

ST ANNE'S COURT REGENERATION PROJECT

Part 8: Landscape Report

Place Making Built **Environment**

Client Date



Brady Shipman Martin Built. Environment.

Dublin City Council December 2023

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INTRODUCTION 1

Dublin City Council are progressing with the regeneration of St. Anne's Court, an 'older persons' residential complex in Raheny, Dublin 5.

The residential complex comprises 5 two-storey blocks set within a roughly square site enclosed by All Saints Park Road to the west, north and east, and by a local access lane to the south.

2 BACKGROUND LANDSCAPE CONTEXT

St. Anne's Court is set within what is today an outer city mid-density residential suburb of Dublin City. While originally open farmland (refer to Figure 2.1) the area began to change with the establishment of the Guinness Family estate at St. Anne's (also St. Ann's) in the 19th Century. The designed landscape included the main house, associated outbuildings and follies, extensive plantings, gardens, formal tree-lined walks and tree-lined entrance avenues, formal entrances as well as other demesne style features. (Refer to Figure 2.2).

The estate included an estate entrance and a formal tree-lined avenue / walk and leading south from All Saints' Church - and today St. Anne's Court lies between the remnants of these two demesne features (refer to Figures 2.2 to 2.5).

As previously noted extensive areas around Raheny and surrounding areas developed as mid-density residential suburbs through the 20th Century (refer to Figure 2.3 to 2.5). During this time the Guinness estate was sold to Dublin Corporation in 1939 and some of the estate lands including those around the area of St. Anne's Court were developed for new residential housing. The main estate house was damaged by fire in 1943 and eventually demolished in 1968, with the remaining 97 hectares of the core estate forming what is today St. Anne's Park - the second largest municipal park in Dublin.

St. Anne's Court and adjoining developments are actually located between remnants elements of the former estate: namely the tree-lined avenue / walk to All Saints' Church and the northern tree-lined entrance avenue to the estate (refer to Figure 2.3 to 2.5). The tree-lined avenue / walk remains a prominent feature in the urban landscape located east of St. Anne's Court, while the former tree-lined entrance avenue - located to the west of St. Anne's Court is now a public park (All Saints' Park), with Rectory Park adjoining All Saints' Church to the north.

The following figures show the development of the area surrounding St. Anne's Court through the 19th, 20th and early 21st centuries:

- Figure 2.1: 6" Edition OSi Mapping (c.1843)
- Figure 2.2: 25" Edition OSi Mapping (c.1907)
- Figure 2.3: OSi Aerial Photography (c.1995)
- Figure 2.4: First Edition OSi Photography (c.2005)
- Figure 2.5: First Edition OSi Photography (c.2013)

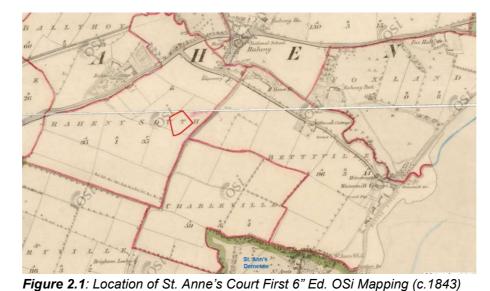
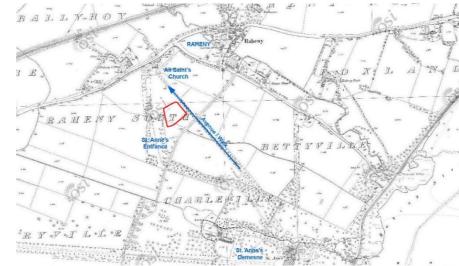




Figure 2.4: Location of St. Anne's Court on c.2005 OSi Aerial Photography



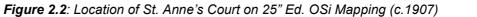




Figure 2.3: Location of St. Anne's Court on c. 1995 OSi Aerial Photography



St. Anne's Court, Raheny, D5

Figure 2.5: Location of St. Anne's Court on c.2013 OSi Aerial Photography

3 LANDSCAPE SETTING OF ST. ANNE'S COURT

3.1 GENERAL

St. Anne's Court comprises 5 two-storey residential blocks set within a landscape of grass / lawn bounded and punctuated with early-mature trees. Trees are also a significant feature of the wider surrounds, with the remnants of a mature tree-lined avenue / walk between the former St Anne's House and All Saint's Church to the immediate east, and a former tree-lined entrance avenue to St. Anne's Demesne to the immediate west (now All Saints' Park) – refer to Figure 3.1.

The trees within these historic landscape features include prominent specimens of mature evergreen oak (*Quercus ilex*) and Austrian pine (*Pinus nigra*) dating from the time of the development of the Guinness estate at St. Anne's (refer to Plates 1 & 2).

By contrast, the trees at St. Anne's Court were planted around or shortly after the construction of the blocks and as such are in the order of 40 years + of age (refer to Plates 3 to 14 generally).

The trees can generally be described as follows:

- A mixed planting of maple (*Acer* sps.)and lime trees (*Tilia* sps.) in wide grass areas along the northern and western boundaries of the site;
- A fine line of closely planted lime trees (*Tilia* sps.) planted inside the wall on the southern boundary of the site;
- A mix of species located centrally within the development, but including:
 - Two prominent wide-spreading evergreen oak trees (Quercus ilex), and
 - □ A number of prominent tall birch tree (*Betula pendula*).
- There are a number of weeping birch specimens (*Betula pendula* 'Youngii') in the development; and
- There are also a small number of less valuable trees (e.g. Cordyline australis) within the site.

The trees add character and a sense of maturity to the site. However, they have established over a reasonable time in a largely unconstrained environment and as such are well-developed with large root systems. As they continue to mature many are likely to impact on the existing residential units, footpaths and services. An example of the strong tree growth on the site can be seen be comparing the extent of tree canopy cover in the 2008 and 2020 aerial photographs presented in Figures 3.2 and 3.3.

This means that any new development – outside of the footprint of the existing blocks will likely have a significant impact on trees locally.

3.2 TREE SURVEY

A preliminary tree survey has been carried out by Joe McConville and Associates, Arboricultural Consultants. The tree survey report, which has been prepared in advance of receipt of the topographic survey of the site, is included at Appendix 1 to this report. Refer also to Brady Shipman Martin drawing BSM-XX-ZZ-DR-L-100-P1

The survey identifies 75 trees on the site. In terms of overall condition four of the trees (6738, a birch; 6776, an evergreen oak; 6780; a lime; and Brady Shipman Martin 6968_2023-12-20_RP03_03

6781 a birch) are in good condition, while a further four are in poor condition (6750, 6752, 6789, three Norway maples; and 6783, a birch). The remaining 67 trees are in fair condition.

Sixty-three of trees are graded as Category B: trees of a moderate quality and value in such a condition as to be able to make a significant contribution. The remaining twelve trees are Category C: trees of a low quality and value currently in adequate condition to remain until new planting could be established. There are no trees on site assessed as being of Category A: trees of a high quality and value in such a condition as to be able to make a substantial contribution. Likewise no trees are of Category U: trees in such a condition that any existing value would be lost within 10 years and which should be in the correct context, be removed for reasons of sound arboricultural management.

The majority of the trees (73%) are of large growing, long-lived species, including lime (33no.), Norway maple (18no.); sycamore (2no.) and evergreen oak (2no.), many of which even in the current arrangement will require increasing management, pruning and / or selective removal so as to avoid conflict with the existing buildings (both physical and environmental (e.g. light)).

The following figures illustrate the more immediate context and setting of St. Anne's Court together with photographs of the landscape setting and trees on and around the development.

- Figure 3.1: General Context (Google Earth 2020)
- Figure 3.2: St. Anne's Court (Google Earth 2008)
- Figure 3.3: St. Anne's Court (Google Earth 2020)
- General Photographs of landscape setting / existing trees.



Figure 3.1: Context of St. Anne's Court in 2008 Google Earth Photography



Figure 3.2: St. Anne's Co Photography



Figure 3.3: St. Anne's Co Photography

Figure 3.2: St. Anne's Court (S.A.C.) in 2008 Google Earth Aerial

Figure 3.3: St. Anne's Court (S.A.C.) in 2020 Google Earth Aerial

GENERAL PHOTOGRAPHS OF LANDSCAPE / TREES

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Plate 1: St. Anne's Avenue/Walk Plate 2: St. Anne's Avenue/Walk North South



Plate 4: Three Evergreen Oak trees on small open space south of St. Anne's Court





Plate 3: All Saints' Park (former estate entrance drive)



Plate 5: Line of lime trees on lands north of St. Anne's Court



Anne's Court

Plate 6: St. Anne's Court Entrance Plate 7: St. Anne's Court Entrance

Plate 8: Street tree and weeping birch tree on eastern side of St. **Plate 9**: Standard and weeping birch trees on eastern side of St. Anne's Court



Plate 10:Line of lime trees on
southern side of St. Anne's CourtPlate 11:Line of lime trees on
southern side of St. Anne's Court



Plate 13: View of southern Evergreen Oak within St. Anne's Court



Plate 12: View of trees within St. Anne's Court (from entrance road)



Plate 14: View of northern Evergreen Oak within St. Anne's Court

5 PROPOSED DEVELOPMENT AND LANDSCAPE DESIGN

5.1 OVERVIEW

The proposed development provides for the regeneration of residential use at St. Anne's Court requiring the removal of the existing 5 separate blocks and their replacement with a connected 3 and 4-storey residential development defining the edge of the block / site and enclosing a central courtyard landscape.

The proposed development provides for primary access along the southwest – north-east axis with sub-ordinate accesses at the north-west and south-east corners. The proposed redevelopment will necessitate the removal of the majority of existing trees on the site – through some can be retained within the proposed internal courtyard.

Refer to Architect's Design Report for details on the architectural approach, concept, and layout.

5.2 LANDSCAPE DESIGN APPROACH

The overall concept for the landscape is to provide for a high quality, safe, social and interactive environment for residents in the form of a large central landscape courtyard. Private entrance terraces and small gardens front the surrounding public footpaths and roadside verge. The development also includes for the provision of green roofs across the development.

Reference Images for the design approach are provided in Section 5.5 of this report. Actual Project Landscape Detail Images are also provided in Section 5.7 together with Planting Palette Images as Section 5.9 of the report.

The key design principles for the landscape approach are to:

- retain where possible existing trees to maintain and provide a sense of maturity and sense of place;
- provide for a significant recreational amenity space in the form of a central landscape courtyard for the use of residents.
- provide an attractive interface between the public realm and the entry points and accesses to units within the development;
- relate to and incorporate as appropriate, the surrounding streets, lane to south and adjoining open / landscape spaces;
- use high quality, sustainable hard and soft landscape materials throughout,
- provide for landscape interventions for sustainable urban drainage system (SuDS) in a manner that is integrated with and complementary to the landscape proposals; and
- provide for a diverse palette of planting materials, including for planting of a variety of new trees. New tree planting will have regard to '*The Right Tree in the Right Place*' (Tree Council of Ireland).

The current landscape design is illustrated on drawings:

- 6968-BSM-ZZ-DR-00-L-100 (Ground Level)
- 6968-BSM-ZZ-DR-00-L-101 (Ground with Roof Plan Level)

An extract of these drawings are also included in this report at Figure 5.5 and Figure 5.6.

5.3 CENTRAL LANDSCAPE COURTYARD

The central courtyard is the core landscape element for the scheme. As well as retaining an aspect of the existing tree-planted landscape, the enclosure of the space provides for a safe, sheltered and social amenity for the residents (refer to Figures 5.1 and 5.5).

The landscape is designed across a strong south-west to north-east axis which forms the primarily access and circulation route to and within the space. The pathways are curving thereby avoiding sharp changes in direction and vary in width so as encourage rest and social interaction. An area for seating, activity and social engagement is provided within the northern section of the courtyard – an area which will have best advantage for sunlight (No.6). Raised planters suitable for the growing of plants and vegetables by the residents are also provided for (No.10).

A large central grass area (No.4) is retained as a broadly level space, capable of providing of activities such as lawn bowls, croquet, etc. Subtle level changes are introduced approaching the interface of the courtyard edges and the proposed buildings. This provides for somewhat undulating areas with planting for a sense of privacy interspersed with grass pathways (No.12) and lower areas, capable of providing infiltration / detention for surface water runoff (No.5).

The landscape proposals include for the provision of surface water basins (No. 5), which while usually dry, will in heavy rain allow for detention / infiltration of surface water from the roof of the buildings. These areas are planted with pollinator friendly species for enhanced biodiversity.



Figure 5.1: Extract of Masterplan showing landscape approach for central communal courtyard

The landscape proposals, including routing of pathways and changes of levels are set out to retain and incorporate existing trees (No.2) wherever possible, and additional flowering and small tree planting appropriate to the scale of the courtyard setting are also proposed.

5.4 GROUND FLOOR / STREET-SIDE LANDSCAPE AREAS

Ground floor residential units have private / semi-private amenity space facing the central courtyard and garden space facing the street. The approach to these spaces maintains the rhythm of the landscape approach and planting in the courtyard with visual connection through the unit to the street (refer to Figures 5.2 and 5.3).

The private / semi-private amenity and garden spaces allows for seating within a planted setting, for small-scale growing of garden herbs and floors and for buffer between private and more public areas (refer to Figure 5.4 and reference images).



Figure 5.2: Approach to areas.

Figure 5.2: Approach to landscape rhythm from courtyard to private



Figure 5.3: Approach to private front garden areas.



Figure 5.4: Approach to layout of private / semi-private amenity and garden areas at ground floor level.

Image 1: Example of courtyard *Image 2*: Courtyard landscape with curving footpaths and diverse with diverse planting and layered planting

REFERENCE IMAGES

5.5

integrated seating



Image 3: Example of social spaces in courtyard with the incorporation of existing mature trees in a new landscape setting



Image 4: Example of curving integrated access / circulation pathways within varied landscape courtyard







biodiversity planting / in open space in residential development



Image 8: Example of existing low boundary walls in surrounding St. Annes' area



Image 9: Example of contemporary low feature boundary walls

5.6 TREE SURVEY / ARBORIULUTRAL ASSESSMENT

A survey of the existing trees was carried out by Joe McConville & Associates, Arborists. A copy of the survey is included at Appendix 1 to this report. (See also Section 3.2 of this report).

The survey identified and assessed 75no. individual trees - - refer to Figure 5.7.

The vast majority of the trees are assessed as being early mature (EM). There are no veteran trees (Category V) or high quality trees (Category A) on the site.

Sixty-three (or 84%) of the trees are categorised as being moderate quality (Category B) with the remaining 12no. (16%) being low quality (Category B).

In terms of species, the trees are mainly lime (*Tilia cordata*), Norway maple (*Acer platanoides*), with some common birch (*Betula pendula*), weeping birch (*Betula pendula Youngii*), sycamore (*Acer Pseudoplatanus*), and whitebeam (*Sorbus aria*).

There are 2 prominent evergreen oak trees (*Quercus ilex*) within the site. One is Category B and the second is Category C, however, both trees are large and are continuing to grow, and already impact negatively on the existing residential units.

The majority of the trees are early mature and will continue to develop and expand. The roots and buttressing of trees in the narrow roadside verge will increasingly lift and crack the adjoining footpath and extend into and raise landscape areas within the site.

The proposed development incorporates the retention of 43 (57.5%) of the existing trees, within the central courtyard, along the southern boundary, and at the north-east corner of the site – refer to Figure 5.8.

The proposed development will require the removal of 32 trees, comprising 25no. Category B (moderate) and 7no. (poor) trees – refer to Figure 5.8.

In addition to the trees removed, 27no. trees, comprising 19no. lime trees along the southern boundary and 5no. lime and 2 sycamore at the northeast corner of the site, will require some crown lifting, crown reduction and pruning to allow for the construction of the proposed development – refer to Figure 5.8. The lime trees on the southern boundary were previously pruned to reduce crown growth at some stage in the past.

LANDSCAPE DETAIL IMAGES 5.7

The following proposal images are representative of landscape finishes and furniture for the scheme.

Surfacing: Main Courtyard Footpaths



Porous resin bound surfacing, comfortable and safe underfoot with good slip resistance and suitable for easy access for all

Surfacing: Entrance Areas to Courtyard (4 Corners)



Polished concrete with exposed aggregate finish

Surfacing: Terrace / Private Area Paving



Large format permeable concrete paving in 3 colours (Slate, Silver Granite & Black Granite) and 4 sizes (340x260mm; 410x260mm; 460x260mm; and 390x260mm)

Landscape Furniture: Allotment Planters



Raised planters finished in hot-dipped galvanized and powder coated steel (variety of colours) suitable for plant / vegetable growing

Landscape Furniture: Social Seating at Allotment Area



Seating unit finished in hot-dipped galvanized and powder coated steel (variety of colours) and linseed-oil proofed Nordic pine

Landscape Furniture: Main Courtyard Seating Area





St. Anne's Court, Raheny, D5

Landscape Report

exposed stone aggregate base. Curving units of varying lengths.

Landscape Furniture: Occasional Courtyard Seating



Individual seat units finished in hot-dipped galvanized and powder coated steel (variety of colours) and linseed-oil proofed Nordic pine



Figure 5.5: Landscape Masterplan – Ground Floor Plan

St. Anne's Court, Raheny, D5



Figure 5.6: Landscape Masterplan – Ground Floor with Roof Level Plan

St. Anne's Court, Raheny, D5



Figure 5.7: Tree Survey Plan

St. Anne's Court, Raheny, D5



Figure 5.8: Arboricultural Impact Drawing

St. Anne's Court, Raheny, D5 Landscape Report

LEGEND

Trees to be removed

Trees to be retained

Trees to be retained and pruned

5.8 PLANTING PALETTE





Front gardens trees: Amelanchier lamarckii (multistem)



Courtyard trees: Prunus padus



Hedge: Fagus sylvatica



Courtyard feaure trees: Magnolia stellata

Pollinator plants



Rudbeckia fulgida



Knautia macedonica



Echinacea purpurea

Kniphofia triangularis





Lavandula angustifolia









Calamintha 'Blue Cloud'





Luzula nivea



Veronicastrum virginicum Album'





Stipa tenuissima



Anthemis sauce hollandaise

APPENDIX 1: TREE SURVEY / ARBORICULTURAL ASSESSMENT

Arboricultural Assessment

(Tree survey)

To assess the trees

On the site at

St. Anne's Court Raheny Dublin 5

December 2022

J M McCONVILLE + ASSOCIATES Arboricultural Consultants

Grange Dunboyne Co. Meath

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PART ONE – ARBORICULTURAL ASSESSMENT Introduction

The purpose of this report is to set out the findings following the inspection of trees on site at, St. Anne's Court, Raheny and set out their condition. The survey work was undertaken between the 16th November and the 5th December 2022 by the undersigned a qualified arboricultural consultant. The term of reference for the report is part of a planning application on the site. The following categories have been used within the tree report tables and, where appropriate, the criterion used to define each category is defined.

- Tree No. : refers to the identification tag attached to a tree [also identified as such on the accompanying survey drawings]
- **Species** : refers to the common and scientific name given to the tree.
- Stem diameter: refers to the diameter of the tree stem in millimetres, as measured at 1.5 metres above ground level and above the root flare for multi-stemmed trees.
- Height : refers to the total height of the tree in metres. (Heights measured with a TruPluse[®] 200)
- Crown spread : refers to the width of the crown in metres, measured at each cardinal point on the compass. [Dimensions marked with # are estimates as per 4.4.2.6 c) BS 5837:2012]
- Condition : refers to the physiological condition of the tree as a whole described as: Good – Full healthy canopy but possibly including some suppressed or damaged branches Fair – Slightly reduced leaf cover, minor dead wood or isolated major dead wood
 Poor – Overall sparse leafing or extensive dead wood
- Age An estimation of the age of the tree described as;
 V- Veteran, trees, which by recognized criteria, show features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to individuals surviving beyond the typical age range for the species concerned.
 OM Over Mature, trees reaching the end of their life, in decline and senescent.
 M Mature, fully grown, with only small annual increments.
 EM Early Mature, one-third to two thirds of total life expired.
 Y Young, recent planting, with up to one third of total life expired.

1

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• **Remarks**: Descriptive comments about the health (physiological) or form (structural) of the tree, its environment or external influences and may include preliminary management recommendations.

Category grade

- **U** -Those trees in such a condition that any existing value would be lost within 10years and which should be in the correct context, be removed for reasons of sound arboricultural management.
- A –Those trees of a high quality and value in such a condition as to be able to make a substantial contribution.
- **B** Those trees of a moderate quality and value in such a condition as to be able to make a significant contribution.
- C- Those trees of a low quality and value currently inadequate condition to remain until new planting could be established, or young trees with a stem diameter below 150mm
- Estimated remaining contribution in years (ERC): Expressed as less than 10, 10+, 20+, more than 40

Glossary of terms used:

Basal: The base of the tree close to the ground, (basal shoots are those emanating from the base).

Crown (canopy): The leaves and branches of a tree.

Co-dominant: Stems or branches of near equal diameter, often weakly attached.

Decay: Degradation of wood by fungi and/or bacteria.

Defect: Any feature of a tree which detracts from the uniform distribution of mechanical stress, or which makes the tree mechanically unsuited to its environment.

Dieback: The death of part of a plant, usually starting from a distal point and often progressing in stages.

Epicormic: Pertaining to shoots or roots, which are initiated on mature woody stems; shoots may form in this way from dormant buds or they may be adventitious.

Dysphotic zone: A zone within the canopy which does not have enough light to carry out photosynthesis.

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Included Union: bark of adjacent parts of a tree (usually in forks, acutely angled branches or basal flutes), which is in face-to-face contact, so that there is weakness due to the lack of a woody union.

Lean: Departure of the trunk from the vertical.

Scaffold limbs: The branches, which form the main framework of the crown of a tree with a decurrent growth habit.

Shoot: A shoot derived from a dormant or adventitious bud on the main stem or branch.

Stub/peg: A short section of a branch, which may have, been left after previous pruning or storm damage.

Wound: Injuries on the surface of a trunk or branch.

Full: A canopy, which extends to the ground or nearly to the ground

Natural suppressed deadwood: Deadwood in conifers, which died as the crown height extended and the lower branch no longer have a function in the production of foliage.

Pathogens: Fungal and /or bacterial infections, which degrade the wood and render trees liable to failure

Wound wood: Wood with atypical anatomical features, formed in the vicinity of a wound or the occluding tissue around a wound

Hazard Limb: An upwardly curved part in which strong internal stresses may occur, cause wood to crack

Burr: Woody protuberances, especially those derived from the mass proliferation of adventitious buds.

Root protection area (RPA): layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority. For single stem trees, the RPA should be calculated as an area equivalent to a circle with a radius 12 times the stem diameter.

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Survey Results

Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade	RPA radius (m)
6715	Lime Tilia cordata	11.1	500	N2.5 S4.0 E2.0 W4.0	Fair	EM	40+	A tree with a one sided crown, it has dense ivy cover. It has a sub-dominant lateral branch. It has epicormic sprouts.	В	6.0
6716	Lime Tilia cordata	13.5	400	N4.5 S4.0 E2.0 W3.0	Fair	EM	40+	This trees stem bifurcates, it has been high pruned and has epicormic shoots at the pruning points.	В	4.8
6717	Lime Tilia cordata	13.6	300	N4.5 S3.5 E3.0 W2.0	Fair	EM	40+	This trees crown is formed by its main stem and sub dominant lateral. It has epicormic shoots at the pruning points.	В	3.6
6718	Lime Tilia cordata	13.5	300	N4.5 S3.0 E2.0 W2.0	Fair	EM	40+	This trees crown is formed by its main stem and sub dominant lateral. It has epicormic shoots at the pruning points.	В	3.6
6719	Lime Tilia cordata	13.4	300	N4.0 S3.5 E2.0 W2.0	Fair	EM	40+	A tree with an open canopy with multiple scaffolds it has a small cavity at the stem crown union.	В	3.6

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Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade	RPA radius (m)
6720	Lime Tilia cordata	13.5	350	N3.5 S4.0 E1.5 W1.5	Fair	EM	40+	A tree with multiple scaffolds, it has moderate ivy cover. It has epicormic shoots at the pruning points.	В	4.2
6721	Lime Tilia cordata	13.3	300	N3.5 S3.5 E1.5 W1.0	Fair	EM	40+	This trees crown is formed by its main stem and sub dominant lateral. It has epicormic shoots at the pruning points.	В	3.6
6722	Lime Tilia cordata	13.5	400	N4.5 S4.0 E1.5 W1.5	Fair	EM	40+	Ivy growth has been killed off, it has multiple scaffolds. It has a lateral over hanging the laneway which has a tight union.	В	4.8
6723	Lime Tilia cordata	13.5	300	N5.0 S3.5 E2.0 W1.5	Fair	EM	40+	This trees stem bifurcates, it has multiple scaffold branches with weak unions. It has moderate ivy cover.	В	3.6
6724	Lime Tilia cordata	14.1	350	N4.0 S3.0 E3.0 W1.0	Fair	EM	40+	This trees crown is formed by multiple scaffold branches, it is suppressed by tree 6773. Ivy growth has been killed off. It has basal suckers.	В	4.2



Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade	RPA radius (m)
6725	Lime Tilia cordata	12.5	400	N4.5 S4.0 E2.0 W3.0	Fair	EM	40+	This tree has been high pruned, it has multiple scaffold branches, it epicormic shoots at the pruning points, which have stubs.	В	4.8
6726	Lime Tilia cordata	12.3	400	N3.5 S4.0 E5.0 W1.0	Fair	EM	40+	This trees crown is formed by its main stem and sub-dominant lateral branch, it has minor deadwood and a one sided crown being suppressed by tree 6725.	В	4.8
6727	Lime Tilia cordata	12.8	350	N4.5 S3.5 E1.5 W4.0	Fair	EM	40+	A tree with multiple scaffold branches forming its canopy, it has an open canopy. It has epicormic shoots at the pruning points.	В	4.2
6728	Lime Tilia cordata	13.5	300	N4.5 S3.5 E2.0 W2.0	Fair	EM	40+	This trees crown is formed by its main stem and sub-dominant lateral branch. It has epicormic shoots at the pruning points.	В	3.6
6729	Lime Tilia cordata	13.4	300	N4.0 S3.5 E1.5 W1.0	Fair	EM	40+	A tree with multiple scaffold branches forming its canopy, it has an open canopy. It has epicormic shoots at the pruning points.	В	3.6



Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade	RPA radius (m)
6730	Lime Tilia cordata	13.7	300	N5.0 S4.0 E2.0 W2.0	Fair	EM	40+	A tree with multiple scaffold branches forming its canopy, it has an open canopy. It has epicormic shoots at the pruning points.	В	3.6
6731	Lime Tilia cordata	13.4	350	N4.0 S3.0 E4.5 W2.0	Fair	EM	40+	A tree with multiple scaffold branches forming its canopy, it has an open canopy. It has epicormic shoots at the pruning points.	В	4.2
6732	Whitebeam Sorbus aria	10.0	250	N4.0 S3.0 E3.0 W3.5	Fair	Μ	20+	In a road side verge, it has a small epicormic growth on its stem. It has multiple scaffold branches. It has been high pruned and has a poorly form crown.	В	3.0
6733	Whitebeam Sorbus aria	9.8	400	N4.5 S5.0 E4.0 W5.0	Fair	Μ	20+	A tree with a wide crown, it multiple scaffolds and reiterative suckers. It has been high pruned. It has basal suckers. It is also growing in the verge.	В	4.8
6734	Young's Birch Betula pendula youngii	4.5	160	N3.0 S3.0 E3.0 W1.5	Fair	EM	20+	Growing in a narrow grass strip. It has been high pruned leaving small stubs and minor deadwood. The pruning has spoilt its pendulous form.	С	1.92



Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade	RPA radius (m)
6735	Young's Birch Betula pendula youngii	4.5	190	N2.5 S3.5 E2.0 W2.0	Fair	EM	20+	Growing in a narrow grass strip. It has been high pruned leaving small stubs and minor deadwood. The pruning has spoilt its pendulous form.	С	2.28
6736	Young's Birch Betula pendula youngii	7.0	250	N4.0 S4.0 E3.0 W2.0	Fair	EM	20+	In a grass area by a lamp post the crown has been raised and thinned, leaving some stubs. The pruning has spoilt its pendulous form	В	3.0
6737	Young's Birch Betula pendula youngii	5.5	250	N2.5 S3.0 E4.0 W3.0	Fair	EM	20+	In the grass area, this tree has very dense ivy cover. It has been high pruned. The pruning has spoilt its pendulous form	В	3.0
6738	Birch Betula pendula	13.4	300	N2.5 S2.5 E3.0 W3.0	Good	EM	20+	A tree with a single stem, it has been high pruned, it has very minor deadwood and an infection of witches broom.	В	3.6
6739	Sycamore Acer pseudoplatanus	11.0	250	N3 S3.5 E3.0 W4.0	Fair	EM	40+	A road side tree, it has a crown formed by its main stem and sub-dominant lateral. It has been high pruned.	В	3.0



Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade	RPA radius (m)
6740	Sycamore Acer pseudoplatanus	10.0	250	N3.5 S3.0 E4.5 W3.5	Fair	EM	40+	A road side tree, it has a crown formed by its main stem and sub-dominant lateral. It has been high pruned.	В	3.0
6741	Lime Tilia cordata	12.5	300	N5.0 S4.0 E5.0 W2.0	Fair	EM	40+	This trees crown is formed by multiple scaffold branches, it has been high pruned and has epicormic shoots at the pruning points.	В	3.6
6742	Lime Tilia cordata	12.7	300	N4.0 S4.5 E2.0 W2.0	Fair	EM	40+	This trees crown is formed by multiple scaffold branches, it has been high pruned and has epicormic shoots at the pruning points. Basal shoots have been cut back.	В	3.6
6743	Lime Tilia cordata	13.3	250	N5.0 S4.5 E3.0 W3.0	Fair	EM	40+	This trees crown is formed by multiple scaffold branches, it has been high pruned and has epicormic shoots at the pruning points.	В	3.0
6744	Lime Tilia cordata	12.8	300	N4.5 S4.0 E2.0 W2.0	Fair	EM	40+	This trees crown is formed by multiple scaffold branches, it has been high pruned leaving stubs with a few epicormic shoots.	В	3.6



Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade	RPA radius (m)
6745	Lime Tilia cordata	11.5	400	N4.5 S4.5 E3.0 W5.5	Fair	EM	40+	This tree has a slightly leaning stem, which bifurcates, it has multiple scaffold branches forming an open crown. It has been high pruned and has basal suckers.	В	4.8
6746	Lime Tilia euchlora	13.1	300	N5.5 S2.5 E5.0 W5.5	Fair	EM	40+	A street tree, it has tight unions at the base of the multiple scaffolds. It has a one sided crown.	В	3.6
6747	Norway maple Acer platanoides	13.8	400	N5.0 S5.0 E5.0 W2.5	Fair	EM	40+	In a grass area, this tree has multiple scaffold branches form its canopy. It has been high pruned leaving stubs. And wounds with good wound wood. It has a one sided crown.	В	4.8
6748	Norway maple Acer platanoides	14.9	400	N5.0 S5.5 E3.0 W3.0	Fair	EM	40+	A tree with co-dominant leaders and multiple scaffold branches, it has stubs after high pruning and has some deadwood.	В	4.9
6749	Norway maple Acer platanoides	13.6	350	N4.5 S5.0 E2.0 W3.5	Fair	EM	40+	This trees crown is formed by multiple scaffold branches, it is suppressed tree 6748. It has very minor deadwood.	В	4.2



Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade	RPA radius (m)
6750	Norway maple Acer platanoides	14.6	350	N5.0 S2.0 E2.0 W4.0	Poor	EM	10+	A tree with a leaning stem which bifurcates. It has been high pruned and has poor form.	С	4.2
6751	Norway maple Acer platanoides	13.6	400	N4.0 S5.0 E3.0 W4.5	Fair	EM	40+	A tree with a bifurcates stem and multiple scaffold branches, it has been high pruned leaving stubs, it has some localized die back.	В	4.8
6752	Norway maple Acer platanoides	8.8	180	N2.0 S1.0 E2.0 W1.0	Poor	EM	10+	A weak specimen, with poor form, it has basal suckers, It has been high pruned and has some large diameter deadwood.	С	2.16
6753	Whitebeam Sorbus aria	8.3	250	N4.0 S3.0 E4.0 W3.5	Fair	EM	20+	A street tree, it has a leaning stem, it has basal abrasions. It has a wide crown with a dense branch structure with very minor deadwood.	В	3.0
6754	Norway maple Acer platanoides	12.8	500	N4.0 S4.5 E5.0 W4.0	Fair	Μ	40+	Located in the grass area, it has a crown formed by multiple scaffold branches, it has been high pruned.	В	6.0



Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade	RPA radius (m)
6755	Norway maple Acer platanoides	13.1	350	N2.5 S3.0 E2.5 W4.0	Fair	EM	40+	It has a crown formed by multiple scaffold branches, it has been high pruned. It has epicormic shoots at old pruning points. The crown has some deadwood and crown die back.	В	4.2
6756	Norway maple Acer platanoides	15.2	400	N3.0 S4.0 E2.0 W5.0	Fair	EM	40+	It has a crown formed by multiple scaffold branches, it has been high pruned. It has epicormic shoots at old pruning points. The crown has some deadwood.	В	4.8
6757	Norway maple Acer platanoides	14.2	400	N4.0 S3.5 E4.5 W3.0	Fair	EM	40+	It has a crown formed by multiple scaffold branches, it has been high pruned. It has epicormic shoots at old pruning points. The crown has some deadwood.	В	4.8
6758	Norway maple Acer platanoides	13.1	350	N3.0 S3.0 E2.5 W3.0	Fair	EM	40+	A tree with poor form, it is suppressed by tree 6757. It has epicormic shoots at old pruning points. The crown has some deadwood.	В	4.2
6759	Lime Tilia cordata	15.5	350	N5.0 S6.0 E5.0 W4.0	Fair	EM	40+	A tree with co-dominant stems and a sub domain lateral branch with tight unions forming its canopy. It has a dense branch structure.	В	4.2



Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks		RPA radius (m)
6760	Lime Tilia cordata	14.5	300	N4.5 S4.5 E2.0 W3.0	Fair	EM	40+	This trees crown is formed by multiple scaffold branches, it has dense branch structure. It has been high pruned. It has a distorted stem the roots are lifting the pavement slab.	В	3.6
6761	Lime Tilia cordata	14.5	300	N4.5 S5.0 E3.0 W5.0	Fair	EM	40+	This trees crown is formed by its main stem and a sub-dominant lateral branch. It has a dense branch structure. It has been high pruned.	В	3.6
6762	Lime Tilia cordata	14.5	350	N5.0 S3.0 E3.5 W6.0	Fair	EM	40+	This trees crown is formed by multiple scaffold branches, it has been pruned leaving stubs with epicormic shoots. It has a dense branch structure. Surface roots have suffered abrasions. There is a crack in the adjoining foot path.	В	4.2
6763	Lime Tilia cordata	14.8	400	N5.0 S6.0 E4.0 W6.0	Fair	EM	40+	This tree has co-dominant leaders, it has a dense branch structure. It has surface roots with abrasions. It has low vigour.		4.8
6764	Lime Tilia platyphyllos	12.2	300	N3.0 S4.0 E2.5 W4.0	Fair	EM	40+	This trees canopy is formed by its main stem and a sub-dominant lateral branch. It is suppressed by the adjoining Norway maple. It has basal suckers and surface roots with abrasions.	В	3.6



Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade	RPA radius (m)
6765	Norway maple Acer platanoides	13.1	400	N4.0 S3.0 E3.0 W4.0	Fair	EM	40+	In a grass area, it has basal roots with abrasions, some deadwood in its crown. It has been high pruned leaving epicormic shoots at pruning points. It has minor scale insect infestation.	В	4.8
6766	Norway maple Acer platanoides	16.0	400	N3.0 S3.0 E4.0 W3.5	Fair	EM	40+	It has been high pruned leaving epicormic shoots at pruning points. It has some minor deadwood.	В	4.8
6767	Norway maple Acer platanoides	15.0	400	N3.0 S4.0 E3.5 W4.0	Fair	EM	40+	This trees crown is formed by co-dominant stems and a lateral branch. It has a dense branch structure, It has been high pruned. It has minor scale insect infestation	В	4.8
6768	Norway maple Acer platanoides	14.5	500	N4.0 S5.5 E3.5 W3.5	Fair	EM	40+	This tree has been high pruned, leaving a large wound, It has multiple scaffolds. It has some deadwood and stubs with epicormic shoots. It has abrasions on surface roots.	В	6.0
6769	Lime Tilia cordata	15.2	400	N5.0 S4.5 E3.0 W4.5	Fair	EM	40+	It has a crown formed by multiple scaffold branches, it has been high pruned. It has epicormic shoots at old pruning points. It has moderate ivy and basal suckers.	В	4.8



Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade	RPA radius (m)
6770	Lime Tilia cordata	13.7	400	N5.0 S4.0 E2.0 W3.0	Fair	EM	40+	It has a crown formed by multiple scaffold branches, it has been high pruned. It has epicormic shoots at old pruning points. It has moderate ivy and basal suckers.	В	4.8
6771	Lime Tilia cordata	13.3	400	N5.0 S4.0 E5.5 W2.0	Fair	EM	40+	It has a crown formed by multiple scaffold branches, it has been high pruned. It has epicormic shoots at old pruning points. It has moderate ivy and basal suckers.	В	4.8
6772	Birch Betula pendula	12.2	200	N3.0 S3.5 E3.0 W2.0	Fair	Μ	20+	The next four trees are in a raised planter. Japanese Knotweed was noted in the planter. This tree has a single stem, it has high crown having been prune up. It has some deadwood.	В	2.4
6773	Birch Betula pendula	12.3	200/1 20	N3.5 S2.0 E3.5 W4.0	Fair	EM	20+	This tree has a sub-dominant stem at its base, it has a dense branch structure.	С	2.6
6774	Birch Betula pendula	13.1	250	N3.5 S1.0 E2.0 W1.5	Fair	EM	20+	This tree has been pruned, it has single stem with a narrow crown.	С	3.0



Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade	RPA radius (m)
6775	Birch Betula pendula	11.3	300	N4.0 S4.5 E4.5 W4.5	Fair	Μ	20+	A tree with a single stem, it has an open canopy with multiple scaffolds. It has been thinned leaving stubs.	В	3.6
6776	Holm Oak Quercus ilex	11.1	300/ 300/ 250/ 300/ 200	N4.5 S5.0 E3.5 W5.5	Good	EM	40+	A tree with multiple stems, it has a dense well-formed canopy. It has reasonable vigour.	В	7.32
6777	Holm Oak Quercus ilex	10.8	200/ 200/ 300/ 300/ 400	N6.0 S5.5 E5.5 W8.0	Fair	EM	20+	A tree with multiple stems, it has poor form. It has suffered branch breakage. One side has been pruned, there is dense vigorous epicormic shoots. There are overhead wires routed through its canopy. It has some potentially weak unions.	С	7.77
6778	Young's Birch Betula pendula youngii	5.7	200	N3.0 S5.0 E4.5 W3.5	Fair	EM	20+	This tree has been high pruned, it has poor form with minor deadwood. The pruning has damaged its natural pendulous form.	С	2.4
6779	Birch Betula pendula youngii	6.7	150	N2.5 S2.5 E2.0 W3.0	Fair	EM	20+	This tree has been high pruned leaving stubs, it has lost its natural form. It is near overhead lines.	С	1.8



Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade	RPA radius (m)
6780	Lime Tilia cordata	12.8	400	N5.0 S5.0 E5.0 W4.0	Good	EM	40+	This is an open grown tree, it has multiple scaffolds. It has a dense branch structure and has been high pruned.	В	4.8
6781	Birch Betula pendula	18.0	500	N4.5 S5.5 E5.0 W7.0	Good	Μ	20+	A large specimen in the grass area, it has co-dominant stems and a sub lateral branch forming its canopy. It has a high crown with minor deadwood.	В	6.0
6782	Birch Betula pendula	12.1	250	N3.0 S3.0 E3.0 W4.0	Fair	EM	20+	A tree with a single stem, located by the wall of the bin store. It has been high pruned leaving stubs.	В	3.0
6783	Birch Betula pendula	11.1	250	N4.0 S5.0 E4.0 W5.0	Poor	Μ	20+	Located in open grass area. It has been high pruned. It has an open canopy. It has slight die back and some witches broom.	С	3.0
6784	Birch Betula pendula	12.1	250	N 4.0 S 4.0 E4.0 W4.0	Fair	EM	20+	This tree has tree main scaffold branches. It has an open crown with some deadwood.	В	3.0



Tree no.	Species	Height (m)	Stem dia. (mm)	Spread (m)	Condition	Age	ERC	Remarks	Grade	RPA radius (m)
6785	Birch Betula pendula	13.5	300	N6.0 S4.0 E5.0 W5.0	Fair	EM	20+	This trees crown is formed by its main stem and a sub-dominant lateral branch. It has an open crown and has been high pruned. It has minor deadwood.	В	3.6
6786	Young's Birch Betula pendula youngii	7.0	200	N4.0 S4.0 E3.0 W5.0	Fair	EM	20+	This tree has been high pruned, it has lost its pendulous form. It has tip die back after pruning. There are overhead wires in the canopy.	С	2.4
6787	Norway maple Acer platanoides	12.5	400	N4.0 S3.0 E3.0 W4.0	Fair	EM	40+	This trees crown is formed by multiple scaffold branches, it has been high pruned and has epicormic shoots at pruning points. It has scattered deadwood. It has exposed surface roots.	В	4.8
6788	Norway maple Acer platanoides	14.2	400	N4.0 S4.0 E3.0 W4.0	Fair	EM	40+	This trees crown is formed by multiple scaffold branches, it has been high pruned and has epicormic shoots at pruning points. It has scattered deadwood. It has exposed surface roots.		4.8
6789	Norway maple Acer platanoides	6.5	150	N1.5 S1.5 E1.5 W1.5	Poor	EM	<10	This small tree has significant crow die back, it has basal strimmer damage. It has only limited potential.	С	1.8



Assumptions and Limitations

This tree survey was carried out from the ground, no invasive or destructive evaluation techniques were used; all findings observations and recommendations are based on the knowledge and experience of the undersigned a qualified Arboriculturalist. Information contained in this report covers only those items that were examined and reflects the condition of those items at the time of the inspection.

Findings are based on a visual report from ground level only and it should be borne in mind it is subject only to faults visible at the time of inspection, certain pathogens only produce seasonal fruiting bodies and consequentially may not have been noted during this assessment.

All trees should be monitored on a regular basis for signs of defects and should be reported to a person qualified to diagnose them and to recommend treatment.

In the event of adverse weather conditions, there is the possibility of any tree, despite having a good report, falling over or suffering crown damage. In the event of a falling tree causing damage to residential or non-residential buildings in their proximity, or to any person, any property public or private, or any mechanical vehicle or otherwise no liability will attach to this firm.

There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the trees in question may not arise in the future. The author takes no responsibility for any actions taken by the landowner or their agents by reasons of this report unless subsequent contractual arrangements are made.

This report is intended solely for the benefit of the parties to whom it is addressed and no responsibility is extended to any third party for the whole or any part of its contents. All trees mentioned in this report should be subject to reassessment every two years to assess physiological and environmental changes.

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PART TWO - ARBORICULTURAL IMPACT ASSESSMENT

Preliminary Summary Table of Survey Trees

Trees Removed

Grade	Total No.	No. to be removed	% of all trees (75)
U (worst – remove)	0	0	0

Grade	Total No.	No. to be removed	% of grade	% of all trees (75)
'V' Veteran	0	0	0	0
'A' (best quality)	0	0	0	0
'B' (moderate quality)	63	25	39.5%	33%
'C' (low quality)	12	7	58.5%	9.3%
Total	75	32	-	42.5%

Trees Retained

Grade	Total No.	No. to be retained	% of grade	% of all trees (75)
'V' Veteran	0	0	0	0
'A' (best quality)	0	0	0	0
'B' (moderate quality)	63	38	60.5%	50.5%
'C' (low quality)	12	5	41.5%	6.5%
Total	75	43	-	57.5%

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Trees Pruned

In addition to the trees removed, 27no. trees, comprising 19no. lime trees along the southern boundary and 5no. lime and 2 sycamore at the northeast corner of the site, will require some crown lifting, crown reduction and pruning to allow for the construction of the proposed development. The lime trees on the southern boundary were previously pruned to reduce crown growth at some stage in the past.

PART THREE - ARBORICULTURAL METHOD STATEMENT

Tree Work Operations

The tree felling will be carried out by professional tree surgeons working to BS3998 (2010). All woody arisings (cordwood and brash) will be removed to a green waste facility or processed into mulch for recycling on the site.

Tree Protection Measures

Sturdy tree protection fencing (see Figure 1 below) or site hoarding will be erected along the boundary of the root protection zones or where not possible, along the limited of construction works.

Any new underground services will be routed away from the RPAs of the trees being retained; where this is not practical for reasons unforeseen and unavoidable, the services will be installed under any significant tree roots into trenches excavated by compressed air lance (Airspade) or other approved tree root friendly system such as Air-Vacuum truck, Mole drilling etc.

All exposed roots and/or soil profiles containing roots of trees to be retained will be kept damp in dry conditions by regular watering and be covered with a double layer of hessian fabric to prevent desiccation. Backfill should be of good quality topsoil, structural soil or clean sand.

Where construction machinery must encroach the RPAs of the trees to be retained for reasons unforeseen and unavoidable; suitable ground protection will be put in place to prevent any significant soil compaction or root damage near the trees; this should take the form of suitable strength ground protection mats or cellular confinement system capable of supporting the appropriate weight. All site offices, materials storage, staff parking etc. will located outside of the RPAs of the trees wherever practical; where this is not possible then the ground surface will be covered by an appropriate ground protection layer.

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The tree protection measures will be overseen and directed on-site by a qualified arborist. The arborist should also make regular visits to the site during the construction process to ensure compliance and be available to provide advice and guidance where necessary.

The retained trees will be assessed by a qualified arborist following the completion of the construction works.

Tree Protection on Construction Sites – General Recommendations

Trees being retained should be protected from unnecessary damage during the construction process by effective construction-proof barriers that will define the limits for machinery drivers and other construction staff. Ground protected by the fencing will be known as the Construction Exclusion Zone (CEZ). Sturdy protective fencing will be erected along the points identified in the Tree Protection Plan prior to any soil disturbance and excavation work starting; this is essential to prevent any root or branch damage to the retained trees. The British Standard BS5837: Trees in relation to design, demolition and construction (2012) specifies appropriate fencing; see Figure 1.

For light access works within the CEZ the installation of suitable ground protection in the form of scaffold boards, woodchip mulch or specialist ground protection mats/plates may be acceptable.

All weather notices will be erected on the fence with words such as: "Tree Protection Fence — Keep Out". When the fencing has been erected, the construction work can commence. The fencing will be inspected on a regular basis during the duration of the construction process and shall remain in place until heavy building and landscaping work has finished and its removal is authorised by a qualified arborist.



Figure 1: Tree Protection Fencing

Trench digging or other excavation works for services etc. will not be permitted in the CEZ unless approved and supervised by a qualified arborist using methods outlined in BS5837: Trees in relation to design, demolition and construction (2012).

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Care will be taken when planning site operations to ensure that wide or tall loads or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Such contact can result in serious damage to them and might make their safe retention impossible.

Materials, which can contaminate the soil, e.g. concrete mixings, diesel oil and vehicle washings, will not be discharged within 10 m of a tree stem.

Notice boards, wires and such like will not be attached to any trees. Site offices, materials storage and contractor parking will all be outside the CEZ.

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