Oldtown
Celbridge
Co. Kildare

Project No.	Project name	Date	Revision
TOLD002	Oldtown, Celbridge	25/06/18	-

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1. Client brief & Methodology

CMK Hort + Arb were commissioned by AECOM to undertake an assessment of trees on the site of a proposed housing development at Oldtown, Celbridge, Co. Kildare (image 1). The fieldwork was undertaken on the 8th of June 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 & 8 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).

2. General description of trees

The site is located to the edge of Celbridge and is a parcel of agricultural land to the western edge of housing developments in Celbridge, Co. Kildare (image 1). The western section of the site has been managed from an agricultural perspective with the eastern section unmanaged. In recent times
The woody vegetation on the site is confined to the hedgerows separating fields (hedgerows #1-3, images 2-4) and bordering the public road on the northern boundary of the site (hedgerow #4 , images 5&6) with occasional colonisation of the more degraded land to the eastern section of the site (image 7) (Refer to drawing TOLD002 101).
The hedgerows were most likely clipped hawthorn with occasional standard trees but with one exception (hedgerow #3) have become somewhat overgrown due to limited management inputs. The result is dense bramble growth smothering out much of the potential herbaceous vegetation and trees of mixed quality in terms of health and structural integrity.

Category	Number	% of total
A	0	0
B	38	69
C	13	24
U	4	7

Table 1. Tree Categories

The dominant tree species is ash (*Fraxinus excelsior*) which having been coppiced / cut back in the past are now mainly multi-stemmed specimens. The quality of these trees from an arboricultural perspective is generally low, as structurally weak tight unions have developed in many instances at the base of the trees. This limits their potential for retention and incorporation into open space areas within any development of the site. However, careful selection of such trees with adequate shelter could allow some to be retained where appropriate. In addition to the ash, the other tree species present are occasional sycamore (*Acer pseudoplatanus*) and elm (*Ulmus procera*) within the hedgerows and goat willow (*Salix caprea*) which is colonising unmanaged areas to the eastern side of the site.
Elm was a common tree prior to the introduction of Dutch elm disease (*Ophiostoma novo ulmi*) and though a number survive on this site, the disease is present in this area as evidenced by dead specimens. As a result, those elms that are present will succumb to the disease in the near future and are therefore not suitable for consideration for retention.

3. Image sheet

Image 2. Typical view of hedgerows (1&2) within central section of site

Image 3. Hedgerow #3. Notre absence of standard trees.

Image 4. Hedgerow on southern boundary with dead elm

Image 5. Hedgerow on northern boundary with public road

Image 6. Hedgerow on northern boundary with public road (note multi-stemmed nature of trees)

Image 7. Goat willow colonising eastern section of site

4. 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.

5 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.

6. 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.

7. Tree condition analysis & preliminary recommendations

Tag No.	Species	Age Category	General Condition	Comments	Preliminary Recommendations	Landscape and Arboricultural Category	Useful Life Expect-any
1600	Elm Ulmus procera	Early-mature	Good	A relatively well-developed specimen with no visible defects. However likely to become infected by Dutch elm disease in the near future therefore long-term potential limited.	No action necessary	C2	10
1601	Elm Ulmus procera	Early-mature	Good	A relatively well-developed specimen with no visible defects. However likely to become infected by Dutch elm disease in the near future therefore long-term potential limited.	No action necessary	C2	10
1602	Elm Ulmus procera	Early-mature	Good	A relatively well-developed specimen with no visible defects. However likely to become infected by Dutch elm disease in the near future therefore long-term potential limited.	No action necessary	C2	10
1603	Ash Fraxinus excelsior	Mature	Good	Multi-stemmed from base with wide unions between stems. No visible defects	No action necessary	B2	40
1604	Ash Fraxinus excelsior	Early-mature	Poor	Multi-stemmed from base and becoming swamped by ivy. Long-term potential limited	Cut ivy	C2	10-15
1605	Ash Fraxinus excelsior	Mature	Poor	A large cavity at base. Unsuitable for retention outside current environment	Fell	U	<10
1606	Ash Fraxinus excelsior	Mature	Good	Multi-stemmed from base with wide unions between stems. No visible defects	No action necessary	B2	40
1607	Ash Fraxinus excelsior	Mature	Good	Multi-stemmed from base with very heavy ivy growth obscuring view for assessment.	Cut ivy	B2	40

Tag No.	Species	Age Category	General Condition	Comments	Preliminary Recommendations	Landscape and Arboricultural Category	Useful Life Expect-any
1608	Ash Fraxinus excelsior	Mature	Good	A cluster of self-supporting stems forming a combined canopy. Very heavy ivy growth up stems obscuring view for assessment. No visible defects.	Cut ivy	B2	40
1609	Ash Fraxinus excelsior	Mature	Poor	In decline	Fell	U	<10
1610	Ash Fraxinus excelsior	Mature	Good	A cluster of self-supporting stems forming a combined canopy. Very heavy ivy growth up stems obscuring view for assessment. No visible defects.	Cut ivy	B2	40
1611	Ash Fraxinus excelsior	Early-mature	Fair	Multi-stemmed from base with very heavy ivy growth obscuring view for assessment. No visible defects.	Cut ivy	B2	20
1612	Ash Fraxinus excelsior	Early-mature	Good	A cluster of self-supporting stems forming a combined canopy. Stems drawn up for light due to competition. Very heavy ivy growth up stems obscuring view for assessment.	Cut ivy	C2	15-20
1613	Ash Fraxinus excelsior	Mature	Good	Multi-stemmed from base with very heavy ivy growth obscuring view for assessment. No visible defects.	Cut ivy	B2	40
1614	Ash Fraxinus excelsior	Mature	Good	Multi-stemmed from base with very heavy ivy growth obscuring view for assessment. No visible defects.	Cut ivy	B2	40
1615	Ash Fraxinus excelsior	Mature	Good	Multi-stemmed from base with very heavy ivy growth obscuring view for assessment. No visible defects.	Cut ivy	B2	40
1616	Ash Fraxinus excelsior	Mature	Good	Multi-stemmed from base with very heavy ivy growth obscuring view for assessment. No visible defects.	Cut ivy	B2	40

Tag No.	Species	Age Category	General Condition	Comments	Preliminary Recommendations	Landscape and Arboricultural Category	Useful Life Expect-any
1617	Ash Fraxinus excelsior	Mature	Good	Multi-stemmed from base with very heavy ivy growth obscuring view for assessment. No visible defects.	Cut ivy	B2	40
1618	Elm Ulmus procera	Early-mature	Dead		Fell	U	0
1619	Ash Fraxinus excelsior	Mature	Fair	A cluster of self-supporting stems forming a combined canopy. Stems drawn up for light due to competition. Very heavy ivy growth up stems obscuring view for assessment.	Cut ivy	C2	15-20
1620	Ash Fraxinus excelsior	Mature	Fair	Co-dominant from base with tight unions between stems. Long-term potential reduced as a result.	No action necessary	C2	10-15
1621	Ash Fraxinus excelsior	Mature	Fair	A cluster of self-supporting stems forming a combined canopy. Stems drawn up for light due to competition. Very heavy ivy growth up stems obscuring view for assessment.	Cut ivy	C2	15-20
1622	Ash Fraxinus excelsior	Mature	Fair	A cluster of self-supporting stems forming a combined canopy. Stems drawn up for light due to competition. Very heavy ivy growth up stems obscuring view for assessment.	Cut ivy	C2	15-20
1623	Ash Fraxinus excelsior	Mature	Fair	A cluster of self-supporting stems forming a combined canopy. Stems drawn up for light due to competition. Very heavy ivy growth up stems obscuring view for assessment.	Cut ivy	C2	15-20
1624	Ash Fraxinus excelsior	Early-mature	Good	Twin-stemmed from base with wide unions between stems. No visible defects	No action necessary	B2	40
1625	Tag not in use						

Tag No.	Species	Age Category	General Condition	Comments	Preliminary Recommendations	Landscape and Arboricultural Category	Useful Life Expect-any
1626	Ash Fraxinus excelsior	Early-mature	Good	A well-developed specimen with very heavy ivy growth obscuring view for assessment. No visible defects	Cut ivy	B2	40
1627	Ash Fraxinus excelsior	Early-mature	Fair	A relatively well-developed cluster of stems. No visible defects.	No action necessary	B2	40
1628	Ash Fraxinus excelsior	Young - Early-mature	Fair	Inaccessible and located on roadside ditch. Most are multi stemmed specimens. Some have been topped to facilitate utility line clearance with the quality of the trees mixed overall. Selection if required should be based on suitability of individual trees but also on stable groups providing adequate supporting shelter.	Cut ivy	C2-B2	20
1629	Sycamore Acer pseudoplatanus	Mature	Good	A relatively well-developed specimen with trunk co-dominant from base. A wide union between stems.	No action necessary	B2	20
1630	Ash Fraxinus excelsior	Mature	Poor	Extensive decay in base	Fell	U	<10
1631	Ash Fraxinus excelsior	Early-mature	Fair	A relatively well-developed specimen with trunk co-dominant from base. A wide union between stems.	No action necessary	B2	20
1632	Ash Fraxinus excelsior	Early-mature	Fair	A relatively well-developed specimen with trunk co-dominant from base. A wide union between stems.	No action necessary	B2	20
1633	Ash Fraxinus excelsior	Early-mature	Good	A relatively well-developed specimen with trunk co-dominant from base. A wide union between stems.	No action necessary	B2	20

Tag No.	Species	Age Category	General Condition	Comments	Preliminary Recommendations	Landscape and Arboricultural Category	Useful Life Expect-any
1634	Ash Fraxinus excelsior	Early-mature	Good	A relatively well-developed specimen. Very heavy ivy growth obscuring view for assessment but no visible defects.	Cut ivy	B2	20
1635	Ash Fraxinus excelsior	Early-mature	Good	A cluster of stems forming a combined canopy. Relatively well developed with no visible defects.	No action necessary	B2	20
1636	Ash Fraxinus excelsior	Early-mature	Good	A cluster of stems forming a combined canopy. Relatively well developed with no visible defects.	No action necessary	B2	20
1637	Ash Fraxinus excelsior	Early-mature	Good	A cluster of stems forming a combined canopy. Relatively well developed with no visible defects.	No action necessary	B2	20
1638	Ash Fraxinus excelsior	Early-mature	Good	A tightly packed cluster of stems forming a combined canopy. Relatively well developed with no visible defects.	No action necessary	B2	20
1639	Ash Fraxinus excelsior	Early-mature	Good	A cluster of stems forming a combined canopy. Relatively well developed with no visible defects.	No action necessary	B2	20
1640	Ash Fraxinus excelsior	Early-mature	Fair	A cluster of stems forming a combined canopy. Tall slender with very heavy ivy growth up stems. Relatively well developed with no visible defects.	Cut ivy	C2	10-15
1641	Ash Fraxinus excelsior	Early-mature	Fair	A cluster of stems forming a combined canopy. Tall slender with very heavy ivy growth up stems. Relatively well developed with no visible defects.	Cut ivy	C2	10-15
1642	Ash Fraxinus excelsior	Early-mature	Fair	A cluster of stems forming a combined canopy. Tall slender with very heavy ivy growth up stems. Relatively well developed with no visible defects.	Cut ivy	C2	10-15

Tag No.	Species	Age Category	General Condition	Comments	Preliminary Recommendations	Landscape and Arboricultural Category	Useful Life Expect-any
1643	Ash Fraxinus excelsior	Early-mature	Good	A relatively well-developed specimen becoming swamped in ivy. No visible defects.	Cut ivy	B2	20
1644	Ash Fraxinus excelsior	Early-mature	Good	A relatively well-developed specimen becoming swamped in ivy. No visible defects.	Cut ivy	B2	20
1645	Ash Fraxinus excelsior	Early-mature	Good	A relatively well-developed cluster of stems forming a combined canopy. Tall slender with very heavy ivy growth up stems.	Cut ivy	B2	20
1646	Ash Fraxinus excelsior	Early-mature	Good	A relatively well-developed cluster of stems forming a combined canopy. Tall slender with very heavy ivy growth up stems.	Cut ivy	B2	20
1647	Ash Fraxinus excelsior	Early-mature	Good	A relatively well-developed cluster of stems forming a combined canopy. Tall slender with very heavy ivy growth up stems.	Cut ivy	B2	20
1648	Ash Fraxinus excelsior	Early-mature	Good	A relatively well-developed cluster of stems forming a combined canopy. Tall slender with very heavy ivy growth up stems.	Cut ivy	B2	20
1649	Ash Fraxinus excelsior	Mature	Good	A relatively well-developed cluster of stems forming a combined canopy. Very heavy ivy growth up stems. No visible defects.	Cut ivy	B2	20
1650	Ash Fraxinus excelsior	Mature	Good	A relatively well-developed cluster of stems forming a combined canopy. Very heavy ivy growth up stems. No visible defects.	Cut ivy	B2	20
1651	Ash Fraxinus excelsior	Mature	Good	A tall slender well-developed specimen. Very heavy ivy growth obscuring view for assessment.	Cut ivy	B2	40

Tag No.	Species	Age Category	General Condition	Comments	Preliminary Recommendations	Landscape and Arboricultural Category	Useful Life Expect-any
1652	Tag not in use						
1653	Ash Fraxinus excelsior	Early-mature	Good	A tall slender specimen. Trunk co-dominant from base with a wide union between stems.	No action necessary	B2	40
1654	Ash Fraxinus excelsior	Early-mature	Good	Multi-stemmed from base. Very heavy ivy growth obscuring view for assessment.	Cut ivy	B2	20
1655	Ash Fraxinus excelsior	Early-mature	Good	A relatively well-developed cluster of stems forming a combined canopy. Very heavy ivy growth up stems. No visible defects.	Cut ivy	B2	20
1656	Ash Fraxinus excelsior	Early-mature	Good	Multi-stemmed from base. Very heavy ivy growth obscuring view for assessment.	Cut ivy	B2	20
1657	Ash Fraxinus excelsior	Mature	Good	A well-developed large dominant specimen. Multi stemmed from base with very heavy growth up stems. No visible defects.	Cut ivy	B2	40

8. Tree measurements

Tree No.	Height m.	D.B.H. mm.	Spread m. N,E,S,W	Clear Stem first cardinal point	Root Protection Diameter m.
1601	10	210	4434	2s	3
1602	12	220	3433	2n	2.6
1603	7	160	2343	1ne	1.9
1604	16	0.5 x4	5454	2s	10
1605	17	0.7	5445	2.5e	10
1606	16	0.6 x6	4343	1 e	10
1607	13	250 x6	2332	1e	10
1608	13	190	3232	1w	2.2
1609	12	170	2342	1.5e	2
1610	10	180	3223	1n	2.1
1611	10	200	4323	.5e	2.4
1612	9	160	3223	1.5s	1.9
1613	9	160	2323	1e	1.9
1614	9	170 x2	3231	1.5w	5
1615	9	200	2322	2s	2.4
1617	10	160	3423	1w	1.9
1618	10	220	3221	1.5s	2.6
1920	10	220	2331	2e	2.6
1921	9	190	2334	1n	2.2
1622	10	170 x5	2332	2e	10
1623	10	180	3434	1.5w	2.1
1624	10	230	3434	2 trees	2.7
1626	13	270	3343	5s	3.2
1627	10	320 x3	5455	3 s	10
1628	9 av	200av	2222 av	1n av	2.4

Tree No.	Height m.	D.B.H. mm.	Spread m. N,E,S,W	Clear Stem first cardinal point	Root Protection Diameter m.
1629	12	220 x2	3444	1n	4
1630	12	220	NA	NA	NA
1631	12	70	3342	2.5s	8.4
1632	14	130	6666	.25 n	10
1633	13	160x7	3333	1n	10
1634	13	180x3	4444	.25n	7
1635	13	180	4344	2n	2.1
1636	12	170 x7	3232	1s	10
1637	12	150x5	3233	1e	10
1638	13	200x4	3324	1n	10
1639	12	180	4344	1.5n	2.1
1640	13	160	3323	3.5s	1.9
1641	12	160	4344	3e	1..9
1642	14	300	4445	1n	3.6
1646	13	290	4446	2s	3.4
1647	13	250 x5	4545	2n	10
1648	14	270 x3	5445	2.5n	10
1649	13	300 x5	4354	4ne	10
1650	14	350 x5	4344	3s	10
1651	12	300	3443	2.5n	3.6
1653	12	250 x3	3433	2e	7.2
1654	10	270	3333	2w	3.2
1655	11	0.6	6666	.25nw	7.2
1656	10	180	3434	1.5n	2.1
1657	15	300	4343	2s	3.6

9. 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) = (stem diameter (mm) @ 1.5 m x 12) ^{2} x 3.142 / 1000
Tree with more than one stem arising below 1.5m above ground level.	RPA (m^2) = (basal diameter (immediately above root flare (mm) x 10) ^{2} x 3.142 / 1000

10. References

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

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