

Arborist Associates Ltd.

An Arboricultural Assessment on the Site Area for 'Carrickmines Great SHD' At Carrickmines Great, Glenamuck Road South, Dublin 18.

Prepared for: Grafton Issuer DAC

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

Date: 24th June 2022

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1.0 Instructions

- 1.1 I have been instructed by Grafton Issuer DAC (planning applicant) to carry out an Arboricultural Assessment of the site area for the 'Carrickmines Great SHD' at 'Carrickmines Great', Glenamuck Road South, Dublin 18 and to report on the following:
- A - To assess the present condition of the trees within this site area. See 'Appendix 1' and drawing 'No.CBG001' that has been developed as a 'Constraints Plan' for detail.
 - B - To assess the impact of the proposed development layout on the tree vegetation located within the site area indicating those for removal and retention. See 'Section 5.0' of our report and 'Drawing No.CBG002' for detail.
 - C - To show the position of the tree protective fencing and other tree protection measures that will need to be put in place and be maintained in place until all construction works are complete. See 'Section 6.0' of our report and 'Drawing No.CBG002' for detail.

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. 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 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 12-month period only and this may be reduced in the case of any change in conditions to or in the proximity of the trees.
- 2.4 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). It may also be necessary to apply for a felling license for the felling of any trees in order to comply with the forestry Act and the wild life Act should also be taken into consideration when planning to carry out any works.

3.0 Survey Data Collection and Methodology

- 3.1 The Arboricultural data which is presented within the attached tree schedule (see Appendix 2), has been recorded in line with BS 5837:2012. The tree survey was conducted by collecting and assessing the following information on all significant trees located on site.
- 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 Each tree included within this site area has been marked with a small aluminum tag with a reference number that relates to the main condition report, and the hedges and trees located outside the site area or were inaccessible have been numbered numerically. The tag numbers are attached to the trees at a height of 1.5- 2m from ground level and are orientated in such a way to assist in their relocation.
- 3.3 The inspection of the trees involves a visual assessment from ground level only and does not include any invasive means of assessing the trees internally, their below ground parts or the aerial parts that are not visible from the ground. Good, fair and poor have been used to summarize the physiological and structural conditions of these trees with the comments giving more detail. Other items that may limit the assessment of a tree included Ivy cover, scrub vegetation and/or basal suckers.
- 3.4 Their retention category has been assessed and categorized 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:

Arboricultural Value – An assessment of the trees health, structural form, life expectancy, species and its physical contribution to or effects on other features located on site.

Landscape Value – An assessment of a trees locality including its contributions to other features as well as to the site as a whole.

Cultural Value – Additional contributions made such as conservation, historical or commemorative value.

- 3.5 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.

These would be seen as trees that have little or no potential either due to their physiological and/or structural condition and their removal would be seen necessary either now or in the short-term as the most appropriate management option.

Due to the condition of these trees, they should not be considered a constraint on the design layout of the proposed development of this site area.

Any category 'U' trees within this site area have been identified on our drawings (Nos.CBG001 & CBG002) with a 'Red Donut' around their trunk positions.

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

These would be seen as trees that have the potential to contribute to the tree cover of these grounds for the long-term and consists of trees of all age classes from semi-mature to mature.

From our assessment of the trees within this site area, no trees have been allocated to this category.

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

These would be seen as trees that have the potential to contribute to the tree cover of these grounds for the medium term and consists of trees of all age classes from semi-mature to mature.

Any category 'B' trees have been identified on our drawings (Nos.CBG001 & CBG002) with a 'Blue Donut' around their trunk positions.

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

These trees would be seen as having the potential to provide tree cover for the short to medium term. As part of the future management, most of these would probably be removed for one reason or another. This category consists of trees of all age classes from young to mature. These trees should not be seen as a considerable constraint on the development of these lands, but should be considered for retention where viable.

The category 'C' trees within this site area have been identified on our drawings (Nos.CBG001 & CBG002) with a 'Grey Donut' around their trunk positions.

- 3.6 The trees have been plotted onto the attached drawing (DWG.No.CBG001) by a land survey company. 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 were shown on a constraints drawing prepared for the design team using an 'Orange Circle' to aid the design team in their final development layout. The Root Protection Area (RPA) is the minimum area around individual trees to be protected from disturbance during construction works and is usually 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 Findings

- 4.1 The site area is located within the town land of 'Carrickmines Great', Glenamuck Road South, Dublin 18. It is made up of lands located to the south and west of 'Springfield Lane', to the east of 'Cairnbrook' residential estate and north of 'Rockville Drive'. It is adjoined on its southern and western sides by existing residential developments of houses, to its north by a number of detached private houses with large gardens and on its eastern boundary by an existing laneway leading to a number of private houses and fields in agricultural use. See 'Site Map' below for the outline of site area and the surrounding environment.



- 4.2 The site area is 3.056 Hectares which includes 3.028 ha of the applicant's site area and 0.028 ha for connections to services in Cairnbrook as per easements / right of way. It is of an irregular shape which runs in a north to south direction along its longest axis. It consists of one large open field, currently used for grazing by horses and a small section of another field/paddock to the west of this which has been left completely derelict for some time. This area is now overgrown with scrub woodland vegetation establishing that is naturally occurring and being dominated by Bramble with some Blackthorn and Goat Willow which is encroaching out from the boundary hedgerows.

- 4.3 Hedgerows form the internal and external boundaries of this site area and these are typical agricultural type hedgerows for this area made up predominately of Hawthorn and Blackthorn with an undergrowth of Bramble and Dog-rose with some pockets of other hedgerow species present such as Gorse, Holly and Elder. These hedges in most instances are located on the sides of old drainage ditches and have not been managed for some time. As a result, hedge species being dominated by Bramble and Blackthorn are encroaching out to create broader hedges and in places scrub areas. The lapse in management has also had an impact on the structural condition and quality of these hedges. The hedge of best quality (Hedge No.5A & 5B) is located along the eastern boundary of the site area and its structure and quality has been helped by the trimming/cutting that it has received over the years on the lane side to prevent encroachment and the obstruction of the lane.
- 4.4 Protruding above the hedge and scrub vegetation are a number Ash, Sycamore, Goat Willow, Birch, Lawson Cypress and Norway Spruce trees ranging in age from early-mature to mature and these provide the higher bulking. Also adding to the tree cover of the area are Tree Nos. (1-9, 13-20 & Tree Group No.2) located on or on the adjoining property side of the boundary fences within the adjoining private gardens particularly at the northern end of the site area and some of these are of prominence within the local landscape.
- 4.5 Within this condition assessment of the tree and hedge vegetation; both within and adjoining this site areas, 19No. Trees were tagged individually, with 20No. Trees, one Tree Line, two Tree Groups and six Hedges numbered numerically.

The following table gives a breakdown of the category grading given to this tree vegetation under the recommendations of BS 5837 2012:

Category Grade	No. of Trees
Category U 5 Trees	Tree Nos. 0347, 0350, 0351, 0357 & Tree No.11
Category A 0 Trees	No Trees -
Category B 9 Trees + 1 Hedge	Tree Nos. Tree No.3, 0348, 0349, Tree No.8, Tree No.15 & Tree No.17, Tree No.18, Tree No.19 & Tree No.20 Hedge No. 5 (A & B)
Category C 25 Trees 2 Tree Groups 1 Tree Line 5 Hedges	Tree Nos. Tree No.1, Tree No.2, Tree No.4, Tree No.5, Tree No.6, Tree No.7, Tree No. 9, 0352, 0353, Tree No.10, 0354, 0355, 0356, 0358, 0359, 0360, 0361, 0362, 0363, 0364, 0365, Tree No.12, Tree No.13, Tree No.14 & Tree No.16 Tree Group Nos. 1 & 2 Tree Line No. 1 Hedge Nos. 1, 2, 3, 4 & 6
Total	39 Trees + 1 Tree Line + 2 Tree Groups + 6 Hedges.

5.0.0 Arboricultural Implication Study

5.1.0 Introduction

5.1.1 Grafton Issuer DAC, intend to apply to An Bord Pleanála for a seven year planning permission for the following development:

The proposed development seeks to demolish existing outbuildings on site and provide for the construction of 167 no. residential units, a childcare facility with a GFA of 188 sq.m., associated internal roads, pedestrian and cycle paths, open space, and all associated site and infrastructural works.

The residential component of the development consists of 98 no. apartments and 69 no. houses, to be provided as follows:

- 30 no. 1-bed apartments;
- 47 no. 2-bed apartments;
- 21 no. 3-bed apartments;
- 43 no. 4-bed (Type A, A1 and D) houses;
- 26 no. 3-bed (Type B, C and E) houses;

The 98 no. apartments are to be provided within 3 no. apartment buildings of 5 no. storeys in height, each over basement level, with adjacent surface car parking. The houses consist of 2 and 3 storey terraced, semi-detached and detached dwellings.

The proposal contains a total of 237 no. car parking spaces, including 173 no. at surface level and 64 no. at basement level, 253 no. bicycle parking spaces, including 34 no. at surface level and 219 no. secure spaces at ground floor level of the apartment buildings, and 6 no. motorcycle parking spaces at basement level. The vehicular access to the development is to be provided from Cairnbrook residential estate to the west, including associated works to facilitate same. A vehicular entrance is also proposed from Springfield Lane to access the house proposed on the northern part of the site. Pedestrian and cycle links are proposed to Springfield Lane to the north and to link to the permitted development (Reg. Ref.: PC/H/01/19) at Rockville Drive / Glenamuck Cottages to the south.

Bin stores, plant rooms and block cores are located at basement and ground floor level of the apartment buildings. The proposed development includes private amenity space, consisting of balconies / terraces for all apartments and private gardens for the houses, public and communal open space, including children's play areas and an ancillary play area for the childcare facility, PV panels and green roofs at roof level of the apartment buildings, public lighting, utilities infrastructure and an ESB Substation. The proposal includes all associated site and infrastructural works, including tie-ins to existing infrastructure in the Cairnbrook residential estate, foul and surface water drainage, attenuation tanks, hard and soft landscaping, boundary treatments, internal roads, cyclepaths and footpaths.

5.1.2 This section of the document is designed to assess the impact of the proposed developed layout on the tree vegetation within this site area and to look at the necessary measures that will need to be undertaken to help retain the vegetation shown for retention free from adverse impacts for the duration of the construction period.

5.1.3 On drawing No.CBG002, I have shown the tree vegetation for removal due to the proposed development and condition/management with open 'Red' crown spreads

and those to be retained with 'Green Hatched' crown spreads. 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 and hedge 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.

- 5.1.4 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.

5.2 Response to Dùn-Laoghaire Rathdown County Councils Pre-Application Opinion

In response to items raised in Dùn-Laoghaire Rathdown County Council's opinion on the proposed development under 'Appendix B Section 2.3', Parks and Landscapes Services, Items 3, 4, 5, 6, 8 & 12 in our opinion relate to arboricultural issues and the following is my response to these Items:

Item 3: The Landscape Architect in collaboration with other consultant disciplines shall verify and/or clearly demonstrate any geotechnical hydrological implications on the sites soil and groundwater by their proposed design and layout. This should demonstrate the post development impacts and NOT merely the existing current site conditions pre development.

Item 4: Absence of assessment of impacts on surface water streams and riparian habitats that may or may not impact retained Trees, and untouched landscape along with fish populations to nearby watercourses especially brown and sea trout both nearby and further downstream.

Item 5: Impacts of subsurface excavations has not been determined by the consultant arborist and has only been assessed from ground level. Groundwater impacts are high to extremely vulnerable as indicated by the applicant's consultant. Impacts on changes to sub surface hydrological pathways has not been assessed and how that may or may not impact retained Trees within and outside the red line.

Response – We have liaised with the appointed project engineers, hydrologist and landscape architects in the preparation of the Hydrological and Hydrogeological assessment report prepared by 'Enviroguide Consulting'. See this report for detail on the impact of the proposed development on the sites hydrological and hydrogeological features.

This assessment concludes that any impact on the ground water levels and ground water and surface water flows associated with the proposed development will be temporary during the construction only and standard construction measures will ensure that the flow of water across the site is maintained. As part of this management, the retained trees will need to be monitored and if required during periods of drought, a temporary watering system will need to be put in place within the vicinity of the trees to ensure that there is no impact on the tree and hedge vegetation to be retained.

Item 6: Consultant arborist has indicated in his report the surveyed trees "may not be plotted fully accurately"

Response – a revised topographical survey has since been undertaken by a land survey company and this has picked up the positions of 90% of the trees on and adjoining this site area with a few trees not accessible to them due to the heavily overgrown nature of the site.

Item 8: All trees within the application site and within 15 metres of the red line boundary should be included in the tree survey pre and post development drawings submitted with the planning application. This information is obtained prior to any detailed design plans being drawn up so it can inform the design and layout. This will help to retain trees and hedgerows of value on site.

Response – As part of our assessment of the tree and hedge vegetation on this site area, we have included all tree vegetation on the adjoining property side of the boundary fences that would need to be considered based on their proximity to the boundaries and tree size. See our drawings (Nos.CBG001 & CBG002) for detail.

Item 12: Submit a detailed topographic levels plan, clearly illustrating the proposed versus existing level changes relative to the existing landform. The applicant shall provide and demonstrate visually the soft works specifications cross section and also highlight all areas where all engineered services interact onto the Landscape plan and Arborist drawings. DLR Parks does not approve of any attenuation concrete tanks being located in public open space areas. No services, utilities or trenches -- including underground Suds tanks - shall be located in areas shown conditioned as Public Open Space.

Response – On our tree protection plan, (Drawing No.CBG002) we have overlaid the proposed services and proposed finished levels and have taken this information into consideration in preparing our 'Impact Assessment' of the proposed development on the tree and hedge vegetation being retained within and adjoining the site area.

5.3.0 Impact Assessment

5.3.1 Tree Loss:

To facilitate the proposed development or as part of management, it will be necessary to remove the following vegetation:

Category Grade	No. of trees for removal
Category U 5 Trees	Tree Nos. 0347, 0350, 0351, 0357 & Tree No.11 These trees although most are required to be removed directly due to the development layout, are in such a condition that they will need to be removed as part of management now or in the short-term irrespective of the development proposals for this site area.
Category A 0 Tree	-
Category B 1 Tree	Tree No. 0349
Category C 5 Trees + 1 Tree Line + 2 full Hedges & c.25m of another hedge + Scrub Areas	Tree Nos. 0353, Tree No.10, 0354, 0355 & 0356 Tree line No.1 Hedge Nos.2, 3 & c.25m from the southern end of hedge No.5A. Scrub Areas include shrub wooded area on the western side of the site area.

- 5.3.2 The loss of the above tree vegetation from this site area is to be mitigated against within the landscaping of this completed development with new tree, shrub and hedge planting that will complement the development and will help to provide good quality and sustainable long-term tree cover. See landscape architects drawings and schedules for detail.

A range of tree sizes are proposed within the landscape ranging from whips to semi-mature trees and as these establish and grow in size, they will be continuously mitigating any negative impacts created in the first place and will enhance and secure the treescape of this area into the future.

5.4.0 Tree Retention

- 5.4.1 The hedges being retained are in need of some trimming in of their sides on the site side to contain their width and to incorporate them into the completed landscape development.

Along 'Hedge No.1', the site side and the naturally establishing scrub vegetation on this side of the hedge will require trimming to bring it back in line with the boundary fence.

Along 'Hedge No.4', there is a need to trim in the encroaching hedge/scrub vegetation that has established to the front of this original hedge line and as a result of sections of this original hedge being removed to facilitate the boundary treatment works in the past by the adjoining property owners, this hedge is likely to be left fragmented which will need augmenting with new hedge planting within the completed landscaped gardens. The height of the hedge remaining will also need to be reduced in order to address stability issues and to encourage lower growth development and this will need to be reviewed once the side has been trimmed back.

Along 'Hedge No.5' (A & B) which runs along the eastern site boundary, there will be a need for some trimming in of the site side of this hedge to incorporate it into the completed landscaped development. In some areas along its length, this trimming will need to be heavier to facilitate the development and where the hedge is weakened in any areas by this trimming; it will need to be augmented with native hedge planting in order to bulk it up and to establish a good continuous hedge suitable for the built environment.

Along 'Hedge No.6' there will be a need for some trimming in of the site side of this hedge to incorporate it into the completed landscaped development and to facilitate the boundary treatment. This trimming will not impact negatively on this hedge.

The trees being retained around the site will need their root protection areas cordoned off by the erection of tree protection fencing to the recommendations of BS5837 2012. The site layout has been designed with this in mind and to ensure the root zone of the trees can be cordoned off from the construction works. See our tree protection plan (No.CBG002) for detail.

5.4.2 Main items for consideration during the proposed construction process:

Item	Comments
Tree Pruning	<p>As part of the initiating works, the crowns of some of the trees being retained are 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 within 'Appendix 2' of this report and these are to be reviewed on site prior to being carried out.</p> <p>The hedges being retained in most instances will require trimming to bring them back into active management and to incorporate them into the completed landscaped development. This will involve trimming in of their sides, particularly excessive spread of vegetation especially Bramble and the poorer structured sections will need trimming/pruning to address stability issues. The objective of the trimming of the hedges is to help rejuvenate them with the encouragement of lower growth development and once trimmed back; there will be an opportunity to augment poor quality sections with new hedge planting to create better structured sustainable hedges for the future suitable for their new built urban environment.</p> <p>All tree felling and pruning work will need to be carried out by qualified and experienced tree surgeons <i>before</i> any construction work commences; all tree work should be in accordance with <i>BS3998 (2010) Tree Work – Recommendations</i>.</p> <p>All trees for removal will need to be felled to stumps and all stumps in particular those which are located within the root zone of trees being retained will need to be ground out using a mechanical stump grinder taking care not to cause root damage to the trees being retained.</p>
Tree Protection	<p>Trees 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.</p> <p>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.CBG002) 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 <i>BS5837: Trees in relation to design, demolition and construction (2012)</i> specifies appropriate fencing, see 'Appendix 1' for details.</p> <p>The fencing is to be of a strong robust build capable of withstanding the works that are proposed within its vicinity. The fencing will need to be 2.3m high and constructed in accordance with figure 2 of BS 5837 2012 (see 'Appendix 1' for detail) using</p>

Item	Comments
	<p>vertical and horizontal scaffold bars well braced together with the verticals spaced out at a maximum of 3m centres and onto this, weld mesh panels are to be securely fixed with wire or scaffold clamps.</p> <p>All weather notices will need to be erected on the fences with words such as: "Tree Protection Fence — Keep Out".</p> <p>When the fencing has been erected and any necessary ground protection put in place, then 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 authorized by the project Arboriculturist.</p>
Construction	<p>It will be important that good housekeeping is in place at all times so that the site does not become congested.</p> <p>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.</p> <p>Where work space between the building 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.</p> <p>For light weight work areas such as for the storage of work material and pedestrian paths, this protection could be provided by the use of boarding and for heavier loading, these areas will need protection with the use of Cell Web of similar product.</p> <p>Where this occurs, the tree protective fence lines are not to be moved to accommodate these until such time as the required ground protection is signed off by the project engineers and arborist and put in place to the recommendations of section 6 of BS5837 2012.</p> <p>Care will need to 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, cannot be discharged within 10m of a tree stem.</p> <p>Fires cannot 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.</p> <p>Notice boards, wires and such like cannot be attached to any trees. Site offices, material storage and contractor parking will</p>

Item	Comments
	need to be located outside the work exclusion zones of the tree and hedge vegetation being retained.
Services	<p>See project engineer's drawings for detail for service routes.</p> <p>Prior to the installation of any services routed near trees, 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.</p>
Boundary Treatments	It is my understanding that any boundary treatments where necessary along by the tree and hedge vegetation being retained will be of a fence type structure where there will only be a need to excavate small diameter holes for the fence uprights and these will need to be dug manually or with an augur with no machinery allowed to operate within the work exclusion zones fenced off by the tree protection fencing. The working ground area required during these works will need to be protected from impacts/damage by a suitable ground protection such as scaffold planks laid butt jointed on a bed of woodchip.
Landscaping	<p>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. See landscape architects drawings and sections for detail.</p> <p>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 'Section 8' of BS5837 2012 are to be adhered to during the landscaping within the RPA's of these trees.</p> <p>Within the main tree areas being retained, it is not anticipated that any major construction works will need to occur with the main works being of a landscape nature with paths being the most significant.</p>
Footpaths & other Landscape Surfaces	<p>To minimize impact, the surfacing for paths and seating areas within the root zone of the trees are to be built up on existing ground levels avoiding the need to excavate to create a sub base or to cause damage to the trees being retained.</p> <p>Where support is required along any sections of these paths or surface areas which encroach into the root zone of trees being retained, a structural support system such as 'Cell Web' will need to be incorporated into its construction. See detail within section 6.8.0 of this report on installing surfaces within the root</p>

Item	Comments
	<p>zone of trees using a No-Dig method.</p> <p>It will be important within these areas that all works are carried out manually with minimal intervention with machinery and where machinery is required; this will need to be of a small light weight type and all works will need to be supervised by the project arborist. Where this machinery needs to transverse the root protection areas of trees, the route for this will need to be protected by boarding or other means to meet the requirements of section 6 of BS5837 2012.</p>

5.5.0 Monitoring

- 5.5.1 Any construction works within close proximity to retained tree vegetation are advised to be undertaken in accordance with approved method statements prepared by the construction contractor under the direct supervision of a qualified consultant Arboriculturist. Therefore, during the construction works, a professionally qualified Arboriculturist is recommended to be retained by the principal contractor or site manager to monitor and advise on any works within the RPA of retained trees to ensure successful tree retention and planning compliance.
- 5.5.2 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.
- 5.5.3 Copies of the tree retention and protection plan (Drawing No. CBG002), 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.
- 5.5.4 On the completion of the construction works, all tree vegetation retained are to be reviewed by the project Arboriculturist and any necessary remedial tree surgery works required to promote the health of the trees and safety are to be implemented.

5.6.0 Conclusion

- 5.6.1 The impact of the proposed development is contained to the more centrally located tree and scrub vegetation with the majority of the perimeter tree and hedge vegetation retained and incorporated into the completed development. The tree cover in this area will be strengthened with the adding of new tree, shrub and hedge planting as part of its landscaping and this will ensure the tree cover of this area is secured for the future and will help in blending the proposed development into this area.
- 5.6.2 In summary, 11 of the 39No.individually surveyed trees included within this assessment area along with one short tree line and two full hedges and c.25m of another hedge and a number of scrub areas will need to be removed to facilitate the proposed development works on this site area or as part of management.

The 11 individual trees for removal are made up of the following category grades:

- 5No. of 5No. **category 'U'** trees,
- 0No. - **category 'A'** trees,
- 1No. of 9No. **category 'B'** trees
- 5No.of 25No. **category 'C'** trees plus 1 Tree Line.

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 contractor/site manager on how the tree vegetation needs 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 (Dwg No.CBG002), for the position of the protective fencing and other mitigation measures.
- 6.3 The protection of the vegetation shown for retention within this proposed development is divided into three main sections starting with the preconstruction stage right through to post construction and the reassessment of this retained vegetation.

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 developer or main contractor 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 Site meeting

6.5.1 Prior to any works commencing on site, it is necessary that a meeting be arranged between the project manager, site foremen, the project landscape architect, the project Arboriculturist and local authority to identify and finalize the vegetation for removal and the line of the protective fencing.

6.6.0 Tree works

6.6.1 The client or the main contractor 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.

6.6.2 **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 development layout 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.

6.6.3 **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.

6.7.0 Erection of the protective fencing

- 6.7.1 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.CBG002.
- 6.7.2 The fencing will need to be 2.3m high and constructed in accordance with figure 2 of BS 5837 2012 (see fencing detail within 'Appendix 1') using vertical and horizontal scaffold bars well braced together with the verticals spaced out at a maximum of 3m centres and onto this, weld mesh panels are to be securely fixed with wire or scaffold clamps.
- 6.7.3 Signs need to be attached to these fences warning people to 'keep out'. See detail within drawing No.CBG002 & Appendix 1.
- 6.7.4 Once the protective fence line is erected, then the main construction works can commence on site.
- 6.7.5 **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.

6.8.0 Ground Protection Installation for Pathways and surface areas

- 6.8.1 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 to 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.

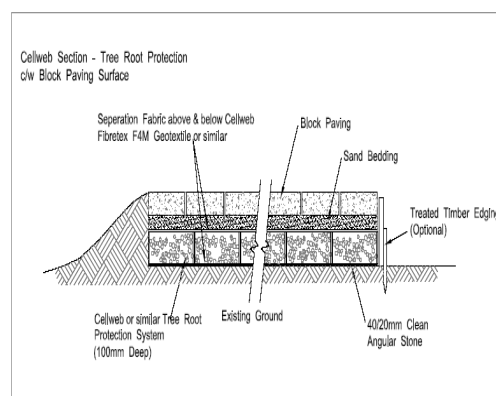
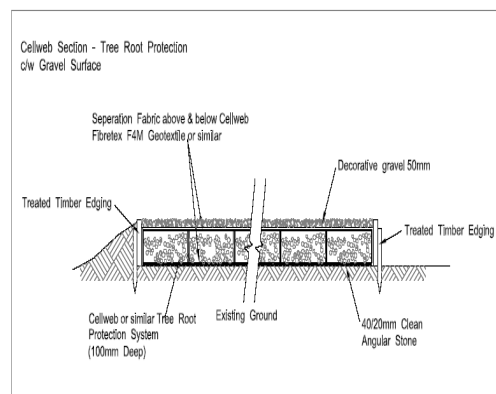
Step 4 – Place the required cellular confinement system (Cell Web 150-200mm) over the geotextile and pin/anchor the cell walls open for infilling.

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:

6.9.0 The Construction Works Stage

- 6.9.1 **Protective fencing** - During the course of the works, special attention must be paid to ensure that these fences and all other 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.

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

The excavations 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 the tree and other vegetation 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 vegetation to be retained and this may include such methods as retaining walls or similar.

Where roots of trees to be retained are exposed during the excavation works, these are to be assessed by the project Arborist and pruned back beyond damaged material. The excavated face is then to be covered with soil or with Hessian sacking to prevent further drying out and death of root material. Where the Hessian sacking is used, it will be necessary to keep this moist especially during dry periods.

- 6.9.3 **Working within the RPA (Root Protection Area)** – If it becomes necessary to carry out works within the RPA of a tree or other vegetation being retained, 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.

- 6.9.4 **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.

6.10.0 Other items

6.10.1 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:**6.11.0 Post Construction Works**

6.11.1 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 these lands 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 24/06/2022

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.

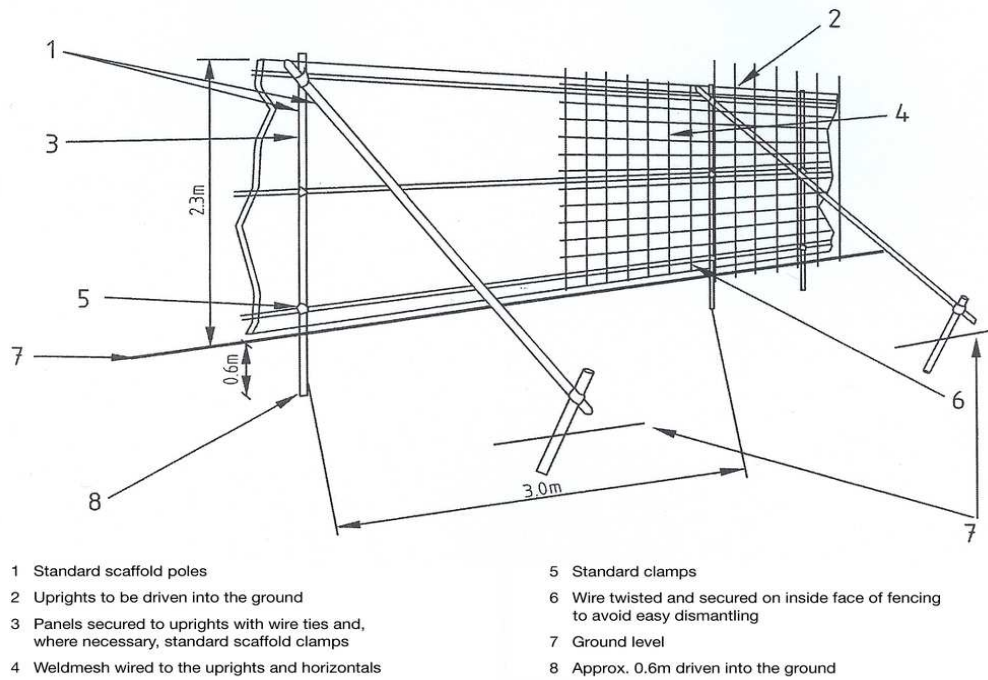


Figure 2. – Protective fencing for RPA

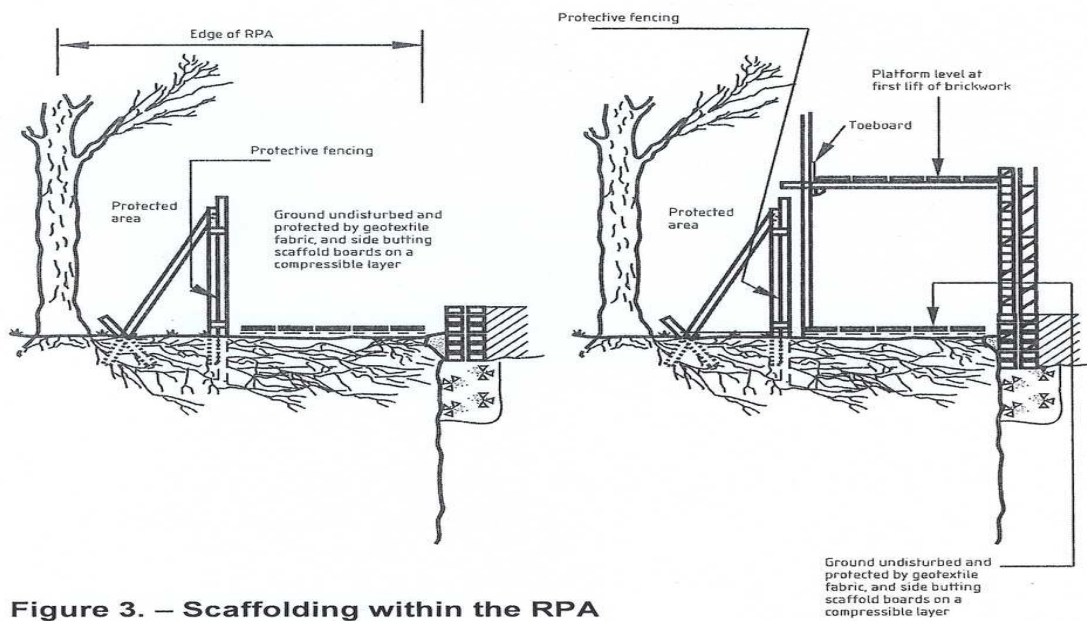


Figure 3. – Scaffolding within the RPA

Appendix 2

Condition Tree Assessment

**On the Site Area for 'Carrickmines Great SHD'
At Carrickmines Great, Glenamuck Road South,
Dublin 18.**

Date: 19th November 2021

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 effective 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.

Useful Life Expectancy (ULE) 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 10 Years. 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 millimeters (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 from the base of the tree and is given in meters (m).

Root Protection Area (RPA)

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

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

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

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

$$\sqrt{((\text{stem diameter } 1)^2 + (\text{stem diameter } 2)^2 \dots + (\text{stem diameter } 5)^2)}$$

b) For trees with more than five stems (not illustrated in Annex C), the combined stem diameter should be calculated as follows:

$$\sqrt{((\text{mean stem diameter})^2 \times \text{number of stems})}$$

The RPA for each tree is plotted on the Tree Constraints Plan (No.BVK001); any deviation in the RPA from the original circular plot takes account of the following factors whilst still providing adequate protection for the root system:

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

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	ULE	Cat. Grade
		A condition assessment of the trees on the Site Area for 'Carrickmines Great SHD' At Carrickmines Great, Glenamuck Road South, Dublin 18.									
		The site is derelict and consists of c.3.076 plus Hectares and is divided into two main fields with typical agricultural type hedge vegetation located around its perimeter, with one central hedge forming a division between the two fields. These hedgerows are made up of Hawthorn, Blackthorn and Goat Willow with Bramble and Dog-rose dominating the lower vegetation and these are also encroaching out in some places along with Blackthorn and Gorse due to lack of maintenance and this has created large scrub areas within the field.									
		The assessment starts at the northern end of the site area adjacent to the entrance to the private house to the west.									
Trees Nos. 1-6	Lombardy Poplar <i>Populus nigra</i> 'Italica' Lawson Cypress <i>Chamaecyparis lawsoniana</i> Oak <i>Quercus</i> sp. Willow <i>Salix</i> sp. Spruce <i>Picea</i> sp.	It consists of a close planted, mixed group of six trees located on the adjoining landside of the boundary fence with the grounds of the adjacent private property. They have grown up together forming a group environment and this has affected the structure of some of the trees. They have a group canopy and some of the trees have been drawn up for light and have somewhat suppressed canopies due to competition. The Lombardy Poplar at the northern end of the group is the largest tree and is of some visual prominence in the local area. The following give detail on Trees Nos.1-6.							Management of these trees is outside the control of this site area.	-	
Tree No. 1	Lombardy Poplar <i>Populus nigra</i> 'Italica'	24	A600	4N 1S 2E 2W	4	Mature	Fair / Good	Fair A single stem tree growing up against the site boundary fence. It is a tall, visually prominent tree with no obvious defects.	This tree is outside the management control of this site area.	10-20	C2
Tree No. 2	Lawson Cypress <i>Chamaecyparis lawsoniana</i>	12	A150	1N 0.5S 1.5E 1W	2	Semi Mature	Fair	Fair/ Poor It has been drawn up for light due to competition, affecting its structure. The crown is somewhat suppressed by larger surrounding trees.	This tree is outside the management control of this site	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	ULE	Cat. Grade
								Dia- diameter C-Ht- height Phys.- physiological A- average N- north S- south E- east W- west	ULE- useful life expectancy		
Tree No. 3	Scarlet Oak <i>Quercus coccinea</i>	15	A300	6N 6S 4E 6W	3	Early Mature	Fair / Good	Fair A single stem tree growing on the west side of the group. The crown is somewhat suppressed on the east side due to competition from surrounding trees. It has been cut/ pruned back on the north side to clear the entrance gates and branch stubs have been left low down on the main stem.	This tree is outside the management control of this site	20-40	B2
Tree No. 4	Lawson Cypress <i>Chamaecyparis lawsoniana</i>	14	A180/ 120	1N 1S 0.5E 1W	2	Semi Mature	Fair	Fair/ Poor A twin stem tree from low down with an acute union formation between the stems. The main stem divides again at c.5m with an acute union formation between the stems. It has been drawn up for light, affecting its structure.	This tree is outside the management control of this site	10-20	C2
Tree No. 5	Goat Willow <i>Salix caprea</i>	12	A150	3N 4S 3E 0W	2	Semi Mature	Fair	Fair/ Poor A single stem tree growing against the boundary fence. It has been drawn out to the east for light due to competition. The lower branches have been trimmed or cut by grazing animals. There is light Ivy developing on the main stem.	This tree is outside the management control of this site	10+	C2
Tree No. 6	Norway Spruce <i>Picea abies</i>	13	A180	1N 3S 2E 2W	2	Semi Mature	Fair / Good	Fair A single stem tree growing at the southern end of the group. The lower branches have been pruned leaving stubs.	This tree is outside the management control of this site	20+	C2
Hedge No.1	Cherry Laurel <i>Prunus laurocerasus</i> Lawson Cypress <i>Chamaecyparis lawsoniana</i> Goat Willow <i>Salix caprea</i> Beech	It extends south along the western boundary of the site area to the east end of Tree Line No.1. It is of a mature age class in fair condition physiologically and structurally. The bulk of the vegetation is located on the adjoining property side of the chain link boundary fence, with mainly Bramble growing on the site side. It contains clumps of Cherry Laurel, Lawson Cypress, Goat Willow, Beech, Birch and some mature Poplar. It has been allowed to grow more unmanaged on the site side with some impact from the livestock grazing within this area. Scrub species such as Bramble and Goat Willow are growing up through this hedge due to lapsed management. It provides good screening between this site area and the adjoining property. The northern end of this hedge has been repeatedly cut in order to maintain clearance with the overhead utility lines.						It would benefit from general tidying / trimming works in order to contain its width and hedge structure, particularly on the site side.		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	ULE	Cat. Grade
	<i>Fagus sylvatica</i> Birch <i>Betula pendula</i> Poplar <i>Populus sp.</i> Bramble <i>Rubus fruticosus</i>							Dia- diameter C-Ht- height Phys.- physiological A- average N- north S- south E- east W- west	ULE- useful life expectancy		
Tree No. 7	Lombardy Poplar <i>Populus nigra</i> 'Italica'	24	A600	3N 2S 2E 2W	10	Mature	Fair / Good	Fair A single stem tree, it has grown up high above the hedge line and is visually prominent in the local area. It has received some pruning due to overhead utility lines and this has impacted on its crown structure.	This tree is outside the management control of this site	10-20	C2
Tree Line No.1	Lawson Cypress <i>Chamaecyparis lawsoniana</i>	<p>It extends in a broadly east to west direction along the northern boundary of the site area on the site side of the boundary fence with the neighbouring property.</p> <p>It is of a mature age class in fair/ good condition physiologically and fair condition structurally. Its height has been heavily cut back due to the overhead utility lines and this has impacted on its overall structure. Ivy cover on some trees is beginning to extend up into their crowns. It has some value for screening between this property and the neighbouring private property.</p>								Cut Ivy at ground level and tidy up the area around their bases.	C2
0347	Birch <i>Betula pendula</i>	15	550	5N 4S 6E 6W	2	Mature	Fair/ Poor	Poor It forms part of the group with Tree Nos. 0348 & 0349 with an asymmetrical crown as a result. There is evidence of some past root movement/ heaving and it leans from base with a raised root plate. It has broken out at c. 10m and a new leader is developing out to the east. There is debris lodged	Retain for now as part of the bulking of this area.	<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	ULE	Cat. Grade
								<p>Di- diameter C-Ht- height Phys.- physiological A- average N- north S- south E- east W- west</p> <p>in the upper crown. The stability and future potential of this tree would give rise for concern.</p>			
0348	Birch <i>Betula pendula</i>	16	270/ 370	4N 3S 4E 4W	3	Mature	Fair	<p>Fair</p> <p>It is growing up with Tree Nos. 0347 and 0349 with a slightly asymmetrical crown as a result of its group growing environment. It is developing a secondary stem from c.1.2m up. It contains deadwood in crown, generally of a small size.</p>	Tidy up the area around its base.	20+	B1
0349	Birch <i>Betula pendula</i>	16	650	5N 4S 5E 5W	2	Mature	Fair	<p>Fair</p> <p>It is located to the west of Tree Nos. 0347 and 0348 with a reasonably symmetrical crown formation and it forms part of the group environment. Ivy cover on the main trunk extends up into the crown with dense Bramble around its base.</p>	Tidy up the area around its base.	20+	B1
0350	Goat Willow <i>Salix caprea</i>	9	190	0N 4S 2E 1W	3	Semi Mature	Fair	<p>Poor</p> <p>A single stem tree that has been drawn up for light, affecting its structure and it has fallen over, but has re-grown upright from this fallen stem, raising concerns over stability. A secondary stem is developing at c1.6m.</p>	Retain for now as part of the bulking of this area.	<10	U
0351	Goat Willow <i>Salix caprea</i>	9	400	3N 4S 5E 4W	3	Early Mature	Fair	<p>Poor</p> <p>It divides at c.1.8m into three stems with an acute union formation between the stems and the east stem has broken out and collapsed. The west stem has split at c.2.5m. The central stem divides almost immediately and the east side has failed and is decaying back. Ivy growth is extending up into the crown.</p>	<p>Remove dead / unstable growth.</p> <p>Review again in twelve months.</p>	<10	U
Tree No. 8	Norway Maple <i>Acer</i>	14	240	3N 3S 3E	3	Early Mature	Fair / Good	<p>Fair</p> <p>It is a single stem tree growing out to the west and is located on the adjoining property side of the</p>	This tree is outside the management control of this site	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	ULE	Cat. Grade									
	<i>platanoides</i>			4W				boundary fence.												
Tree No. 9	Ash <i>Fraxinus excelsior</i>	16	A400	3N 6S 4E 7W	0	Early Mature	Fair	Fair It is a single stem tree located on the adjoining property side of the boundary fence. It contains deadwood within its crown and may have been impacted upon by the previous development/ construction activities in this area. There is a Willow growing immediately to the north and they are forming a combined canopy. The Willow is being drawn up and out for light due to competition.	This tree is outside the management control of this site. All large size deadwood overhanging the site area should be cut back / removed.	10-20	C2									
Hedge No.2	Hawthorn <i>Crataegus monogyna</i> Blackthorn <i>Prunus spinosa</i> Elder <i>Sambucus nigra</i> Bramble <i>Rubus fruticosus</i> Dog-rose <i>Rosa canina</i>	It runs in a north-south direction along the boundary between this site area and 'Cairnbrook Avenue'. It is of a mature age class in fair condition physiologically and in fair/ poor condition structurally. It has been allowed to grow up tall and unmanaged for some time, affecting its structure. It consists predominately of Hawthorn, Blackthorn and Elder with Bramble and Dog-rose dominating the lower vegetation and encroaching out on the site side. It contains Ash trees ranging in age from seedlings to mature trees and they form part of the upper canopy formation. The hedge has received some trimming on the 'Cairnbrook Avenue' side in order to contain encroachment and to maintain within the formal landscaped area. Ivy is suppressing large sections of this hedge.						Trim in encroaching hedge species and cut / make safe all unstable sections in order to improve its stability and structure.		C2										
				<table border="1"><thead><tr><th>Ht. (m)</th><th>Stem Dia.(mm)</th><th>Branch Spread (m)</th><th>C-Ht. (m)</th></tr></thead><tbody><tr><td>A 4.5</td><td>A160/120</td><td>A 3E, 3W</td><td>A0</td></tr></tbody></table>	Ht. (m)	Stem Dia.(mm)	Branch Spread (m)	C-Ht. (m)	A 4.5	A160/120	A 3E, 3W	A0								
Ht. (m)	Stem Dia.(mm)	Branch Spread (m)	C-Ht. (m)																	
A 4.5	A160/120	A 3E, 3W	A0																	
0352	Ash <i>Fraxinus excelsior</i>	15	580/ 260	5N 4S 6E 4W	0	Mature	Fair	Fair It is located at the northern end of this hedge line on the western side of the drainage ditch and out from the boundary fence with the neighbouring property. It may have been impacted upon by the construction activities on the western side with the neighbouring property. Its crown has received some light pruning in order to maintain clearance	Remove all dead/ unstable growth from within its crown. Carry out pruning in order to improve clearance with the neighbouring house. Cut Ivy at ground level.	10+	C1									

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	ULE	Cat. Grade
								<p>Dia- diameter C-Ht- height Phys.- physiological A- average N- north S- south E- east W- west</p>	<p>ULE- useful life expectancy</p>		
0353	Goat Willow <i>Salix caprea</i>	10	A250 9 stems	6N 5S 7E 6W	1	Early Mature	Fair	<p>Fair/ Poor Located out to the east from the line of Hedge No.2, it is growing on the north side of a deep drainage ditch. It is a multi-stem tree from the base and the main stems divide again almost immediately with broad / acute union formations between the stems. Ivy growth extends high into the crown and it contains dead wood and broken branches.</p>	<p>Retain for now as part of the bulking of this area. Remove dead/ unstable growth. Cut Ivy at ground level.</p>	10-20	C1
Tree No. 10	Ash <i>Fraxinus excelsior</i>	18	500	3N 6S 6E 3W	0	Mature	Fair	<p>Fair Access in order to assess this tree in detail was restricted due to dense undergrowth of Bramble and scrub and the visual assessment is from outside the site area only. Heavy Ivy cover on the main trunk is extending up into its crown and is increasing its windsail. Construction activities have occurred on its western side with the erection of the boundary fencing and the garage and it may have suffered some soil and root damage during these works, however its crown is not showing any signs of ill health at the present time that would be associated with such damage. It has received some pruning of its crown overhang extending to the west into the neighbouring property which has left its crown slightly more open and asymmetrical and weighed towards the site area.</p>	<p>Cut Ivy at ground level and cut back all competing scrub vegetation. Remove Ivy to a height of c.2m to allow a more detailed assessment of its base and lower trunk. It may require additional works based on this review.</p>	10-20	C1

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	ULE	Cat. Grade
		The following two trees (Nos.0354 & 0355) are growing up together forming part of the one group/ canopy formation and due to structure; they are best maintained/ managed within their present group environment.									
0354	Ash <i>Fraxinus excelsior</i>	14	500	4N 2S 6E 5W	5	Mature	Fair	Fair/ Poor It forms part of the group canopy formation with tree No. 0355 with an asymmetrical crown as a result. The overhead utility lines run through the centre of its crown and it has received some cutting / pruning in order to maintain clearance, which has left its crown more open/ exposed. Ivy cover on the main trunk is extending up into its crown and is increasing its windsail. It subdivides into three-stems at a height of c.1.8m with an acute union formation between stems with some included bark present and the limb extending to the west is starting to split at the union and is in danger of breaking out. It has suffered a bark wound / decay pocket on the main scaffold limb extending northwards.	Remove all dead/ unstable growth from within its crown and prune in heavy side limbs/ branches by c.2m, particularly limbs with weak union formations extending west. Cut Ivy at ground level and tidy up the area around its base to allow a more detailed assessment of its base and lower trunk.	10+	C1
0355	Ash <i>Fraxinus excelsior</i>	13	460	1N 4S 6E 5W	0	Mature	Fair	Fair / Poor It is growing up with Tree No. 0354 with an asymmetrical crown as a result. Heavy Ivy cover on the main trunk is extending up into its crown increasing wind-loading in its crown. Wire and the overhead utility lines are running up through its lower crown. A lot of soil/ garden debris and rubbish have been piled in around the base of this tree limiting the visual assessment to some degree. It is infected throughout its crown and on the main trunk by the 'Bacterial Canker of Ash' leading to liaisons and areas of dead bark, particularly on the lower trunk where decay is developing into the underlying timber creating a structural weakness.	It is best maintained within its present group environment as it would not isolate well as an individual tree due to its group canopy structure. Make safe all large size dead/ unstable growth and reduce crown size by 2m. Cut Ivy at ground level.	10+	C1

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	ULE	Cat. Grade
								Dia- diameter C-Ht- height Phys.- physiological A- average N- north S- south E- east W- west	ULE- useful life expectancy		
0356	Goat Willow <i>Salix caprea</i>	7	170/ 170	4N 0S 3E 0W	2	Semi Mature	Fair	Fair / Poor Located to the north of Tree No. 0357, it is growing out from under the larger tree, affecting its structure. It divides low down with an acute union formation between the stems. Heavy Ivy growth extends high into the crown. It has been drawn out for light, affecting its structure.	Retain for now as part of the bulking of this area.	10+	C1
0357	Goat Willow <i>Salix caprea</i>	11	430/ 430	5N 5S 5E 5W	0	Early Mature	Fair	Poor It is located out from the western boundary fence line and is self-seeded and growing on top of an old concrete slab. As a result, its rooting ability is questionable, particularly as it grows. It forms a twin-stemmed tree from c.0.5m up with an acute union formation between stems with included bark present, with further weak unions between other stems above this point. It is prone to failure from the root plate due to its limited rooting ability.	It is not suitable for retention within a developed area.	<10	U
Hedge No.3	Goat Willow <i>Salix caprea</i> Hawthorn <i>Crataegus monogyna</i> Blackthorn <i>Prunus spinosa</i> Bramble <i>Rubus fruticosus</i>	It extends in a north – south direction across the site area along a drainage ditch and divides the site area in two. It is of a mature age class in fair condition physiologically and in fair/ poor condition structurally. It consists of vegetation growing on both sides of a shallow drainage ditch. It consists predominately of Goat Willow, Blackthorn and Hawthorn with an undergrowth of Bramble. Due to lapsed management, it has lost its hedge structure and it is encroaching out on either side to create a scrub wood area.							It will need some trimming and cutting back in order to contain its width and encroachment out onto the field to the east.	C2	
		Ht. (m)	Stem Dia.(mm)	Branch Spread (m)	C-Ht. (m)						
		A 5	A120/90	A 3E, 3W	A0						
Tree Group 0358-0365	The following trees are located at the southern end of Hedge No.3 and extend in a short tree line north – south across on the western side of an old drainage ditch.										
0358	Lawson Cypress <i>Chamaecyparis</i>	14	400/3 10	2N 2S 4E	0	Mature	Fair	Fair/ Poor Ivy cover on the main trunk is extending up into its crown. It is set slightly in from the edge of the	Cut Ivy at ground level at present.	10+	C1

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	ULE	Cat. Grade
	<i>lawsoniana</i>			2W				Di- diameter C-Ht- height Phys.- physiological A- average N- north S- south E- east W- west drainage ditch. Recent works have come close around the base of this tree and its root zone may have been impacted as a result.			
0359	Sycamore <i>Acer pseudoplatanus</i>	14	380/ 350/ 240/ 520	6N 6S 7E 7W	0	Early Mature	Fair	Fair/ Poor It is growing up within a sheltered group environment. Ivy cover on the main trunk is beginning to extend up into its crown. Multiple-stemmed from base with an acute union formation between some stems and this may lead to a structural weakness between these stems in the long-term. Recent works have come close around the base and a stem on the west side has been cut out at c.1.5m, possibly to facilitate access to the drainage ditch. Its crown development has been slightly affected due to its group growing environment. The water within the ditch is logging around its base and may have an impact on its rooting ability on the east side.	Cut Ivy at ground level and tidy up the area around its base.	10-20	C1
0360 - 0365	Lawson Cypress <i>Chamaecyparis lawsoniana</i> Norway Spruce <i>Picea abies</i> (5 in total)	A 14	A 350	A 1N 1S 4E 3W	A 0	Mature	Fair	Fair / Poor They are growing in a line at close spacing to one another and are growing up together forming part of the one group/ canopy formation. Heavy Ivy cover on their main trunks is extending up into their crowns and is increasing their windsail. Bramble and scrub is growing up through their lower crowns limiting the visual assessment to some degree. They are growing on the western side of the open drainage ditch which is wet and this may undermine the stability of these trees in the long-term. Tree Nos. 0362 & 0365 are Norway Spruces.	Carry out works to address the drainage issues within this area without causing damage to these trees. Cut Ivy at ground level, tidy up the area their bases and remove scrubs species.	10-20	C1

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	ULE	Cat. Grade								
								Dia- diameter C-Ht- height Phys.- physiological A- average N- north S- south E- east W- west	ULE- useful life expectancy										
Hedge No.4	Dog-rose <i>Rosa canina</i> Holly <i>Ilex aquifolium</i> Goat Willow <i>Salix caprea</i> Hawthorn <i>Crataegus monogyna</i> Blackthorn <i>Prunus spinosa</i> Bramble <i>Rubus fruticosus</i> Buddleja <i>daurica</i>	It runs at a slight angle to Hedge No.3 and extends southwards along the western boundary of the site area where it backs onto the rear gardens of neighbouring houses. It is of a mature age class in fair condition physiologically and in poor condition structurally. It consists predominately of Blackthorn, Hawthorn, Goat Willow and Buddleia with Bramble and Dog-rose, it also contains Holly, particularly at the southern end. It is a not continuous hedge line and due to lapsed management the hedge species, particularly on the site side, have encroached out creating a broad scrub area along the entire length of this hedge which is being dominated by Bramble, Blackthorn and Goat Willow. It is difficult to locate the centre line of the hedge in places due to it being overgrown and in some areas the original hedge line has been removed to facilitate the erection of the boundary fences. Most areas around the rear gardens have been fenced off with garden debris and scrub being thrown in on top of this hedge. The livestock sheltering/grazing within this area have also had an impact on the lower vegetation. It is of some value for screening along the boundary.						Trim back all encroaching hedge species. Cut/ trim the remaining sections to help encourage better structure and lower growth development.		C2									
								<table border="1"> <thead> <tr> <th>Ht. (m)</th> <th>Stem Dia.(mm)</th> <th>Branch Spread (m)</th> <th>C-Ht. (m)</th> </tr> </thead> <tbody> <tr> <td>A 5</td> <td>A90/90</td> <td>A 4E, 4W</td> <td>A0</td> </tr> </tbody> </table>	Ht. (m)	Stem Dia.(mm)	Branch Spread (m)	C-Ht. (m)	A 5	A90/90	A 4E, 4W	A0			
Ht. (m)	Stem Dia.(mm)	Branch Spread (m)	C-Ht. (m)																
A 5	A90/90	A 4E, 4W	A0																
		The following tree is located within Hedge No.4.																	
Tree No.11	Ash <i>Fraxinus excelsior</i>	10	A300	3N 0S 0E 7W	3	Mature	Poor	Poor Originally a three-stemmed tree from the base, but some stems have been removed leaving a single stem. These works have affected its structure leaving an unbalanced crown. The upper crown is showing signs of decline / dieback throughout and the central stem would appear to be dead. Due to its close proximity to the overhead utility lines it has received cutting back further affecting its structure. Development works have also come close around the base on the south-western side and may have impacted the root zone. It has no long-term potential.	I would recommend its removal due to its close proximity to the overhead utility lines as the most appropriate management option.	<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	ULE	Cat. Grade
								Dia- diameter C-Ht- height Phys.- physiological A- average N- north S- south E- east W- west	ULE- useful life expectancy		
Tree Group No.1	Ash <i>Fraxinus excelsior</i> Willow <i>Salix sp.</i>	A8	A100	3N 3S 2E 2W	A3	Semi Mature	Fair / Good	Fair A group of self-sown trees growing up together with a combined canopy. An overhead utility line runs to the south of the canopy and they will require pruning in the future to maintain clearance. Heavy undergrowth limited access to the base of these trees.	Tidy up the area around the base to allow a more detailed assessment of the base and lower trunk.	10-20	C1
Hedge No.5A	Hawthorn <i>Crataegus monogyna</i> Blackthorn <i>Prunus spinosa</i> Dog-rose <i>Rosa canina</i> Holly <i>Ilex aquifolium</i> Bramble <i>Rubus fruticosus</i>	It runs at an angle to Hedge No.4 and extends along the eastern boundary of the site area. It is of a mature age class in fair condition physiologically and structurally. The main hedge species is Hawthorn, Blackthorn and Holly and the undergrowth is being dominated by Bramble and Dog-rose. Due to lapsed management, the hedge species, particularly on the site side, are being dominated by Bramble and Blackthorn and they have been allowed to encroach out to create a large broad hedge with a scrub area to the front of this hedge making access difficult. The main hedge line would appear to be located on the site side of a shallow drainage ditch on a low hedgerow bank/ stone bank. It is a tall hedge and most sections are being suppressed by Ivy which may result in storm damage. It has received trimming on some sections to facilitate the overhead utility lines. The adjoining landside (eastern side) has received more regular trimming to contain encroachment out onto the adjoining laneway.							Make safe large size dead/ unstable growth. Trim in all encroaching hedge species on the site side. Carry out pruning in order to improve its hedge structure and quality. Plant up all gaps/ openings.	B2	
		Ht. (m)	Stem Dia.(mm)	Branch Spread (m)	C-Ht. (m)						
		A 6	A160	A 3E, 3W	A0						
Hedge No.5B	Hawthorn <i>Crataegus monogyna</i> Holly <i>Ilex aquifolium</i> Blackthorn <i>Prunus spinosa</i> Dog-rose <i>Rosa canina</i> Bramble	It extends on from hedge No.5A along the eastern boundary of the site area with the adjoining laneway. It is of a mature age class in fair condition physiologically and structurally. It consists of predominately Hawthorn, Holly, Bramble, Dog-rose, Blackthorn and Elder. The main hedge line would appear to be located on the site side of a low hedgerow bank / dry stone bank on the site side of a shallow drainage ditch. The hedge species, such as Bramble, Dog-rose and Blackthorn in particular are encroaching out on the site side creating large scrub areas to the front of this hedge. It is a reasonably continuous hedge and is lower growing than hedge No.5A and provides good screening along the boundary. It has received more regular trimming on the adjoining landside / laneway in order to maintain clearance.							Trim in all encroaching hedge species in order to contain its width. Cut Ivy where it is suppressing sections of this hedge. Carry out pruning in order to improve its structure and quality of the hedge. Plant up all gaps/ openings.	B2	

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	ULE	Cat. Grade					
								Dia- diameter C-Ht- height Phys.- physiological A- average N- north S- south E- east W- west	ULE- useful life expectancy							
	<i>Rubus fruticosus</i> Elder <i>Sambucus nigra</i>	<table border="1"> <thead> <tr> <th>Ht. (m)</th> <th>Stem Dia.(mm)</th> <th>Branch Spread (m)</th> <th>C-Ht. (m)</th> </tr> </thead> <tbody> <tr> <td>A 4.5</td> <td>A100</td> <td>A 3E, 3W</td> <td>A0</td> </tr> </tbody> </table>				Ht. (m)	Stem Dia.(mm)	Branch Spread (m)	C-Ht. (m)	A 4.5	A100	A 3E, 3W	A0			
Ht. (m)	Stem Dia.(mm)	Branch Spread (m)	C-Ht. (m)													
A 4.5	A100	A 3E, 3W	A0													
Hedge No.6	Hawthorn <i>Crataegus monogyna</i> Holly <i>Ilex aquifolium</i> Blackthorn <i>Prunus spinosa</i> Dog-rose <i>Rosa canina</i> Bramble <i>Rubus fruticosus</i> Elder <i>Sambucus nigra</i>	<p>It runs parallel to hedge No.5B at the northern end and forms the boundary between a narrow linear strip of land within the site area and the adjoining neighbouring property.</p> <p>It is of a mature age class in fair condition physiologically and structurally. It consists predominately of clumps/sections of Hawthorn and Elder with infill areas of Bramble and Dog-rose. It has received some trimming from the adjoining private residential property to contain, but has been allowed to grow more unmanaged on the site side with Bramble and Dog-rose encroaching out on this side creating a scrub area. It is a reasonably continuous hedge and has some value along this boundary for screening.</p> <table border="1"> <thead> <tr> <th>Ht. (m)</th> <th>Stem Dia.(mm)</th> <th>Branch Spread (m)</th> <th>C-Ht. (m)</th> </tr> </thead> <tbody> <tr> <td>A 3.5</td> <td>--</td> <td>A 3E, 1.5W</td> <td>A0</td> </tr> </tbody> </table>				Ht. (m)	Stem Dia.(mm)	Branch Spread (m)	C-Ht. (m)	A 3.5	--	A 3E, 1.5W	A0	Trim in all encroaching hedge species in order to contain its width. Cut Ivy where it is suppressing sections of this hedge. Carry out pruning in order to improve its structure and quality of the hedge. Plant up all gaps/ openings.		C2
Ht. (m)	Stem Dia.(mm)	Branch Spread (m)	C-Ht. (m)													
A 3.5	--	A 3E, 1.5W	A0													
	The following trees are located along the northern boundary of the site area on the adjoining property side of the boundary fence.															
Tree Group No.2	Birch Cherry Ornamental Shrubs	<p>It consists of a small group of trees located on the private residential property side of the sites boundary fence.</p> <p>They have been planted in the past as part of the landscaping of this residential property with the Birch tree being the largest tree in this group. They are of a semi-mature to early-mature age class in fair condition physiologically and structurally.</p> <table border="1"> <thead> <tr> <th>Ht. (m)</th> <th>Stem Dia.(mm)</th> <th>Branch Spread (m)</th> <th>C-Ht. (m)</th> </tr> </thead> <tbody> <tr> <td>A 9</td> <td>Largest 320</td> <td>A 3N, 3S, 3E, 3W</td> <td>A3</td> </tr> </tbody> </table>				Ht. (m)	Stem Dia.(mm)	Branch Spread (m)	C-Ht. (m)	A 9	Largest 320	A 3N, 3S, 3E, 3W	A3	Management is outside the control of the site area.		C2
Ht. (m)	Stem Dia.(mm)	Branch Spread (m)	C-Ht. (m)													
A 9	Largest 320	A 3N, 3S, 3E, 3W	A3													
Tree No.12	Goat Willow <i>Salix caprea</i>	6	A200/ 200	5N 4S 5E	2	Early Mature	Fair / Good	Fair Located out from Hedge 5A and 5B and would have established from seed, it divides low down into two	Tidy up the area around the base to allow a more detailed assessment of the	10-20	C1					

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	ULE	Cat. Grade
				5W				Di- diameter C-Ht- height Phys.- physiological A- average N- north S- south E- east W- west	ULE- useful life expectancy		
				5W				stems. It has a low spreading crown and heavy undergrowth limited access to the base.	base and lower trunk.		
Tree No.13	Lombardy Poplar <i>Populus nigra</i> 'Italica'	14	A300	0N 1S 3E 1W	6	Early Mature	Fair / Good	Fair Located just off the northern boundary on the adjacent property. It is growing up with Tree No. 14 and is a single stem tree. There is significant bark damage to the base/ lower trunk on the south side exposing underlying wood to decay.	Management of this tree is outside the control of this site.	10-20	C1
Tree No.14	Lombardy Poplar <i>Populus nigra</i> 'Italica'	20	A400	2N 2S 3E 2W	6	Early Mature	Fair / Good	Fair It is a large, single stem tree growing up with Tree No.13. Heavy Ivy growth on the lower main stem is extending up into the crown.	Management of this tree is outside the control of this site.	10-20	C1
Tree No.15	Contorted Willow <i>Salix matsudana</i> 'Tortosa'	10	A405	3N 4S 5E 4W	1	Early Mature	Fair / Good	Fair / Good A single stem tree growing on the adjacent landside of the site boundary. The crown develops from c.2m.	Management of this tree is outside the control of this site.	20+	B1
Tree No.16	Sitka Spruce <i>Picea sitchensis</i>	6	A150/ 120	3N 2S 3E 3W	1.8	Semi Mature	Fair / Good	Fair It is located just off the adjacent landside boundary of the site. Most likely twin-stemmed from base.	Management of this tree is outside the control of this site.	10-20	C1
Tree No.17	Silver Birch <i>Betula pendula</i>	14	A400	4N 4S 5E 4W	2	Early Mature	Fair / Good	Fair A single stem tree located just off the adjacent landside boundary of the site. There is minor stem damage on the south side.	Management of this tree is outside the control of this site.	20+	B1
Tree No.18	Silver Birch <i>Betula pendula</i>	12	A300	2N 3S 3E 3W	3	Early Mature	Fair / Good	Fair A single stem tree to c.6m where the leader has broken out, affecting its structure. Several stems are developing from the break point in a co-dominant manner. It is located just off the adjacent landside boundary of the site.	Management of this tree is outside the control of this site.	20+	B1
Tree No.19	Silver Birch	9	A200	2N	2	Early	Fair /	Fair /	Management of this tree is	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	ULE	Cat. Grade
	<i>Betula pendula</i>			3S 3E 3W		Mature	Good	A single stem tree, it divides at c.5m with an acute union formation between the stems. The stems are growing in a co-dominant manner. It is located just off the adjacent landside boundary of the site.	outside the control of this site.		
Tree No. 20	Fir <i>Abies sp.</i>	8	A150	2N 2S 2E 2W	1.5	Semi Mature	Good	Good A single stem tree with a well-balanced crown growing off the adjacent landside boundary of the site. It has potential to form part of the long-term cover of this area.	Management of this tree is outside the control of this site.	20+	B1
Notes:											

