Arboricultural Report

Tree Survey,

Arboricultural Impact Assessment &

Arboricultural Method Statement

In relation to the development proposal at:

Lands at Palmerstown Retail Park

Kennelsfort Road Lower

Palmerstown

Dublin 20

On behalf of:

Randelswood Holdings Ltd.

April 2020

170914-PD-11e

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Section 1: Arboricultural Impact Assessment

1 Summary

1.1 This arboricultural report has been commissioned by Randelswood Holdings Ltd. to provide information to assist with the planning process in relation to the proposed development at Lands at Palmerstown Retail Park, Kennelsfort Road Lower, Palmerstown, Dublin 20.

1.2 The proposed development will consist of the demolition of the existing buildings and the construction of residential apartment blocks and basement with associated amenities, landscaping and all works necessary to facilitate the development.

1.3 This report includes:

- an assessment of the trees, their quality and value in accordance with BS 5837:2012 - Trees in relation to design, demolition and construction;
- the site context and observations on the trees;
- local planning policies relevant to the consideration of trees on the site;
- the impact of the proposed development upon the tree population in and around the site;
- methods of reducing impacts on trees; and
- measures to be taken to protect trees during the proposed works.

1.4 My conclusions are that the proposed development is acceptable in both arboricultural terms and in relation to local planning policy as it relates to trees.

1.5 There are no trees required to be removed to facilitate the development. The proposal will require the loss of shrub groups and one young hedgerow only. Their loss will have a negligible impact on the character of the local area due to their low and poor quality.

1.6 Tree impacts have been assessed and special working methods have been recommended in accordance with industry guidance to protect trees.

1.7 Tree protection measures have been specified in accordance with best practice and are sufficient to safeguard trees during the proposed works.

1.8 New tree planting has been proposed and will have a positive impact on the surrounding area by increasing local canopy cover and improving the visual appearance of the site and the surrounding landscape.

2 Introduction

Instructions

2.1 This arboricultural report has been commissioned by Randelswood Holdings Ltd. to provide information to assist with the planning process in relation to the proposed development at Lands at Palmerstown Retail Park, Kennelsfort Road Lower, Palmerstown, Dublin 20.

Development proposal

2.2 The development will consist of the demolition of all existing structures on site and the construction of a residential development of 250 no. 'build to rent' apartments (134 no. 1 beds, 116 no. 2 beds) in 5 no. blocks; with a café and ancillary residential amenity facilities, to be provided as follows:

- Block A containing a total of 27 no. apartments comprising of 13 no. 1 beds and 14 no. 2 beds, in a building ranging from 3-6 storeys over basement in height, with 1 no. communal roof garden (at third floor level), and most apartments provided with private balconies/terraces. Block A also provides a café, a reception/concierge with manager's office and bookable space at ground floor level; meeting rooms and workspace/lounge at first floor level; a gym at second floor level; and a cinema and a games room at basement level;
- Block B containing a total of 46 no. apartments comprising of 18 no. 1 beds and 28 no. 2 beds, in a building 6 storeys over basement in height, and all apartments provided with private balconies/terraces;
- Block C containing a total of 47 no. apartments comprising of 30 no. 1 beds and 17 no. 2 beds, in a building 6 storeys over basement in height, and all apartments provided with private balconies/terraces;
- Block D containing a total of 67 no. apartments comprising of 33 no. 1 beds and 34 no. 2 beds, in a building 7 storeys over basement in height, and most apartments provided with private balconies/terraces;
- Block E containing a total of 63 no. apartments comprising of 40 no. 1 beds and 23 no. 2 beds, in a building 8 storeys over basement in height, and all apartments provided with private balconies/terraces.

2.3 The development also includes the construction of a basement providing 120 no. car parking spaces, 10 no. motorcycle spaces, 250 no. bicycle spaces, and a plant room and bin stores. The proposal also incorporates 5 no. car parking spaces and 26 no. bicycle spaces at surface level; upgrades and modifications to vehicular and pedestrian/cyclist access on Kennelsfort Road Lower; utilisation of existing vehicular and pedestrian/cyclist access via Palmerstown Business Park (onto Old Lucan Road); 1 no. ESB sub-station; landscaping including play

equipment and upgrades to public realm; public lighting; boundary treatments; and all associated engineering and site works necessary to facilitate the development.

2.4 For further details and descriptions of the development application, please refer to the architectural documents supplied by Downey Planning & Architecture.

Qualification and experience

2.5 My name is Charles McCorkell. I am a Chartered Arboricultural Consultant dealing with trees in relation to all forms of human activity, including the built environment. I am a Professional Member of the Institute of Chartered Foresters, a Professional Member of the Arboricultural Association, a qualified professional tree inspector (LANTRA), and I have a BSc Honours Degree in Arboriculture from the University of Central Lancashire.

Scope and limitations

2.6 The survey is not a health and safety inspection of trees; however, trees identified as imminently dangerous have been highlighted and recommendations made where appropriate.

2.7 A topographical survey was provided but did not include the location of all significant neighbouring trees. The position of trees not included within the topographical survey have been plotted as accurately as possible using the information provided and the existing features onsite.

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Methodology and guidance

2.9 I have referred to *British Standard 5837: Trees in relation to design, demolition and construction (2012)* which provides a methodology for the assessment of trees and other significant vegetation on development sites.

2.10 BS 5837 (2012) is intended to assist decision making with regard to existing and proposed trees and sets out the principles and procedures to be applied to achieve a harmonious relationship between existing and new trees and structures that can be sustained for the long term.

2.11 The BS 5837 (2012) recommends the National Joint Utilities Group (NJUG) document *Guidelines for the planning, installation and maintenance of utility apparatus in the proximity to trees.* Volume 4, issue 2. London: NJUG, 2007, as a normative reference for guidance on the installation of utilities within proximity to trees.

Background and documents provided

2.12 The document has been prepared using the following supplied information:

- ordnance survey map;

- topographical survey; and
- architect's proposal.

Supporting information

2.13 This report should be read in conjunction with the following supporting documents attached to this report.

Document	Reference	Location
Arboricultural Method Statement	N/A	Section 2
Tree Schedule	170914-PD-10a	Appendix A
Tree Work Schedule	170914-PD-12	Appendix A
Tree Survey Plan	170914-P-10a	Appendix B
Tree Removals & Protection Plan	170914-P-11c	Appendix B

Definitions

2.14 **Root Protection Area (RPA)** – a layout design tool indicating the area surrounding a tree that contains sufficient rooting volume to ensure the survival of the tree.

2.15 **Tree Protection Zone (TPZ)** – an area based on the RPA in m^2 identified by an arboriculturist, to be protected during development, including demolition and construction work, by the use of barriers and/or ground protection fit for purpose to ensure the successful long-term retention of a tree.

3 Site Visit & Observations

Site visit

3.1 I visited site on the 30 November 2017 to survey on and off-site trees and vegetation which may be of significance to the proposed development. The survey was carried out in accordance with BS 5837:2012 and from ground level only.

Site location and description

3.2 The site is located on the northern side of the Chapelizod Bypass, approximately 500 metres east of the M50 motorway. The site is an existing retail park with several commercial units and a large area of tarmac which is used for car sales and parking, refer to Photo 1. The main access into the site is west off Kennelsfort Road Lower, immediately adjacent to the Chapelizod Bypass. Refer to Map 1.

3.3 The Chapelizod Bypass is a busy dual carriageway linking the M50 motorway with Dublin City Centre. The area immediately surrounding the site consist of residential dwellings. Areas of public open space such as Waterstown Park and the Phoenix Park are situated further north and east respectively.

Map 1 (Google 2018): Red line highlighting the approximate site application boundary. Yellow arrow shows the location of the existing site access.

Description of the trees onsite

3.4 The vegetation within the site consists of self-seeded shrubs such as buddleia and elder (S25; S26; S27), and ornamental shrub planting (S20). There are no trees located within the site boundary. Refer to Photo 2.

3.5 Along the southern boundary adjacent to the Chapelizod Bypass are two young predominantly beech hedgerows (H5 & H6). On the western side of the southern boundary there are 13 trees (T7 to T19) consisting of ash, alder and Norway maple, refer to Photo 3. Several of the trees are in relatively poor structural condition and have been poorly pruned in the past. Some of the main defects noted include girdling roots, bark included unions and bark wounds. Bark exudation was also noted on the main stems of certain trees. This maybe an early indication of root damage or decay. Although not in good condition, the trees offer a visual and acoustic buffer between the site and the adjacent road. At the corner of Kennelsfort Road Lower on the eastern side of the southern boundary, there is a small group of shrubs and three newly planted trees (T1 to S4).

3.6 Along the north eastern boundary there are several trees located within the rear gardens of neighbouring properties. Of the boundary vegetation, laterals from a Norway maple (T21) and ash (T23) overhang into the site. There is a large boundary wall separating the sites which is likely to inhibit the root spread from these two trees into the site. Refer to Photo 4 & 5.

3.7 The western boundary consists of three offsite trees (T29 to T31). The lateral growth from the dead whitebeam (T30) overhangs into the site.

Views of the site and trees

Photo 1 (CM / Nov '17): View of the commercial units within the site and the expansive area of tarmac used for car parking and sales.

Photo 2 (CM / Nov '17): Typical view of self-seeded buddleia and elder shrubs within the site. Photo is of the southern section of S25.

Photo 3 (CM / Nov '17): View of trees T7 to T19 located offsite and adjacent to the Chapelizod Bypass. These trees offer a visual and acoustic buffer between the site and the road.

Photo 4 (CM / Nov '17): View of the neighbouring Norway maple tree T21 located along the north western boundary.

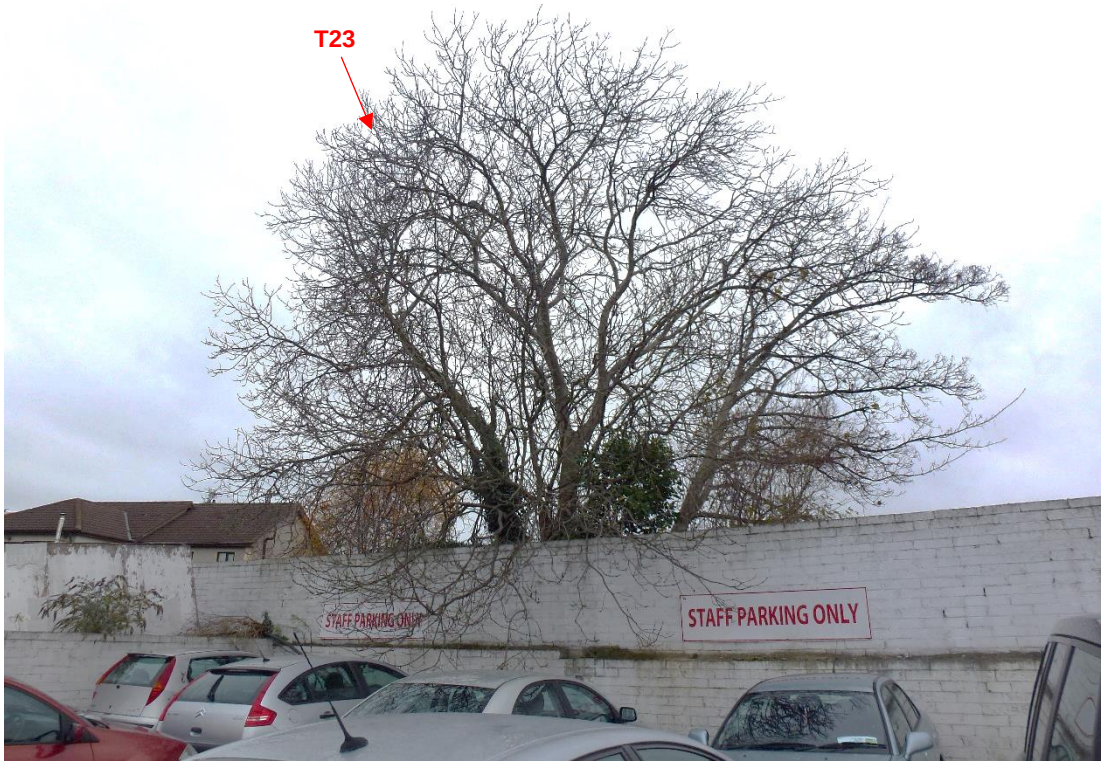

Photo 5 (CM / Nov '17): View of the neighbouring mature ash tree T23 located along the north western boundary.

Local Planning Policy

3.8 South Dublin County Councils Development Plan 2016-2022 (adopted 10th June 2016) contains several policies that relate to trees. These include:

Green Infrastructure (G) Policy 2 Green Infrastructure Network

- G2 Objective 5 – To integrate Green Infrastructure as an essential component of all new developments;
- G2 Objective 9 – To preserve, protect and augment trees, groups of trees, woodlands and hedgerows within the County by increasing tree canopy coverage using locally native species and by incorporating them within design proposal and supporting their integration into the Green Infrastructure network;
- G2 Objective 11 – To incorporate appropriate elements of Green Infrastructure e.g. new tree planting etc. into existing areas of hard infrastructure wherever possible.

Heritage, Conservation and Landscapes (HCL) Policy 15 Non- Designated Areas

- HCL15 Objective 3 – To protect existing trees, hedgerows, and woodlands which are of amenity or biodiversity value and/or contribute to landscape character and ensure that proper provision is made for their protection and management in accordance with Living with Trees: South Dublin County Council's Tree Management Policy 2015-2020.

Living with Trees – Tree Management Policy 2015 – 2020

3.9 The South Dublin County Council Tree Management Policy 'Living with Trees' 2015-2020 contains information within Chapter 7 Trees and Development that relates to the retention, protection and planting of trees on development sites. Relevant points within this section include:

- The Council will use its powers to ensure that where it is conductive with the objectives of the County Development Plan, and other planning objectives there is maximum retention of trees on new development sites.
- In the processing of planning applications, the Council will seek the retention of trees of high amenity / environmental value taking consideration of both their individual merit and their interaction as part of a group or broader landscape feature.
- On construction sites all work must be in accordance with British Standard 5837 (2012): Trees in Relation to Design, Demolition and Construction – Recommendations.
- The Council will promote the replacement of trees removed to facilitate approved planning and development of urban spaces, buildings, streets, roads, infrastructural projects and private development sites

Legal constraints

3.10 The site does not contain any Tree Preservation Orders (TPOs) according to Table 9.5 on page 169 of the Development Plan 2016-2022, and Map 2 of the Development Plan maps.

4 Technical Information

Tree data

4.1 The Tree Survey Plan at Appendix B illustrates the location of trees, the extent of the spread of their crowns and their root protection areas. Dimensions, comments and information for each tree are given in the Tree Schedule at Appendix A.

Life stage analysis

4.2 Unlike age in numerical terms (years), this description is used to describe the physical form of a tree in relation to its typical life expectancy and varies between species; for example, an oak may have a young form after 20 years while a cherry tree will be middle-aged after 20 years and will have developed the appearance of a mature tree with a spreading rounded crown whilst the oak remains tall and slender with strong apical dominance.

4.3 The survey revealed that the majority of trees are of an early-mature age classification. Figure 1 below shows a complete breakdown found across the 31 survey entries, of which 9 have been recorded as groups.

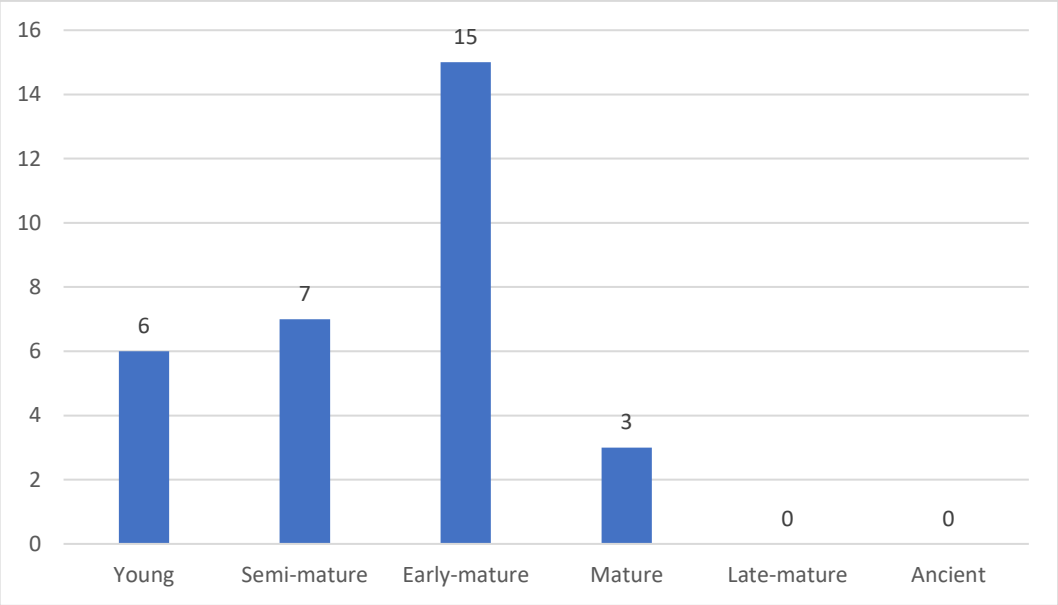

Figure 1: Life stage analysis of the 31 survey entries recorded.

BS5837 (2012) category breakdown

4.4 Of the 31 survey entries, one tree was assessed as being of moderate quality and value (B Category); 25 trees and groups were assessed as being of low quality and value (C Category) and five trees and groups were assessed as being of poor quality (U Category). No high quality and value trees (A Category) were recorded onsite. Figure 2 below shows the percentage of BS5837:2012 categorise recorded onsite.

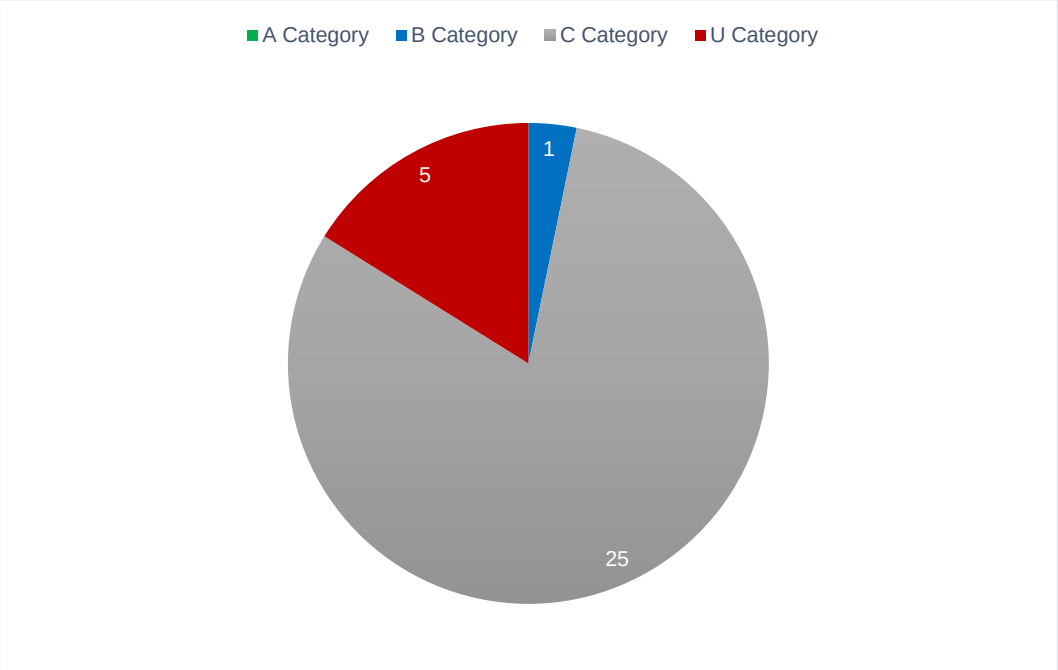

Figure 2: Breakdown of BS5837:2012 categorise recorded onsite.

5 Analysis of the Proposal in Respect of Trees

Arboricultural Impacts

5.1 ***Loss of trees –*** The proposed development will require the loss of four groups of shrubs (S20; S25; S26; S27) and one hedgerow (H5). Of the 5 survey entries proposed to be removed, four are of low quality and value (C Category) and one is of poor quality (U Category).

5.2 It was noted during the survey that two neighbouring trees (T7 & T30) are in poor condition and as a result their removal has been recommended for arboricultural reasons. The main included union on the early mature ash tree (T7) has cracked. This has significantly increased the likelihood of failing occurring in the future, refer to Photo 6. The neighbouring whitebeam tree (T30) is dead and its structure will continue to deteriorate. Due to the location of both trees it is recommended that they are removed for health and safety purposes.

5.3 Details of the proposed removals are specified within the Tree Work Schedule at Appendix A and shown on the Tree Removals Plan at Appendix B. A breakdown of trees and groups to be removed according to their BS5837:2012 category is outline in Figure 3.

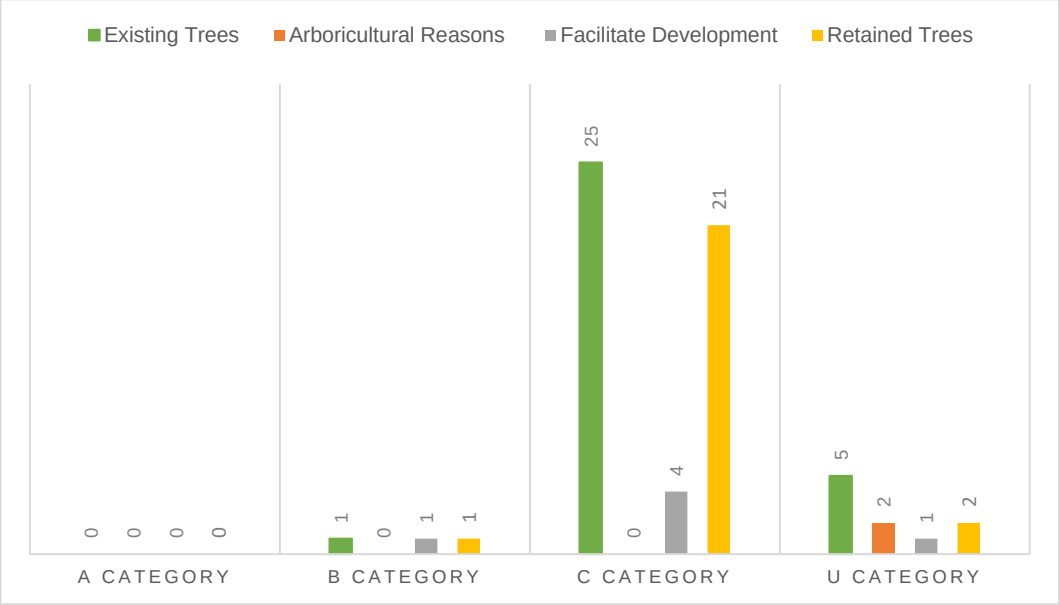

Figure 3: Removals in comparisons to the total number of survey entries recorded and their category in accordance to BS5837.

Photo 6 (CM / Nov '17): View of the cracked included union on the offsite ash tree T7. Red arrows highlight the location of the crack.

5.4 The loss of shrubs and one hedgerow to facilitate the development will have negligible impact on the character of the local area due to their small size and low and poor quality. The existing canopy cover on the site is extremely poor, with self-seeded buddleia being the dominant species. The proposed development offers an opportunity to incorporate new tree planting that can have positive impact on the local area and significantly increase the local canopy cover and diversity of species.

5.5 ***Arboricultural works –*** Pruning works have been recommended to facilitate the proposed development. Details of proposed tree works are specified within the Tree Work Schedule at Appendix A.

5.6 The proposal requires that neighbouring trees T21 and T23 are crown lifted within the site to provide clearance above the proposed road.

5.7 The proposed tree works recommended are considered to be minor and will not be detrimental to the health of the trees concerned or the character and appearance of the local area.

5.8 All tree works are to be carried out in accordance with best working practice BS3998:2010 – *Tree Work Recommendations* and by a reputable arboricultural contractor.

5.9 ***Future growth of retained trees –*** The proposed building footprint has been located a sufficient distance away from neighbouring trees to avoid the need for any future pruning.

5.10 Lower overhanging lateral growth above footpaths and roads may require future management works. Such maintenance operations are common in urban areas and are carried out on a regular basis without detriment to the trees health or visual appearance.

5.11 ***Tree protection measures -*** All neighbouring trees and hedgerows can be successfully protected during the proposed development by using robust fencing measures which comply with the recommendations outlined within BS5837:2012 and retaining existing boundary treatments and hard standing within rooting areas during the main construction operations.

5.12 For details of all tree protection measures required during demolition and construction please refer to the Tree Protection Plan located at Appendix B.

5.13 Construction works to be undertaken within the RPAs of retained trees have been individually highlighted and special methods of construction have been recommended to ensure trees are successfully protected.

5.14 Where existing boundary walls / fencing adjacent to trees is removed and not replaced immediately, protective fencing as outlined within BS5837:2012 must be installed until such works commence.

5.15 Similarly, where existing hard standing is removed and not replaced immediately, either temporary ground protection or protective fencing as outlined within BS5837:2012 must be installed to avoid rooting areas from being exposed.

5.16 All ground protection must be installed in accordance with industry best practice guidance as stated within Section 6.2.3.3 of BS 5837:2012. They must be fit for purpose and capable of supporting any traffic entering or using the site without being distorted or causing compaction of underling soil. Refer to Appendix C for specifications of temporary ground protection measures in accordance with BS5837:2012.

5.17 No materials or equipment other than those required to install tree protection will be delivered to the site until all fencing and ground protection is in place.

5.18 ***Compound area*** – The proposed site compound area has not yet been designed; however, there is sufficient space available throughout the site to avoid any unnecessary impacts to retained trees, provided the tree protection measures as detailed within this report are carried out.

5.19 ***Site access –*** The existing site access via Kennelsfort Road Lower will be used to facilitate demolition and construction works. This will have no impact on neighbouring trees.

5.20 ***Demolition of the existing buildings–*** The demolition of the existing buildings will not require works within the RPAs of retained trees, therefore no special working methods are proposed.

5.21 ***Construction of proposal –*** The construction of the proposed buildings will not require works within the RPAs of retained trees, therefore no special working methods are proposed.

5.22 ***Refurbishment of hard standing –*** The existing hard surface material within the RPAs of retained trees is required to be refurbished as part of the external landscape works. Areas where this is required have been highlighted on the Tree Protection Plan at Appendix B.

5.23 The removal and replacement of hard surface material within the rooting areas has the potential to impact trees if correct working methods are not undertaken. To ensure trees are not impacted upon, excavation will not be carried out beyond the depth of the existing sub base material. If new hard surface material is not installed following the removal of the existing surface, ground protection measures as detailed within Appendix C must be installed, or the area must be fenced off with protective fencing as specified on the Tree Protection Plan at Appendix B. This is to prevent potential surface rooting and soil from becoming damaged.

5.24 ***Daylight and sunlight levels -*** The neighbouring trees along the southern boundary (T7 to T19) will cause some shading to the proposed residential properties. The design has taken this into consideration and included large windows to maximise daylight and sunlight levels.

5.25 The trees concerned are also deciduous and advice from the Building Research Establishment is that *"Tree locations are also important; deciduous species are best because they are leafless when solar gains are most valuable, while providing some shade in summer."* [BR 380 - Environmental site layout planning: solar access, micro-climate and passive cooling in urban areas. 2000. Page 69]

5.26 The environmental benefits of growing trees close to buildings should not be underestimated. As climate change leads to warmer and dryer summers with longer periods of higher temperatures, the cooling, shading, humidifying and filtering effects of green space are likely to become more important.

5.27 These trees are beneficial to the proposed development and provide both acoustic dampening and a visual buffer between the Chapelizod Bypass and the proposed building.

5.28 ***Drainage and services*** – Details of the proposed drainage and services runs onsite are currently unknown. Considering the change of use of the site, significant new drainage runs will be installed. Where these are required, it is essential that they avoid the root protection areas of retained trees.

5.29 If it is necessary to locate drainage runs and services within tree RPAs, it is recommended that these works are carried out under arboricultural supervision. Methods of work should follow the recommendations in the NJUG guidance. BS5837 (2012) recommends the NJUG guidance as a normative reference to be used in these circumstances.

5.30 ***Boundary treatments –*** Renovation works to the existing boundary walls adjacent to trees can be successfully undertaken without impacting the health and structure of neighbouring trees, provided excavation works do not exceed the depth and width of the existing footprint of the foundations.

5.31 Wall structures adjacent to trees must be demolished using the “top down, pull back” method of works, whereby all materials fall within the site. The removal of foundations must be carried out using hand tools only and under the supervision of the arboricultural consultant. This is to ensure excavation is contained within the existing footprint and root damage and disturbance does not occur.

5.32 ***Landscape operations -*** Landscaping operations will typically take place at the end of the construction period. These works will normally require the removal of protective fencing to facilitate access for works. There is a risk that plant and machinery may damage soil structure where tree roots are growing. These risks can be managed by maintaining good professional standards of work and working to a method statement. The principle of avoiding soil disturbance or changes in levels within the RPAs of retained trees should be followed unless arboricultural advice has been sought.

Arboricultural mitigation

5.33 A landscape proposal has been formulated and includes the planting of new trees. Proposed new tree planting will have a positive impact on the visual appearance of the site and improve local canopy cover in an area where the tree population is considered low.

5.34 It is recommended that a diverse range of tree species are selected and planted across the site. This is to increase the resilience of the tree population due to the current risk of climate change and pest and diseases. The selection of trees should consider the existing landscape character, available soil volume and type, and the proximity of proposed buildings.

6 Discussion & Conclusion

General Change

6.1 In visual terms, the loss of shrubs and one hedgerow group will have negligible impact on the character of the local area and surrounding landscape due to their small size and low and poor quality.

6.2 New tree planting along the boundaries will significantly enhance the visual appearance of the site and provide a green corridor along the Chapelizod Bypass. This will have ecological benefits and offer an acoustic and visual buffer between the site and the road. The planting of new trees will significantly increase the local canopy cover which at present is extremely low.

Proposal in relation to local planning policy

6.3 The proposed development complies with local planning policies as they relate to trees. A tree survey and report has been undertaken in accordance with BS 5837:2012 and no trees of a high amenity or environmental value are required to be removed to facilitate the proposed development.

6.4 All retained trees can be successfully protected in accordance with BS 5837:2012 as stipulated within this report for the duration of the development works.

6.5 A landscape plan has been formulated and includes the planting of new trees. New tree planting will have a positive impact on local canopy cover and green infrastructure within the surrounding area.

Sustainability

6.6 The approach to trees on the site is sustainable and best practice guidance has been followed. New tree planting will significantly increase local canopy cover and have positive impact on the local tree population and landscape in the future.

Conclusion

6.7 The proposal has been assessed in accordance with BS5837:2012 and special working methods have been recommended to minimise tree impacts.

6.8 Neighbouring trees have been assessed and can be successfully protected during the development by following the information provided within this report and adhering to industry best practice.

6.9 Provided the recommendations and methods of work as outlined within this report are adhered to, the proposed development can be successfully carried out and with the inclusion of new tree planting will have a positive impact on the character of the local area.

7 Recommendations

7.1 The proposal should be carried out in accordance with the recommendations outlined within this report.

7.2 The positioning of tree protective barriers and ground protection measures should be installed as detailed within the Tree Protection Plan located at Appendix B.

7.3 Site supervision should be carried out by an arboricultural consultant at key stages of the project to ensure that retained trees can be successfully protected during the development. Details of supervision are included within the Arboricultural Method Statement at Section 2 of this report.

Section 2: Arboricultural Method Statement

Introduction

This report has been prepared in accordance with British Standard 5837: Trees in relation to design, demolition and construction – Recommendations (2012) which provides a methodology for the assessment and protection of trees and other significant vegetation on development sites.

Sequence of Operations

- Proposed tree works.
- Installation of tree protection measures.
- Enabling works, including the installation of a site compound.
- Demolition of existing buildings.
- Construction and the installation of drainage and services.
- Landscaping.

Alternative sequences can be discussed and agreed with the local authority and project manager if required.

Supervision

All key / critical activities that will affect trees during construction will be inspected and monitored by the approved arboricultural consultant.

- Pre-commencement site meeting with the Site Manger.
- Inspection of tree works and tree protection measures prior to demolition.
- Supervision during the removal of existing hard standing within the RPAs of trees.
- Supervision during the installation of boundary treatments within the RPAs of trees.
- During any other works that may affect retained trees.
- Inspection upon completion.

Arboricultural Method Statement	
Scope	**Methodology**
Pre-commencement meeting	Prior to the commencement of works, a meeting between the arboricultural consultant and the site manager will be held in order to discuss the tree protection measures and proposed works required in close proximity to trees. Where any concerns arise in relation to tree protection measures or tree works, the arboricultural consultant will communicate these with the local planning authority in order to obtain the appropriate approval where necessary. Contact details of all parties will be circulated to ensure all team members are able to communicate correctly. The site manager will be responsible for the protection of all retained trees for the duration of the project. Whenever necessary the site manager will engage the arboricultural consultant to ensure trees are adequately protected. The appointed arboricultural consultant will be available for verbal advice throughout site works.
Tree Works	Please refer to the Tree Work Schedule at Appendix A for a list of all proposed tree works. The location of trees to be removed can be found at Appendix B. It is the responsibility of the Site Manager to ensure all tree works have been approved by the local planning authority. All tree works will be carried out by a reputable arboricultural contractor in accordance with the recommendations given in BS 3998:2010 – Tree Work Recommendations. All tree works should be carried out in accordance with Section 40 of the Wildlife Act 1976 and Section 46 of the Wildlife (Amendment) Act 2000. It is the responsibility of the arboricultural contractor to ensure that no protected species are harmed whilst carrying out site clearance or tree surgery works.
Tree Protection	The position of tree protection measures for demolition and construction are shown on the Tree Protection Plan at Appendix B.

	Protective fencing will be constructed and installed in accordance with BS5837:2012, please refer the tree protection plan for the specification. Alternatives to those shown must be agreed in advance by the client approved arboricultural consultant. Where possible, existing boundary treatments and hard standing will be retained to act as an appropriate protection measures during construction. If these are removed, BS5837:2012 protective fencing or ground protection must be installed. Any machinery located within tree RPAs must operate on the appropriate ground protection (including existing hard standing) at all times. This will include the installation and removal of ground protection if necessary. Ground protection measures must be installed in accordance with industry best practice guidance as stated within Section 6.2.3.3 of BS 5837:2012. They must be fit for purpose and capable of supporting any traffic entering or using the site without being distorted or causing compaction of underling soil. Examples of ground protection measures are also shown at Appendix C. No materials or equipment other than those required to erect protective fencing will be delivered to the site before the fencing is installed. Signs will be fixed to every third panel stating, *'Tree Protection Area Keep Out – Any incursion into the protected area must be with the agreement of the local authority or arboricultural consultant'*. The main contractor will inform the local authority and the arboricultural consultant that tree protection is in place before site clearance works commence. No alteration, removal or repositioning of the tree protection will take place during construction without the prior consent of the arboricultural consultant.
Compound Area	The proposed site compound has not yet been designed; however, the considerations below must be followed. The site compound will be located outside the designated TPZs as highlighted on the Tree Protection Plan at Appendix B. No excavation works within RPAs are permitted to install temporary services for site cabins and facilities. Any temporary services within tree RPAs must be above ground and protected accordingly.

	No operating generators or toxic liquids will be stored within the RPAs of retained trees during construction. Overhanging tree canopies must be taken into consideration when transporting, installing and removing site cabins near tree crowns. A banksman will be present during this process to ensure that all operations are carried out in a controlled manner and no part of the cabin meets overhanging tree crowns.
Removal of existing hard standing with tree RPAs	Please refer to drawing the Tree Protection Plan at Appendix B for the location of existing hard standing within tree RPAs. The highlighted areas will be removed using the following methodology; Working at the point closest to the tree, the upper surface of the existing hard standing will be fractured with a machine and all lose material will be removed with a flat grading bucket. The removal of the sub base material must be carried out under the supervision of the arboricultural consultant. The machine operator will carefully remove the sub base by scraping 50mm deep at any one time ensuring that excavation works do not exceed beyond the depth of the sub base layer into virgin soil. Where significant rooting is present within the sub base layer, these areas will be refurbished and brought up to the required standard to prevent any unnecessary root disturbance or damage. In some cases, individual roots less than 25mm in diameter may be pruned, making a clean cut with a suitable sharp sterile tool (e.g. secateurs or hand saw). Where it is deemed necessary, temporary ground protection / tree protection barriers will be installed to protect newly exposed roots until practical completion.
Construction of walls within RPAs	To prevent damage to rooting during the construction or refurbishment of walls within tree RPAs, the following methodology will be carried out. The foundations for the walls will be manually excavated with the use of hand held tools. Existing foundations will be used where possible and no excavation beyond the depth or width of the foundation will occur. All roots above 25mm in diameter and large clumps of fibrous roots will be retained and protected using flexible plastic pipes.

	Roots less than 25mm in diameter may be pruned by the arboricultural consultant where deemed essential to complete works. Root pruning will only be carried out by the arboricultural consultant, using sharp, sterile tools suitable to the size of the root to be cut. Where possible roots will be pruned cleanly back to a side branch. If rooting is not visible and under the guidance of the arboricultural consultant, conventional methods of construction can be carried out. Once excavated, the trench will be lined using 1000-gauge polythene to prevent concrete leaching into the surrounding soil.
Drainage and Service Installation	Methods of working for the installation of the drainage runs or services will follow the guidance within National Joint Utilities Group (NJUG) Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees. Volume 4, issue 2, London NJUG 2007. Any approved works within the TPZ will be carried out using manual techniques or with the use of specialist excavation methods, such as an air-lance and vacuum excavator. All operations must be carried out from suitable ground protection, unless agreed in advance by the arboricultural consultant. Where possible, all roots greater than 25mm in diameter will be retained and will immediately be wrapped in dry hessian to prevent desiccation and temperature fluctuations. Roots will be pushed aside to allow for runs to be installed. In some cases, individual roots less than 25mm in diameter may be pruned, making a clean cut with a suitable sharp sterile tool (e.g. secateurs or hand saw). Where small diameter roots occur in clumps these should be retained and wrapped using a hessian material. Prior to root pruning taking place, the contractor will consult with the arboricultural consultant. Trenches should not remain open for more than one day. If this is unavoidable, any exposed roots should remain covered with hessian until the area is backfilled with soil. Appropriate temporary ground protection as specified within Section 6.2.3.3 of BS 5837:2012 must be installed within the TPZ prior to works being carried out. Ground protection must be fit for purpose and capable of supporting the traffic working within the area without causing compaction to the underlying soil.

	No machinery will be permitted within the TPZ unless agreed in advance with the arboricultural consultant and the appropriate ground protection measures are put in place.
General Principals to Avoid Damage to Trees	All tree works will be carried out in accordance with the recommendations given in BS 3998 (2010). No fires will be permitted within 20m of the crown of any tree. No changes in soil levels will take place within the tree protection zones without prior written consent of the local authority. No materials, vehicles, plant or personnel will be permitted into the tree protection zones at any time without the prior consent of the arboricultural consultant. Any liquid materials spilled on site will be immediately cleared up and removed from the site. If liquid fuel or cement products are spilled within 2m of the tree protection zone, the contractor will report the incident to the arboricultural consultant immediately. The contractor will report any damage to trees or shrubs, whether caused by construction activities or from any other cause, to the arboricultural consultant immediately.
Landscape Operations	All landscape operations within the protected area will be carried out by hand, using hand tools only, unless otherwise agreed with by the arboricultural consultant. No dumping of spoil or rubbish, parking of vehicles or plant, storage of materials or temporary accommodation will be undertaken within the TPZs. All tree roots within the RPAs greater than 25mm diameter will be retained and worked around. Soil levels will not be increased or reduced within the RPAs of trees without prior agreement from the arboricultural consultant.

Appendix A - Schedule

Document	Reference	Revision
Tree Schedule	170914-PD-10	a
Tree Work Schedule	170914-PD-12	-

Charles McCorkell
Arboricultural Consultancy

170914 - Lands at Palmerstown Retail Park

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T1	1	Liquidambar styraciflua (Sweet Gum)	3.0	8	1	1.0		1.0		1.0		1.0		1.8		Young	Structural condition Fair. Physiological condition Fair. Decay / structural defect - Localised. Pruning wounds - Recent. Staked tree / trees.	30/11/2017	2.9	1.0	10-20	C2
Tree T2	1	Picea sp. (Spruce sp.)	2.0	4	1	0.5		0.5		0.5		0.5		0.0		Young	Structural condition Good. Physiological condition Good. No significant faults observed.	30/11/2017	0.7	0.5	40+	C2
Tree T3	1	Liquidambar styraciflua (Sweet Gum)	2.5	8	1	1.0		1.0		1.0		1.0		1.5		Young	Structural condition Fair. Physiological condition Good. Pruning wounds - Recent. Staked tree / trees.	30/11/2017	2.9	1.0	10-20	C2
Shrub S4	1	Viburnum sp. (Viburnum sp.)	1.0	4 AVE	1									0.0		Semi Mature	Structural condition Fair. Physiological condition Fair. Mixed shrub group located offsite. Height and stem diameter are average for group. Quantities of species have not been recorded.	30/11/2017	0.7	0.5	10-20	C2
	1	Rosa sp. (Rose sp.)																				
	1	Laurocerasus officinalis (Cherry Laurel)																				
	1	Ilex sp. (Holly sp.)																				
	1	Hypericum sp. (Rose of Sharon)																				

Stem **green** Estimated value
Stem **AVE** Average stem diameter for tree groups
Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

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170914 - Lands at Palmerstown Retail Park

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Hedge H5	6	Ilex aquifolium (Holly)	1.0	2 AVE	1									0.0		Young	Structural condition Fair. Physiological condition Fair. Newly planted hedgerow. Quantities of species have been estimated. Height and stem diameter are average for group. x2 Holly whips have died and one is in decline.	30/11/2017	0.2	0.2	40+	C2
	50	Fagus sylvatica (Common Beech)																				
Hedge H6	1	Swida sanguinea (Common Dogwood)	1.5	2 AVE	1									0.0		Young	Structural condition Fair. Physiological condition Fair. Sparsely planted hedgerow located offsite, size of species varies. Quantities of species have been estimated. Height and stem diameter are average for group.	30/11/2017	0.2	0.2	40+	C2
	1	Buddleja davidii (Buddleja)																				
	5	Ilex aquifolium (Holly)																				
	65	Fagus sylvatica (Common Beech)																				
Tree T7	1	Fraxinus excelsior (Ash)	13.5	32	1		5.0		5.0		6.0		1.0	2.0		Early Mature	Structural condition Poor. Physiological condition Fair. Branch - Broken. Competition - Adjacent trees. Crown conflict - Structure / boundary / wire / tree. Fork - Cracked. Fork - Weak with included bark. Pruning wounds - Historic. Storm damage. Unbalanced crown - Minor. Crown clearance on site side is 4 metres. Tree is located offsite. Main included union is cracked. Notify tree owner of structral defect and high risk of failure. Small retaining wall to the north east. Level within site is slightly higher than around tree stem.	30/11/2017	46.3	3.8	0-10	U

Stem **green** Estimated value
Stem **AVE** Average stem diameter for tree groups
Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

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170914 - Lands at Palmerstown Retail Park

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T8	1	Acer platanoides (Norway Maple)	13.5	27	1		4.0		2.0		5.0		1.0	2.0		Early Mature	Structural condition Poor. Physiological condition Fair. Bark exudation. Competition - Adjacent trees. Decay / structural defect - Suspected. Pruning wounds - Historic. Crown clearance on site side is 5 metres. Tree is located offsite. Significant bark exudation on main stem, indicating stem or root decay / decline.Small retaining wall to the north east. Level within site is slightly higher than around tree stem.	30/11/2017	33.0	3.2	10-20	C2
Tree T9	1	Acer platanoides (Norway Maple)	13.5	27	1		4.0		2.0		5.0		1.0	2.0		Early Mature	Structural condition Fair. Physiological condition Fair. Competition - Adjacent trees. Fork - Weak with included bark. Pruning wounds - Historic. Crown clearance on site side is 5 metres. Tree is located offsite. Small retaining wall to the north east. Level within site is slightly higher than around tree stem.	30/11/2017	33.0	3.2	10-20	C2
Tree T10	1	Acer platanoides (Norway Maple)	13.5	33	1		5.0		3.0		6.0		2.5	2.0		Early Mature	Structural condition Fair. Physiological condition Fair. Branch - Broken. Coalesced decay seam - Suspected. Competition - Adjacent trees. Girdling roots - Major. Pruning wounds - Historic. Crown clearance on site side is 5 metres. Tree is located offsite. Small retaining wall to the north east. Level within site is slightly higher than around tree stem.	30/11/2017	49.3	4.0	10-20	C2
Tree T11	1	Fraxinus excelsior (Ash)	13.5	13	1		3.5		1.0		3.0		0.5	4.0		Semi Mature	Structural condition Poor. Physiological condition Poor. Competition - Adjacent trees. Deadwood - Minor. Fork - Weak with included bark. Pruning wounds - Historic. Tree is located offsite.	30/11/2017	7.6	1.6	0-10	U
Tree T12	1	Acer platanoides (Norway Maple)	13.5	28	1		2.0		2.5		5.0		2.5	2.0		Early Mature	Structural condition Fair. Physiological condition Fair. Competition - Adjacent trees. Pruning wounds - Historic. Root damage - Mower. Raised surface roots. Crown does not extend into site. Tree is located offsite. Small retaining wall to the north east. Level within site is slightly higher than around tree stem.	30/11/2017	35.5	3.4	10-20	C2

Stem **green** Estimated value
Stem **AVE** Average stem diameter for tree groups
Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

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170914 - Lands at Palmerstown Retail Park

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T13	1	Acer platanoides (Norway Maple)	13.5	21	1		1.5		1.5		3.5		3.5	4.0		Early Mature	Structural condition Poor. Physiological condition Fair. Bark exudation. Coalesced decay seam - Suspected. Competition - Adjacent trees. Decay / structural defect - Principal stems. Pruning wounds - Historic. Tree is located offsite. Significant bark exudation on upper stem indicating stem or root decay or decline.Small retaining wall to the north east. Level within site is slightly higher than around tree stem.	30/11/2017	20.0	2.5	10-20	C2
Tree T14	1	Acer platanoides (Norway Maple)	13.5	21	1		3.0		0.5		0.5		4.0	4.0		Early Mature	Structural condition Poor. Physiological condition Fair. Coalesced decay seam - Suspected. Competition - Adjacent trees. Decay / structural defect - Base. Decay / structural defect - Principal stems. Pruning wounds - Historic. Tree is located offsite. Small retaining wall to the north east. Level within site is slightly higher than around tree stem.	30/11/2017	20.0	2.5	10-20	C2
Tree T15	1	Alnus glutinosa (Common Alder)	12.0	21	1		2.5		2.5		2.5		1.0	3.0		Early Mature	Structural condition Fair. Physiological condition Fair. Bark wound - Minor. Competition - Adjacent trees. Pruning wounds - Historic. Tree is located offsite. Small retaining wall to the north east. Level within site is slightly higher than around tree stem. Self-seeding within rooting area.	30/11/2017	20.0	2.5	10-20	C2
Tree T16	1	Fraxinus excelsior (Ash)	12.5	35	1		3.5		5.0		6.0		5.0	3.0		Early Mature	Structural condition Fair. Physiological condition Fair. Competition - Adjacent trees. Deadwood - Minor. Pruning wounds - Historic. Root damage - Mower. Raised surface roots. Tree is located offsite. Small retaining wall to the north east. Level within site is slightly higher than around tree stem.	30/11/2017	55.4	4.2	10-20	C2
Tree T17	1	Alnus glutinosa (Common Alder)	2.0	12	1	0.5		0.5		0.5		0.5		0.5		Young	Structural condition Poor. Physiological condition Poor. Poor past pruning. Tree is located offsite and has been topped at 1.8 metres.	30/11/2017	6.5	1.4	0-10	U

Stem **green** Estimated value
Stem **AVE** Average stem diameter for tree groups
Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

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170914 - Lands at Palmerstown Retail Park

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Tree T18	1	Acer platanoides (Norway Maple)	12.5	26	1		3.5		3.5		5.0		2.5	3.0		Early Mature	Structural condition Fair. Physiological condition Fair. Coalesced decay seam - Suspected. Competition - Adjacent trees. Pruning wounds - Historic. Tree is located offsite. Small retaining wall to the north east. Level within site is slightly higher than around tree stem.	30/11/2017	30.6	3.1	10-20	C2
Tree T19	1	Fraxinus excelsior (Ash)	12.5	29	1		3.0		3.0		5.0		4.0	3.0		Early Mature	Structural condition Fair. Physiological condition Fair. Bark wound - Mechanical. Coalesced decay seam - Suspected. Fork - Weak with included bark. Pruning wounds - Historic. Tree is located offsite. Historically ringbarked, however tree has refused conductive material and has survived. Small retaining wall to the north east. Level within site is slightly higher than around tree stem.	30/11/2017	38.0	3.5	10-20	C2
Shrub S20	1 1 1 1	Laurocerasus officinalis (Cherry Laurel) Chamaecyparis sp. (False Cypress) Ceanothus sp. (Californian lilac) other (Other)	1.5	5 AVE	1									0.0		Semi Mature	Structural condition Fair. Physiological condition Fair. Mixed shrub group located within retaining structure. Height and stem diameter are average for group. Quantities of species have not been recorded.	30/11/2017	1.1	0.6	10-20	C1
Tree T21	1	Acer platanoides (Norway Maple)	11.0	55	1	5.0		5.0		5.0		5.0		2.5		Mature	Structural condition Fair. Physiological condition Good. Access to inspect base - Not possible. Tree is located offsite. Rooting area inhibited by large boundary wall and concrete hard standing within site.	30/11/2017	136.8	6.6	20-40	B1

Stem **green** Estimated value
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Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

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170914 - Lands at Palmerstown Retail Park

Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Group G22		x Cupressocyparis leylandii (Leyland Cypress)	8.0	30 AVE	1									4.0		Early Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Not possible. Neighbouring trees located offsite. Unable to inspect trees closely as access was not possible. Height and stem diameter are estimated and average for group. Large boundary wall seperating site, likely to inhibit roots into the site.	30/11/2017	40.7	3.6	10-20	C1
	3	Prunus sp. (Cherry sp.)																				
Tree T23	1	Fraxinus excelsior (Ash)	14.0	65	1		6.0		7.0		5.5		7.5	1.0		Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Not possible. Competition - Adjacent trees. Decay entry points. Deadwood - Minor. Pruning wounds - Historic. Structural impact - Potential. Subsiding limb / limbs - Suspected. Tree is located offsite and adjacent to large boundary wall. The rooting area within the site side is covered by concrete. Overextended subsiding limb in the northwestern orientation of crown. Crown break is obscurred by wall, unable to inspect structural condition of unions at this point.	30/11/2017	191.1	7.8	10-20	C1
Tree T24	1	Acer pseudoplatanus (Sycamore)	10.0	40	1		5.0		6.0		2.0		0.0	3.0		Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Not possible. Competition - Adjacent trees. Suppressed crown - Major. Unbalanced crown - Major. Tree is located offsite. Canopy does not overhang boundary into site	30/11/2017	72.4	4.8	10-20	C1
Shrub S25	1	Sambucus nigra (Elder)	5.0	15 AVE	1									0.0		Semi Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Restricted / obscured. Natural regeneration. Mixed self-seeded shrubs located between both buildings. Height and stem diameter are average for group. Quantities of species have not been recorded. Access to inspect and measure species is restricted.	30/11/2017	10.2	1.8	10-20	C1
	1	Buddleja davidii (Buddleja)																				

Stem **green** Estimated value
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L.B. Height of lowest branch attachment (m) - where relevant

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Tree ID	No.	Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m) N	NE	E	SE	S	SW	W	NW	Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m^2)	RPR (m)	Life expectancy (yrs)	BS Category
Shrub S26	1	Sambucus nigra (Elder)	5.0	15 AVE	1									0.0		Semi Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Restricted / obscured. Natural regeneration. Mixed self-seeded shrubs located between both buildings. Height and stem diameter are average for group. Quantities of species have not been recorded. Access to inspect and measure species is restricted.	30/11/2017	10.2	1.8	10-20	C1
	1	Buddleja davidii (Buddleja)																				
Shrub S27	1	Buddleja davidii (Buddleja)	4.0	10	1									0.0		Semi Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Restricted / obscured. Inappropriate species / location. Natural regeneration. Mixed self-seeded shrubs. Height and stem diameter are average for group. Quantities of species have not been recorded. Access to inspect and measure species is restricted.	30/11/2017	4.5	1.2	0-10	U
Group G28	3	Magnolia sp. (Magnolia sp.)	4.0	10 AVE	1									0.0		Semi Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Not possible. Height and stem diameter are average for group. Trees are located offsite and do not overhang boundary. Large boundary wall likely to inhibit rooting into site.	30/11/2017	4.5	1.2	10-20	C1
Tree T29	1	Sorbus aria (Whitebeam)	6.0	32	1	3.0		3.0		3.0		3.0		1.5		Early Mature	Structural condition Fair. Physiological condition Fair. Access to inspect base - Restricted / obscured. Fork - Weak with included bark. Root environment - Restricted. Tree is located offsite.	30/11/2017	46.3	3.8	10-20	C1
Tree T30	1	Sorbus aria (Whitebeam)	5.0	20	1	2.5		2.5		2.5		2.5		1.5		Early Mature	Structural condition Poor. Physiological condition Dead. Dead tree / trees. Root environment - Restricted. Tree is located offsite. Recently died.	30/11/2017	18.1	2.4	0-10	U
Tree T31	1	Acer platanoides (Norway Maple)	7.5	27	1	3.5		3.5		3.5		3.5		2.0		Early Mature	Structural condition Fair. Physiological condition Fair. Root environment - Restricted. Tree is located offsite.	30/11/2017	33.0	3.2	10-20	C1

Stem **green** Estimated value
Stem **AVE** Average stem diameter for tree groups
Stem **COM** Combined stem diameter in accordance with BS5837
L.B. Height of lowest branch attachment (m) - where relevant

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Table 1 of BS5837 (2012) **Cascade chart for tree quality assessment**

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	* Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) * Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline * Trees infected with pathogens of significance to health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7			**RED**
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Tree that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue).	Trees, groups or woodlands of particular visual importance as arboricutural and/or landscape features.	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture).	**GREEN**
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation.	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality.	Trees with material conservation or other cultural value.	**BLUE**
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits.	Trees with no material conservation or other cultural value.	**GREY**

170914-PD-12 - Planning Tree Works Schedule

Lands at Palmerstown Retail Park

Charles McCorkell
Arboricultural Consultancy

ID	No. / Species	BS5837 Category	Purpose of works Recommended works	Status
H5	50 *Fagus sylvatica* Common Beech 6 *Ilex aquifolium* Holly	C2	To facilitate development Fell - Ground level. - fell and remove stumps.	Proposed
T7	1 *Fraxinus excelsior* Ash	U	Good arboricultural practice Fell - Ground level. - notify tree owner to fell as the main included union has cracked and there is a high risk of failure. Do not remove tree without owner's permission.	Proposed
S20	1 *other* Other 1 *Ceanothus sp.* Californian lilac 1 *Chamaecyparis sp.* False Cypress 1 *Laurocerasus officinalis* Cherry Laurel	C1	To facilitate development Fell - Ground level. - fell and remove stumps.	Proposed
T21	1 *Acer platanoides* Norway Maple	B1	To facilitate development Lift low canopy - Specified extent. - Crown lift to 4 metres from ground level within site boundary only. Do not prune beyond existing boundary line without owner's permission.	Proposed
T23	1 *Fraxinus excelsior* Ash	C1	To facilitate development Lift low canopy - Specified extent. - Crown lift to 4 metres from ground level within site boundary only. Do not prune beyond existing boundary line without owner's permission.	Proposed
S25	1 *Buddleja davidii* Buddleja 1 *Sambucus nigra* Elder	C1	To facilitate development Fell - Ground level. - fell and remove stumps.	Proposed
S26	1 *Buddleja davidii* Buddleja 1 *Sambucus nigra* Elder	C1	To facilitate development Fell - Ground level. - fell and remove stumps.	Proposed
S27	1 *Buddleja davidii* Buddleja	U	To facilitate development Fell - Ground level. - fell and remove stumps.	Proposed
T30	1 *Sorbus aria* Whitebeam	U	Good arboricultural practice Fell - Ground level. - notify tree owner to fell dead tree. Do not remove tree without owner's permission.	Proposed

Tree work analysis (trees and trees in groups)

	Good arboricultural practice	To facilitate development	Total
Fell - Ground level	2	5	7
Lift low canopy - Specified extent	0	2	2
Total	2	7	9

Appendix B - Plans

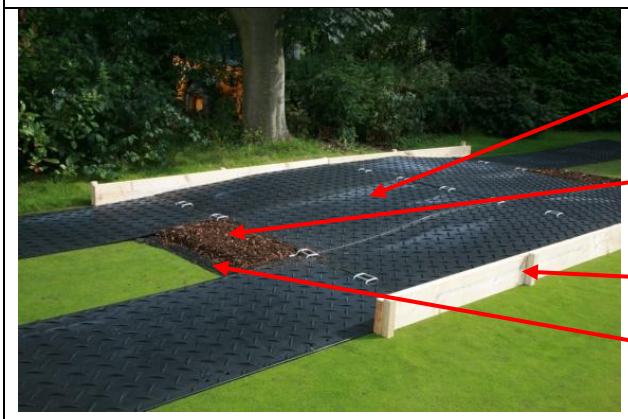
Document	Reference	Revision
Tree Survey Plan	170914-P-10	a
Tree Removals & Protection Plan	170914-P-11	c

Appendix C – Ground Protection

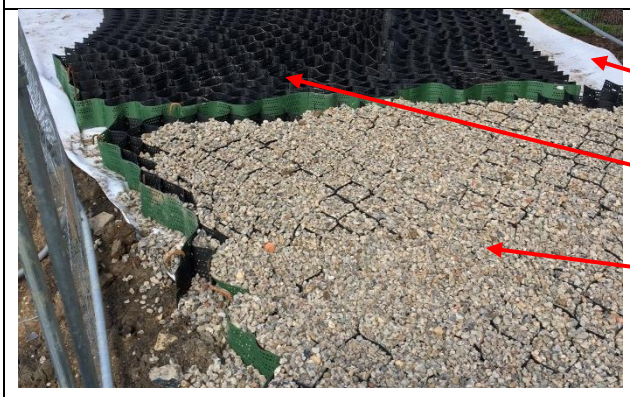
BS5837:2012 - Section 6.2.3.2 - Ground Protection Measures

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

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



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



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