

Arboricultural Report

Tree Survey,
Arboricultural Impact Assessment &
Arboricultural Method Statement

In relation to the development proposal at:

Devoy Barracks

Naas

Co. Kildare

On behalf of:

The Land Development Agency

April 2021

191203-PD-11-B

CHARLES MCCORKELL
ARBORICULTURAL CONSULTANCY

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Section 1: Arboricultural Impact Assessment

1 Summary

- 1.1 This arboricultural report has been instructed by The Land Development Agency to provide information to assist all parties involved in the planning process to make balanced judgements with regard to the arboricultural features in relation to the proposed residential development at John Devoy Road, Naas, Co Kildare, known locally as Devoy Barracks (the 'Application Site').
- 1.2 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.
- 1.3 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. Tree impacts have been assessed and tree protection measures have been specified in accordance with best practice and are sufficient to safeguard retained trees during the proposed works.
- 1.4 The proposed development requires the removal of eight trees, five groups of trees, and the part removal of two groups of trees, all of low quality and value (C Category). The loss of these trees is not considered to be significant in visual terms and has been taken into consideration as part of the development proposal, as significant new high-quality tree, hedge and shrub planting has been proposed. Such planting will help to mitigate the loss of trees on the site and will have a positive impact on the amenities and visual appearance of the development proposal and local surrounding landscape in the future.

2 Introduction

Instructions

- 2.1 This arboricultural report has been instructed by The Land Development Agency to provide information to assist all parties involved in the planning process to make balanced judgements with regard to the arboricultural features in relation to the proposed residential development at John Devoy Road, Naas, Co Kildare, known locally as Devoy Barracks (the 'Application Site').

Development proposal

- 2.2 The proposed development is for the construction of 221 no. residential units, comprising of a mix of terraced houses (36 no. 3 bed units), and duplex / apartment units (185 no. in total; 63 no. 1 bed units; 111 no. 2 bed units and 11 no. 3 bed units) ranging in height from 2 to 5 storeys, a 59-place childcare facility, public and communal open spaces and all associated site works and infrastructure.

Qualification and experience

- 2.3 This report has been prepared by Charles McCorkell. Charles is a Chartered Arboricultural Consultant dealing with trees in relation to all forms of human activity, including the built environment. He is a Professional Member of the Institute of Chartered Foresters, a Professional Member of the Arboricultural Association, a qualified professional tree inspector (LANTRA), and has a BSc Honours Degree in Arboriculture from the University of Central Lancashire.

Scope and limitations

- 2.4 The survey is not a health and safety inspection of trees; however, trees identified as imminently dangerous will have been highlighted and recommendations made, where appropriate.
- 2.5 The contents of this report are the copyright of *Charles McCorkell Arboricultural Consultancy* and may not be distributed or copied without the author's permission.

Methodology and guidance

- 2.6 The author has 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.

- 2.7 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 in order to achieve a harmonious relationship between existing and new trees and structures that can be sustained for the long term.
- 2.8 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.

Supporting information

- 2.9 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	191203-PD-10	Appendix A
Tree Work Schedule	191203-PD-12	Appendix A
Tree Survey Plan	191203-P-10	Appendix B
Tree Removals Plan	191203-P-11	Appendix B
Tree Protection Plan	191203-P-12	Appendix B

Definitions

- 2.10 **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.
- 2.11 **Tree Protection Zone (TPZ)** – an area based on the RPA in m² 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 Observations & Context

Site visit

- 3.1 The site was visited by Charles McCorkell on the 31 January 2020, 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 Application Site is a vacant grass field located to the south-west of the town, close to the town centre (Map 1). The surrounding area comprises of residential properties to the north, west and south, and Kildare County Council offices to the east.
- 3.3 The tree cover on the site is considered to be poor. It comprises of a large number of naturally regenerated young and semi-mature silver birch trees within the centre of the site, along with fragments of a native hedge along the western boundary.
- 3.4 The most notable tree cover is located off-site, along the roadside of the Arconagh residential estate, which abuts the western boundary. This tree line consists of several good quality early-mature silver birch. The southern and northern boundaries comprise mainly of offsite trees and hedgerows that overhang beyond the existing fence line and into the Application Site.



Map 1 (Google 2021): Dashed red line highlighting the location of the site within the local area.

Views of the site and trees



Photo 1: View of the young and semi-mature silver birch trees (G474 to G476) that have naturally regenerated within the centre of the vacant site.



Photo 2: View of the western boundary tree cover which comprises mainly of elder and hawthorn within the site and silver birch trees within the neighbouring Arconagh residential estate.



Photo 3: View of the southern boundary which includes neighbouring trees and hedgerows such as hawthorn and Leyland cypress that overhang into the site (H426 to H432).



Photo 4: View of the northern boundary neighbouring hedgerows (G470 and H471).

4 Local Planning Policy

Kildare County Council Development Plan 2017-2023

4.1 Section 13.10.2 of the Kildare County Council's Development Plan 2017-2023 (adopted 1st February 2017) contains several policies that relate to trees, woodlands and hedgerows. Saved policies relating this application include:

Section 13.10.2.1 Policies and Objectives: Trees, Woodlands and Hedgerow

- **GI 8:** Contribute towards the protection of and manage existing networks of woodlands, trees and hedgerows which are of amenity or biodiversity value and/or contribute to landscape character, and to strengthen local networks.
- **GI 9:** Ensure that proper provision is made for the consideration, protection and management of existing networks of woodlands, trees and hedgerows when undertaking, approving or authorising development.
- **GI 10:** Ensure a Tree Management Plan is provided to ensure that trees are adequately protected during development and incorporated into the design of new developments.
- **GI 11:** Ensure that hedgerow removal to facilitate development is kept to an absolute minimum and, where unavoidable, a requirement for mitigation planting will be required comprising a hedge of similar length and species composition to the original, established as close as is practicable to the original and where possible linking into existing adjacent hedges. Native plants of a local provenance should be used for any such planting;
- **GI 16:** Encourage the planting of woodlands, trees and hedgerows as part of new developments using native plants of local provenance.

5 Technical Information

Tree data

- 5.1 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

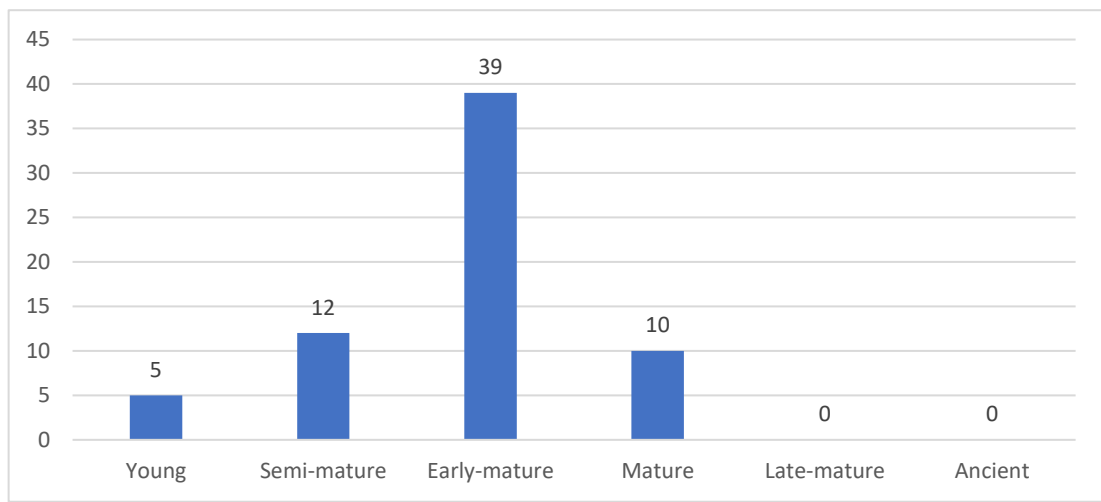


Figure 1: Life stage analysis of the 66 survey entries recorded. The majority of trees assessed are of an early-mature age.

BS5837 (2012) category breakdown

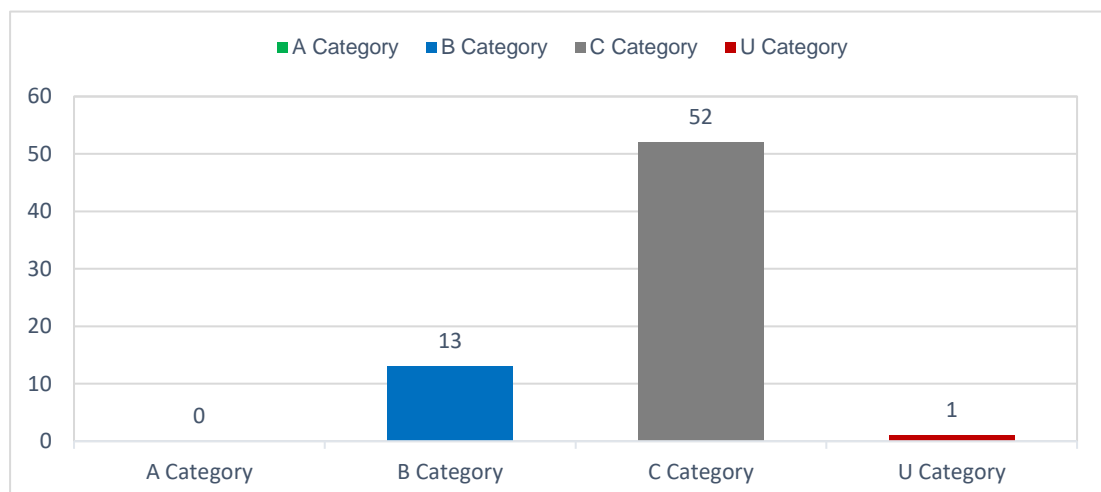


Figure 2: Breakdown of BS5837:2012 categories of the 66 survey entries recorded on and adjacent to the site. The majority of the trees are of low quality and value (C Category).

6 Analysis of the Proposal in Respect of Trees

Arboricultural Impacts

- 6.1 **Loss of trees** – The proposed development will require the removal of eight trees; five groups of trees, and the part removal of two groups of trees, all of low quality and value (C Category). 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.

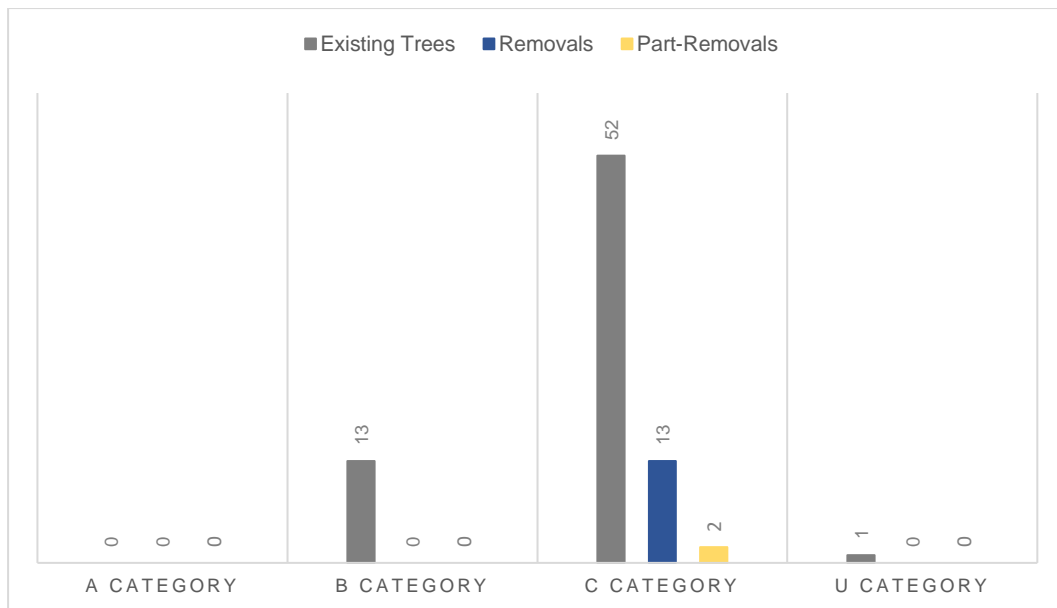


Figure 3: Proposed removals in comparisons to the total number of survey entries recorded and their category in accordance with BS5837:2012.

- 6.2 The loss of trees required to facilitate the development will have an insignificant impact on the character and appearance of the surrounding local landscape. The trees proposed to be removed are of low quality and limited public amenity value only and can be sufficiently replaced with new high-quality tree planting.
- 6.3 The proposal has taken into consideration the loss of trees by including sufficient space across the site for new planting to be carried out. New high-quality planting will help to mitigate the loss of trees and enhance the visual appearance and character of the local area.
- 6.4 **Pruning works to facilitate the development** – Some minor pruning works to overhanging branches from neighbouring trees is required in order to install the proposed boundary treatments. The overall extent of these works are not considered to be significant and can be successfully carried out without having a negative impact

on the health and visual appearance of the trees concerned. Details of the proposed pruning works are specified on the Tree Work Schedule at Appendix A.

- 6.5 **Compound area** – The proposed site compound area has not yet been designed. Prior to works commencing, the site manager must liaise with the arboricultural consultant to locate and agree on a suitable location for the site compound area to avoid impacting retained trees.
- 6.6 **Site access** – The site is currently accessed from the existing roundabout on the John Devoy Road which can be used without impacting retained trees.
- 6.7 A second construction access route maybe required via the Arconagh Road to the west of the development site, to allow for construction phasing. The impact on existing trees to the western boundary should be coordinated and reviewed to avoid the removal of trees where possible.
- 6.8 **Construction operations** – The proposal will require the construction of one car parking space which marginally encroaches into the RPA of the neighbouring hedge H432. Excavation works to construct this car parking space are required to be carried out under arboricultural supervision. Where significant rooting is present, levels must be increased to avoid removing or damaging tree roots.
- 6.9 **Daylight and sunlight levels** - Shading by trees has been assessed and is not considered a significant issue in relation to this proposal.
- 6.10 **Drainage and services** – The drainage proposal is shown on the Tree Protection Plan at Appendix B and has been carefully designed to avoid the RPAs of retained trees.
- 6.11 **Tree protection measures** - All retained trees and hedgerows can be successfully protected during the proposed development works by using robust fencing measures which comply with the recommendations outlined within BS 5837:2012. The location and specification of all tree protection measures are highlighted on the Tree Protection Plan at Appendix B.
- 6.12 **Boundary treatments** – The proposed boundary treatment to the rear of the residential properties along the southern boundary of the site will consist of a 2m high block wall. Excavation works required to install conventional strip foundations to construct walls have the potential to cause significant damage to tree roots. In order to avoid damaging the roots of neighbouring trees, a section of the wall, as highlighted on the Tree Protection Plan, must be installed using special methods of construction.
- 6.13 This will involve using either specialist foundations, such as mini piles or pads and an above ground beam, or carrying excavation works out manually with the use of hand

tools and protecting roots greater than 25mm in diameter with flexible plastic pipes. The final method of works and foundation design for this section of wall must be agreed and approved by the arboricultural consultant in advance of construction operations commencing.

- 6.14 **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

- 6.15 A landscape plan has been proposed and will form part of the planning application for the development proposal. This design includes the planting of a significant number of new high-quality semi-mature trees, hedgerows, shrubs and wildflowers.
- 6.16 The large number of trees, shrubs, and hedgerows that are proposed to be planted will increase, in time, the overall tree cover within the site and local area. Although canopy cover will initially be reduced following the removal of trees, the proposed new planting will significantly surpass the existing canopy cover in the medium to long term once it has established.
- 6.17 The planting strategy includes a broad variety of both native and naturalised species. Selecting a wide variety of species will improve the diversity of the tree and vegetation cover on site and within the local area. This will ensure that the tree population is less vulnerable to the risks posed by climate change and pests and diseases in the future.

7 Discussion & Conclusion

General Change

- 7.1 In visual terms, the loss of trees will have a negligible impact on the character and appearance of the surrounding local area and landscape, as the trees proposed to be removed are all of low quality and value only.
- 7.2 The proposal provides a good opportunity to carry out significant new high-quality tree, shrub and hedgerow planting, that can not only mitigate for the loss of trees but can also significantly enhance the amenities and visual appearance of the site and contribute to the character of the local area.

Arboricultural sustainability

- 7.3 The approach to trees and landscape on the site is sustainable; best practice guidance has been followed to identify the key trees for arboricultural and landscape value and all trees proposed to be removed are of low quality and value only.
- 7.4 The landscape opportunities on the site for new trees can improve local canopy cover and enhance the diversity of species; bringing a positive benefit to the site and the local area generally.

Proposal in relation to local planning policy

- 7.5 The proposed development complies with local planning policies as they relate to trees. Although trees are required to be removed, the proposal has included significant new high-quality tree planting, that will mitigate the loss of trees and have a positive impact on the site and the local landscape in the future.
- 7.6 The proposal has been assessed in accordance with best practice BS5837:2012 and provided the recommendations as detailed within this report are followed, all retained trees can be successfully protected for the duration of construction.

Arboricultural impacts

- 7.7 Constraints posed by trees have been assessed and where impacts occur, these have been identified, specifically in this report.
- 7.8 The protection of retained trees on this site during the proposed development works can be achieved by continuing to follow the recommendations in BS5837:2012 and by compliance with suitably drafted planning conditions.

8 Recommendations

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

Tree Protection

- 8.2 Tree protective barriers should be installed during the construction phase of the development as detailed on the Tree Protection Plan at Appendix B.
- 8.3 The protective fencing measures to be installed must comply with the recommendations outlined within BS 5837: 2012 '*Trees in relation to design, demolition and construction – Recommendations*'. Refer to fencing detail on the Tree Protection Plan at Appendix B.
- 8.4 No materials or equipment other than those required to install tree protection will be delivered to the site until all fencing is in place.
- 8.5 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.

Tree Works

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

Arboricultural mitigation

- 8.7 New tree planting is required to be carried out and maintained in order to mitigate the loss of trees required to facilitate the development.

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.
- Construction, including 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 meeting with the site manager;
- Inspection of tree works and tree protection measures prior to the commencement of works;
- Supervision during the construction of the southern boundary wall within tree RPAs;
- Supervision during all working operations within tree RPAs; and
- Tree inspection upon completion.

Arboricultural Method Statement	
Scope	Methodology
Pre-commencement meeting	<p>Prior to the commencement of works, a meeting between the arboricultural consultant and site manager will be held in order to discuss the tree protection measures and proposed works required in close proximity to trees.</p> <p>Contact details of all parties will be circulated to ensure all team members are able to communicate correctly.</p> <p>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.</p> <p>The appointed arboricultural consultant will be available for verbal advice throughout site works.</p>
Tree Works	<p>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 are highlighted on the Tree Removals Plan at Appendix B.</p> <p>It is the responsibility of the Site Manager to ensure all tree works have been approved by the local planning authority.</p> <p>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.</p> <p>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.</p> <p>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.</p>
Tree Protection	<p>The position of tree protection measures are shown on the Tree Protection Plan at Appendix B.</p> <p>Protective fencing will be constructed and installed in accordance with BS5837:2012, please refer to the Tree Protection Plan for the specification. Alternatives to those shown must be agreed in advance by the arboricultural consultant.</p>

	<p>No materials or equipment other than those required to erect protective fencing will be delivered to the site before the fencing is installed.</p> <p>Signs will be fixed to every third panel stating, <i>'Tree Protection Area Keep Out – Any incursion into the protected area must be with the agreement of the local authority or arboricultural consultant'</i>.</p> <p>The main contractor will inform the arboricultural consultant that tree protection is in place before site clearance works commence.</p> <p>No alteration, removal or repositioning of the tree protection will take place without the prior consent of the arboricultural consultant.</p>
<p>Compound Area</p>	<p>The proposed site compound area has not yet been designed; however, the considerations below must be followed:</p> <p>The site compound must be located outside the designated TPZs as highlighted on the Tree Protection Plan at Appendix B.</p> <p>No excavation works within tree 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.</p> <p>No operating generators or toxic liquids will be stored within the RPAs of retained trees during construction.</p> <p>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.</p>
<p>Drainage and Service Installation</p>	<p>All methods of work for the installation of drainage runs or services within the RPAs of retained trees will follow the guidance within Table 3 of BS 5837 (2012), or National Joint Utilities Group (NJUG) <i>Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees</i>. Volume 4, issue 2, London NJUG 2007.</p> <p>Any approved works within the TPZ will be carried out using either hand tools such as an air lance and vacuum excavator or trenchless techniques as outlined within Table 3 of BS5837:2012.</p> <p>For excavation works, all roots greater than 25mm in diameter and large clumps of roots will be retained and will be immediately wrapped in dry hessian to prevent desiccation and temperature fluctuations. Roots will be pushed aside to allow for runs to be installed.</p>

	<p>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). Prior to root pruning taking place, the contractor will consult the arboricultural consultant.</p> <p>Trenches should not remain open for more than one day. If this is unavoidable, any exposed roots should be watered and covered with hessian until the area is backfilled with soil.</p> <p>No machinery will be permitted within the TPZ at any time unless ground protection is installed and agreed with the arboricultural consultant beforehand. The requirement for temporary ground protection must be installed in accordance with Section 6.2.3.3 of BS 5837:2012.</p> <p>Prior to drainage or service installation works commencing within RPAs, the arboricultural consultant will be contacted, and a date agreed for a site meeting to run through the proposed methods of work on site with the site manager and relevant site operatives.</p>
<p>General Principals to Avoid Damage to Trees</p>	<p>All tree works will be carried out in accordance with the recommendations given in BS 3998 (2010).</p> <p>No fires will be permitted within 20m of the crown of any tree.</p> <p>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.</p> <p>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.</p> <p>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.</p>
<p>Landscape Operations</p>	<p>All landscape operations within the protected area will be carried out by hand, using hand tools only.</p> <p>No dumping of spoil or rubbish, parking of vehicles or plant, storage of materials or temporary accommodation will be undertaken within the TPZs.</p> <p>Soil levels will not be increased or reduced within the RPAs of trees without prior agreement from the arboricultural consultant.</p>

Appendix A - Schedule

Document	Reference	Revision
Tree Schedule	191203-PD-10	-
Tree Work Schedule	191203-PD-12	-

Appendix B - Plans

Document	Reference	Revision
Tree Survey Plan	191203-P-10	A
Tree Removals Plan	191203-P-11	A
Tree Protection Plan	191203-P-12	A