Arborist Associates Ltd

94 Ballybawn Cottages, Enniskerry, Co. Wicklow

Tel: 2742011
Mobile: 087-2629589
Email: arborist@eircom.net

Ref: CWP0796568

9th December 2020

For the attention of Mr. Ciaran McGee
Roughan & O'Donovan
Arena House
Arena Road
Sandyford
Dublin 18.

Dear Mr. McGee,

Re: An Arboricultural Assessment of the Tree Vegetation within the Site Area for 'Pond 2A' on Lands at Cherrywood, Dublin 18.

I inspected the tree vegetation within the grounds of the above site area and the proposed development layout drawings forwarded to me as requested and I am pleased to submit the attached arboricultural assessment and tree protection measures.

If you require further information please do not hesitate to contact us, and we will do our best to be of assistance.

Yours sincerely,
For Arborist Associates Ltd.

Felim Sheridan
F. Arbor. A, RFS Dip, Nat. Dip & NCH in Arboriculture

Felim Sheridan's qualifications:
Fellow of the Arboricultural Association (F. Arbor. A), Professional diploma Arboriculture (RFS), National diploma Arboriculture (ND) and National certificate Horticulture (NCH).

Arborist Associates Ltd.

An Arboricultural Assessment of the Tree Vegetation within the Site Area for 'Pond 2A' on Lands at Cherrywood, Dublin 18.

Prepared for: Roughan & O'Donovan

Prepared by: Felim Sheridan F. Arbor. A, RFS Dip, Nat. Dip & NCH in Arboriculture

Date: 9th December 2020

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Summary

This report has been prepared as part of a planning application for an attenuation pond known as 'Pond 2A' on lands at Cherrywood, Dublin 18.

The site area is rectangular in shape with two spurs off this that extend westwards along the northern and southern boundaries for access purposes. The main site area is in agricultural use for grazing livestock and consists of the eastern part of an open field which slopes from west to east with a steep gradient at the western end of the site area, before flattening out at the eastern end. The tree vegetation is located within the field hedgerows around the boundaries.

A condition tree assessment report has been carried out by us to the recommendations of BS5837:2012. See 'Appendix 2' and drawing 'No.PCW001' which has been prepared as a constraints plan for details of our findings.

Within the overall site area, 21No.trees were tagged individually along with 9No.Trees 1No.Tree Group and 5No.Hedges numbered numerically.

The following summarizes the category grading allocation as per the cascade chart in BS5837 2012:

- **Category U** - 2 Trees
- **Category A** - 2 Trees
- **Category B** – 3 Tree
- **Category C** - 23 Trees plus 1 Tree Group and 5 Hedges

Following the production of this assessment and constraints drawing, this information has been used by the design team in finalizing the layout of the proposed pond and infrastructure and from my understanding of this, I have drawn up my Arboricultural Impact Assessment and Tree Protection Plan. See 'Section 5' of this report and drawing 'No.PCW002' for detail.

From our assessment of the proposed works, the following summarizes the impacts on the surrounding hedge vegetation:

Hedge No.1: Located along the south-western boundary will have a small section of scrub Bramble removed to facilitate a secondary construction assess point. This construction access road is to be installed using a 'No-Dig' methodology to help minimize impact of the tree and hedge vegetation which will see the road being installed over the existing ground levels leaving the soil and any roots from the vegetation intact underneath.

Hedge No.2 is not affected by the proposed works with the exception of one Ash tree (No.0660) within Tree Group No.1 and a c.5m wide section to facilitate a pipe exiting the site area to another pipe being installed under a separate project and this opening is to be used as a construction access point. It will require the encroaching hedge vegetation which is predominantly Bramble and Blackthorn to be cut back into the hedge and the hedge will need trimming back to provide clearance for the service road to the pond which will be used at a later stage as a greenway path. To minimize impact, this service

road is to be installed using a 'No-Dig' methodology which will see the road being installed over the existing ground levels leaving the soil and any roots from the vegetation intact underneath.

Hedge No.3: It will not be affected by the proposed works.

Hedge No.4: It is being retained and will require the encroaching hedge vegetation which is predominantly Bramble and Blackthorn to be cut back into the hedge and the hedge will need trimming back to provide clearance for the service road to the pond. To minimize impact, this service road is to be installed using a 'No-Dig' methodology which will see the road being installed over the existing ground levels leaving the soil and any roots from the vegetation intact underneath.

Hedge No.5: It will also require trimming back, particularly of the encroaching vegetation which is predominantly Bramble in order to facilitate the service road.

New tree, shrub and hedge planting is to be added as part of the landscaping of the completed development and this will help blend the proposed development into its surrounds and to mitigate the loss of tree and hedge vegetation. See landscape architects drawings and schedules for detail.

On drawing 'No.PCW002', I have shown the required work exclusion zones around the tree vegetation to be retained with 'Orange Hatching'. These areas are to be fenced off from the site area using strong robust fencing and this is to be retained until the construction works are complete and these areas are incorporated into the finished landscaped development.

It will be important prior to the works commencing that these tree protection measures including the ground protection for the construction access roads are put in place at the very start of the works prior to machinery coming on site and are maintained throughout the construction project to ensure that the tree and hedge vegetation which is proposed to be retained is done so successfully. <u>These measures have been highlighted within my impact assessment and tree protection strategy and it is important that they are implemented.</u>

The key issues for the client or project manager regarding tree protection are as follows:

- The establishment of tree protection/mitigation measures.
- Monitoring of tree protection and mitigation measures.
- The adherence of tree protection measures by all staff and sub-contractors on site.
- Supervision of works within the vicinity of trees to be retained by the project Arboriculturist.
- Post construction assessment of retained trees by the project Arboriculturist and the implementation of the necessary measures required to promote the health of these trees and safety towards the end users of this development.

1.0 Instructions

1.1 I have been instructed by Roughan & O'Donovan (project engineers) to assess the tree vegetation within the site area for 'Pond 2A' on lands at Cherrywood, Dublin 18 and to report on the following:

A: To assess the present condition of the tree vegetation within this site area. See 'Appendix 2' and drawing 'No.PCW001' which has been prepared as a constraints plan for detail.

B: To assess the impact of the proposed development layout on the tree vegetation indicating on a drawing those for removal and retention. See 'Section 5' of our report and drawing 'No.PCW002' for detail.

C: To show on this drawing the line of protective fencing to be erected around the tree vegetation being retained along with other mitigation measures to aid in their successful retention.

2.0 Report Limitations

2.1 The inspection has been carried out from ground level only and is a preliminary report. It does not include climbing inspections or below ground investigations on any tree/s. Should a more detailed inspection be thought necessary on any tree/s, then this will be highlighted within my recommendations.

2.2 The assessment is based on what was visible at the time and recommendations made are subject to the knowledge and expertise of the qualified Arboriculturist that carried out the above inspections.

2.3 This survey has been carried out in support of the planning and design of a attenuation pond on these lands and only concerns those trees on and around the site area that are considered to be relevant to this project.

2.4 Trees should be inspected on a regular basis as their health and condition can change rapidly due to biotic and abiotic agents. The recommendations within this report are valid for a twelve month period only and this may be reduced in the case of any change in conditions to or in the proximity of the trees.

2.5 Before undertaking any work to these trees, it would be advisable to check whether any planning or tree preservation controls are in operation, if they are it will be necessary to obtain consent before undertaking any works (pruning or felling).

3.0 Survey Methodology

3.1 The Arboricultural data which is presented within the attached report *(see Appendix 2)* has been recorded in line with BS 5837:2012. The survey was conducted by collecting and assessing the following information within the vicinity of the proposed site area:

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

3.2 The tree vegetation was assessed and given a retention category according to their quality and value within the existing context (BS-4.5), and not in conjunction with any proposed development plans. In making this assessment, particular consideration was given to the following:

- **Arboricultural Value** – including health, structural form, life expectancy, species and its physical contribution to or affects on other features located on site.
- **Landscape Value** – an assessment of their locality including their contributions to other features as well as to the site as a whole.
- **Cultural Value** – additional contributions made such as conservation, historical, commemorative value.

3.3 In order to assess their retention value, the trees have been divided into one of the following categories, in accordance with the cascade chart illustrated in table 1 of BS 5837:2012. The classification process begins by determining whether the tree falls within the (U) category, if not then the process will continue by assuming that all trees are considered according to the criteria for inclusion in the high category (A). Trees that do not meet these strict criteria will then be considered in light of the criteria for inclusion in the moderate category (B) and failing this, they will be allocated a low category (C).

The following summarizes each of the categories:

Category U – Those trees in such a condition that any existing value would be lost within 10 years. Most of these will be recommended for removal for reasons of sound Arboricultural Practice/ Management.

Any category 'U' trees within this site area have been identified on our drawings (Nos.PCW001 & PCW002) with a 'Red' donut around their trunk positions.

Category A - Trees of high quality/value with a minimum of 40 years life expectancy.

Any category 'A' trees within this site area have been identified on our drawings (Nos.PCW001 & PCW002) with a 'Green' donut around their trunk positions.

Category B – Trees of moderate quality/value with a minimum of 20 years life expectancy.

Any category 'B' trees within this site area have been identified on our drawings (Nos.PCW001 & PCW002) with a 'Blue' donut around their trunk positions. These trees would be seen as having the potential to contribute to the tree cover of these grounds for the medium-term.

Category C – Trees of low quality/value with a minimum of 10 years life expectancy

Any category 'C' trees within this site area have been identified on our drawings (Nos.PCW001 & PCW002) with a 'Grey' donut around their trunk positions. These trees would be seen as having the potential to provide tree cover for the short to medium term and they should not be seen as a considerable constraint on the development of these lands. Where viable, they should be retained.

3.4 The trees have been plotted onto the attached drawing (Dwg No.PCW001) by ourselves and may not be fully accurate and their positions would need to be checked by a land survey company for accuracy.

The tree reference numbers referred to in the condition tree report have been shown on this drawing along with their crown spreads and their retention category colour coded as detailed above and recommended by BS 5837 2012.

The constraints for each tree were worked out as per the formulas in BS5837 2012 and have been shown on this drawing using an 'Orange Circle' to aid the design team in their final development layout to ensure tree vegetation proposed for retention is retained successfully. The Root Protection Area (RPA) is the minimum area around individual trees to be protected from disturbance during construction works and is expressed as a radius in meters measured from the tree stem. Any deviation in the RPA from the original circular plot takes account of the following factors whilst still providing adequate protection for the root system:

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

4.0 Summary of Survey Findings

4.1 The site area is rectangular in shape with two spurs off this that extend westwards along the northern and southern boundaries for access purposes. The main site area is in agricultural use for grazing livestock and consists of the eastern part of an open field which slopes from west to east with a steep gradient at the western end of the site area, before flattening out at the eastern end. The tree vegetation is located within the field hedgerows around the boundaries.

4.2 It is adjoined to the eastern half of the northern boundary by other lands in agricultural use, the western end of the northern boundary by two private residential properties, to the south by lands that were in agricultural use but have now laid derelict for some time, to the east by a small river and beyond this by the gardens of residential properties and to the west by the latter part of this field in agricultural use.

4.3 **The following summarizes the vegetation within the site area:**

Hedge No.1 runs in a north to south direction along the western boundary between two fields. It consists of clumps of Hawthorn and Elder with a large infill of Bramble and Dogrose along with gaps/openings with little or no vegetation allowing passage from one field to the other. It has been impacted upon by the livestock sheltering and grazing which has further impacted on its structure and quality. Due to lapsed management this hedge has fallen into disrepair and sections have failed with Bramble encroaching out to create a broad scrub hedge. Some of the hedge plants are being suppressed by Ivy which is increasing their wind sail leaving them more prone to wind/storm damage. Within the section of this hedge in the site area, three trees were numbered numerically (Nos.1 – 3) and these consist of two Ash and one Sycamore.

Tree No.4 is located out from the boundary hedges and has self-seeded at the base of the out buildings/sheds and is twin-stemmed from base. It may lead to structural damage to the shed building as it grows larger in size.

Hedge No.2 extends east to west along the southern boundary and is a typical agricultural hedge for this area. The original hedge line is located on a soil bank on the site side of a drainage ditch which is deep at the western end. The lands to the rear of this hedge have lain derelict for some time and areas are being dominated by scrub species and some natural regeneration of tree and hedge species. Within this section of hedge, contained by the sites red line boundary, 14 Trees (Nos.0658-0671) were tagged and 3No.Trees (Nos.5-7) and one Tree Group (No.1) were numbered numerically and commented on within this report. All of these trees with the exception of Tree No.0671, an early-mature Ash at the eastern end, are of a mature age class and they form the upper canopy of this hedge and collectively they are of some value to the treescape of this area forming a prominent line of trees, but individually, they are of low quality due to physiological and structural issues. This hedge has been allowed to grow tall and out wide impacting on its structure and it has also been impacted upon in places by the livestock sheltering and grazing.

Hedge No.3 runs north to south along the eastern boundary of the site area bordering with the small river. It consists of a line of predominantly Willow with one Alder (No.0676) all of which would have established here naturally from seed with a dense undergrowth of Bramble. The larger trees within this hedge have been tagged (Nos.0672-0678). These trees are of a semi-mature to early-mature age class and most of them are multiple-stemmed from base. Again this line of vegetation is of more visual value to the treescape of this area collectively than as individual trees due to mainly structural issues.

Hedge No.4 extends east to west along the northern site boundary and has been divided into two parts as follows:

Hedge No.4A is located at the eastern end extending from hedge No.3 and forms the boundary with the adjoining agricultural field to the north. The main hedge species is Hawthorn and Blackthorn with other species in smaller numbers with an undergrowth of Bramble. This hedge has been cut and has received management is the past, in particular on the site side and in more recent years it has been allowed to grow out wide with Blackthorn and Bramble encroaching out on either side to create a broad hedge and scrub areas particularly on the northern side. Within this section of hedge, one tree (No.0679) has been tagged and this is an early-mature Ash of good quality.

Hedge No.4B extends westwards from hedge No.4A and this forms the boundary between this site area and the grounds of two private residential properties. The main hedge line is located on the private properties side of the boundary fence with a dense scrub area of mainly Bramble on the site area making access difficult into this hedge. The main hedge is made up of ornamental shrub species with some small trees within, with one larger tree (No.9) of an early-mature age class at the eastern end. This hedge has value along this boundary for screening and security. On the site side, the scrub species that have established have been impacted by the grazing livestock.

Hedge No.5 runs parallel with Hedge No.4B at the western end of the site area and forms the boundary between a private residential property to the south and a linear strip of land which was an access point into the field at one point. The hedge is made up of Leyland Cypress of an early-mature age class and it is located on the adjoining property side of the boundary fence with scrub species such as Elder, Bramble and Sycamore seedlings growing up through it, in particular on the site side. Bramble is also encroaching out from this hedge to create a scrub area and is blocking off this entrance to the field.

4.4 Within the overall site area, 21No.trees were tagged individually along with 9No. Trees, 1No.Tree Group and 5No.Hedges numbered numerically.

The following table gives a breakdown of the category grading allocation as per the cascade chart in BS5837 2012:

Category Grade	No. of Trees
Category U Trees = 2	**Tree Nos**. 0660 & 0666
Category A Trees = 2	**Tree Nos**. 0671 & 0679
Category B Tree = 3	**Tree No**. Tree No.2, Tree No.3 & Tree No.8
Category C Trees = 23 Tree Groups = 1 Hedges = 5	**Tree Nos.** Tree No.1, Tree No.4, Tree No.5, Tree No.6, Tree No.7, 0658, 0659, 0661, 0662, 0663, 0664, 0665, 0667, 0668, 0670, 0672, 0673, 0674, 0675, 0676, 0677, 0678 & Tree No.9. **Tree Group No.** 1 **Hedge No.** 1, 2, 3, 4 (A &B) & 5
Total	**30 Trees + 1 Tree Group & 5 Hedges**

5.0 Impact Assessment

5.1 It is proposed to develop this site area for a new attenuation pond for the area which will be positioned at the western end of the site area towards the northern boundary taking into consideration the flood area for the river to the east and a Badger set within the boundary hedgerow to the south.

5.2 On drawing 'No.PCW002', I have shown the vegetation for removal due to the proposed development and condition/management with a 'Red Hatched' crown spread and those to be retained with a 'Green' crown spread. I have also shown on this drawing, the position of any necessary tree protection measures in order to protect the root zone of the tree vegetation being retained within the vicinity of where the construction works will occur. These work exclusion zones are shown on this drawing using 'Orange Hatching' and these areas will need to be cordoned off by the erection of fencing or other means at the start of the works and this will need to be maintained in place until all works are completed. This fencing is to protect the root zone of the trees and to ensure their successful integration into the development of this site area.

5.3 The comments made within this impact assessment study are based on my understanding of the proposed development and what is required to allow for its construction.

5.4 To facilitate the proposed development layout of this pond and associated infrastructure works within this site area, the following impacts are expected on the tree vegetation:

Hedge No.1 will not be impacted upon by the proposed works with the exception of a small section of scrub Bramble that will need to be cut back/removed to facilitate a secondary construction assess point. This construction access road on the western side of this hedge and the trees within is to be installed using a 'No-Dig' methodology to help minimize impact which will see the road being installed over the existing ground levels leaving the soil and any roots from the vegetation intact underneath. See 'Section 6.7' of this report for general guidance on the installation of the 'CellWeb'. It is my understanding that the surface on this service road will be gravel which will allow free movement of air and moisture to the soil and roots below.

Hedge No.2 is not affected by the proposed works with the exception of one Ash tree (0660) within Tree Group No.1 and a c.5m wide section that will need to be removed to facilitate a pipe exiting the site area to another pipe being installed under a separate project and this opening is to be used as a construction access point. It will require the encroaching hedge vegetation which is predominantly Bramble and Blackthorn to be cut back into the hedge and the hedge will need trimming back to provide clearance for the service road to the pond which is to be installed on the southern side and this is to be used at a later stage as a greenway path. The bulk of the tree vegetation is located on the northern side of a deep drainage ditch which will have restricted root growth into this area and to minimize impact, this service road is to be installed using a 'No-Dig' methodology which will see the road being installed over the existing ground levels leaving the soil and any roots from the vegetation intact underneath. See 'Section 6.7' of this

report for general guidance on the installation of the CellWeb. It is my understanding that the surface on this service road will be gravel which will allow free movement of air and moisture to the soil and roots below.

Hedge No.3 runs along the eastern boundary will not be impacted upon by the proposed works as it is set well back from it, but an outlet pipe to the river will need to be installed. This has been directed to the river through an area where there is little or no vegetation. It will be important to put in place the necessary tree protection measures at the commencement of the works.

Hedge No.4 (A & B) run along the northern boundary and will have a service road to the attenuation pond located within close proximity and it will be necessary to carry out trimming of the encroaching hedge vegetation to accommodate this road. The hedge vegetation is to be cut back 0.5m beyond the road edge and this will need to be done by a competent tree surgery firm to the recommendation of BS3998 2010. It will be necessary going forward to regularly trim the side of this hedge to maintain clearance with the service road.

Hedge No.5 which runs parallel to hedge No.4B will have the service road to the attenuation pond located close and it will be necessary to carry out trimming of the encroaching hedge vegetation to accommodate this road. The hedge vegetation is to be cut back particularly the encroaching vegetation and this will need to be done by a competent tree surgery firm to the recommendation of BS3998 2010. It will be necessary going forward to regularly trim the side of this hedge to maintain clearance with the service road.

The service road running along hedge Nos.4 & 5 is to be installed using a 'No-Dig' methodology where this road surfaces will be brought in over the existing ground levels with no excavation for a sub base and a product such as 'CellWeb' or similar is to be incorporated into its build to provide support and protection to the underlying soil and roots. This is to be installed to the recommendations of the project engineers in consultation with the project arboriculturist. See 'Section 6.7' of this report for general guidance on the installation of the 'CellWeb'. It is my understanding that the surface on this service road will be gravel which will allow free movement of air and moisture to the soil and roots below.

5.5 It will be important that the necessary tree protection fencing and other measures including the installation of the 'No-Dig' access roads are put in place prior to the main construction works commencing on site and that they stay in place for the duration of the works.

5.6.0 Tree Vegetation Retention

5.6.1 The tree and hedge vegetation being retained will need to be incorporated into the completed development.

5.6.2 **Main items for consideration during the proposed construction process:**

Item	Comments
Tree Pruning	As part of the initiating works, the crowns of some of the trees being retained will need to be pruned to remove dead/unstable growth, the pruning of individual limbs/branches or entire crowns to reduce size due to structural weaknesses or to improve their juxtaposition within the built environment. A preliminary list of these works is given within the condition tree assessment in 'Appendix 2' of this report and these are to be reviewed on site prior to being carried out. All tree felling and pruning work need to be carried out by qualified and experienced tree surgeons *before* any construction work commences; all tree work should be in accordance with *BS3998 (2010) Tree Work – Recommendations.* All vegetation for removal will need their stumps in particular those which are located within the root zone of trees being retained ground out using a mechanical stump grinder taking care not to cause root damage to the trees being retained.
Tree Protection	The tree and hedge vegetation being retained will need to be protected from unnecessary damage during the construction process by effective construction-proof barriers that will define the limits for machinery drivers and other construction staff. Ground protected by the fencing will be known as the 'Work Exclusion Zone' and sturdy protective fencing will need to be erected along the points identified in the Tree Protection Plan (Dwg No.PCW002) **prior** to any soil disturbance and excavation work starting on site. This is essential to prevent any root or branch damage to the retained trees. The British Standard BS5837: *Trees in relation to design, demolition and construction (2012)* specifies appropriate fencing, see 'Appendix 1' for details. All weather notices should be erected on the fences with words such as: "Tree Protection Fence — Keep Out". When the fencing has been erected, the construction work can commence. The fencing should be inspected on a regular basis during the duration of the construction process and shall remain in place until heavy building and landscaping work have finished and its removal is authorised by the project Arboriculturist.

Item	Comments
Construction	It will be important that good housekeeping is in place at all times so that the site does not become congested. All construction works are to be well planned in advance so as not to put pressure on the protective zone around the trees. All works are to occur from outside the protective zones. Where work space between the construction lines and the protective fence lines is limited/ restricted, alternative work methods will need to be looked at so as to keep the work areas to their minimum in order to reduce the extent of soil and root damage occurring to the trees proposed for retention. See section 6.2.3 of BS5837 2012 for detail on working within the RPA and ground protection. For light access works within the work exclusion zone, the installation of suitable ground protection in the form of scaffold boards, woodchip mulch or specialist ground protection mats/plates may be acceptable. These are to be reviewed with the project Arboriculturist and installed to their recommendations. See detail in 'Appendix 1' of this report for sample. Care should be taken when planning site operations to ensure that wide or tall loads or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Such contact can result in serious damage to them and might make their safe retention impossible. Materials, which can contaminate the soil, e.g. concrete mixings, diesel oil and vehicle washings, should not be discharged within 10m of a tree stem. Fires are not to be lit in a position where their flames can extend to within 5 m of foliage, branches or trunk. This will depend on the size of the fire and the wind direction. Notice boards, wires and such like should not be attached to any trees. Site offices, materials storage and contractor parking should all be outside the work exclusion zone.
Services	See project engineer's drawings for detail for service routes. Prior to the installation of any services routed near trees or hedges, they are to be marked out on site for review by the project Arboriculturist and a detailed method statement is to be prepared by the installation contractor in conjunction with the project Arboriculturist on how these services are to be installed while providing protection to the tree vegetation shown for retention.
Boundary Treatments	It is my understanding that the existing boundary treatments are being retained. All works within the root zone of the trees being retained will need to be undertaken with great care and no machinery is to be allowed to operate within the root zone of

Item	Comments
	these trees.
Landscaping	The existing ground levels within the RPA of the trees are to be retained and incorporated into the finished landscaped development. Where changes in levels occur, these are to be either graded into the finished levels starting outside the RPA or alternatively, retaining wall structures are to be used differentiating between the different levels. All soft and hard landscaping within the RPA of the trees to be retained are to be carried out manually and the soil levels are not to be lowered or raised resulting in root damage to the trees. All surfaces are to be porous to allow the free movement of air and moisture to the roots below. Recommendations of sections 8 of BS5837 2012 are to be adhered to during the landscaping within the RPA's of these trees.

5.7.0 Monitoring

5.7.1 Any construction works within close proximity to retained tree and hedge vegetation are advised to be undertaken in accordance with approved method statements prepared by the construction contractor under the supervision of a qualified consultant Arboriculturist.

5.7.2 It is advised that tree protection fencing, any required special engineering and supervision works must be included in the main tender documents, including responsibility for the installation, cost and maintenance of tree protection measures throughout all construction phases.

5.7.3 Copies of the tree retention and protection plan (Dwg 'No. PCW002') a copy of BS 5837(2012) and NJUG 4 (2007) should all be kept available on site during the construction works and all works are to be in accordance with these documents.

6.0 Arboricultural Method Statement/Tree Protection Strategy

6.1 The objective of this arboricultural method statement/tree protection strategy is to provide information for the main building contractor/site manager on how trees need to be protected during a construction project and so that they can prepare their own site specific detailed method statement for their works.

6.2 It is necessary for tree protective fencing to be erected and all other mitigation measures required to be put in place prior to the development works commencing on site and these are to enclose and protect the root zone of the tree vegetation proposed for retention. See drawing 'No.PCW002', for the position of the protective fencing and other mitigation measures.

6.3 The protection of the tree vegetation shown for retention is divided into three main sections starting with the preconstruction stage right through to post construction and the reassessment of the retained trees.

Stage 1:

6.4.0 Pre-Construction Works

6.4.1 Prior to the main construction works commencing on site the following needs to be planned:

1. The main contractor or client needs to appoint an Arboriculturist for the duration of the project. The Arboriculturist is to make regular site visits to ensure that the tree protection measures are in place and adhered to.
2. The main contractors and all sub-contractors work force are to be briefed on the tree protection and ensure that these measures are to be kept in place throughout the construction period.
3. All personnel are to adhere to the recommendations of the appointed Arboriculturist.
4. Any issues in relation to the trees shown for retention must be discussed with the appointed project Arboriculturist and the necessary mitigation measures put in place without delay and prior to the works being carried out.

6.5.0 Tree works

6.5.1 The main contractor or client is to appoint a tree surgery company competent of carrying out the remedial tree surgery works and tree felling that are required on this site. The tree surgery contractor is to produce a method statement detailing how he plans to undertake the works and informing the site foreman of the process so the necessary steps can be taken to ensure the works are carried out safely and efficiently. The works are to be carried out by appropriately trained personnel taking account of the recommendations of BS3998 2010.

6.5.2 **Tree removal -** Trees for removal are to be identified by the project Arboriculturist and the method of removing the stumps is to be carried out to the recommendations of the project Arboriculturist. The trees in the way of the works are to be removed in such a manner not to cause damage to those being retained. Where necessary to avoid damage to the trees to be retained, these are to be removed in sections by a tree surgeon (Arborist). Where necessary, the roots and stumps are to be dug out with a digger except where the stumps are located within the RPA (root protection area) of trees being retained. In this instance, the stumps are to be ground out with a mechanical stump grinder taking care not to cause damage to the roots of trees being retained.

6.5.3 **Remedial tree surgery works -** The necessary remedial tree surgery works required to promote health and safety of the trees to be retained is to be carried out. A schedule of these works is to be produced by the project Arboriculturist taking into consideration the trees within their new built environment and prior to these works being carried out; they are to be agreed with the local authority.

6.6.0 Erection of the protective fencing

6.6.1 Once the trees have been removed, the line of the protective fencing that is required around the trees being retained **must be** erected as per Dwg. 'No. PCW002'.

6.6.2 The fencing needs to be 2.3m high and constructed in accordance with figure 2 of BS 5837 2012 (see fencing detail on drawing 'No.PCW002' & 'Appendix 1') using vertical and horizontal scaffold bars well braced together with the verticals spaced out at a maximum of 3m centres. Onto this, weld mesh panels are to be securely fixed with wire or scaffold clamps.

6.6.3 Signs need to be attached to these fences warning people to 'keep out'. See detail within drawing 'No.PCW002' & 'Appendix 1'.

6.6.4 Once the protective fence line is erected, then the main construction works can commence on site.

6.6.5 **Storage of Material, Work Yards and staff car parking -** These areas must be identified on the work drawings prior to the construction works starting. These must be positioned outside the root protection areas around the trees being retained.

6.7.0 Ground Protection Installation for the Service Roads

6.7.1 The ground protection is to take the form of a product such as 'CellWeb' and this will need to be installed in the following manner under the guidance of the project Arboriculturist and engineer:

Step 1 - The existing ground cover vegetation (e.g. grass/weeds) if necessary is to be killed off using an appropriate herbicide (see Pesticides Handbook [15]). Herbicides that can leach through the soil, e.g. products containing sodium chlorate, are not be used.

The soil surface is not to be excavated to establish a sub base for the finished surfaces.

Loose organic matter, woody vegetation and/or turf are to be removed carefully using hand tools.

If there is a delay in installing the surface following clearing, the soil surface once prepared is to be covered immediately either with hessian sacking or plastic to prevent the surface drying out until the new surface is installed.
Step 2 – Place the geotextile separation filtration layer over the prepared ground surface. Use a Fibretex F4M non-woven geotextile with dry joints overlapping by 300mm.

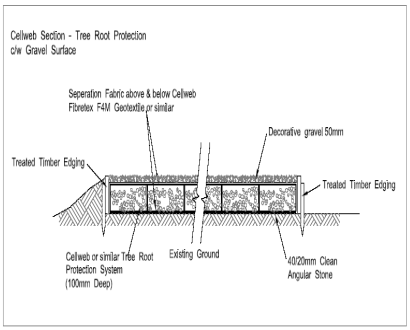
Step 3 – Place constraints along the edges to contain the fill material. These can be of such material as treated timber or railway sleepers.

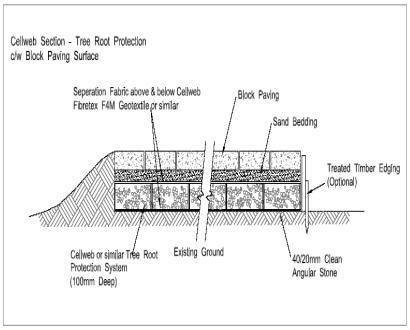
Step 4 – Place the required cellular confinement system (Cell Web150-200mm) over the geotextile and pin/anchor the cell walls open for infilling.

Step 5 – Place the infill material of a 20-40mm clean sharp stone in the open cells of the Cell Web pushing the infill ahead of you so that the machinery is driving on the filled CellWeb. Compact the infill material to the desired density.

Step 6 – Slightly surcharge the Cell Web product with 25mm of 40/20mm clean angular stone.

Pictures show the Cell Web being installed on the ground.
The below diagram shows how the Cellular confinement system should be installed.





Stage 2:

6.8.0 The Construction Works Stage

6.8.1 **Protective fencing -** During the course of the works, special attention must be paid to ensure that these tree protection measures are kept in place, in good order and remain upright, rigid and complete at all times. They must be checked daily by the main contractor/foreman and any damage noted must be fixed immediately.

If works need to take place inside the protective fence lines, then the project Arboriculturist must be informed in advance of the works taking place and the mitigation measures required to reduce impact on the tree vegetation agreed. These mitigation measures will include the supervisions of these works by the project Arboriculturist.

The protective fencing and all other protection measures are to remain in place throughout the construction works phase and must only be removed when all the works are complete and at this stage incorporated into the finished landscape.

6.8.2 **Excavations -** The excavation works are only to commence once the protective fence line and all other protection measures are in place.

The excavations in the vicinity of the tree vegetation being retained will need to be viewed on site once marked out with the project manager, site foreman and the project Arboriculturist in advance of excavation to determine the extent of the impact and the work space required to allow for the construction works to proceed and to assess what additional mitigation measures will be required to protect those trees to be retained. In certain areas, it may be necessary to use an alternative method of excavating to prevent encroachment into the RPA of the trees to be retained and this may include such methods as retaining walls or similar.

No roots are to be severed by the construction works without prior approval by the project Arboriculturist. Where roots are encountered, the project Arboriculturist is to assess these prior to cutting and these are to be pruned back to appropriate pruning points beyond the excavation line. Where roots cannot be cut; alternative methods of construction will need to be considered. The excavated face is then to be covered with soil or with Hessian sacking to prevent further drying out and the death of root material. Where the Hessian sacking is used, it will be necessary to keep this moist especially during dry periods.

6.8.3 **Working within the RPA** *(Root Protection Area)* – If it becomes necessary to carry out works within the RPA of a tree/trees, these must be discussed and agreed with the project Arboriculturist. All works must be carried out manually. Root pruning is to be undertaken by an Arboriculturist using proprietary cutting tools such as a secateurs or hand pruning saw.

The ground within the RPA of the trees must be protected from damage as per the recommendations of '**Section 6.2.3'** of BS5837 2012. See detail within appendix 1 on ground protection using boarding for pedestrian loading.

6.8.4 **Finished ground levels/Landscaping -** The existing ground levels within the RPA of trees must be retained and incorporated into the finished landscaped development. Where changes in levels occur, these are to be either graded into the finished levels starting outside the RPA or alternatively, retaining wall structures are to be used differentiating between the different levels.

All soft and hard landscaping within the RPA of the trees to be retained must be carried out manually and the soil levels must not be lowered or raised resulting in root damage to the trees. All surfaces are to be porous to allow the free movement of air and moisture to the roots below. Recommendations of 'Sections 8' of BS5837 2012 must be adhered to during the landscaping within the RPA of the trees being retained.

6.9.0 Other items

6.9.1 The following is a list of additional activities ***that are not allowed*** within the RPA or within the vicinity of the trees being retained.

1 - Storage of equipment, fuel, construction material, or the stockpiling of soil or rubble.
2 - Burning rubbish
3 -The washing of machinery
4 - Attaching notice boards, cables or other services to any part of the tree.
5 - Using neighbouring trees as anchor points.
6 - Care is required when using machinery such as Tele-porters, cranes or other equipment close to trees so as not to damage the crown or any other parts.

Stage 3:

6.10.0 Post Construction Works

6.10.1 This project is not to be considered complete until all retained trees have been re-examined by the project Arboriculturist and the remedial works necessary to ensure the health of the trees and the immediate safety of the end user of this development are implemented.

This report has been produced as part of a planning application for this site area and is for the sole use of the above named client and refers to only those trees identified within. Its use by any other person(s) in attempting to apply its contents for any other purpose renders the report invalid for that purpose.

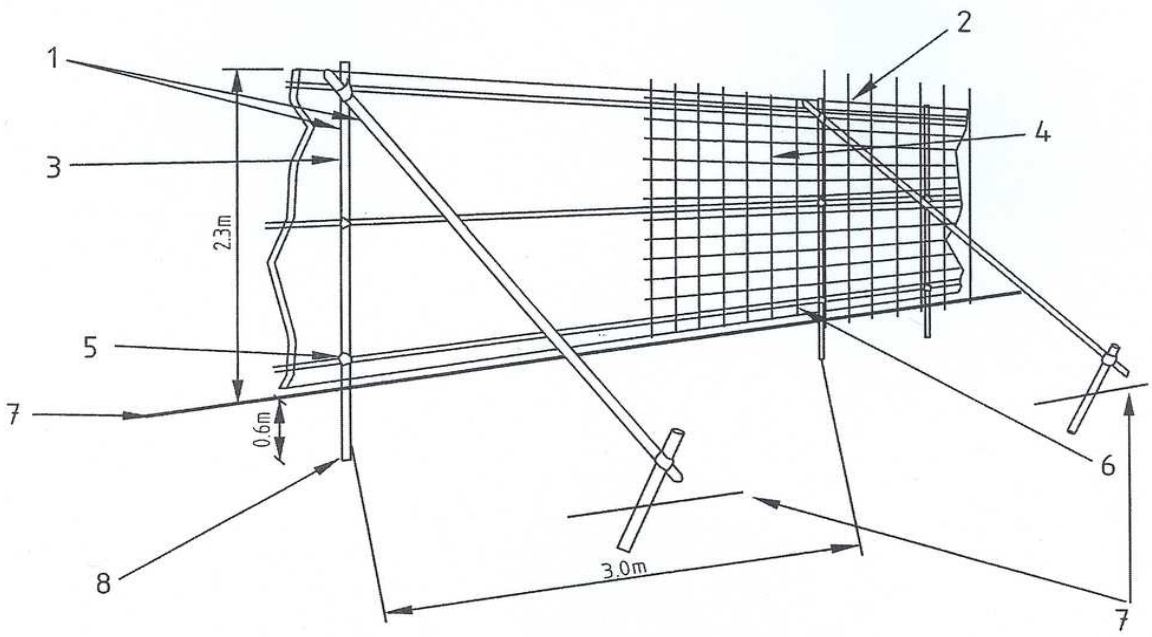
Signed Felim Sheridan Date 9th December 2020

Felim Sheridan
F. Arbor. A, RFS Dip, Nat. Dip & NCH in Arboriculture

Felim Sheridan's qualifications:
Fellow of the Arboricultural Association (F. Arbor. A), Professional diploma Arboriculture (RFS), National diploma Arboriculture (ND) and National certificate Horticulture (NCH).

Appendix 1

Sample of Temporary Tree Protection Fencing Detail and Ground Protection.



1 Standard scaffold poles
2 Uprights to be driven into the ground
3 Panels secured to uprights with wire ties and, where necessary, standard scaffold clamps
4 Weldmesh wired to the uprights and horizontals
5 Standard clamps
6 Wire twisted and secured on inside face of fencing to avoid easy dismantling
7 Ground level
8 Approx. 0.6m driven into the ground

Figure 2. – Protective fencing for RPA

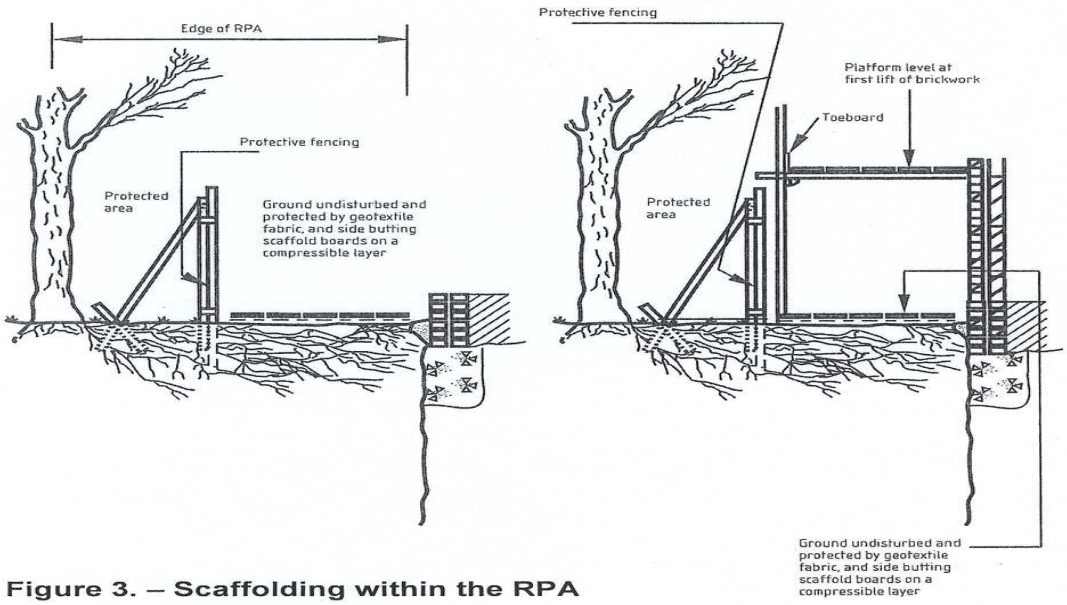


Figure 3. – Scaffolding within the RPA

Appendix 2

Condition Tree Assessment.

On Site Area for Pond 2A on Lands at Cherrywood, Dublin 18.

Date: 8th June 2020 (Additional areas added in September 2020)

Survey Notes

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

Reference to Numbers: The trees have metal tags attached and these correspond with the numbers in this report.

Reference to age class is as follows:

Young: A tree, which has been planted in the last 10 years.

Semi Mature A tree that is less than 1/3 the expected height of the species in question.

Early Mature: A tree, which is between a 1/3 and 2/3's the expected height of the species in question.

Mature: A tree that has reached the expected height of the species in question, but still increasing in size.

Over Mature: A tree at the end of its life cycle and the crown is starting to break up and decrease in size.

Reference to Physiological, Structural Condition and other comments:

Physiological Condition

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

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

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

Structural condition and other comments –
This records noted visual defects and other information about the trees health and structure.

Estimated Remaining Contribution in years

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

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

Retention Categories

The purpose of the tree categorization method is to identify the quality and value of the existing tree stock, allowing informed decisions to be made concerning which trees should be removed or retained should development occur.

It is carried out in accordance with section 4.5 (Tree Categorization Method) of BS 5837 2012.

Summary

Main categories
Category U – Those trees in such a condition that any existing value would be lost within 10Years. Most of these will be recommended for removal for reasons of sound Arboricultural practice.
Category A - Trees of high quality/value with a minimum of 40 years life expectancy.
Category B – Trees of moderate quality/value with a minimum of 20 year life expectancy.
Category C – Trees of low quality/value with a minimum of 10 years life expectancy

Sub categories

1 – Mainly Arboricultural Values
2 – Mainly Landscape values
3- Mainly Cultural and conservation value

Note: Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150mm should be considered for relocation.

If a layout design places Category U trees in an inaccessible location such that concerns over public safety are reduced to an acceptable level, it may be preferable or possible to defer the recommendation to fell.

The terms 'Group, woodland or tree line' is intended to identify trees that form cohesive Arboricultural features either aerodynamically (e.g. trees that provide companion shelter), visually (e.g. avenues or screens) or culturally including for biodiversity (e.g. parkland or wood pasture), in respect to each of the three subcategories.

Reference to Crown spread, Height and Trunk Diameter:
This gives **a guide** to the area taken up by the tree.
Trunk diameter is the diameter of the main trunk taken at a height of 1.5m and is recorded in millimetres (mm).
Height records the overall height of the tree and is given in meters (m).
Crown Spread records the extent of the branches normally in a north, south, east and west direction from the base of the tree and is given in meters (m).
Clear crown height records the distance between the ground and the first branch form the base of the tree and is given in meters (m)

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north **S**-south **E-**east **W**- west **Phys.-**physiological.	**A-** average		
		A Condition Assessment of the trees within the site area for 'Pond 2A' Cherrywood, Dublin 18.									
		The main site area is rectangular in shape and is currently in agricultural use for grazing livestock and it forms part of a larger rectangular field. There are spurs off this main site area along the southern, south-western boundaries for the access road. **The assessment starts in the south-western corner and works eastwards along the southern boundary and in a general anti-clockwise direction around the site area.**									
Hedge No. 1	**Hawthorn** *Crataegus monogyna* **Elder** *Sambucus nigra* **Bramble** *Rubus fruticosus* **Dogrose** *Rosa canina*	**It runs in a north to south direction on the boundary between two fields.** It is of a mature age class in fair/ poor condition physiologically and structurally, however it improves as you move further north It consists of clumps of Hawthorn and Elder with large infill's of Bramble and Dogrose with gaps/openings with little or no vegetation allowing passage from one field to the other. It has been impacted by livestock sheltering and grazing affecting its structure and quality. Due to lapsed management this hedge has fallen into disrepair and sections have failed with Bramble encroaching out to create a broad scrub hedge. Some of the hedge plants are being suppressed by Ivy which is increasing their wind sail leaving them more prone to wind/storm damage. A. 3.5 | --- | A. 6 | --- **The following trees are located within this hedge working from north to south.**							Carry out general tidying works and trim in encroaching hedge species. The height of the hedge should be cut back to c.1.5m, in particular the poorly structured section to improve structure and encourage lower growth. Carry out some infill planting in order to bulk up this hedge and to improve its diversity and structure. Cut Ivy at ground level on the hedge sections where it is very heavy and leaving plants prone to storm damage.		C2
Tree No.1	**Ash** *Fraxinus excelsior*	18	900	4N 3S 5E 5W	10	Mature	Fair	Fair / Poor It is being suppressed by Ivy and a large size limb has been removed on the south side, leaving a decaying stump and has left its crown more open/ exposed. The visual assessment has been limited due to Ivy and undergrowth.	Cut Ivy at ground level and tidy around base to allow a more detailed assessment.	10-20	C1
Tree No.2	**Sycamore** *Acer*	14	490	N3 S4	3.5	Early Mature	Fair/ Good	Fair It is growing up through the hedge and	Cut Ivy at ground level.	20+	B1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north **S**-south **E-**east **W**- west **Phys.-**physiological.	**A-** average		
	pseudoplatanus			E3 W4				has heavy Ivy coverage.			
Tree No.3	**Ash** *Fraxinus excelsior*	16	800	N6 S6 E7 W6	2	Mature	Fair/ Good	Fair It is growing on the hedge line with heavy Ivy cover extending into its crown.	Remove large size deadwood. Cut Ivy at ground level.	20+	B1
Tree No.4	**Ash** *Fraxinus excelsior*	14	350/ 280	N5 S6 E5 W6	2	Early Mature	Fair/ Good	Fair/Poor It is self seeded and located out from the hedgerows and is growing from the base of the shed. It is twin-stemmed from base with an acute union formation between stems. Soil erosion has been caused around its base by livestock and Ivy cover is extending into its crown. It may lead to structural damage to the shed as it grows in size.	Cut Ivy at ground level.	10+	C1
Hedge No. 2	**Hawthorn** *Crataegus monogyna* **Elder** *Sambucus nigra* **Bramble** *Rubus fruticosus* **Dogrose** *Rosa canina* **Ash** *Fraxinus excelsior*	**It runs at ninety degrees to Hedge No.1 and is located along the southern boundary, running in an east to west direction.** It is of a mature age class in fair condition physiologically and in fair/ poor condition structurally. It consists of clumps of Hawthorn, Elder, Bramble and Dogrose and is located on north side (site side) of a deep drainage ditch which is dry at present. Ash trees form the upper canopy formation and due to lapsed management, the hedge species have been allowed to grow unmanaged, in particular Bramble encroaching out in places creating scrub areas and making access difficult. It has been impacted upon along its length on the site side by the livestock sheltering and grazing. There are some bagger sets present within the hedgerow bank. <table><tr><td>A. 3.5</td><td>---</td><td>A. 6</td><td>---</td></tr></table> **The following trees are located within this hedge and the assessment works from west to east.**								Carry out general tidying works and trim in encroaching hedge species. The height of the hedge should be cut back to c.1.5m, in particular the poorly structured section to improve structure and encourage lower growth. Carry out some infill planting in order to bulk up this hedge and to improve its diversity and structure. Cut Ivy at ground level on the hedge sections where it is very heavy and leaving plants prone to storm damage.		C2

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north **S**-south **E-**east **W**- west **Phys.-**physiological.	**A-** average		
Tree No.5	**Ash** *Fraxinus excelsior*	16	350 (5 stems)	N3 S5 E5 W5	2.5	Mature	Fair	Fair It is multiple stemmed from base and is growing from the south side of the boundary drainage ditch. Ivy is extending into the crown causing suppression.	Cut Ivy at ground level.	10-20	C2
Tree No.6	**Ash** *Fraxinus excelsior*	18	450 (5 stems)	N5 S7 E7 W	2	Mature	Fair	Fair It is multiple stemmed from base with heavy Ivy cover extending into its crown. Some storm damage in its crown is leaving it more open/ exposed and there is some deadwood present. Soil erosion is being caused by livestock.	Remove dead/ unstable growth and cut Ivy at ground level.	10-20	C2
Tree No.7	**Ash** *Fraxinus excelsior*	16	360 (6 stems)	N7 S7 E8 W5	2	Mature	Fair	Fair It is multiple stemmed from base with heavy Ivy cover extending up into its crown causing suppression. It has a broad spreading crown and fencing wire is attached to the lower trunk. Soil erosion around base is being caused by livestock.	Make safe large dead/ unstable growth.	10-20	C2
Tree Group No.1	**Ash** *Fraxinus excelsior*	A.18	A.350 (5 stems)	A.N7 S7 E7 W7	A.4	Mature	Fair	Fair It consists of a line of Ash trees located on the north side (site side) of a deep drainage ditch. They are growing at close spacing and form part of the one continuous canopy line. Most of these trees are multiple stemmed from base with large crown overhangs on the site side by c.6-7m. Heavy Ivy cover on	Make safe large dead/ unstable growth and cut Ivy at ground level.	10-20	C2

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north **S**-south **E-**east **W**- west **Phys.-**physiological.	**A-** average		
								some trees is extending up into their crowns and they have been impacted around their bases by grazing livestock. Some trees have suffered storm damage.			
0658	**Ash** *Fraxinus excelsior*	18	900/ 300	N8 S10 E11 W7	2.5	Mature	Fair	Poor It is growing on the hedgerow bank has a broad spreading crown slightly asymmetrical to the west. It contains some heavy side branches and I suspect that it suffered storm damage in the past which has left its crown more open/ exposed. Heavy Ivy cover on the main trunk is extending up into its crown and is increasing its crowns windsail. It contains deadwood and some heavy scaffold limbs in crown and it is showing some signs of stress/ decline throughout. There is a secondary stem developing from its base.	Make safe large size dead/ unstable growth. Cut Ivy at ground level and remove to a height of c.2m to allow a more detailed assessment of its base and lower trunk for structural weaknesses. It may require some pruning, depending on the development in this area.	10-20	C2
0659	**Ash** *Fraxinus excelsior*	17	320/ 500	N10 S9 E9 W5	2	Mature	Fair	Poor It is a large, tall prominent tree within this area. Multiple-stemmed from base and one stem has completely failed while another leans heavily and is prone to breaking out. This has left the remaining crown more open/exposed and prone to further storm damage. Heavy Ivy cover on the main stems is extending up into its crown. It is located within a low risk hazard area, at present.	Tidy up the area around its base and cut Ivy at ground level and remove to a height of c.2m to allow a more detailed assessment of its base and lower trunk. It is likely that it will require pruning to reduce the risk of failure. Review when the site is laid out.	10+	C2

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north **S**-south **E-**east **W**- west **Phys.-**physiological.	**A-** average		
0660	**Ash** *Fraxinus excelsior*	16	840	N9 S7 E5 W4	3	Mature	Fair/ Poor	Poor It is a large size, twin-stemmed tree from c.1.4m up. Extensive basal decay is present and this is likely to have an impact on its stability. It has an open crown due to storm damage and decline. It was initially being heavily suppressed by Ivy which has since been cut at ground level. It is prone to either partial or complete failure.	I will most likely need to be **removed** as part of management. Cut down to a high stump and retain as part of the hedge bulking.	<10	U
0661	**Ash** *Fraxinus excelsior*	15	800/ 360	N9 S5 E3 W5	3	Mature	Fair	Fair / Poor Heavy Ivy cover on the main trunk is beginning to extend up into its crown. It subdivides from base into multiple-stems and a large size limb on the east side has broken out in the past with decay developing into its base from this point. There are also other pockets of decay present. It has an open/ exposed crown due to previous storm damage.	Make safe large size dead/ unstable growth. Cut Ivy at ground level and remove from base to a height of c.2m to allow a more detailed assessment of its base and lower trunk. Review within the completed development. It is likely to require further pruning to address structural issues.	10-20	C2
0662	**Ash** *Fraxinus excelsior*	15	540	N6 S5 E5 W4	6	Mature	Fair	Fair/ Poor It is a tall tree growing up within a group environment; however it is becoming slightly more open/ exposed by the storm damage/ failure of the neighbouring trees. Heavy Ivy cover on the main trunk is extending up into its crown and is	Make safe large size deadwood endangering the site area and prune in exposed heavy side branches by up to 2m. Cut Ivy at ground level and remove to a height of c. 2m	10-20	C2

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north **S**-south **E-**east **W**- west **Phys.-**physiological.	**A-** average		
								increasing its crowns wind sail. Some lower scaffold limbs/ branches have been removed in the past in order to raise up its crown. I suspect that it is infected by 'Bacteria Canker' of Ash and is showing signs of stress/ decline within its crown and contains deadwood.	to allow a more detailed assessment of its base and lower trunk.		
0663	**Ash** *Fraxinus excelsior*	14	240	N0 S2 E2 W2	3.5	Early Mature	Fair	Fair/ Poor It was initially twin-stemmed from base and one stem has either broken out or was cut off leaving a large size decay pocket at this point. It is growing off the hedgerow bank and leans away from the site area to the south into the woodland area. It is being sheltered by the surrounding trees with heavy Ivy cover on the main stems.	Cut Ivy at ground level in order to improve the wind sail of its crown.	10-20	C2
0664	**Ash** *Fraxinus excelsior*	15	780	N7 S8 E7 W2	2	Mature	Fair	Fair It is growing on the hedgerow bank within a group environment and is a tall, sheltered tree. Heavy Ivy cover on the main trunk is extending up into its crown and is increasing its crowns wind sail. There are some small decay pockets on the lower trunk and base. It contains deadwood within its crown with some heavy, end loaded side branches and it is also showing signs of stress/ decline throughout its crown.	Remove large size dead/ unstable growth and lighten end loading on heavy side limbs/ branches by up to c.2m to lessen the risk of further storm damage. Cut Ivy at ground level and remove to a height of c.2m to allow a more detailed assessment of its base and lower trunk. Tidy up the area around its	10-20	C2

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north **S**-south **E-**east **W**- west **Phys.-**physiological.	**A-** average		
									base.		
0665	**Ash** *Fraxinus excelsior*	15	500/ 480/ 290	N10 S5 E4 W2	3.5	Mature	Fair/ Poor	Fair/ Poor Multiple-stemmed from base with an asymmetrical crown weighed heavily towards the site area. It has been left more open/exposed by the storm damage/ failure or some neighbouring trees. One scaffold limb has broken out from near its base due to a weak union formation leaving its crown more open as a result. Heavy Ivy cover on the main trunk is extending up into its crown and is increasing its crowns windsail. It is showing signs of stress/ decline within its crown and contains deadwood throughout. There is some infection throughout its crown by 'Bacteria Canker' of Ash.	Remove large size dead/ unstable growth and lighten end loading on heavy side limbs/ branches by up to c.2m to lessen the risk of further storm damage. Cut Ivy at level and remove to a height of 2m to allow a more detailed assessment of its base and lower trunk. Tidy up the area its base.	10-20	C2
0666	**Ash** *Fraxinus excelsior*	14	410	N5 S8 E4 W3	3.5	Mature	Fair/ Poor	Poor It was initially multiple-stemmed from base, but some stems have broken out allowing for the entry of decay into its base. As a result, the remaining crown is very open/ exposed and asymmetrical and the remaining two stems are prone to storm damage and failure due to the presence of decay at its base. It is being heavily suppressed by Ivy.	Cut down to a c.1m high stump and allow to sprout to form part of the bulking within the hedge line.	<10	U

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north **S**-south **E-**east **W**- west **Phys.-**physiological.	**A-** average		
0667	**Ash** *Fraxinus excelsior*	13	300/ 400	N4 S9 E1 W2	0	Mature	Fair/ Poor	Poor The main central stem has broken out leaving some side branches and secondary stems from its base to form an open crown. There is heavy Ivy cover on the main trunk. It forms part of the hedge bulking within this area and will be prone to further storm damage as these stems grow further in size.	Cut Ivy at ground level and tidy up the area around its base.	10-20	C2
0668	**Ash** *Fraxinus excelsior*	16	320/ 430	N7 S7 E5 W5	2	Mature	Fair	Fair It forms a twin-stemmed tree from base and is growing up forming part of the group canopy formation with Tree No. 0670. Heavy Ivy cover on the main trunk is extending up into its crown. It is sheltered within its present group environment.	Cut Ivy at ground level in order to improve the windsail of its crown. Tidy up the area around its base to allow a more detailed assessment of its base and lower trunk.	10-20	C2
0669	Tag Missing	-	-	-	-	-	-	-	-	-	-
0670	**Ash** *Fraxinus excelsior*	17	900	N6 S4 E8 W3	4	Mature	Fair	Fair It is a large size tree being heavily suppressed by Ivy and this has limited the visual assessment to some degree. There is evidence to suggest that it has suffered storm damage on the southern side in the past. It has a slightly open crown with some minor stress/ decline evident throughout. Heavy Ivy cover on the main trunk is suppressing its crown leaving it more prone to wind damage as a result.	Cut Ivy at ground level and remove to a height of c. 2m to allow a more detailed assessment of its base and lower trunk.	10-20	C2

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north **S**-south **E-**east **W**- west **Phys.-**physiological.	**A-** average		
0671	**Ash** *Fraxinus excelsior*	10	410	N4 S4 E4 W4	3	Early Mature	Fair	Fair/ Good It is establishing well with heavy Ivy cover on the main trunk beginning to establish up into its crown. Dense undergrowth has limited the visual assessment to some degree. It has the potential to form part of the future tree cover in this area.	Cut Ivy at ground level and tidy up the undergrowth.	40+	A1
Hedge No. 3	**Crack Willow** *Salix fragilis* **Alder** *Alnus gluttons* **Bramble** *Rubus fruticosus* **Dogrose** *Rosa canina* **Giant Hogweed** Heraclea mantegazzianum **Ash** *Fraxinus excelsior*	**It runs at ninety degrees to hedge No.2 and extends along the eastern boundary bordering with the stream.** It is of a mature age class of fair to poor quality. It is located on the bank of the stream and consists of a few clumps of Crack Willow and Alder with a dense undergrowth of Bramble and Dogrose. It also contains some Giant Hogweed throughout. The vegetation located along the boundary is strengthened with the trees and shrub vegetation growing in the gardens of the adjoining properties on the east side of the stream. <table><tr><td>A. 2</td><td>---</td><td>A. 6</td><td>---</td></tr></table> **The following trees are located within hedge No.3 and the assessment works in a south to north direction.**								Carry out general tidying works and trim in encroaching hedge species. Carry out some infill planting in order to bulk up this hedge and to improve its diversity and structure.		C2
0672	**Willow** *Salix fragilis*	17	310/ 190	N4 S4 E3 W4	3	Early Mature	Fair	Poor It is growing off the bank of the stream and its stability may be affected due to its position on the bank and its species. It is multiple-stemmed from low down with a dense undergrowth of Bramble.	Requires no work at the present time.	10-20	C2
Tree No. 8	**Ash** *Fraxinus excelsior*	14	600/ 330	N7 S6 E6	1.5	Early Mature	Fair/ Good	Fair It is located on the adjoining landside of the stream with a crown overhang into	Management is located outside the control of the site area.	20+	B1

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north **S**-south **E-**east **W**- west **Phys.-**physiological.	**A-** average		
				W6				the site area and it has suffered branch breakage in winds. It forms a twin-stemmed tree from low down. The visual assessment has been limited to the site side only.			
0673-0674	**Willow** *Salix fragilis*	A.7	A. 90 (8 stems)	N5 S6 E6 W5	1.5	Early Mature	Fair	Fair / Poor They form part of the higher bulking along the bank of the stream. They are multiple-stemmed with a dense undergrowth of Bramble. Some stems have fallen over and have re-established. These trees will be prone to ongoing limb failure	Tidy up the undergrowth at the present time.	10-20	C2
0675	**Willow** *Salix fragilis*	8	A. 90 (5 stems)	N2 S1 E2 W2	2	Early Mature	Fair	Fair / Poor It forms part of the bulking along the bank of the stream. It is multiple-stemmed from base with a dense undergrowth of Bramble.	Tidy up the undergrowth at the present time.	10-20	C2
0676	**Alder** *Alnus glutionsa*	6	A.90 (4 stems)	N3 S2 E1 W2	2	Semi Mature	Fair	Fair / Poor It forms part of the bulking along the bank of the stream and is multiple-stemmed from base.	Tidy up the undergrowth at the present time.	20+	C2
0677	**Willow** *Salix fragilis*	8	320	N4 S2 E3 W6	1	Early Mature	Fair	Fair / Poor Multiple-stemmed from low down and is growing off the bank of the stream with a dense undergrowth of Bramble. It has suffered storm damage in the past with limbs breaking out as a result. It forms part of the bulking within this area.	Tidy up the undergrowth at the present time.	10-20	C2

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north **S**-south **E-**east **W**- west **Phys.-**physiological.	**A-** average		
0678	**Willow** *Salix fragilis*	7	140/ 90	N7 S2 E3 W5	1	Early Mature	Fair	Fair/ Poor It consists of a group of stems with a dense undergrowth of Bramble. Some stems have broken out or failed due to structure.	Retain as part of the bulking at the present time.	10-20	C2
Hedge No. 4A	**Hawthorn** *Crataegus monogyna* **Elder** *Sambucus nigra* **Bramble** *Rubus fruticosus* **Dogrose** *Rosa canina* **Ash** *Fraxinus excelsior* **Blackthorn** *Prunus spinosa*	**It runs at ninety degrees to hedge No. 3 and extends up along the northern boundary of the site area and forms the boundary between two fields.** It is of a mature age class in fair condition both physiologically and structurally. It consists of clumps of Hawthorn, Elder and Blackthorn with a dense undergrowth of Bramble and Dogrose. There are some Ash seedlings developing throughout and due to lapsed management, Bramble and Blackthorn have encroached out in places creating a broad hedge and scrub areas. There is no defined boundary drainage ditch.							Carry out general tidying works and trim in encroaching hedge species in order to contain the spread of this hedge.		C2
		A. 3.5	---	A. 8	---						
		The following tree is located within hedge No. 4A									
0679	**Ash** *Fraxinus excelsior*	8	290	N5 S5 E4 W4	1	Early Mature	Fair / Good	Fair/ Good Self-seeded, is establishing well and is of good quality. It is located on the adjoining landside of the rail fence and is beginning to establish over the height of the hedge. There is Ivy cover on the main trunk.	Requires no work at the present time.	40+	A1
Hedge No.4B	**Mixed Ornamental Shrubs Bramble** *Rubus fruticosus*	**It extends west of hedge No.4A on the northern boundary with private residential properties.** It is of a mature age class in fair condition physiologically and structurally. The main hedge line is located on the garden side of the boundary line and consists of a mix of ornamental shrubs planted as an informal hedge. On the site side, scrub species particularly Bramble is encroaching out to create a broad hedge. Within this hedge, there are a number of young to early-mature trees forming part of the hedge bulking. It provides good screening along the boundary of these private residences.							It would benefit from tidying works on the site side to trim in the encroaching hedge vegetation, in particular the Bramble.		C2

Tree No.	Tree Species	Ht. (m)	Stem Dia. (mm)	Branch Spread (m)	C-Ht. (m)	Age Class	Phys. Con.	Structural Condition Other Comments	Preliminary Recommendation	Remain Contribute in years	Cat. Grade
								N-north **S**-south **E-**east **W**- west **Phys.-**physiological.	**A-** average		
		A. 4.5	A. 320	A. 6	0			**The following tree protrudes up over this hedge line.**			
Tree No.9	**Norway Maple** *Acer platanoides*	10	500	4N 4S 4E 4W	2	Early Mature	Fair/ Good	Fair Protruding up over the hedge line.	Requires no work at the present time.	20+	C1
Hedge No.5	**Leyland Cypress** *Cupressocyparis leylandii*	A. 3	A. 240	A. 4	0			**It runs east to west on the southern side of an old field entrance track parallel to hedge No.4B on the boundary with a private residence.** It is of a mature age class in fair condition both physiologically and structurally. It has been trimmed in the past to contain and has a dense undergrowth of Bramble which is encroaching out on the track. It provides screening along this boundary of the residential property.	It would benefit from tidying works, particularly the trimming in of encroaching Bramble on the track side.		C2
Notes:											