward road	B2	40
146	Elm Ulmus procera	Early-mature	Poor	A sub dominant specimen with very limited crown development due to competition from neighbouring tree.	No action necessary	C2	10
147	Ash Fraxinus excelsior	Early-mature	dead		Fell	U	0
148	Ash Fraxinus excelsior	Early-mature	Fair	A sub dominant specimen with crown restricted toward east due to competition from neighbouring tree. No structural issues but suitable for retention within current sheltered environment only.	No action necessary	C2	10-15

Tag No.	Species	Age Category	General vigour	Comments	Preliminary Recommendations	Landscape and Arboricultural Category	Useful Life Expect-any
149	Ash Fraxinus excelsior	Mature	Fair	A multi stemmed specimen located on northern boundary of site. Tight unions between stems but none appear structurally compromised at present. Upper canopy relatively well developed with no visible defects	No action necessary	B2	40
150	Sycamore Acer pseudoplatanus	Early-mature	Good	Located northern boundary of site. A relatively well developed specimen though crown restricted toward north due to competition from neighbouring tree.	No action necessary	B2	40
151	Sycamore Acer pseudoplatanus	Mature	Good	Located on embankment adjacent to public. Trunk co-dominant from 400mm with a tight union and included bark between stems. Stems fused at 2m bringing stability to structure. Upper canopy relatively well developed with no visible defects.	No action necessary	B2	40
152	Ash Fraxinus excelsior	Mature	Good	Located on top of embankment adjacent to public road. Trunk three stemmed from 1.25m with wide unions between stems. A relatively large limb removed at 1.25m to south but no associated decay present. A pocket of decay present in stem to north at 1.25m but unlikely to be significant at present. Upper canopy relatively well developed with no visible defects.	No action necessary	B2	40
153	Ash Fraxinus excelsior	Mature	Good	Located on the edge of embankment adjacent to pi] public road. Three stemmed from base with wide union between stems. Upper canopy relatively well developed though slightly restricted toward west due to competition from neighbouring tree. Minor pockets of decay in lower crown but none significant at present.	No action necessary	B2	40
154	Ash Fraxinus excelsior	Early-mature	Good	A well-developed specimen on boundary embankment with public road. Trunk co-dominant 4m but area obscured by ivy. Upper canopy relatively well developed with no visible defects.	Cut ivy and re-assess	B2	40

Tag No.	Species	Age Category	General vigour	Comments	Preliminary Recommendations	Landscape and Arboricultural Category	Useful Life Expect-any
155	Sycamore Acer pseudoplatanus	Mature	Good	Located adjacent to public road. Very heavy ivy growth up trunk obscuring view for assessment. Trunk co-dominant from 3m but area obscured by ivy. Upper canopy relatively well developed with no visible defects.	Cut ivy and re-assess	B2	40
156	Ash Fraxinus excelsior	Mature	Poor	Half of tree removed / failed. Remaining tree unsuitable for retention.	Fell	U	<10
157	Elm Ulmus procera	Early-mature	Good	A well-developed specimen adjacent to public road. No visible defects however long term potential limited due to Dutch elm disease.	No action necessary	C2	10
158	Ash Fraxinus excelsior	Mature	Fair	A relatively well developed specimen located adjacent to public road. Very heavy ivy growth up trunk obscuring view for assessment. Upper canopy relatively well developed.	Cut ivy	B2	30
159	Elm Ulmus procera	Young	Fair	A cluster of stems adjacent to public road boundary. No visible defects however long term potential limited due to Dutch elm disease	No action necessary	C2	10
160	Elm Ulmus glabra	Young	Good	A well developed with no visible defects however long term potential may be limited due to Dutch elm disease.	No action necessary	C2	10
161	Ash Fraxinus excelsior	Mature	Good	Located on boundary with public road. Trunk co dominant with a large separation between stems. Unsuitable for retention	Fell	U	<10
162	Ash Fraxinus excelsior	Mature	Good	A large specimen located on boundary with public road. Trunk co-dominant from 300mm with a wide union between stems. Stem to south with a slight lean in this direction but not significantly so. Upper canopy relatively well developed with no visible defects.	No action necessary	B2	40

Tag No.	Species	Age Category	General vigour	Comments	Preliminary Recommendations	Landscape and Arboricultural Category	Useful Life Expect-any
Tags 163-300	Not in use						
301	Leyland cypress cultivar xCuprocyparis leylandii cv	Young	Fair	Poor quality specimen on boundary with neighbouring property. Foliage bare to west. Potential to negatively impact on boundary wall in future.	No action necessary	C2	10-15
302	Leyland cypress cultivar xCuprocyparis leylandii cv	Young	Poor	Poor quality specimen on boundary with neighbouring property. Foliage bare to east. Potential to negatively impact on boundary wall in future.	No action necessary	C2	10-15
303	Lodgepole pine Pinus contorta	Young	Good	A relatively well developed specimen on boundary with neighbouring property. Potential to negatively impact on boundary wall in future.	No action necessary	C2	20
304	Norway spruce Picea abies	Young	Good	A relatively well developed specimen on boundary with neighbouring property. Potential to negatively impact on boundary wall in future.	No action necessary	C2	20
305	Monterey pine Pinus radiata	Early-mature	Good	A relatively well developed specimen on boundary with neighbouring property. Potential to negatively impact on boundary wall in future.	No action necessary	C2	20
307	Norway spruce Picea abies	Early-mature	Good	A relatively well developed specimen on boundary with neighbouring property. Potential to negatively impact on boundary wall in near future.	No action necessary	C2	10
308	Monterey pine Pinus radiata	Early-mature	Good	A relatively well developed specimen on boundary with neighbouring property. Potential to negatively impact on boundary wall in future.	No action necessary	C2	10
309	Norway spruce Picea abies	Early-mature	Good	A relatively well developed specimen on boundary with neighbouring property. Potential to negatively impact on boundary wall in future.	No action necessary	C2	10

Tag No.	Species	Age Category	General vigour	Comments	Preliminary Recommendations	Landscape and Arboricultural Category	Useful Life Expect-any
310	Norway spruce Picea abies	Early-mature	Poor	A poor specimen topped to facilitate utility line clearance. On boundary with neighbouring property and with potential to negatively impact on boundary wall in future.	No action necessary	C2	20
311	Ash Fraxinus excelsior	Young	B2	A relatively well developed cluster of stems. No visible defects	No action	B2	40
312	Ash Fraxinus excelsior	Young	Good	Located to outer edge of tree group. Trunk multi-stemmed from 1.5m with wide unions between stems.	No action necessary	B2	30
313	Ash Fraxinus excelsior	Early-mature	Good	A tall slender specimen within tree group. No visible defects.	No action necessary	B2	40
314	Lodgepole pine Pinus contorta	Early-mature	Poor	A very poor specimen with very limited long-term potential	Fell	U	<10
315	Lodgepole pine Pinus contorta	Early-mature	Poor	Relatively well developed. Trunk co-dominant from 2.5m with wide union between stems. May be vulnerable with removal of neighbouring trees	Monitor	C2	10-15
316	Lodgepole pine Pinus contorta	Early-mature	Good	Relatively well developed. Trunk co-dominant from 2.5m with wide union between stems. May be vulnerable with removal of neighbouring trees	Monitor	C2	10-15
317	Lodgepole pine Pinus contorta	Early-mature	Poor	A very poor specimen with very limited long-term potential	Fell	U	<10
318	Horse chestnut Aesculus hippocastanum	Early-mature	Good	A well-developed specimen with no visible defects	No action necessary	B2	40
319	Norway spruce Picea abies	Early-mature	Good	Deadwood in lower crown but no visible defects	No action necessary	B2	40

Tag No.	Species	Age Category	General vigour	Comments	Preliminary Recommendations	Landscape and Arboricultural Category	Useful Life Expect-any
320	Ash Fraxinus excelsior	Early-mature	Good	A well-developed specimen with no visible defects	No action necessary	B2	40
321	Beech Fagus sylvatica	Early-mature	Good	A well-developed specimen with no visible defects	No action necessary	B2	40
322	Ash Fraxinus excelsior	Early-mature	Good	A well-developed specimen with no visible defects	No action necessary	B2	40
323	Beech Fagus sylvatica	Mature	Good	A well-developed specimen with no visible defects	No action necessary	B2	40
324	Monterey pine Pinus radiata	Early-mature	Good	A well-developed specimen with no visible defects	No action necessary	B2	40
325	Sycamore Acer pseudoplatanus	Early-mature	Good	Multi-stemmed from base with tight unions between stems. Long-term potential reduced as a result.	No action necessary	C2	15-20
326	Sycamore Acer pseudoplatanus	Early-mature	Good	Trunk multi-stemmed from base with tight unions between stems. Long-term potential reduced as a result. Upper canopy relatively well developed.	No action necessary	C2	15-20
327	Sycamore Acer pseudoplatanus	Mature	Good	Trunk co-dominant from 300mm. Tight unions present but not significant at present. Heavy ivy growth obscuring view for assessment.	Cut ivy	B2	20-30
328	Sycamore Acer pseudoplatanus	Mature	Good	A well-developed specimen with no visible defects	No action necessary	B2	40
329	Ash Fraxinus excelsior	Early-mature	Good	Trunk co-dominant from 4m with a wide union between stems. No visible defects.	No action necessary	B2	40

Tag No.	Species	Age Category	General vigour	Comments	Preliminary Recommendations	Landscape and Arboricultural Category	Useful Life Expect-any
330	Elm Ulmus procera	Early-mature	Good	A well-developed specimen with no visible defects however Dutch elm disease will ultimately reduce long-term potential.	No action necessary	C2	10
331	Ash Fraxinus excelsior	Early-mature	Good	A well-developed specimen with no visible defects	No action necessary	B2	40
332	Ash Fraxinus excelsior	Young	Poor	In decline	Fell	U	<10
333	Elm Ulmus procera	Early-mature	Good	Trunk co-dominant from base with a further stem lost in the past. Dutch elm disease will ultimately reduce long-term potential.	No action necessary	C2	10
334	Ash Fraxinus excelsior	Mature	Poor	A sub-dominant specimen with crown restricted to north. Suitable for retention within current location only.	No action necessary	C2	10-15
335	Elm Ulmus procera	Early-mature	Poor	Appears to be in decline due to Dutch elm disease	Fell	U	0
336	Elm Ulmus procera	Early-mature	Good	Trunk co-dominant from base with a tight union between stems. Dutch elm disease will ultimately reduce long-term potential.	No action necessary	C2	10
337	Cherry cultivar Prunus cv	Early-mature	Good	A tall slender specimen with crown limited to west but not significantly so.	No action necessary	C2	10
338	Cherry cultivar Prunus cv	Mature	Poor	A poorly developed sub-dominant specimen. Crown very limited to west. Unsuitable for retention outside of current environment.	No action necessary	C2	10
339	Cherry cultivar Prunus cv	Mature	Fair	Multi-stemmed from 1m. A structurally poor specimen. Long-term potential limited	No action necessary	C2	10

Tag No.	Species	Age Category	General vigour	Comments	Preliminary Recommendations	Landscape and Arboricultural Category	Useful Life Expect-any
340	Purple leaved cherry Prunus cv	Mature	Poor	A sub-dominant specimen shaded out by neighbouring trees	No action necessary	C2	10
341	Leyland cypress xCuprocyparis leylandii	Mature	Good	A large hedge within yard. Unmanaged but relatively well developed. Of very limited landscape or arboricultural value	No action necessary	C2	20
342	Sycamore Acer pseudoplatanus	Mature	Good	A large specimen within Leyland hedge. Growth strongly vertical form. A cavity below main point of limb development may reduce trees structural integrity in time but is unlikely to be significant at present.	No action necessary	B2	20-30
343	Sycamore Acer pseudoplatanus	Mature	Good	A large specimen on eastern boundary with public road. Crown wide-spreading and well developed with strong vertical form. No visible defects	Cut ivy	B2	40
344	Leyland cypress xCuprocyparis leylandii	Mature	Good	A gappy hedge with large individual specimens present. Light suppressed deadwood scattered throughout hedge but not indicative of decline.	No action necessary	C2	20
345	Leyland cypress xCuprocyparis leylandii	Mature	Good	A tall slender specimen due to competition from neighbouring trees. Trunk co-dominant from 2.5m with a tight union between stems. Long-term potential reduced as a result. Upper canopy relatively well developed with no visible defects.	Cut ivy	B2	30
346	Sycamore Acer pseudoplatanus	Mature	Good	Trunk co-dominant from 2m with a tight union between stems. Very heavy ivy growth obscuring view for assessment. Upper canopy relatively well developed with no visible defects. A power cable attached to trunk.	Remove cable	B2	40
347	Ash Fraxinus excelsior	Early-mature	Good	On boundary with public road. Very heavy ivy growth obscuring view for assessment. No visible defects	Cut ivy	B2	40

Tag No.	Species	Age Category	General vigour	Comments	Preliminary Recommendations	Landscape and Arboricultural Category	Useful Life Expect-any
348	Sycamore Acer pseudoplatanus	Mature	Good	A tall slender specimen due to competition from neighbouring trees. Very heavy ivy growth obscuring view for assessment. Unsuitable for isolation from neighbouring tree cover.	Cut ivy	B2	40
349	Sycamore Acer pseudoplatanus	Mature	Good	A tall slender specimen due to competition from neighbouring trees. No visible defects	Cut ivy	B2	40
350	Sycamore Acer pseudoplatanus	Mature	Good	A cluster of self-reliant stems. Very heavy ivy growth obscuring views for assessment. No visible defects.	Cut ivy	B2	40
351	Ash Fraxinus excelsior	Mature	Good	A relatively well developed tree. Very heavy ivy growth up trunk obscuring view for assessment. Sheltered within current location.	No action necessary	B2	40
352	Ash Fraxinus excelsior	Mature	Good	Kink in trunk but vertical from 3m. Upper canopy relatively well developed. No visible defects.	No action necessary	B2	40
353	Sycamore Acer pseudoplatanus	Mature	Good	Co-dominant from base with tight unions between stems. Very heavy ivy growth into crown. No visible defects.	Cut ivy	B2	40
354	Elm Ulmus glabra	Early-mature	Good	A relatively well developed specimen co-dominant from base with tight unions between stems. Dutch elm disease will ultimately reduce long-term potential.	No action necessary	C2	10
355	Sycamore Acer pseudoplatanus	Mature	Good	Co-dominant from base with tight unions between stems. Very heavy ivy growth into crown. No visible defects.	Cut ivy	B2	40
356	Sycamore Acer pseudoplatanus	Mature	Fair	A relatively well developed tree though restricted due to competition from neighbouring trees. No visible defects.	No action necessary	B2	40

Tag No.	Species	Age Category	General vigour	Comments	Preliminary Recommendations	Landscape and Arboricultural Category	Useful Life Expect-any
357	Ash Fraxinus excelsior	Mature	Good	A multi-stemmed specimen with very heavy ivy growth up stems. Grazing damage present to stems.	No action necessary	C2	20-30
358	Ash Fraxinus excelsior	Mature	Good	Multi-stemmed from base with stems at acute angles and with potential for failure as a result. Long-term potential reduced as a result.	No action necessary	C2	10-15
359	Ash Fraxinus excelsior	Mature	Poor	Extensive grazing damage present	Fell	U	0
360	Ash Fraxinus excelsior	Early-mature	Poor	Multi-stemmed with grazing damage present. Long-term potential limited as a result.	No action necessary	C2	10-15
361	Ash Fraxinus excelsior	Early-mature	Poor	Multi-stemmed with grazing damage present. Long-term potential limited as a result.	No action necessary	C2	10-15
362	Ash Fraxinus excelsior	Early-mature	Poor	Multi-stemmed with grazing damage present. Long-term potential limited as a result.	No action necessary	C2	10-15
363	Ash Fraxinus excelsior	Early-mature	Poor	Multi-stemmed with grazing damage present. Long-term potential limited as a result.	No action necessary	C2	10-15
364	Elm Ulmus glabra	Early-mature	Poor	Multi-stemmed with grazing damage present. Long-term potential limited as a result.	No action necessary	C2	10-15
365	Ash Fraxinus excelsior	Early-mature	Poor	Multi-stemmed with grazing damage present. Long-term potential limited as a result.	No action necessary	C2	10-15

Tag No.	Species	Age Category	General vigour	Comments	Preliminary Recommendations	Landscape and Arboricultural Category	Useful Life Expect-any
366	Ash Fraxinus excelsior	Early-mature	Poor	Multi-stemmed with grazing damage present. Long-term potential limited as a result.	No action necessary	C2	10-15
367	Ash Fraxinus excelsior	Early-mature	Poor	Multi-stemmed with grazing damage present. Long-term potential limited as a result.	No action necessary	C2	10-15
368	Ash Fraxinus excelsior	Early-mature	Good	Multi-stemmed with wide unions between stems. No grazing damage visible.	No action necessary	B2	20-30
369	Ash Fraxinus excelsior	Early-mature	Good	Multi-stemmed with very heavy ivy growth up stems.	Cut ivy	B2	20-30
370	Ash Fraxinus excelsior	Early-mature	Good	Multi-stemmed with very heavy ivy growth up stems.	Cut ivy	B2	20-30
371	Ash Fraxinus excelsior	Early-mature	Good	Multi-stemmed with very heavy ivy growth up stems.	Cut ivy	B2	20-30
372	Ash Fraxinus excelsior	Early-mature	Good	Multi-stemmed with very heavy ivy growth up stems.	Cut ivy	B2	20-30
373	Ash Fraxinus excelsior	Early-mature	Poor	In a state of collapse	Fell	U	0
374	Ash Fraxinus excelsior	Early-mature	Poor	Multi-stemmed with no grazing damage	No action necessary	B2	20-30

Tag No.	Species	Age Category	General vigour	Comments	Preliminary Recommendations	Landscape and Arboricultural Category	Useful Life Expect-any
375	Ash Fraxinus excelsior	Early-mature	Poor	Multi-stemmed with no grazing damage	No action necessary	B2	20-30
376	Ash Fraxinus excelsior	Early-mature	Poor	Multi-stemmed with no grazing damage	No action necessary	B2	20-30
377	Ash Fraxinus excelsior	Early-mature	Poor	Multi-stemmed with extensive grazing damage present. Long-term potential limited as a result.	No action necessary	C2	10-15
378	Ash Fraxinus excelsior	Early-mature	Poor	Multi-stemmed with extensive grazing damage present. Long-term potential limited as a result.	No action necessary	C2	10-15
379	Ash Fraxinus excelsior	Early-mature	Poor	Multi-stemmed with extensive grazing damage present. Long-term potential limited as a result.	No action necessary	C2	10-15
380	Ash Fraxinus excelsior	Early-mature	Poor	Multi-stemmed with extensive grazing damage present. Long-term potential limited as a result.	No action necessary	C2	10-15
381	Ash Fraxinus excelsior	Early-mature	Poor	Multi-stemmed with extensive grazing damage present. Long-term potential limited as a result.	No action necessary	C2	10-15
382	Ash Fraxinus excelsior	Early-mature	Poor	Multi-stemmed with extensive grazing damage present. Long-term potential limited as a result.	No action necessary	C2	10-15
383	Ash Fraxinus excelsior	Early-mature	Poor	Multi-stemmed with extensive grazing damage present. Long-term potential limited as a result.	No action necessary	C2	10-15

Tag No.	Species	Age Category	General vigour	Comments	Preliminary Recommendations	Landscape and Arboricultural Category	Useful Life Expect-any
384	Ash Fraxinus excelsior	Early-mature	Poor	Multi-stemmed with extensive grazing damage present. Long-term potential limited as a result.	No action necessary	C2	10-15
385	Ash Fraxinus excelsior	Early-mature	Poor	Multi-stemmed with no damage present. Limited long-term potential limited.	No action necessary	C2	10-15
386	Ash Fraxinus excelsior	Mature		A large wide spreading multi-stemmed specimen. No visible defects	No action necessary	B2	40
387	Ash Fraxinus excelsior	Early-mature	Poor	Multi-stemmed with no damage present. Limited long-term potential limited.	No action necessary	C2	10-15
388	Ash Fraxinus excelsior	Mature	Good	A relatively well developed multi-stemmed specimen. Very heavy ivy growth up stems. No visible defects	No action necessary	B2	40
389	Ash Fraxinus excelsior	Mature	Good	A relatively well developed multi-stemmed specimen. Very heavy ivy growth up stems. No visible defects	No action necessary	B3	40
390	Ash Fraxinus excelsior	Early-mature	Poor	Multi-stemmed and slightly sub-dominant. Very heavy ivy growth up stems.	Cut ivy	C2	20
391	Ash Fraxinus excelsior	Mature	Good	A relatively large multi-stemmed specimen. Very heavy ivy growth up stems and light grazing damage on stems.	Cut ivy	B2	40
392	Ash Fraxinus excelsior	Early-mature	Poor	Multi-stemmed with grazing damage present. Long-term potential limited as a result.	No action necessary	C2	10-15

7. Tree measurements

Tree No.	Height m.	D.B.H. mm.	Spread m. N,S,E,W	Clear Stem first cardinal point	Root Protection Diameter m.
135	18.5	560	5,5,5,8	4W	6.7
136	7	210	NA	NA	NA
137	12	380	2,1,2,2	6N	4.5
138	12	420	2,2,4,4	10,s	5
139	18	520	NA	NA	6.2
140	13	320	4,2,1,2	1.5N	3.8
141	12	280	1,2,2,2	3W	3.3
142	13	290	5,2,2,2	1N	3.4
143	18	350	3,3,3,3	10W	4.2
144	15	290	1,4,2,4	7S	3.4
145	16	290	7,4,4,4	0N	3.4
146	12	240	NA	NA	NA
147	11	190	NA	NA	2.2
148	12	340	4,1,4,5	4W	4
149	12	450	5,6,3,4	4E	5.4
150	12	320	1,4,5,5	2.25S	3.8
151	12	560	8,8,4,8	3.5W	6.7
152	12	490	3,4,6,6	6W	5.8
153	12	1100	8,5,5,3	7N	10
154	12	420	6,6,6,6	6N	5
155	12	500	5,5,5,5	8E	6
156	12	350	NA	NA	NA
157	12	290	3,3,3,3	10N	3.4
158	12	520	4,4,2,4	4N	6.2
159	12	210 av	2,2,2,2	6N	4
160	12	210	4,4,4,4	6N	2.5
161	12	860	NA	NA	NA
162	12	920	6,8,8,8	6E	10
163-300 Tags not in use					
301	8	200	2112		4
302	8	170	1110		3.5

Tree No.	Height m.	D.B.H. mm.	Spread m. N,S,E,W	Clear Stem first cardinal point	Root Protection Diameter m.
303	9	250	2222	.5se	3
304	10	300	3333	.25se	3.6
305	10	350	3433	.25s	4.2
306	10	280	2333	.25s	3.3
307	10	270	3233	0.25	3.2
308	9	300	3323	.25sw	3.6
309	10	270	3333	.25se	3.2
310	8	300	3333	.25w	3.6
311	9	190	2323	1.5w	4
312	9	280	3233	.5s	3.3
313	11	260	3323	2s	3.2
314	12	260	2222	.25 s	3.1
315	13	320	3233	.25w	3.8
316	13	320	3332	2.5w	3.8
317	12	300	3333	.25w	3.6
318	12	320	3323	.25s	3.8
319	13	300	3343	.25e	3.6
320	13	260	2332	4 w	3.1
321	13	300	2232	.25 w	3.6
322	13	330	3443	.25 s	3.9
324	9	330	3344	.25n	3.9
323	11	320	2233	.25 s	3.8
325	10	350	3443	.50w	4.2
326	10	300	3444	.25w	3.6
327	12	300	3444	2w	3.6
328	12	320	2322	2se	3.8
329	10	300	2323	2.5w	3.6
330	12	350	4433	.25e	4.2
331	12	260	3233	.20e	3.1
332	11	170	2213	.20w	2
333	12	260	3221	2.5s	2.6
334	10	300	2333	.5ne	3
335	11	190	2231	.25s	1.9
335	12	200	3233	.25w	2
336	14	280	3443	1.5w	2.8
337	12	200	3223	2w	2

Tree No.	Height m.	D.B.H. mm.	Spread m. N,S,E,W	Clear Stem first cardinal point	Root Protection Diameter m.
338	12	240	4334	.5 se	2.4
339	12	300	4543	1w	3
340	7.5	190	2332	2s	1.9
341	10	250	3343	.25s	2.5
342	15	550	5555	2nw	6.6
343	14	550	5565	2w	6.6
344	12	300	3323	1.5w	3.6
345	14	320	3433	3w	3.8
346	23	240	5566	2.5se	2.8
347	20	240	5544	4w	2.8
348	16	300	2343	.25s	2.8
349	16.5	300	3343	3sw	3.6
350	16	250	2344	6s	3
351					
352	11	400	3444	4sw	4.8
353	14	410	5544	2.5s	4.9
354	13	250			3
355	15	600	6566	.50w	7.2
356	19	500	6566	3w	5
357	15	220	3443	2sw	2.2
358	13	200	43444	6sw	2
359	15	320	4344	1se	3.2
360	16	300	3324	1.5w	3
361	16	320	4433	2w	3.2
362	16	240	5564	2s	2.8
363	15	180	3344	2s	2.2
364	16	220	3344	2e	2.7
365	16	260	3344	2s	2.6
366	16	220	3344	3nw	2.2
367	16	300	3344	2.5s	3
368	16	180	2233	3 s	1.8
369	15	250	3243	3se	2.5
370	15	270	3344	4sw	2.7
371	11	255	3323	4s	2.5
372	15	300	3373	2s	3
373	15	160	3373	2.5s	1.6

Tree No.	Height m.	D.B.H. mm.	Spread m. N,S,E,W	Clear Stem first cardinal point	Root Protection Diameter m.
374	15	250	3373	2s	3
375	15	300	3373	1e	3.6
376	15	300	3373	1s	3.6
377	15	280	3373	1s	3.3
378	15	250	3373	2.5se	3
379	15	250	3373	2s	3
380	15	160	3373	1.5 s	1.9
381	15	250	3373	2.5s	3
382	15	220	3373	10w	2.6
383	15	250	3373	4w	3
384	15	160	3373	2e	1.9
385	15	240	3373	5s	2.6
386	15	220	3373	2.5w	2.6
387	15	280	3373	3w	3.6
388	15	300	3373	3.	3.6
389	15	280	3373	4w	3.3
391	15	230	3373	3w	2.8
392	15	220	3373	2e	2.6

8. Tree protection

Tree protection fencing must be erected before construction works commence and must be in accordance with BS 5837 (2012).

a. Oil, bitumen, cement or other materials likely to be injurious to a tree should not be stacked or discharged within 10m of a bole, and materials generally should not be stacked or discharged within 5m of a bole. It is essential that allowance is made for the slope of the ground so that damaging materials such as concrete washings, mortar or diesel oil cannot run towards trees.

b. Concrete mixing should not be carried out within 10m of a tree.

c. Fires should not be lit in a position where the flames could extend within 5m of foliage, branches or trunk, bearing in mind the size of the fire and the wind direction.

d. As the majority of tree roots occur within the top 600mm of soil changes to soil levels within the root zone can have serious consequences for tree health.

Increases in soil levels within the root zone of trees can lead to root asphyxiation and ultimately to tree decline and/or death.

A reduction in soil levels may expose roots to drying out and/or being damaged and have the same effect on the tree as described above.

Tree root protection

The Root Protection Area should be calculated using as per Table 1 and/or Annex D (BS 5837 2012) as an area equivalent to a circle with a radius 12 times the stem diameter for single stem trees and 10 times basal diameter for trees with more than one stem arising below 1.5m above ground level.

Number of stems	Calculation
Single stem tree	$RPA\ (m^2) = \frac{(\text{stem diameter (mm) @ 1.5 m x 12})^2 \times 3.142}{1000}$
Tree with more than one stem arising below 1.5m above ground level.	$RPA\ (m^2) = \frac{(\text{basal diameter (immediately above root flare (mm) x 10})^2 \times 3.142}{1000}$

9. References

BS 5837 (2012). Trees in Relation to Design Demolition and Construction

Mattheck and Breloer (1994). The body language of trees