



Mayfield Station, Manchester

Arboricultural Survey

For

Buro Happold Engineering

Project No.: RBUH127/001/001/001

July 2017

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Project Number	Report No.
RBUH127 / 001	001

Revision No.	Date of Issue	Author	Reviewer	Approver
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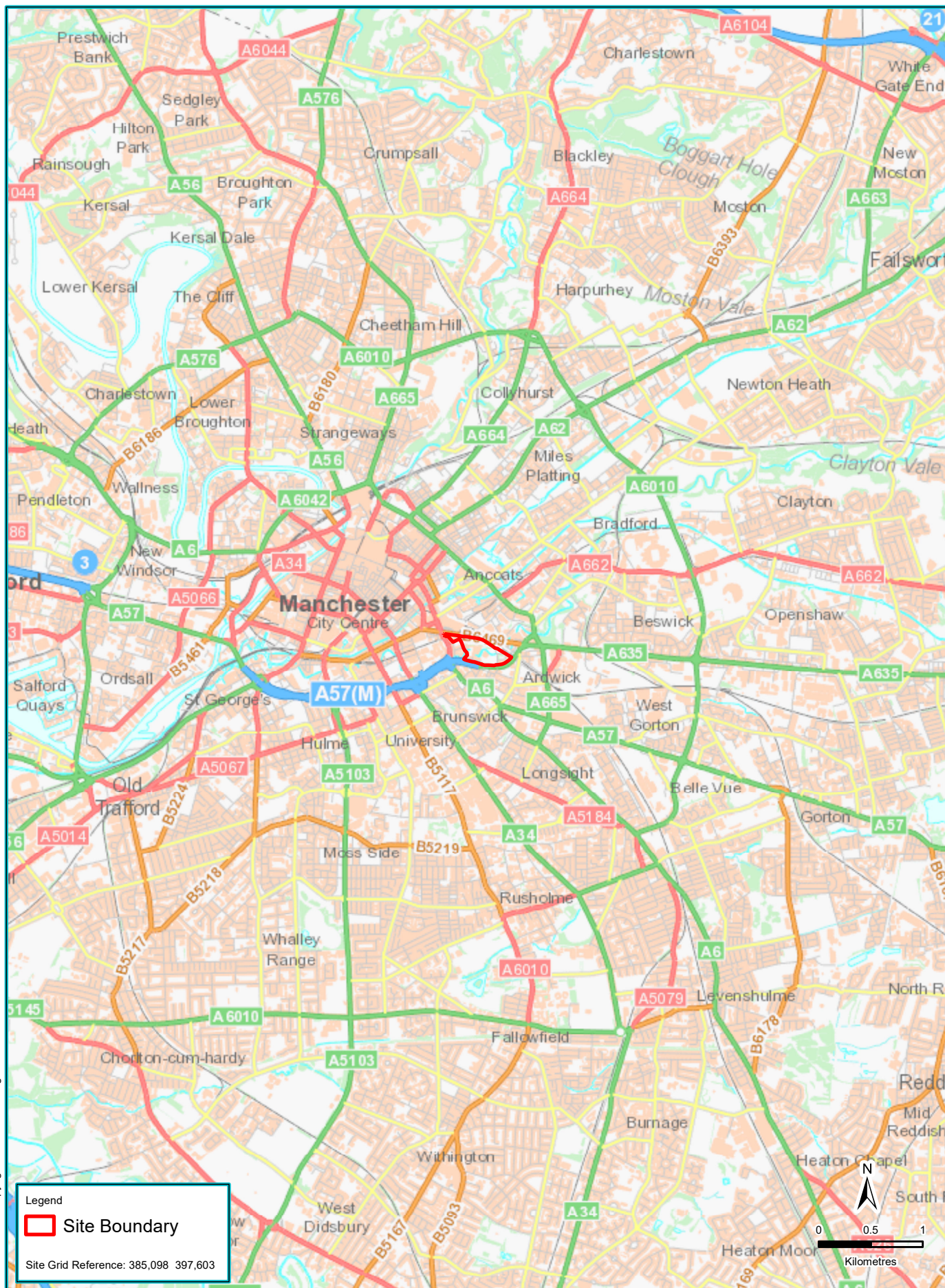
FIGURE 1: SITE LOCATION

FIGURE 2: TREE CONSTRAINTS PLAN (TCP01)

1. Summary

- 1.1.1** Buro Happold Engineering are involved in the redevelopment of the former Mayfield Station site in Manchester (see Figure 1). The proposals include the demolition of the existing structures and the construction of a mixed development comprising residential units, a hotel and commercial space with a new park and associated landscaping.
- 1.1.2** Buro Happold Engineering commissioned Thomson Ecology to undertake an arboricultural survey of up to 50 trees within and adjacent to the site, and to produce an Arboricultural Impact Assessment (AIA) which discusses the likely impact of the development proposals on the trees at the site, and to compile an Arboricultural Method Statement (AMS) detailing the protection of all the trees at the site. This document details the survey methodology and results of the arboricultural survey only. The arboricultural survey was carried out in accordance with BS5837:2012 '*Trees in Relation to Design, Demolition and Construction - Recommendations*' (BS5837:2012).
- 1.1.3** All trees were categorised in accordance with the cascade chart for tree quality assessment in BS5837:2012 (see Appendix 2). Trees were given a ranking of A, B or C in descending order of value and assigned one or more subcategories qualifying the basis of that value as either arboricultural, landscape or cultural. Trees with only short-term remaining value or that require immediate removal for safety or management reasons are given a U rating.
- 1.1.4** A total of 18 individual trees and 13 groups of trees were recorded during the survey and are listed in the Tree Schedule (Appendix 1). The surveyor recorded two Category B groups of trees, 16 Category C trees, 10 Category C groups of trees, two Category U trees and one Category U groups of trees located within or adjacent to the site (see Figure 2).
- 1.1.5** Category A, B and C trees represent a material consideration to development. Concerted effort should be made to retain A and B category trees within the development. While Category C trees should be retained where possible, they should not be retained where they would present a serious constraint to development.
- 1.1.6** It is recommended that an AIA and AMS are undertaken once detailed plans of the proposed layout are available.

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Client	Buro Happold		Drawing Ref RBUH127/23841/1	
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Figure Title	Site Location		Drawn NS	Checked AS
			Date 17/07/2017	Date 17/07/2017



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- Legend
- Root Protection Area of Category 'B' Tree
 - Root Protection Area of Category 'C' Tree
 - Root Protection Area of Category 'U' Tree
 - Tree Stem Location
 - Tree Canopy Extents
 - Site Boundary

Site Grid Reference: 385,096 397,598

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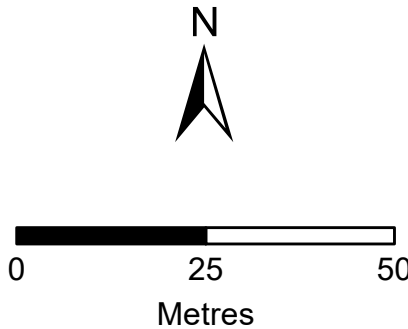
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Client
Buro Happold

Figure Number
2

Figure Title
Tree Constraints Plan
(TCP01)



2. Introduction

2.1 Development Background

2.1.1 Buro Happold Engineering is involved in the development of a site located at the former Mayfield Station, Manchester. Plans include the building of 1,300 homes, a 350 bed hotel and more than 807,000 sq ft of office space. A new park along the River Medlock is also included in the plans, which could feature an urban tree nursery as well as soft landscaping. These proposals are hereafter referred to as 'the development'.

2.1.2 The development is located on an approximately 9ha area of land (grid reference SJ 85080 97616), shown on Figure 1. The area affected by the development is hereafter referred to as 'the site'. The site currently comprises the disused Mayfield Station, associated rail infrastructure, the River Medlock which runs through the site and previously existing trees and self-set scrub and trees.

2.1.3 There are a number of trees within the site and adjacent to the site boundary that may be affected by development. Development proposals are in the process of being drawn up and a planning application is to be submitted once designs have been finalised.

2.2 Site Description

2.2.1 To the north of the site is Manchester Piccadilly Station and the east, south and west are mixed residential and commercial developments. The site is split over two levels, the upper level reached by the former access ramp used by passengers and is the location of the former platforms and tracks. The lower level has a number of former buildings and new buildings which have been used by commercial businesses. Areas of soft vegetation and landscaping are limited with most of the site being composed of hardstanding.

2.3 Brief and Objectives

2.3.1 Buro Happold Engineering commissioned Thomson Ecology on 4th July to complete an arboricultural survey and report of the site and produce an AIA and AMS.

2.3.2 The objective of the survey and report was to assess the condition of the existing trees on site and any off site trees that might be affected by the development, providing sufficient information to enable decisions to be made on potential design layout and tree retention for the proposed development. The brief was to complete:

- An arboricultural survey of up to 50 trees within or immediately adjacent to the site, as defined by the plan provided within your email dated 08/02/2017, in line with BS5837:2012.
- Liaison with the Local Planning Authority and Tree Officer to determine whether trees on site are subject to a Tree Preservation Order or are covered by Conservation Area restrictions;
- An arboricultural report detailing our methods, results and recommendations, including the Tree Schedule and a Tree Constraints Plan, which can be used to inform feasibility studies and design options.

- An Arboricultural Impact Assessment (AIA), based on the proposed site layout, which evaluates the direct and indirect effects of the proposed design and recommends any necessary mitigation.
- An Arboricultural Method Statement (AMS) detailing how retained trees will be protected on site and how any aspect of the development that is within the root protection areas of retained trees will be implemented; and
- A Tree Protection Plan detailing how retained trees will be protected during development works.

2.3.3 This report details the methods and results of the tree survey and provides the Tree Schedule and TCP. The AIA and AMS will be completed once plans for the proposed development have been finalised.

2.4 Limitations

2.4.1 The information provided within this report and in the accompanying Tree Schedule covers only those trees that were inspected and their condition at the time of survey.

2.4.2 A full hazard assessment has not been made and therefore no guarantee is given as to the structural integrity of any of the trees on site.

2.4.3 Where trees were clad in common ivy (*Hedera helix*), or where dense epicormic growth or dense underplanting obscured the main stem, this was recorded in the Tree Schedule. The inspection of such trees is impeded and as such a further inspection may be required following the removal of the obstruction. The retention categories of such trees should be considered as provisional only.

2.4.4 Measurements for inaccessible trees and off-site trees have been estimated and therefore may not fully represent the related constraints.

2.4.5 Whilst this report makes general observations on the long term potential of the trees surveyed, trees are dynamic organisms and subject to continual change, thus this report should not be relied upon for the purposes of development for more than 12 months from the date of survey.

3. Methodology

3.1 Desk Study

- 3.1.1 Records of Tree Preservation Orders (TPOs) existing at the site and Conservation Areas within or adjacent to the site were sought from Manchester City Council.

3.2 Tree Survey

- 3.2.1 All significant trees at the site were assessed for their potential to be affected by the development proposals. Significant trees are defined as those with a trunk diameter of greater than 75mm at 1.5m above ground level according to the survey methodology outlined in BS5837:2012. Off-site or third party trees have been included where it is likely they would influence the development.
- 3.2.2 The trees surveyed were inspected from ground level only and no internal investigations were undertaken.
- 3.2.3 Trees were categorised as single trees or those that formed part of a distinct group such as a woodland or hedgerow. Groups can be defined as cohesive arboricultural features, either aerodynamically (for example, companion shelter), visually or culturally including for biodiversity (BS5837:2012). The information recorded for each tree can be seen in Table 1.

Table 1: Information recorded for each tree during survey

Attribute	Description
Tree No.	Numerical reference given in sequential order starting at number '1', corresponding with the numbers as set out in Figure 2; trees are given the prefix 'T', groups 'G', woodlands 'W' and hedgerows 'H'.
Species	The common names are based upon on site identification and expressed according to <i>Tree Guide</i> (Johnson & More, 2004).
Height	Measured approximately from ground level with the aid of a clinometer and shown in metres (m).
Stem Diameter	Diameter measured at approximately 1.5m above ground level. In the case of multi-stemmed trees, measurement is taken of each stem at 1.5m, where there are two to five stems; or a mean stem diameter at 1.5m, where there are more than five stems. Given in millimetres (mm).
Canopy Spread	Maximum branch spread measured in metres from the centre of the trunk in the direction of the four cardinal points of the compass (or an average can be given if branches demonstrate an even spread).
Crown Clearance	Height above ground level of the first significant branch and direction of growth, and the height above ground level of the overall canopy.

Attribute	Description
Age Class	• Young - less than one-third natural life span spent; • Middle-aged - between one-third and two-thirds natural life span spent; • Mature - greater than two-thirds life span completed; • Over-mature - mature, and in an overall state of decline; • Veteran - surviving beyond the typical age range for the species with a high value in terms of conservation and amenity.
Physiological Condition	Overall health, condition and function of the tree in comparison to a 'normal' example of the species of a similar age; e.g. 'good', 'fair', 'poor' or 'dead'. If deemed necessary, these gradings may be elaborated upon in the 'Comments' section.
Structural Condition	The overall structural condition of the tree including the roots, butt, trunk, limbs and their unions, and the presence of any structural defects, decay or pathological defects. • Good - no significant visible structural defects with a form typical for the species; • Fair - a specimen with only minor defects that are easily remedied or of no long term significance; • Poor - significant and irremediable physiological or structural defects that may lead to early or premature decline; • Hazardous - significant structural defects of such a degree that there is a risk of imminent collapse or failure. If deemed necessary, these gradings may be elaborated upon in the 'Comments' section.
Comments	Comments have been made, where appropriate, relating to location, health and condition, structure and form, estimated life expectancy, conservation value and amenity value within the local landscape.
Preliminary Management Recommendations	Tree work that should be undertaken for good arboricultural management, regardless of the requirements of the development.
Estimated Remaining Contribution	The estimated time, in years, that the tree will provide a safe contribution to the site (i.e. <10, 10-20, 20-40 and >40).

Quality Assessment

- 3.2.4** During the survey, the trees were assessed qualitatively, categorising the quality and value of the trees based on arboricultural, landscape and cultural (including conservation) features. Each tree was then placed into one of four categories. The four categories can be seen in Table 2. Definitions for these categories can be found in Appendix 2.

Table 2: Quality assessment categories

Category	Description
Category U	Trees 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.
Category A	Trees of high quality with an estimated life expectancy of at least 40 years.
Category B	Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
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 150mm.

3.2.5 Trees categorised as either A, B or C, were also allocated up to three subcategories. The subcategories chosen for each tree are dependent on the main reasons for selection of the particular category grading. The three subcategories are as follows:

1. Category grading based on mainly arboricultural qualities;
2. Category grading based on mainly landscape qualities; and
3. Category grading based on mainly cultural values, including conservation.

Root Protection Areas (RPAs)

3.2.6 Trees that are selected for retention on the site could be at risk of damage during construction, such as root damage during excavations for foundations or services, or any ground-working for landscaping. Further impacts on the trees may potentially result from vehicle movements and materials storage, including root severance, compaction of the soil and exclusion of air and water to the soil. The risk of tree damage is minimised if construction activities are planned to avoid the roots of trees.

3.2.7 The area of ground adjacent to each tree or group of trees that contains the majority of the roots can be calculated using the equation provided in the BS5837:2012. This Root Protection Area (RPA) is a radius around the tree of 12 times the stem diameter for a single stem. For multi-stemmed trees of two to five stems and greater than five stems, the cumulative stem diameters to be multiplied by 12, are calculated as per the equations in Table 3.

Table 3 Equations for the calculation of the RPA of multi-stemmed trees

Number of stems	Equation
Two to five	$\sqrt{((\text{stem diameter } 1)^2 + (\text{stem diameter } 2)^2 \dots + (\text{stem diameter } 5)^2)}$
More than five	$\sqrt{(\text{mean stem diameter})^2 \times \text{number of stems}}$

3.2.8 The RPA for each tree in the Tree Schedule has been calculated and, where relevant, has been adjusted to take into account site conditions. For example, when a tree is growing in a confined

root space adjacent to an existing building or other solid structure that would restrict root growth in that direction, the RPA has been adjusted accordingly (see Figure 2).

3.2.9 The RPA for tree groups is calculated using the stem diameter of the largest tree within the group. The RPA radius is calculated as per Section 3.2.7 and then used to define the RPA by following the outline of the group's extent.

3.2.10 Where the calculated RPA exceeds 707m², it has been capped at this figure, as per BS5837:2012. This is equivalent to a circle with a radius of 15m or a square with approximately 26m sides.

Date of Survey

3.2.11 The site was visited and the survey undertaken on 11th July 2017 by Neil Francis BSc (Hons) FdSc (Arb) MArborA QTS.

Weather Conditions

3.2.12 The weather conditions at the time of survey were overcast with torrential rain in the afternoon. Deciduous trees were in full leaf.

4. Results

4.1 Desk Study

- 4.1.1 It was confirmed by Kath Rowbotham of Manchester City Council via email on 20th July 2017 that no trees within the site or immediately adjacent to the site boundaries are covered by Tree Preservation Orders or located within a Conservation Area.

4.2 Tree Survey

- 4.2.1 A total of 18 significant individual trees and 13 groups of trees located within or immediately adjacent to the site boundary were recorded during the survey. A breakdown of categories can be found in Table 4. The locations of all trees, RPAs, retention categories and reference numbers are shown on Figure 2. A detailed description of each tree is given in the Tree Schedule in Appendix 1.

Table 4: Number of significant trees allocated to each retention category.

Tree Category	Number of Trees	Tree Numbers	Number of Groups	Group numbers	Total
A	-	-	-	-	-
B	-	-	2	G8, G11	2
C	16	T1, T3, T4, T5, T6, T7, T8, T9, T10, T11, T12, T13, T14, T15, T16, T17	10	G1, G2, G3, G4, G5, G6, G7, G10, G12, G13	26
U	2	T2, T18	1	G9	3
Total	18		13		31

Root Protection Areas (RPAs)

- 4.2.2 The RPAs for the trees and groups surveyed can be seen in Figure 2. The actual RPAs, in m², for the individual trees surveyed are shown in Appendix 1.

5. Recommendations

5.1 Site Specific Guidance

- 5.1.1** All trees on site should be considered for retention where possible, with the greatest consideration given to Category A trees and then B trees where these specimens occur, and finally Category C trees. However, the retention of Category C trees should not be at the expense of an efficient design. Category U trees are recommended for removal for sound arboricultural reasons. Where trees of any category are on adjacent land, and removal is required for the development, permission must be sought from the landowner before any works can be undertaken.
- 5.1.2** The Category B group of trees, G8 and G11, are located adjacent to the A635 Ring Road and are a significant feature in the landscape. Although they are outside of the site boundary any proposals as part of the new development should take into account the presence of these trees and construction within their RPAs should be limited.
- 5.1.3** The three groups of trees G2, G3, G5 and G6 are located along the River Medlock banksides. These trees are not of high arboricultural value and removal of these trees would not affect the amenity value of the site. However, they are likely to provide suitable riparian habitat for wildlife. An assessment from a suitable experienced ecologist is required to assess the ecological value of the trees.
- 5.1.4** The majority of the trees and groups of trees on site are Category C trees and have little arboricultural or amenity value. As the nature of the site is dominated by buildings and hard standing which are likely to be removed, retention of these trees could add significant constraints to the proposals and create working conditions and restrictions disproportionate to the value of retaining these trees. Their removal would allow a significantly improved treescape and landscape to be created which would have a much higher amenity value over time.
- 5.1.5** Trees T2 and T18 and tree group G9 are Category U trees and should be removed because they are dead. One tree within tree group G2 is also dead and should be removed as part of good arboricultural management practice.
- 5.1.6** Where appropriate, preliminary management recommendations have been made for each tree surveyed and are detailed in the Tree Schedule in Appendix 1.

5.2 Tree Protection

- 5.2.1** For those trees selected to be retained as part of the redevelopment, it will be necessary to maintain Construction Exclusion Zones (CEZs) during the construction phase. The purpose of CEZs is to prevent damage to the tree roots from severance, compaction of the soil, or exclusion of air and water to the soil.
- 5.2.2** The CEZ should cover the area around the RPAs of all trees at the site that are not directly affected by the works. The CEZ should be maintained by suitable stout fencing (see Appendix 3) and identified by marking with suitable notices (see Appendix 4) or adequate ground protection suitable to withstand any likely loading. The fencing should be fit for the purpose of excluding

construction activity and remain rigid and complete throughout the duration of the works. If the ground protection is intended for pedestrian movements, a single thickness of scaffold boards on top of a compressible layer laid onto a geotextile may be acceptable; however if intended for wheeled or tracked construction traffic, the ground protection should be designed by an engineer.

5.2.3 Where CEZs overlap with existing areas of tarmac, restricted working may be allowed and may not require protection by fencing. Such areas should, however, be clearly identified as restricted working areas within the CEZ by markings on the ground and notices. Within restricted working areas in CEZs, construction activities should be limited to surfacing works only. Strictly no digging should be allowed within these areas, except in cases where root-sensitive excavation techniques have been recommended in an Arboricultural Method Statement.

5.2.4 An adequate water and air supply to roots should be provided for all trees both during and after construction. This should include preventing impermeable surfacing from being allowed to cover more than 20% of the RPA.

5.3 General Recommendations

5.3.1 The following points are made as general recommendations:

- An Arboricultural Impact Assessment and Arboricultural Method Statement should be produced once detailed plans for the development are available;
- Building lines should be kept outside the RPA where possible. Limited use may be made for parking, drives or hard surfaces within the RPA, subject to advice from a qualified arboriculturist;
- Wherever possible, service runs should be routed outside the RPAs. If this is not possible, they should be kept together and trenchless techniques should be used. At all times where services pass within an RPA, detailed plans showing the proposed routing should be drawn up in conjunction with an arboriculturist;
- On residential developments consideration must be given to future tree growth and orientation (BS5837:2012), i.e. adverse shading and blocked views from windows, which may lead to pressure to fell or remove trees in the future. Wherever possible, the windows of primary rooms should be orientated to avoid any potential conflict with tree canopies; and
- A full ecological survey should be undertaken in order to determine the presence of any protected species and the ecological value of the site.

6. Bibliography

- 6.1.1 British Standards Institution (2012) BS5837:2012 *Trees in Relation to Design, Demolition and Construction - Recommendations*. BSI, London.
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- 6.1.8 National Joint Utilities Group (NJUG) (2007) NJUG Volume 4: *Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees*. NJUG, London.
- 6.1.9 National Tree Safety Group (2011) *Common Sense Risk Management of Trees* Forestry Commission, Edinburgh
- 6.1.10 Patch, D. & Holding, B. (2007) Arboricultural Practice Note 12: *Through the Trees to Development*. London: AAIS.
- 6.1.11 Robertson, J, Jackson, N & Smith, M (2006) *Tree Roots in the Built Environment*. The Stationery Office, London.

Appendix 1 - Tree Schedule

Tree/ Group No.	Species	Height (m)	Stem Diameter (mm)	Canopy Spread (m)				Height of Lowest Limb and Direction (m)	Crown Clearance (m)	Age Class	Estimated Remaining Contribution (years)	Condition		Comments	Preliminary Management Recommendations	BS Category	RPA (m²)
				N	E	S	W					Physiology	Structure				
T1	<i>Salix caprea</i> , goat willow	15	400, 350	6	6	6	6	4SE	2	Mature	10-20	Fair	Fair	No access; included union not stable	-	C1;2	128
T2	<i>Sambucus nigra</i> , elder	6	330	1	1	6	6	1N	1	Over- mature	<10	Fair	Poor	Leaning south, decay pocket at base	Fell to ground level	U	49
T3	<i>Salix caprea</i> , goat willow	15	450, 400, 270	5	5	5	5	3E	1	Over- mature	10-20	Fair	Poor	Limbs overweighted	Coppice and allow to regrow	C1;2	197
T4	<i>Salix caprea</i> , goat willow	9	220, 250	1	1	3	3	1.5N	1	Middle- aged	10-20	Fair	Fair	No access to survey accurately	-	C1;2	50
T5	<i>Salix caprea</i> , goat willow	10	100, 120	5	5	5	5	2NE	2	Middle- aged	10-20	Fair	Fair	No access to survey accurately	-	C1;2	11
T6	<i>Acer pseudoplatanus</i> , sycamore	10	160	3	3	3	3	3E	2	Young	10-20	Fair	Fair	-	-	C2	12
T7	<i>Acer rubrum</i> , red maple	8	250	2	2	4	3	2N	2	Young	>40	Fair	Fair	-	-	C1;2	28
T8	<i>Sorbus aria</i> , whitebeam	11	400	4	4	4	4	3N	3	Mature	20-40	Fair	Fair	-	-	C1;2	72
T9	<i>Acer rubrum</i> , red maple	12	260	4	4	4	4	0N	3	Young	20-40	Fair	Fair	-	-	C1;2	31
T10	<i>Malus domestica</i> , domestic apple	5	160	1	2	2	2	1SW	0	Middle- aged	10	Fair	Fair	-	-	C2	12
T11	<i>Prunus avium</i> , wild cherry	10	280	2	3	4	4	2E	2	Mature	20-40	Fair	Fair	-	-	C1;2	35
T12	<i>Acer pseudoplatanus</i> , sycamore	1	230	3	4	1	2	3N	4	Young	20-40	Fair	Fair	-	-	C2	24
T13	<i>Acer pseudoplatanus</i> , sycamore	14	500	6	6	6	6	2E	4	Mature	20-40	Fair	Fair	No access to survey accurately	-	C2;1	113

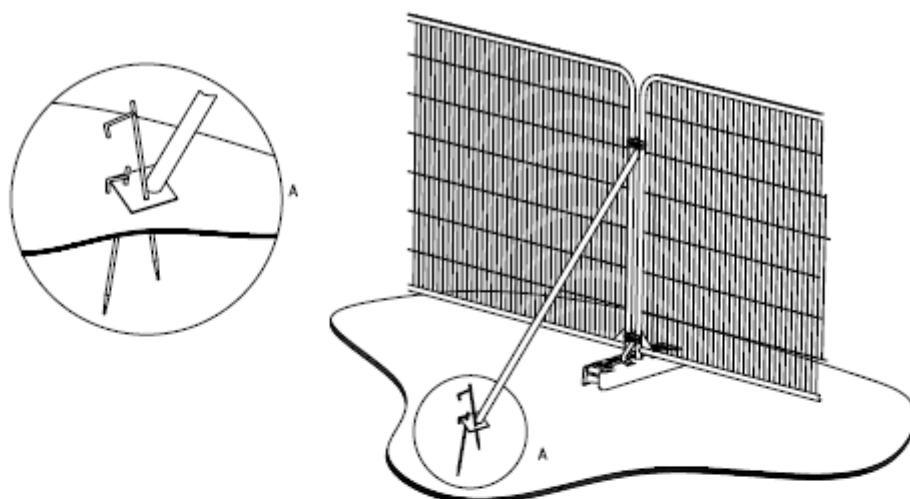
Tree/ Group No.	Species	Height (m)	Stem Diameter (mm)	Canopy Spread (m)				Height of Lowest Limb and Direction (m)	Crown Clearance (m)	Age Class	Estimated Remaining Contribution (years)	Condition		Comments	Preliminary Management Recommendations	BS Category	RPA (m²)
				N	E	S	W					Physiology	Structure				
T14	<i>Acer pseudoplatanus</i> , sycamore	14	400	1	5	4	3	3N	4	Mature	20-40	Fair	Fair	No access to survey accurately	-	C2;1	72
T15	<i>Acer rubrum</i> , red maple	13	350	1	3	5	3	3W	4	Middle-aged	20-40	Fair	Fair	No access to survey accurately	-	C1;2	55
T16	<i>Crataegus laevigata</i> , Midland hawthorn	7	200	4	4	4	4	2S	2	Mature	20-40	Good	Good	No access to survey accurately	-	C1;2	18
T17	<i>Laburnum anagyroides</i> , laburnum	7	550	4	4	4	4	2N	3	Mature	20-40	Fair	Fair	No access to survey accurately	-	C1;2	137
T18	<i>Populus</i> sp.; poplar species	12	200	0	0	0	0	0	-	-	0	Dead	Dead	Dead tree	Fell to ground level	U	18
G1	<i>Salix caprea</i> , goat willow	9	280	4	4	4	4	-	1	Middle-aged	10-20	Fair	Fair	No access to survey accurately	-	C1;2	102
G2	<i>Acer pseudoplatanus</i> , sycamore; <i>Fraxinus excelsior</i> , ash	14	200	4	4	4	4	-	2	Middle-aged	10-20	Poor	Poor	On riverbank over wall; multi-stemmed trees; one tree is dead	Remove dead tree.	C2	267
G3	<i>Acer pseudoplatanus</i> , sycamore; <i>Prunus avium</i> , wild cherry; <i>Fraxinus excelsior</i> , ash; <i>Salix fragilis</i> , crack willow	12	180	4	4	4	4	-	3	Middle-aged	10-20	Fair	Fair	Group of self-set trees; no access to willow tree by the river; poor quality trees	-	C2	1044
G4	<i>Acer pseudoplatanus</i> , sycamore; <i>Fraxinus excelsior</i> , ash; <i>Betula pendula</i> , silver birch; <i>Betula pubescens</i> , downy birch	12	150	4	4	4	4	-	1	Young	10-20	Fair	Fair	Group of self-set scrubby trees	-	C2	971
G5	<i>Acer pseudoplatanus</i> , sycamore	10	150, 160	4	4	4	4	-	1	Young	20-40	Fair	Fair	-	-	C2	87
G6	<i>Acer pseudoplatanus</i> , sycamore; <i>Betula pendula</i> , silver birch	13	400	5	5	5	5	-	3	Mature	20-40	Fair	Fair	-	-	C1;2	726

Tree/ Group No.	Species	Height (m)	Stem Diameter (mm)	Canopy Spread (m)				Height of Lowest Limb and Direction (m)	Crown Clearance (m)	Age Class	Estimated Remaining Contribution (years)	Condition		Comments	Preliminary Management Recommendations	BS Category	RPA (m²)
				N	E	S	W					Physiology	Structure				
G7	<i>Acer pseudoplatanus</i> , sycamore; <i>Fraxinus excelsior</i> , ash; <i>Prunus avium</i> , wild cherry; <i>Sambucus nigra</i> , elder	10	150	3	3	3	3	-	0	Middle-aged	20-40	Fair	Fair	No access to survey accurately	-	C1;2	2539
G8	<i>Populus nigra</i> 'Italica'; Lombardy poplar; <i>Populus x canadensis</i> , hybrid black poplar; <i>Acer pseudoplatanus</i> , sycamore; <i>Acer platanoides</i> , Norway maple; <i>Salix alba</i> , white willow	20	700, 200	4	4	4	4	-	5	Mature	20-40	Fair	Fair	Mower damage to base and roots of trees	-	B1;2	3640
G9	<i>Acer pseudoplatanus</i> , sycamore; <i>Salix alba</i> , white willow	10	120	3	3	3	3	-	3	Young	<10	Fair	Fair	Willow on wall and building; sycamore close to the wall	Fell to ground level	U	51
G10	<i>Salix alba</i> , white willow	14	450	5	5	5	5	-	4	Mature	10	Fair	Fair	One dead tree close to building	Fell dead tree	C2	304
G11	<i>Populus x canadensis</i> , hybrid black poplar	20	800	7	7	7	7	-	6	Mature	20-40	Fair	Fair	3rd party trees	-	B1;2	577
G12	<i>Sambucus nigra</i> , elder; <i>Fraxinus excelsior</i> , ash; <i>Crataegus monogyna</i> , hawthorn; <i>Salix caprea</i> , goat willow	8	100	3	3	3	3	-	1	Middle-aged	10-20	Fair	Fair	Trees standing on river bank	-	C1;2	474
G13	<i>Prunus avium</i> , wild cherry	10	230	3	3	3	3	-	1	Mature	10-20	Fair	Fair	-	-	C2	267

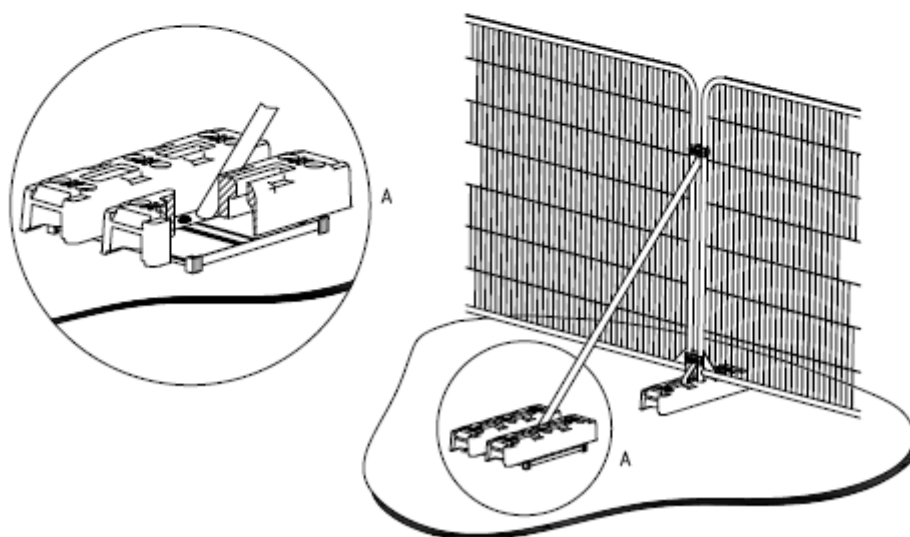
Appendix 2 - Table of Quality Assessment

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 be retained as living trees in the context of the current land use for longer than 10 years	- Trees that have serious, irremediable, structural defects, 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 the 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 might be desirable to preserve			DARK RED
	1 Mainly arboricultural values	2 Mainly landscape values	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	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or of formal or semi-formal arboricultural features (e.g. the dominant and/or principle trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical commemorative or other value (e.g. veteran trees or wood-pasture)	LIGHT 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	MID 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 150mm	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 landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	GREY

Appendix 3 - Example of Protective Fencing



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

Appendix 4 - Tree Protection Notice



TREE PROTECTION AREA KEEP OUT!

THE FOLLOWING **MUST** BE OBSERVED BY ALL PERSONS:

- THE PROTECTIVE FENCING MUST NOT BE REMOVED
- NO PERSON SHALL ENTER THE PROTECTED AREA
- NO MACHINE OR PLANT SHALL ENTER THE PROTECTED AREA
- NO MATERIALS SHALL BE STORED IN THE PROTECTED AREA
- NO SPOIL SHALL BE DEPOSITED IN THE PROTECTED AREA
- NO EXCAVATIONS SHALL OCCUR IN THE PROTECTED AREA

**ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN
CONSENT OF THE LOCAL PLANNING AUTHORITY FOLLOWING
CONSULTATION WITH AN ARBORICULTURAL CONSULTANT**