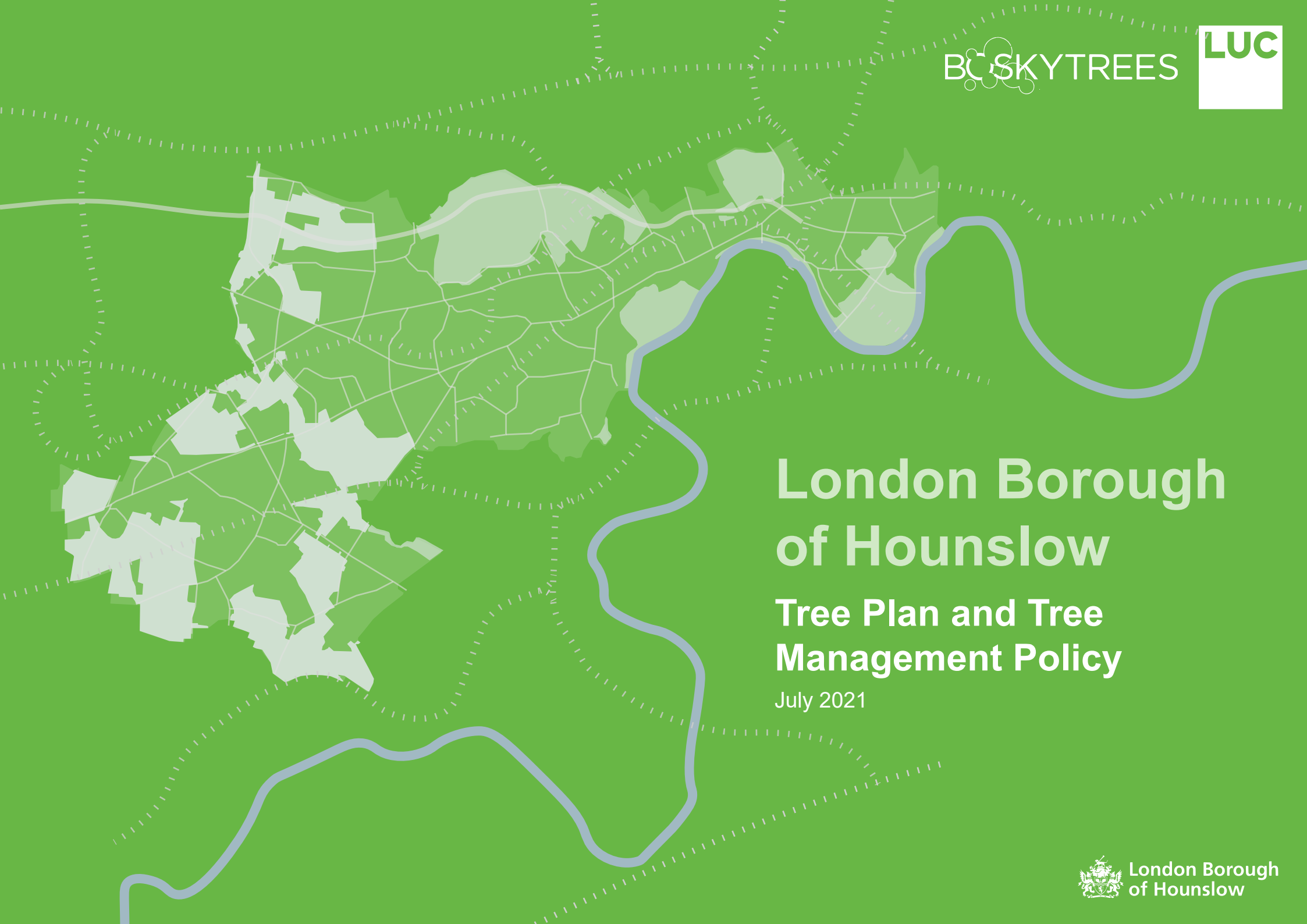

London Borough of Hounslow

Tree Plan and Tree Management Policy

July 2021

London Borough of Hounslow

London Borough of Hounslow
Tree Plan and Tree Management Policy

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1.	Draft	B Rose	S Crewe	M Parkhill	06.03.2021
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Contents

Chapter 1
Context and Introduction

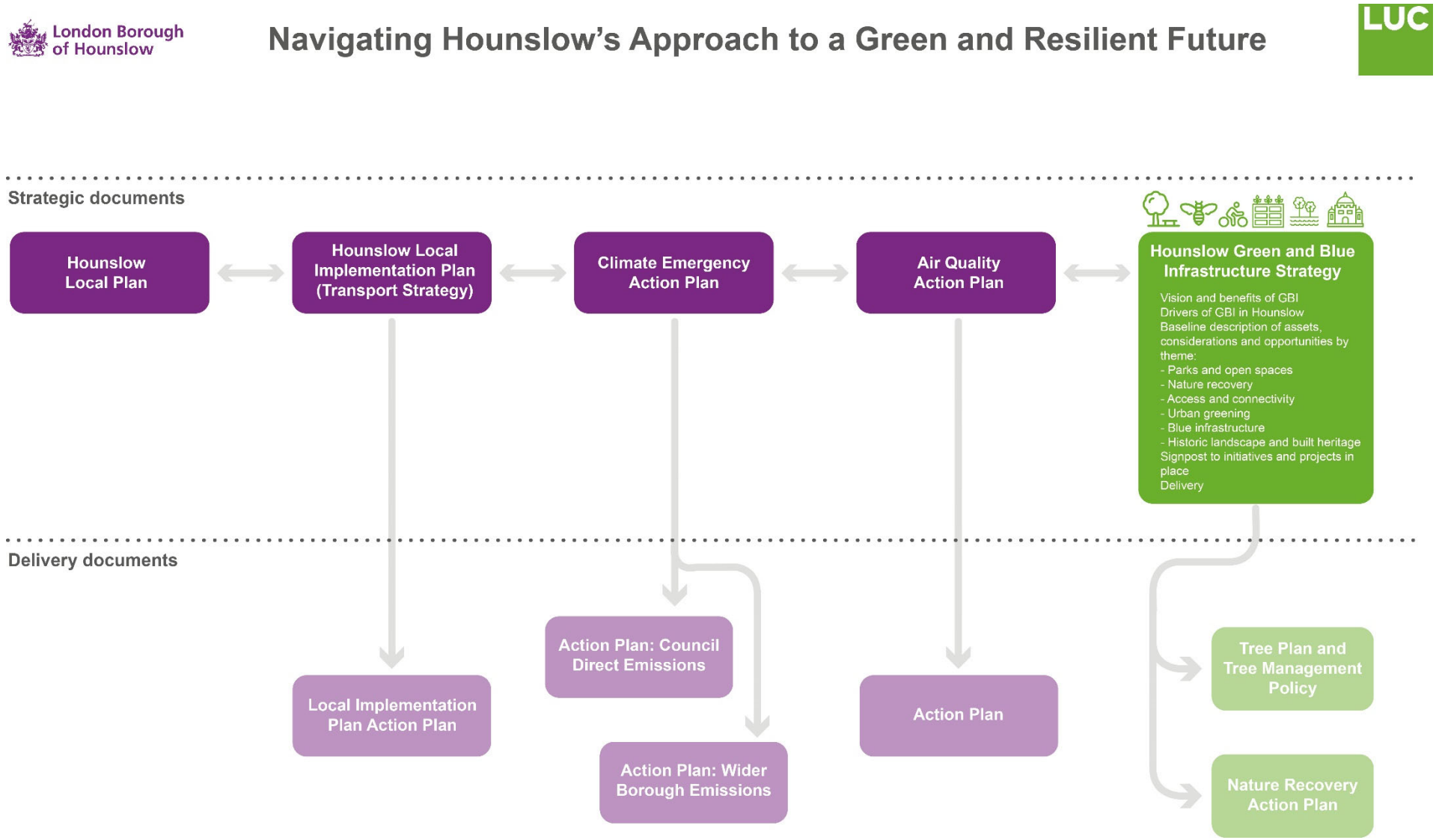
Scope

1.1 The main objective of producing a tree strategy is to ensure that anyone can use this document to understand how the Council manages its tree stock and to provide relevant policies setting out why certain works are carried out on trees.

1.2 The policy consolidates previous tree management processes and advice in order to provide a consistent approach for the management of all trees owned by the Council across the different departments within the borough.

1.3 The Tree Plan and Tree Management Policy has been prepared in a co-ordinated way alongside several related strategies and plans. Much of the baseline and information gathered as part of the preparation of these documents can be found summarised within the Green and Blue Infrastructure (GBI) Strategy. This Plan sits as a delivery document, alongside the Nature Recovery Action Plan, and is intended to be a guide for delivering the strategic aims and opportunities within the GBI Strategy. **Figure 1.1** illustrates how the Tree Plan and Tree Management Policy sits within Hounslow's policy context, and how it relates to other 'sibling' Council documents.

Figure 1.1: Navigating Hounslow's approach to a green and resilient future



The benefits of trees

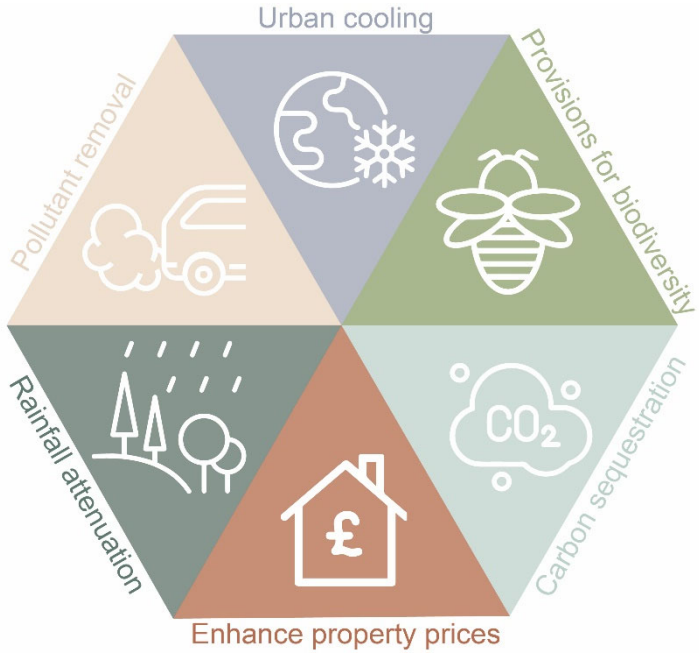
Trees provide:

- Natural shade and air cooling
- Airborne particulate interception
- Oxygen we breathe
- Shelter for wildlife
- Flood control
- Space for social inclusion

Trees reduce:

- The need for air conditioning
- CO_2 emissions
- Noise pollution
- Crime
- Stormwater pollution

Figure 1.2: Overview of the benefits of trees



1.4 There are multiple benefits to having trees in the borough and so it is vital to have sustainable policies relating to trees and woodlands to safeguard their future. The tree strategy is intended to be part of the overarching green infrastructure strategy for the borough.

Publicly owned trees

1.5 The publicly owned trees managed by the Council are situated in a variety of different environments, all of which require a tailored approach to management options which include:

- Street trees
- Trees on housing land
- Parks and open spaces
- Woodlands
- Cemeteries and closed churchyards
- Leisure centres and playing fields
- Other publicly owned and maintained sites

1.6 The document outlines how the Council manages their responsibilities and legal obligations in relation to health and safety, risk management and resident concerns whilst maintaining a healthy, diverse and extensive tree stock. **Figure 1.1** shows the extent of Hounslow's tree canopy cover.

Contributors to the tree strategy

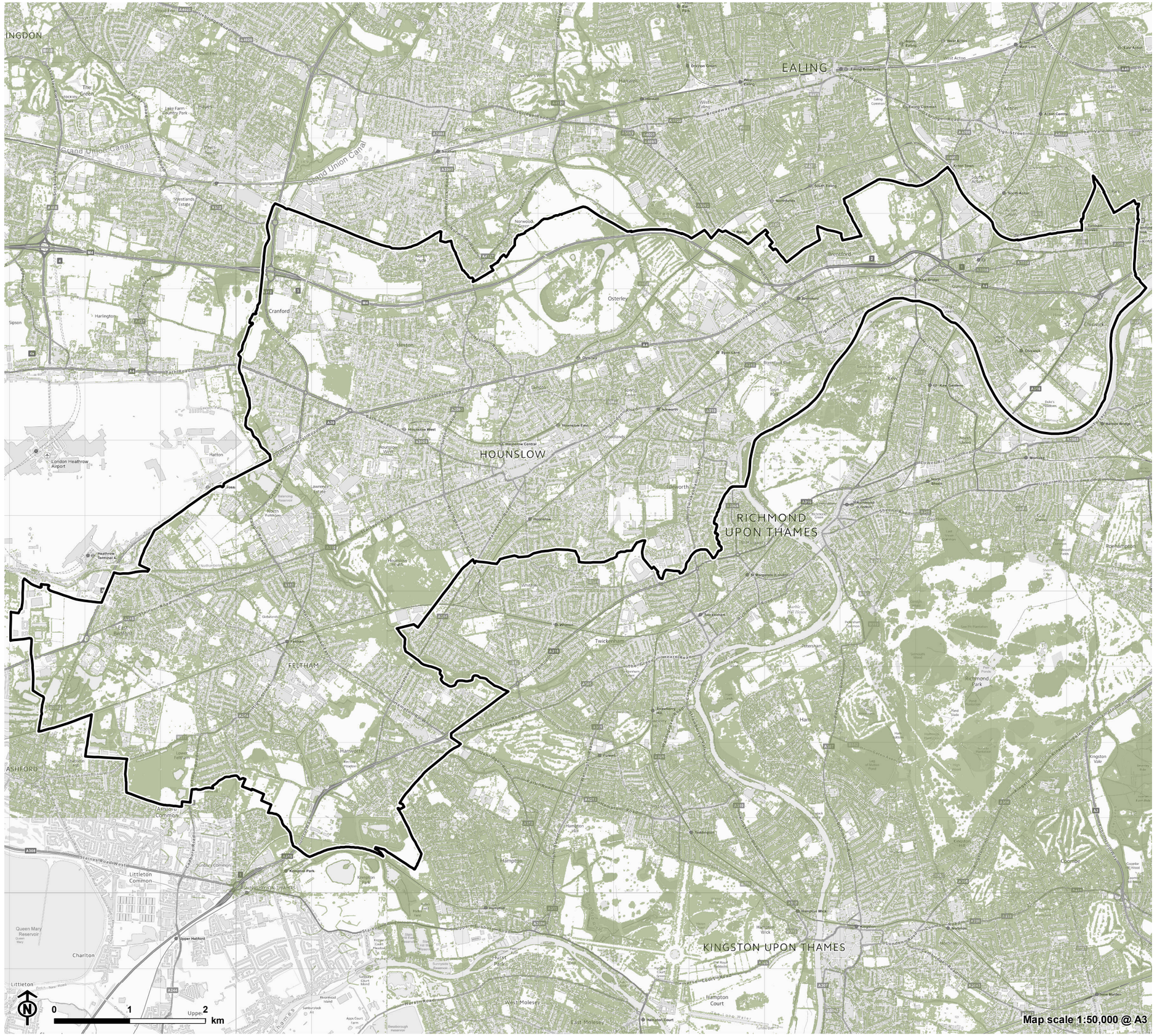
1.7 This document has been written by Bosky Trees on behalf of the London Borough of Hounslow. The plan has been developed by communicating with key stakeholders, and using relevant regional and national policy, as well as key documents which make up the borough's strategies. The key stakeholders were from the following areas within the Council:

- Highways
- Housing
- Planning
- Parks, open spaces, cemeteries and allotments

Hounslow Tree Plan and Tree Management Policy
for London Borough of Hounslow

LUC

Figure 1.1: Canopy Cover



London Borough of Hounslow
Canopy cover

CB:JI EB:Bean_C LUC FIGX_11210_r0_Canopy_Cover_A3L 18/12/2020
Source: GLA

London Borough of Hounslow

Chapter 2
Hounslow's tree management policy

2.1 Trees are an important feature contributing to the character of the London Borough of Hounslow. They have value for their individual beauty and as an intrinsic and key element of the landscape. Further benefits include wildlife habitat, pollution filtering, and reducing the harmful effects of both weather and climate change. Our policy for tree management in the borough includes the following:

1. We will ensure that our local tree population continues to be maintained in accordance with relevant legislation, research, and good practice guides.
2. We maintain a general presumption against the removal of trees and will only allow felling in accordance with good arboricultural or streetscape practice. Any trees removed shall be replaced unless there are special circumstances preventing this.
3. To maximise the benefits from trees we will encourage tree planting where it is appropriate to do so, with the aim of increasing long-term tree canopy cover and connectivity in the local area. Our aim is to plant one tree/large hedge specimen for every child born in the borough over the next 10 years (approximately 5,000 specimens per annum) as well as increasing the green coverage across the borough to 50%.
4. We will take action to educate residents and businesses about the value of trees and explore ways for more involvement from residents and businesses in decisions that involve tree planting and tree protection.
5. We will seek to plant species that will be as large as possible when mature for each location. However, it may be necessary to scale down to an appropriate size to account for constraints such as proximity to buildings, soil type, and space available.
6. New tree planting schemes should aim to diversify the species of trees within sites to ensure the sustainability of the overall tree stock. This is to mitigate the risks that monocultures present for tree management, such as pests and disease that may threaten that entire species.

7. Anyone responsible for tree supply must ensure that trees and associated soil are supplied free of pest and disease at all points in the supply chain. Consideration must be given to the latency period and life cycles of all pests and diseases in order to achieve this. Special attention must be given to imported stock.
8. We will minimise felling or potentially disfiguring forms of tree work to improve the reception of television signals, solar panels, wind turbines, CCTV operations, or the alleviation of bird mess, honey dew, leaf or fruit fall.
9. As tree managers we have a duty to protect people and property from hazardous trees so far as is reasonably practicable, and we intend to do this in a in a way that minimises the loss of value to people or wildlife.
10. We will ensure that woodlands are managed as a long-term sustainable resource for the public, for education and for nature conservation.
11. We will use best practice to promote the lifespan of veteran and potential veteran trees within the borough. We will, where appropriate, ensure dead and fallen trees and wood are left on site and dead trees are left standing to encourage species diversity, unless there are sound conservation or safety reasons for removal.
12. We will maximise the recycling of tree related ‘waste’ created by the Council’s own tree management.

Chapter 3
The management of publicly owned trees

Tree maintenance

3.1 We carry out general maintenance to trees located on the adopted highway and council open spaces. Trees within private property and unregistered land will not be maintained by us.

3.2 We will manage publicly owned trees in accordance with relevant legislation, research, and good practice guidance. The pruning of trees will only take place in circumstances where it is essential or advisable. All works shall be undertaken in a cyclical programme where possible. Only when the tree is considered to pose an unacceptable risk shall an inspection or tree work to be undertaken out of programme.

3.3 Tree pruning works shall be carried out in accordance with The British Standard BS 3998:2010 Tree Work – Recommendations. The standard gives guidance on management options for established trees (including soil care and tree felling) and overgrown hedges. For example, it gives guidance on pruning, crown thinning and crown lifting. The standard considers the impact of work on an individual tree in relation to neighbouring trees but does not cover overall management of tree populations. Tree work is inherently dangerous and only experienced and competent arborists will be used. Contractors will be expected to demonstrate that their staff are suitably trained, certificated and insured for the necessary tree management operations.

3.4 All young trees should receive formative pruning to encourage good crown structure to encourage good crown structure and shape. This results in small wounds that the tree can easily tolerate, and it reduces the potential for the tree to develop structurally weak crown features that might require costly ad-hoc remedial pruning.

3.5 Maintenance may be carried out if one of the following applies:

- A tree is causing an obstruction to a public highway, public right of way, footpath or access to property or growing low over gardens or open spaces where the public have access.
- A tree is causing a legal nuisance to an adjoining property.
- A tree may be contributing to soil shrinkage and structural damage to adjacent buildings or other built features, where it is felt that it is appropriate to restrict the size and moisture demand of the tree (see *Tree-related building subsidence* for further detail).
- A tree is creating an obstruction to repairs or maintenance of a property.
- A tree is restricting surveillance and needs to be managed to create a reassuring environment, reduce fear of crime, and increase citizen surveillance.
- A tree is physically in contact with a building and/or roof of a building.
- A tree is obstructing or interfering with street lighting or highway signage or is likely to do so.
- There is a need to remove dead, diseased or damaged branches.
- A tree is obstructing accessibility or is not conforming to a landscape review that will maximise the value of the space for residents.

3.6 We will not carry out tree maintenance if any of the following applies:

- Sap (Honeydew).
- Bird fouling.
- Satellite or TV reception signal disruption.
- Pruning due to overhanging property.
- Squirrels gaining access to property via trees.
- Leaf, fruit or flowers and general debris fall.
- Pruning or removing for speculative subsidence where no evidence provided.
- Pruning or removing because of an increase to household insurance policy.
- Removing to improve aesthetics.
- Removing trees perceived to be too large.
- Removal for drop kerb/ new driveway (when tree is expected to live longer than a further 5 years).

3.7 An engineering solution shall always be the preferred remedy in resolving problems with uneven surfaces caused by tree roots and so, when removing the tree is avoidable within budgetary constraints, trees will not be removed for reasons associated with surface damage.

3.8 Where tree removal has been requested by residents and this removal is assessed as unjustified by officers, the first stage would be for the department manager to review the decision. If the resident is not satisfied with the decision by the department manager then this is escalated to the senior officer in consultation with ward members. If the resident is not satisfied this would then be a complaint and dealt with as outlined in the Council's Corporate Complaints Policy.

3.9 The Council takes a proactive approach to publicise tree works and so when prominent trees need to be removed it will communicate the reasons behind the management decision. Appropriate signage is used to raise awareness of tree removal giving ten working days' notice and containing telephone contact details to facilitate customer contact. For health and safety reasons consultation would not be expected in cases where a tree creates or poses immediate risk or danger or is a biosecurity threat.

3.10 Any tree that is removed because it has reached the end of its safe useful life expectancy will be replaced unless there are clear reasons not to do so (as detailed in **Chapter 5**). However, no replacement tree planting would be carried out when self-sown trees that are unsuited to their location are removed.

Table 3.1: A summary of the species distribution of trees on publicly owned land

Genus	%
Acer	16.5
Prunus	12.5
Tilia	8.8
Fraxinus	6.8
Quercus	6.1
Betula	5.5
Platanus	4.9
Sorbus	4.2
Crataegus	3.8
Populus	2.8
Malus	2.5
Aesculus	2.2
Carpinus	2.1
Chamaecyparis	1.9
Taxus	1.6
Salix	1.6
Pyrus	1.0
Alnus	1.0
xCupressocyparis	1.0
Ulmus	0.8
Pinus	0.7
Fagus	0.7
Other	11.1
Total	**100.0**

A tree risk management strategy

3.11 Trees give us many benefits that we need but they are natural structures and can sometimes shed their branches or fall over. This tree risk management strategy explains how the Council manage the risk from trees or branches falling and causing death, injury, or damage to property.

3.12 We have a duty of care to manage the risk from our trees. That duty also says we should be reasonable, proportionate, and reasonably practicable when managing the risk. What that means is, there is a balance we need to strike between the many benefits trees provide, the risk, and the costs of managing the risk. We will manage the risks associated with our trees in accordance with best industry practice, employing the approaches detailed in the National Tree Safety Group's main publication: Common Sense Risk Management of Trees (NTSG 2011).

3.13 While our knowledge of tree structure, tree defects, and host/pathogen interactions is ever increasing, the dynamic interactions between a diverse range of tree species, wood digesting organisms and their environment are of such complexity that the precise quantification of potential for tree failure is unlikely to be achievable. In addition, many symptoms are out of sight as they may be in internal parts of the tree or underground. Nevertheless, with training and the application of a systematic approach it is possible to rank trees according to the degree of risk that they pose. This then puts managers in a position to address tree risks in a sensible and economic manner.

3.14 When considering the risks posed by the tree, the assessment should consider three different factors:

1. The likely target (people or property within falling distance of the tree,
2. The size of the part that could impact the target, and
3. The likelihood of that part failing.

3.15 Observations made during tree surveys should inform conclusions as to the extent and nature of decayed and/or dysfunctional wood and whether these may increase the risk of structural failure. Given that that a detailed understanding of these features is required along with a knowledge of the properties of different tree species it is advised that this assessment is carried out by a qualified arboriculturist.

3.16 For large areas it would be excessive to carry out a survey of every tree each year. Therefore, in order to concentrate attention where it is most required, it is normal for areas with different levels of usage (zones) to be surveyed at different frequencies. Ad hoc or passive inspections will also be required in response to potential damaging incidents, such as following severe storm events or excavations close to roots. Passive inspections should also take place as part of daily inspections of public parks.

3.17 The tree risk management strategy will be periodically reviewed to ensure that it is working as intended. Staff should monitor its strengths and weaknesses and if any changes are required before the planned review, they should be recorded and addressed in the next strategy review. In the very unlikely event that we have a risk realised, and someone is seriously injured or killed, the Council will investigate the accident and review the tree strategy. If necessary, it will be updated.

Tree-related building subsidence

3.18 The combination of a changing climate and the increase in structural damage to buildings is a significant threat to the existence of trees in urban areas. Trees can present a risk of building damage when growing close to low rise buildings on a shrinkable clay soil. Our trees are assessed and if found appropriate, managed according to London Tree Officers Association The tree-related subsidence policy should be in line with the guidance provided in the London Tree Officers Association A Risk Limitation Strategy for Tree Root Claims - 3rd Edition 2008. This guidance recommends adopting a system of cyclical maintenance and selective removal where justified. Tree pruning reduces and can control water demand of trees by periodically and systematically removing a percentage of leaves from the crown and is the basis for cyclical pruning.

3.19 Pollarding is a method of pruning that keeps trees and shrubs smaller than they would naturally grow. This method of tree management is aimed at specific groups of trees, usually planted in avenues, and the tree species are predominantly London Plane, Lime and occasionally the Maple. These trees are managed in this way as the streets they are found in were designed with pollarding in mind. It is also a method of managing water demand, allowing large trees to be grown close to buildings, and can be extended to other tree species.

3.20 Root barrier installation below ground to contain tree roots and remove rooting influence on building foundations has been used occasionally.

3.21 All new subsidence claims will be investigated, reviewed and managed by the Insurance Team working with a suitably qualified arboriculturist. Subsidence claims that involve the loss of protected trees will require sufficient evidence to demonstrate that the tree is unambiguously the cause of the subsidence. In general, more valuable trees would require a higher level of evidence to demonstrate that the tree is causing the subsidence.

Chapter 4
Statutory tree protection

Legal tree protection

4.1 In England, some trees are protected by legislation, and it is essential that a person establishes the legal status of trees prior to carrying out works to them. Unauthorised work to protected trees could lead to prosecution, resulting in enforcement action such as fines or a criminal record. Tree Preservation Orders, Conservation Areas, Planning Conditions, Felling Licences or Restrictive Covenants legally protect many trees in the UK.

Tree preservation orders (TPOs)

4.2 Tree Preservation Orders (TPOs) are made by a Local Planning Authority (LPA) to protect specific trees, groups of trees or woodlands. A TPO makes it a criminal offence to cut down, top, lop, uproot or wilfully damage or destroy the tree protected without the LPA's written consent. In serious instances, cases may be dealt with in the Crown Court where an unlimited fine can be imposed.

4.3 A TPO is a written order which, in general, makes it a criminal offence to cut down, prune, top, lop, uproot, wilfully damage or wilfully destroy a tree protected by that order, or to cause or permit such actions, without the authority's permission. Anyone found guilty of such an offence is liable. In serious cases the case may be dealt with in the Crown Court where an unlimited fine can be imposed. TPOs may be made by the Local Planning Authority to cover trees of amenity value, as individuals, groups, woodlands or trees within a specified area. Any species can be protected, but no species is automatically protected by a Tree Preservation Order.

4.4 It is an offence to wilfully damage or destroy a tree that is the subject of a TPO without permission from the LPA. The Town and Country Planning (Tree Preservation) (England) Regulations 2012 and its accompanying 'Guide to tree preservation procedures', makes clear that deliberate destruction of a protected tree or damage in a manner likely to destroy it, without the permission of the LPA, would render you liable to an unlimited fine (£2,500 for other

offences). Also, a replacement tree would normally have to be planted if the tree were cut down or destroyed.

4.5 Exceptions include:

- Work to a tree which is urgently necessary because it presents an immediate risk of serious harm (but LPA must be notified as soon as practicable)
- Removal or work to a dead tree (but must give 5 working days' written notice)
- Removal of dead branches
- Pruning trees cultivated for fruit
- Prevent or control a legal nuisance

4.6 To make an application to carry out tree works you will need to complete an application form and submit it to the LPA. The form can either be submitted through the Planning Portal website or directly to the LPA. More information on TPOs can be found at https://www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas.

4.7 The Council will make full use of its powers to introduce new tree preservation orders. The majority of new TPO's are made as a result of planning applications for new development. The Council also receives a number of requests each year from local residents to protect individual or groups of trees which are considered important to the borough. Trees nominated for TPOs will be assessed carefully and consistently using systems to determine their suitability and visual public amenity value, and will be prioritised in order of expediency.

4.8 LPAs are advised by Central Government to keep their TPOs under review by making full use of its variation and revocation powers in order to ensure their TPO's are up to date. The reasons why it may become important to vary or revoke a TPO are for example if an order was made before the implementation of later changes to the model order. Some TPOs were made in the 1940s and 1950s with many trees either missing or no longer merit protection. Central Government have also recommended that LPAs put in place a programme for reviewing its old area orders. Therefore, the Council will aim to assess and compile a list of all its area TPOs to help establish a framework and timescale, in view of putting into place a resurvey strategy.

Conservation areas

4.9 Conservation areas are designated by local authorities to protect spaces with architectural or historic interest – the character and appearance of which it is desirable to preserve and enhance. If the trees stand within a conservation area they have the same protection as a tree protected by a TPO. Trees in conservation areas may also be covered by TPOs in which case you must comply with that legislation, but if a tree in a conservation area is not covered by a TPO a person needs to give written notice to the LPA of any proposed work (online via the Planning Portal, by letter, email, or on the LPA's form), describing what they want to do at least six weeks before the work starts. This is called a 'section 211 notice' and it gives the LPA an opportunity to consider protecting the tree with a TPO. Wilful damage or destruction of a tree without giving prior notice can result in a fine up to £20,000 per offence.

4.10 A person does not need to give notice of work on a tree in a conservation area less than 7.5 centimetres in diameter, measured 1.5 metres above the ground (or 10 centimetres if thinning to help the growth of other trees). The main exceptions are the same as those for TPO.

4.11 More information on the protection of trees in conservation areas can be found at https://www.gov.uk/guidance/tree-preservation-orders-and-trees-in-conservation-areas.

Felling licenses

4.12 In any calendar quarter[1], up to 5 cubic metres may be felled without a licence from the Forestry Commission, as long as no more than 2 cubic metres are sold. A felling license is therefore required if more than 5 cubic metres are to be felled in a calendar quarter. However, if planning permission has been granted, a license is not required to fell trees immediately required for the purposes authorised by the Planning Authority. You can find out more about felling licences at https://www.gov.uk/guidance/tree-felling-licence-when-you-need-to-apply.

Hedgerow Regulations 1997

4.13 The Hedgerow Regulations (1997) make it unlawful to remove most countryside hedgerows without written consent from the Local Planning Authority. 'Removal' means uprooting, serious damage to the roots or over-maintenance resulting in the death of the hedge. Proper maintenance, including coppicing, pruning and laying, does not require permission.

[1] 1 Jan to 31 March, 1 April to 30 June, 1 July to 30 September and 1 October to 31 December.

More information on protection and management of hedgerows can be found on this government website.

4.14 The Wildlife and Countryside Act 1981 also gives legal protection to the birds nesting in the hedge, so intentional damage or destruction of an active nest in a hedge is a criminal offence.

Dangerous trees

4.15 Where trees on private land are posing an *imminent threat* to public safety, the Council is authorised to serve a notice on the tree owner to make the tree safe. If this notice is not complied with, works can be undertaken by the Council and costs recovered from the property owner (Local Government Miscellaneous Provisions Act 1976 & Section 154 of The Highways Act 1980). All branches and timber will remain the property of the owner and will be left on site.

The consideration of trees in new development schemes

4.16 Under the UK planning system, Local Planning Authorities have a statutory duty to consider the protection and planting of trees when granting planning permission for proposed development. The potential effect of development on trees, whether statutorily protected (e.g. by a TPO or by their inclusion within a conservation area) or not, is a material consideration that is taken into account when dealing with planning applications. The Forestry Commission and Natural England have also produced guidance – *Ancient woodland, ancient trees and veteran trees: protecting them from development* (Forestry Commission and Natural England 2018). This outlines what local planning authorities should consider for developments affecting Ancient woodland, ancient trees and veteran trees.

4.17 If trees, woodlands or hedgerows are present on or adjacent to the site you must submit an **Arboricultural Impact Assessment** as part of the planning application. This is a study undertaken by an arboriculturist, to identify, evaluate and possibly mitigate the extent of direct and indirect impacts on existing trees that may arise as a result of the implementation of any site layout proposal. The approach for assessing the impact of new development on trees is detailed in the British Standard *BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations*. During a BS 5837 survey trees are classified into four retention categories, A, B, C or U and the stem diameters of the trees are used to calculate the root protection area (RPA[2]) required by each tree during construction. The tree constraints assessment should be used to inform site layout design, making sure that the best trees are retained and protected.

4.18 The arboricultural impact assessment report must be accompanied by a **Tree Protection Plan** that details the tree protection measures that will be employed during construction. The tree protection plan must be a scale drawing, informed by descriptive text where necessary, based upon the finalized proposals, showing trees for retention and illustrating the tree and landscape protection measures. Arboriculture is a specialist area and as such any assessments submitted to the Local Planning Authority as part of a planning application must be carried out by a qualified arboricultural consultant.

4.19 If it is determined that you will be impacting on trees due to be retained you will be required to submit an **Arboricultural Method Statement**. This method statement should detail appropriate methodologies for the implementation of any aspect of development that is within a tree's root protection area or has the potential to result in loss of or damage to a tree that is to be retained. As well as construction details the arboricultural method statement should refer to temporary features such as details of vehicular access for construction traffic, areas for material storage, site huts, etc. as well as details of protective fencing and any other methods to be used for protecting trees both during the development.

4.20 The arboricultural impact assessment should also include a **Tree Replacement Calculation**. The number of replacement trees required by a scheme needs to be calculated in accordance with the Hounslow Tree Replacement Standard (see Appendix 1 for further guidance).

4.21 Any new development proposal is likely to consist of a number of major interconnected elements: the trees, shrubs, other plants and grasses which form the soft landscaping; and the use of paving, bricks, timber and other materials to form paths, parking areas, driveways, patios, boundary walls which form the hard landscaping. Drainage is also likely to be an important consideration. Therefore, the **Landscaping Scheme** should include list all the

[2] The root protection area (RPA) is a 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 roots and soil structure is treated as a priority.

proposed plant and specify the species to be planted, and the size of stock that will be used. Large trees are harder to establish and small trees have little impact for many years. On expansive sites a combination of planting sizes is likely to be best, and on smaller sites larger trees in combination with hedge plants may be appropriate.

4.22 The developer will be expected to propose a planting scheme which shows the retention of existing trees and established plants (where appropriate) and demonstrates that proposed new trees, shrubs, plants and bulbs and grasses will be able to grow on without causing undue problems in the future e.g., to pedestrians, buildings, traffic sight lines, the field of view of CCTV cameras, renewable energy installations, drains and other essential services. Therefore, the landscaping scheme must include a **Landscape Proposals Plan** that shows the specific detailing of the hard and soft landscaping in context with the proposed development, and a 3-year **Landscape Maintenance and Monitoring Plan**.

Compensation for any trees lost as a result of new development

4.23 The Council requires new tree planting to be carried out to compensate for any trees that are lost as part of new development. The number of trees required to compensate for loss of existing trees must be calculated in accordance with the Hounslow Tree Replacement Standard. Essentially, the number of replacement trees required to compensate for the loss of a tree depends upon the girth of the tree to be lost, as set out in Appendix 1. The number of replacement trees will need to be calculated by the developer and submitted with the planning application. Ideally these trees should be planted on site but if there is a shortfall compensation could be made in the form of a financial contribution to the Council to cover the cost of planting the required number of replacement trees on land nearby.

Chapter 5
New tree planting

Aims and objectives

5.1 In general, when the Council removes a tree it will replant with a new tree in a similar location soon afterwards, unless there are sound reasons not to. However, in the interests of increasing tree canopy cover, there is a desire to plant more trees in suitable locations around the borough. Our aim is to plant more trees in locations that are suitable for them to grow to maturity and make a long-term contribution to the local tree canopy cover. Our main aims for new tree planting are as follows:

1. To plant one tree per child (approximately 5,000 trees per year).
2. To direct our tree planting strategically – using opportunity mapping to guide planting to where there is the greatest need for the benefits from trees.
3. For new trees to be planted at a higher standard than in previous years, with establishment support to reduce failure and potential conflict with existing infrastructure.
4. To plant bigger species wherever possible in order to maximize the long-term benefits of urban tree planting.
5. To plant more native broadleaved woodlands to support biodiversity.
6. To include members of the public in designing new planting schemes and when putting the trees in the ground.

5.2 In addition to Council-led tree planting, we will strengthen planning policy to ensure adequate replacement planting for trees lost as part of new development schemes (further details are provided in Appendix A).

Drivers for new tree planting

5.3 There are five strands of planting the Council will encourage, they are:

1. Replacing trees that are removed;
2. Strengthening the landscape by planting avenues and specimen trees in greenspaces;
3. Planting in areas of poor air quality;
4. Planting trees in areas of low tree canopy cover; and
5. New woodland creation to link other wildlife habitats wherever possible.

Community engagement

5.4 The Council wants to include the local community in new tree planting events. New tree planting proposals will be communicated to residents, and tree planting events will be open to the public and businesses where possible. We will also work together with schools and community groups that wish to plant trees. Where it can be arranged, we will include volunteers in the aftercare of individual trees and plantations.

Species selection

5.5 Urban trees provide tangible benefits local wildlife, human health, and the appearance of the landscape. In this context trees of all sizes are valuable but healthy large trees generally provide the greatest benefits and the best returns on investments (Hand and Doick 2019). Therefore, large-growing climax tree species are desirable whenever possible. However, it may be necessary to scale down to an appropriate size to account for constraints such as proximity to buildings, soil type, and space available.

5.6 There are many different plant characteristics (e.g., foliage, ultimate size, etc.) and tolerances that need to be considered when choosing species. In addition to these, the ecosystem services (and disservices) need to be considered as well as climate change and pest and disease resilience. With careful design and appropriate species selection, planting schemes can deliver multiple services. Once clarity exists on the objectives of a planting scheme, it is possible to identify species traits that enable the tree to efficiently deliver that benefit. It is recommended that tree species selection is guided by the reference text called *Tree Species Selection for Green Infrastructure - A Guide for Specifiers* (TDAG 2018).

5.7 Planting sites within green infrastructure are highly variable and so the principal driver in tree selection decisions should relate to the species' ability to thrive on the chosen site, as the overwhelming majority of benefits imparted on communities by trees relies on the tree performing well in the landscape. For example, buildings as well as other vegetation can influence the quality of the light environment of a planting site and so species with good shade tolerance should be selected for shady courtyards, on the northern side of tall buildings and on the shady side of streets. Trees clinging on to life, barely surviving, require more intensive management, are more vulnerable to pests and pathogens and, ultimately, deliver meagre benefits. With numerous pressures on land in urban environments, the precious space allocated to trees must provide an effective contribution to the landscape and long-lasting, sustainable benefits. For these reasons, species selection is a subject that warrants strategic attention by decision makers across the green infrastructure community (TDAG 2018).

5.8 New tree planting schemes should aim to diversify the species of trees within sites to ensure the sustainability of the overall tree stock. This is to mitigate the risks that monocultures present for tree management, such as pests and disease that may threaten that entire species. Therefore, avoid weighting tree planting towards more than 20% of the same species in a single scheme whilst relating this decision to the population species mix as a whole. When making these decisions, the context of any existing tree population (age structure, species mix, etc.) should also be factored into the tree selection process.

Biodiversity

5.9 Those tree species which have been present in Britain for a longer period (native species), support a wider range of other species. But the use of native species should not be considered essential because resilience to known and predicted impacts of climate change should be considered within the context of the green infrastructure. Selection of 'locally appropriate' tree species that are capable of thriving in future environments should be the overarching aim. In general, near-native exotic species that are more closely related to native species are preferable to those that are more phylogenetically distinct.

5.10 Diversity of tree height within a landscape provides the vertical structure required by many birds. Larger and longer-lived tree species are valuable for nesting and roosting birds and bats as well as fungi and insects. Many fruits (especially the more fleshy berries, drupes and pomes) are an important food source for birds and small mammals. In urban gardens, the best way to enhance invertebrate biodiversity is to plant a tree, regardless of the tree species.

Woodland and greenspace planting

5.11 Woodland planting schemes should be informed by an Ecological Site Classification (ESC) assessment wherever possible. This is a decision support tool that identifies tree species that are suited to the local site conditions (https://www.forestresearch.gov.uk/tools-and-resources/ecological-site-classification-decision-support-system-esc-dss/).

5.12 The susceptibility of woodland and parkland habitats to climate change is in part reflected in the species composition. Those with greater canopy diversity are likely be more resilient to the possible introduction of species-specific diseases. Diversification of the structure and age-class of a woodland may also increase resilience, alongside benefitting biodiversity. Climate change adaptation responses for woodland habitats include an increase in the age structure and structural heterogeneity of woodland, so to increase in the mix of native trees through active management, assessment of the ecological role of near-native species as a component of semi-natural woodland beyond their current native range. Specifically, in relation to ash-dominated woodlands, buffering smaller sites by extending the woodland edge and taking opportunities for new woodland creation nearby is recommended.

5.13 Thinning of woodland plantations is usually done around year 10, or when trees are about 7m tall. The process is repeated on a 5–8year cycle. Felling around 1 in 5 trees will reduce competition for light, water and nutrients. By giving the remaining trees more room, thinning allows trees to develop a better shape and grow stronger and more resilient.

Sourcing tree stock

5.14 Successful tree planting – where trees thrive and flourish – relies on a series of connected activities from careful planning through to effective maintenance. The British Standard *BS 8545:2014 Trees: From nursery to independence in the landscape* – recommendations is a key document that illustrates this process via flow charts and text. It details the different types of nursery production, their advantages and disadvantages as well as the acceptable sizes and forms of tree material for planting. Nursery stock specification information can also be found in *BS 3936-4:2007 Nursery Stock Specification for forest trees, poplars and willows,* and *BS 3936-3:1990 Nursery Stock Specification for fruit plants*.

5.15 Small trees grow faster after transplanting than larger ones because their roots come into balance with their shoots sooner. However, small trees are prone to vandalism and so it is often sensible to plant larger stock in urban areas because they are sturdier. Specifiers should be aware that larger stock will require more water, and they will take longer to establish in the landscape than smaller stock.

5.16 Procurement policy should follow the recommendations in Section 8 of BS 8545:2014 to ensure the purchase of a healthy tree. Anyone responsible for tree supply must ensure that trees and associated soil are supplied free of pest and disease at all points in the supply chain. In order to achieve this, consideration must be given to the latency period and life cycles of all pests and diseases. Special attention to biosecurity must be given to imported stock.

5.17 The primary driver for including biosecurity in procurement policy is to prevent the transmission of pests and diseases due to transportation of tree stock, specifically transportation without adequate oversight or an effective audit trail attributing ownership and a chain of custody from seed to planted tree at its final destination. Therefore, procurement policy should favour:

1. Trees grown from seed in the UK, or those subject to a period of isolation for one full growing season following importation from abroad. Therefore, trees must not be imported and planted directly into the landscape.
2. Suppliers that are able to demonstrate a supply chain audit trail (for example, are part of a recognised Plant Health Assurance scheme) that ensures plant material sourced within the UK is under a regime of biosecurity-aware production and following nationally agreed good practice guidelines.

5.18 Woodland and hedgerow plantings typically use saplings either as bare root or cell grown planted at high densities. For trees in hard landscapes a different approach is needed particularly as space is more limited and the high cost of providing a suitable-sized rootable environment. In these situations, larger-sized stock is more suitable, planted at low density. Planting fewer trees with an improved specification is a better approach than planting many with smaller rooting volumes.

5.19 For orchard and fruit tree planting, the distance between plants will vary depending on the ultimate size of tree – more vigorous growing rootstocks may need more space than dwarfing varieties.

Planting trees in hard landscapes

5.20 Society values trees in urban spaces and a variety of professional disciplines have evolved to ensure that urban tree planting schemes mature within multifunctional urban streets. Impediments to a healthy root system are often an underlying cause of poor tree growth or health problems that lead to their decline and early death. It is also now well understood that healthy plants must be planted at the outset and that artificial irrigation is needed in the months and years after planting to ensure that trees have sufficient access to water (as detailed in **Chapter 6**). To remain healthy and grow to a significant size, urban trees also require tree pits that have been designed to contain a large volume of soil containing organic matter and beneficial soil micro-organisms, with a favourable pH and nutrient composition, sufficient water availability, and adequate drainage.

5.21 *Trees in Hard Landscapes – A Guide to Delivery* (TDAG 2014) explains the fundamental principles of urban tree planting and provides technical design solutions for engineered tree pits. The guide provides case studies and references to useful documents.

Tree pit design

5.22 The area on the pavement surrounding the tree trunk is called a planting hole. Hounslow Highways advocates the use of a flexible material (asphalt), to cover this planting hole area. Resin bound materials and topsoil are not considered as suitable surfaces for pedestrian traffic because they do not have the properties required of a pavement and would therefore require extremely high maintenance. The safety of pedestrians would be compromised due to the high likelihood of frequent failure of these materials.

5.23 Future damage to hard surfaces by roots can be avoided by employing appropriate tree and infrastructure-based solutions. *Trees in Hard Landscapes – A Guide to Delivery* (TDAG 2014) offers an introduction to this complex subject and further references. The roots of trees need a good supply of water and oxygen which can be achieved by using irrigation systems, permeable paving or standard paving with aeration inlets that provide pathways for air and water to reach the soil in the tree pit.

5.24 New tree pits offer an opportunity to use stormwater and drainage infrastructure as an asset to improve the quality of spaces and to deliver multiple benefits for residents and other users of the site. Trees bring multiple Sustainable Drainage System (SuDS) benefits and so they should be included within SuDS features wherever possible. Trees can be planted in a range of infiltration SuDS components (e.g., rain gardens, detention basins and swales) to improve their performance or they can be used as a separate SuDS feature (CIRIA 2015). Diverting rainwater into tree pits provides the trees with a much-needed source of water and helps them achieve their growth potential, however, provision should be made for taking excess water away to avoid water logging. Large tree pits that support multiple trees are generally better for stormwater management because they can store higher volumes of water.

5.25 When proposing to plant trees on pavements it is crucial that the tree pit does not conflict with underground services. Service checks are required to determine the viability of planting proposals and how to tailor tree pit specifications to ensure that there is sufficient space to accommodate both existing services and the tree.

Recommended soil volumes for new tree pits

5.26 The most limiting factor in the growth of urban trees is the lack of usable soil for root growth, and inadequate underground rooting space is one of the main contributors to the premature mortality of urban trees. Small and short-lived trees do not provide significant green infrastructure benefits, and nor do they contribute to long-term increases in canopy cover. Therefore, when designing urban spaces, it is necessary to make sure that the species that is planted is provided with enough soil to be healthy and reach a degree of maturity that will deliver benefits to the local community. The largest possible rooting volume with good supporting infrastructure should be striven for any given budget. Reducing the overall number of trees in an urban scheme to favour higher-quality plants and bigger/better rooting conditions will promote a better outcome for a given cost.

5.27 Underground space is often at a premium in urban areas and so engineered tree pits are often required. The most common forms of engineered tree pits are created using modular soil cells or structural soils (see **Figure 5.1**). It is essential that inlets are provided to allow rainwater to pass through the tree pit and to allow air to move into and out of the soil in the underground tree pit.

5.28 New trees proposed for areas of hard landscaping must be provided with adequate soil volumes for them to reach their mature size. Adjacent trees can share soil because root systems can overlap (as any woodland stand demonstrates); in design terms this means that the volume of soil/rooting medium required by each tree can be reduced. In the main, tree pits created using structural soils need to be larger than tree pits filled with loam soils because they

contain a high rock component and consequently a smaller proportion of usable soil. The minimum volume of soil recommended for trees of different sizes is provided in **Table 5.1**.

5.29 In soft landscaping areas the medium used to backfill the planting hole should be as close as possible in texture and structure to the soil excavated. Unless the ground contains a high level of inert material, the soil dug from the excavated hole should be used as the backfill medium. For pavements, the material that provides the load-bearing structure is frequently inert with little organic content. There will therefore normally be a requirement to import soil. For larger landscaped areas, a subsoil according to *BS 8601:2013 Specification for subsoil and requirements for use* should be included into the design up to 40cm beneath the surface. Above that a 40cm layer of a sandy loam, 'multipurpose' topsoil, according to *BS 3882:2015 Specification for topsoil*, should be installed. Therefore, for larger trees the bottom of the rootball will be sat in sub-soil. For urban tree pits beneath a suspended pavement the aim should be to try and get as much topsoil in the hole as possible because subsurface aeration and irrigation can allow the whole of the tree pit volume to be viable rooting medium.

Figure 5.1: Engineered tree pits can extend tree pits beneath hard surfacing.

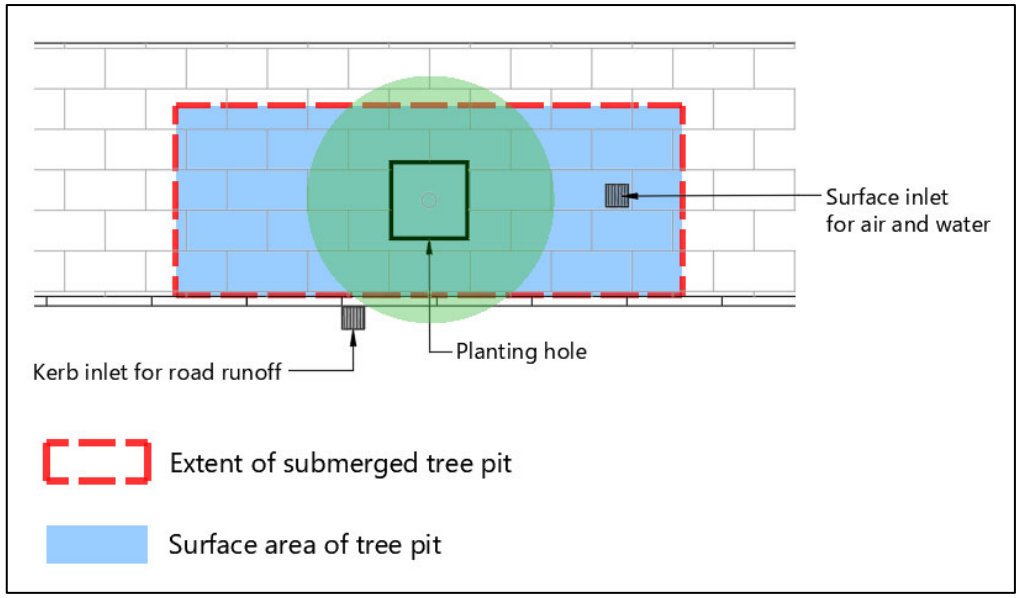


Table 5.1: Minimum requirements for tree pit specifications.

	Mature Size of Tree*†				
	Very Small (<5m)	**Small** (5–10m)	**Medium** (10–15m)	**Large** (15-25m)	**Massive** (>25m)
Recommended minimum volume of **uncompacted loam soil**	**6m³** (5m³ if shared)	**12m³** (9.5m³ if shared)	**20m³** (16m³ if shared)	**28m³** (24m³ if shared)	**36m³** (30m³ if shared)
Recommended minimum volume of **stone-based structural soil**	**8m³** (6m³ if shared)	**15m³** (12m³ if shared)	**26m³** (20m³ if shared)	**36m³** (28m³ if shared)	**45m³** (35m³ if shared)
Recommended number of **air/water inlets‡**	**1** (0.5 if shared)	**1** (0.5 if shared)	**1**	**2** (1.5 if shared)	**2**

* Mature tree sizes are listed in Tree Species Selection for Green Infrastructure - a guide for specifiers http://www.tdag.org.uk/uploads/4/2/8/0/4280686/tdag_treespeciesguidev1.3.pdf.

† Fastigiate trees will require less rooting space than trees with wide canopy shapes. As a rule of thumb, one should assume that a tree with a narrow and columnar crown form would require half as much soil volume as a tree of the same height that has a wide crown.

‡ Ideally the surface of the tree pit should be open, rough in texture, and protected from compaction. If there is hard surfacing above the tree pit designers must provide pathways for water ingress and gaseous exchange. This could be provided by a permeable surface over the whole of the tree pit or by using a non-permeable surface with specially designed inlets. Suitable inlets would be substantially larger than an irrigation tube and service the whole of the tree pit.

Chapter 6
Tree planting and aftercare

Timing of new tree planting

6.1 Although most trees and shrubs can be obtained as pot-grown plants which can be planted out throughout the year, their establishment if planted in the summer months is likely to be considerably more difficult than if they were planted in late autumn or early winter. The normal tree planting season extends from November to March inclusive. However, this is not always a practicable option and planting may have to be done on the warmer and drier months of the year. Development proposals should therefore detail adequate watering and weed control if they want to plant up a site from March to November. This is in the developer's financial interest because any plants which die within three years after planting will require replacement.

How to plant new trees

6.2 Where trees are planted individually, they should be pit planted and spaced in such a way that will allow them to develop full crowns at maturity. Woodlands or copses can be planted more densely to encourage them to grow tall. Woodland plantings that use small bare root or container grown stock, can be slot or notch planted (rather than pit planted) but care is needed to ensure that plants are at the correct depth and angle.

6.3 Special attention is required to ensure that trees are planted at the right depth because it is widely recognised that planting trees too deep is a major cause of premature decline. The root flare should meet the ground at the same height that the tree developed in the nursery. For pit planted trees this may mean that the depth of the planting pit needs to be adjusted so that the root ball sits at the right level. All trees must be watered to field capacity immediately after planting.

6.4 There are different techniques for supporting newly planted trees but in general it is recommended that trees are double staked. Whatever system is used, it should allow stem movement as low down the tree as possible while keeping the roots secured and in contact with

the soil. Damage to the tree from rubbing stakes, wires or other securing materials needs to be prevented.

6.5 Some form of temporary tree guard should always be used during the establishment period. Installing a temporary weldmesh guard (supported by stakes) affords protection in the trees' first years after planting.

Post-planting aftercare and maintenance of young trees

6.6 Weeds can kill young trees by competing for light, nutrients and moisture. Lack of water becomes critical when the ground cover is dominated by grasses. Weed control will need to be carried out each year for the first three years of establishment. This control must be carried out before the trees start growing each year, (i.e., between late March and the end of May).

6.7 Weeding, whether by hand, chemical, mulch mats or bark/wood chips, should be undertaken in the first three to five years of the tree's life. Pesticide use in forestry is generally declining in response to policies and plans for chemical reduction. The approach taken to this within the UK Forest Standard is:

- Restrict pesticide use to those approved by international agreement
- Seek alternatives to pesticide use
- Confine necessary usage to the absolute minimum

6.8 To monitor the success of a planting scheme newly planted trees will need to be inspected by a designated manager in accordance with an agreed schedule. A maintenance and monitoring scheme should be included within the 3-year Landscape Maintenance and Monitoring Plan.

Irrigation of new tree planting

6.9 Insufficient watering in the initial years after planting is the main cause of poor tree establishment. Newly planted trees will only make long-term contributions to green infrastructure if they establish and grow to maturity. All trees uptake water from their roots. When a young tree is delivered from the nursery its root system has been cut way back no matter how the tree has been prepared, and so bare root trees, root-balled trees, and container trees all require regular and consistent watering until their root systems re-establish.

6.10 A newly planted tree should be watered in when planted, and at the point of bud burst in the spring and should be continued throughout the spring and summer until the leaves have fallen in autumn (for deciduous trees). The frequency of irrigation is more important than the volume of water given at any one time. Increased water volumes cannot compensate for a lack of frequency (BSI 2014). In the first growing season trees benefit from being watered 'little and often' because their root system will be out of balance with their crown. However, in the second and third season after planting it is recommended the recommended approach is to give trees occasional deep soakings, rather than light sprinkles because this encourages the roots to seek water as they sense the soil moisture gradually dropping. The amount of water you need to apply will depend on the tree species, the size of the tree and the soil type. Also, as roots grow and spread, irrigation volume will need to be increased.

6.11 Trees will require watering water more frequently during periods of hot or dry weather. Young trees are particularly vulnerable to drought stress because they relatively small root systems and so they should be watered more frequently during prolonged periods of warm and dry weather. New planting schemes should be accompanied by a **Landscape Maintenance and Monitoring Plan** that includes watering trees in times of drought.

Chapter 7
Assessing the value of our trees

7.1 There has been global adoption of new concepts, such as ecosystems services, natural capital and natural capital accounting, which are reflected in planning policy and statistical reporting throughout the UK.

7.2 Situations where valuation is important:

- **Protection** – valuation used to establish a balanced benefits assessment of tree removal and deter avoidable loss.
- **Compensation/mitigation** – valuation used to secure commensurate replacement or payment for removal or damage to trees.
- **Design** – valuation used to compare design options and articulate design outcomes to a wider audience.
- **Management** – valuation used to enhance expenditure planning and collaboration for Green Infrastructure delivery.

7.3 At present the data required to carry out tree valuations is only collected for trees situated on Highway's land. In future all tree surveys will include the data fields required to calculate a basic CAVAT tree value assessment. **Figure 7.1** sets out some of the quantified values of trees from various studies in terms of ecosystem services.

Figure 7.1: The Quantitative value of trees[3]

1. A typical medium-sized deciduous tree can intercept over 10,000L of rainfall per year.
2. One mature oak can support over 280 different species of insect.
3. ~22kg CO2 is sequestered in a mature tree every year.
4. Research from the University of Edinburgh shows that one oak tree living for 100 years will uptake 1.5 tonnes of CO2. An average tree will uptake just under 1 tonne of CO2 in its lifetime.
5. Particulate levels can be reduced by up to 60% on tree-lined streets when compared to those without.
6. One mature tree has the same cooling effect as 10 room-sized air conditioners, reducing local energy consumption by up to 10%.
7. One mature tree releases enough oxygen into the atmosphere each year to support two human beings.
8. Records of a mature lime tree in Malmo, Sweden consuming ~670 litres of rainfall per day during heavy rainfall events.
9. Apartment blocks surrounded by mature trees experienced 52% fewer reported crimes than those without greenery.

[3] Center for Urban Forest Research; Garden Organic; One Tree Planted; IMS; and GreenBlue Urban

Chapter 8
The vision and action plan

The vision

8.1 The Council is committed to protect our much-valued trees and support the delivery of our expansion of tree planting throughout the borough. Trees are key to the success of Hounslow's green infrastructure and by working with all stakeholders we will ensure security, preservation and enhancement of the borough's tree canopy cover.

8.2 The Council wishes to expand green infrastructure to tackle the effects of the Climate Emergency. Further we intend to plant one tree/large hedge specimen for every child born in the borough over the next 10 years (approximately 5,000 trees per annum) as well as increasing the green coverage across the borough to 50%.

Organisational change required

The current situation

8.3 At present different departments manage publicly owned trees in different ways. Going forward, the Council wishes to have one policy and management that consolidates current tree management processes across the different departments within the borough.

Table 8.1: The existing approach to managing the Council's trees.

Item	Highways	Housing	Parks & open spaces etc
Number of trees	11,276	10,500	80,000 in woodlands (estimated)
Is management directed by a policy?	No	Housing Tree Policy	No

Item	Highways	Housing	Parks & open spaces etc
Tree planting	1:1 replacement for removed trees	1:1 replacement for removed trees	1:1 replacement for removed trees
Tree management database	easytreev	CTC (a bespoke MS Access database)	easytreev but considering changing to Arbortrack
Risk assessment methodology used by tree surveyors	TBC	THREATS	TBC
Frequency of tree inspections	All trees every 3 years	All trees every 4 years	Every tree every year
Tree valuation system	CAVAT	None	None

8.4 Ensuring that all departments use the same database and collect the same basic tree information will improve the council's ability to monitor tree management. All new tree planting should be recorded on the same database so that tree planting outcomes can be identified. Also, if trees are surveyed in groups, the number of trees in the group should be recorded. An Emergency Tree Plan for dealing with these issues if provided is included below.

Tree risk assessment

8.5 There are several popular tree risk management systems. Systems are helpful in standardising tree assessments, prioritising management works, and for setting the budget available for arboricultural works. The Council should choose a tree risk management system to adopt and ensure that all tree surveying staff that are employed, either directly or indirectly, are trained to use that system.

8.6 In some departments all the publicly owned trees are being surveyed annually, which in some cases will be more frequently than necessary. This is a poor use of resources and is likely to result in risk assessment surveys to be rushed.

Tree planting

8.7 The Council needs to systematically identify locations that are suitable for new tree planting. This will allow annual targets for new tree planting to be achieved. Furthermore, a strategic plan for new tree planting will allow any Community Infrastructure Levy (CIL) payments received by the Council to be allocated appropriately.

8.8 Systems should be put in place to allow the community to be consulted on new tree planting schemes in the borough. This should include organising and publicising tree planting events.

8.9 It will be necessary to ensure that all new trees that are planted are given appropriate aftercare, and the necessary funds for this essential maintenance must be allocated.

Staff shortages

Trees and planning

8.10 The Council's planning department currently has no qualified officer advising on arboricultural matters or landscape design. This means that applications for works to protected trees are not assessed by a qualified arboriculturist. It also means that planning applications are not scrutinised for the impacts that they have on trees and that new planting proposals are not assessed by somebody with experience in the establishment and management of trees.

8.11 The Council aspires to improve tree protection and tree planting in the borough. To achieve this goal, existing trees in the borough need to be protected and new trees need to be planted on privately owned land. An in-house tree/landscape officer at the planning department would be better placed to meet the Council's statutory responsibilities for the management of protected trees and trees impacted by new development schemes. This officer would also be able to raise the standard of tree planting on private land.

8.12 For the reasons above it is common for planning departments to employ a qualified arboriculturist. A tree officer working for the planning department needs to advise on tree protection during planning applications and administer tree protection law. This is an important

role and anyone holding this position should have a minimum of Level 6 qualifications as set out in the Arboricultural Association's Guide to qualifications and careers in arboriculture[4].

Tree planting

8.13 To achieve the goal of planting approximately 5,000 new trees every year a large amount of work will be required to identify suitable locations for new tree planting. A person will need to be responsible for consulting the public on new tree planting schemes in the borough, including organising and publicising tree planting events. Opportunities to engage with local schools and businesses should also be explored. Also, there is a need for a person to organise volunteers to assist with new tree planting and the aftercare of recently planted trees and woodlands.

8.14 It would be sensible to employ a new tree planting officer to organise new tree planting in the borough and to help meet the Council's aspirations for new tree planting. The tree planting officer role would include seeking funding for new tree planting and managing the tree planting budget.

Emergency tree plan 2021-2025

Management aspect	Current problem	Ideal solution
Policy	Currently there is no policy or strategy guiding tree management decisions. This means that tree management is not consistent within different departments and there is no clear pathway to enhancing the borough's tree resource.	Adopt the new tree policy and publish the tree management strategy online.
Tree management databases	Currently two departments record tree management information on an easytreev database and trees on housing land are recorded on a bespoke MS Access database.	All departments coordinate and use the same tree management database system.
Tree risk assessment	Some trees are being surveyed without using a recognised tree risk management system.	All departments using the same methodology for tree risk assessment.
Frequency of tree assessments	In some departments all the publicly owned trees are being surveyed annually, which in some cases will be more frequently than necessary. This is a poor use of resources and causing surveys to be rushed.	Develop a system of zoning land areas so that survey effort focusses on the trees located in areas of high confluence.
Adopting a tree valuation system	Not all of the tree surveys are collecting data that can be used to assess the value of the tree stock. This is a missed opportunity because valuing the tree stock will allow tree management costs to be justified and help people understand the value of the borough's trees.	All tree surveys to include the data fields required to calculate a basic CAVAT tree value assessment.
Tree planting	Budgets not set by November which causes procurement problems. Little co-ordination or record keeping.	Allocate budgets for new tree planting in September each year. Identify areas where new tree planting can be carried out. Ensure all new tree planting is recorded on a standard database.
Sourcing tree stock	Tree pests and diseases are imported along with trees grown outside of the UK.	Enforce the biosecurity policy for tree procurement, as listed in the tree policy statement.

[4] https://www.trees.org.uk/Trees.org.uk/files/5d/5d1f7bb0-68d0-4164-a65c-89e026ec71d7.pdf

Management aspect	Current problem	Ideal solution
Trees and subsidence	There is currently no standard procedure for dealing with publicly owned trees that are implicated in building subsidence cases.	Adopt the London Tree Officers Association's Risk Limitation Strategy for Tree Root Claims. Introduce a procedure for the Insurance Team to work with a suitably qualified arboriculturist to investigate claims.
Replacing trees lost to development	At present not all trees lost to development are not adequately replaced.	Adopt the new Hounslow Tree Replacement Policy. Also, create a bank account to receive CIL funds received for new tree planting.
Improving the longevity of trees planted in hard landscapes	Trees planted in hard landscapes are not provided with adequate soil to support them at their mature size. Also, the tree pits are not provided with appropriate inlets for water and gaseous exchange.	Adopt the new minimum requirements for tree pit specifications. Also, ensure that each newly planted tree receives at least 3-years aftercare.
Old TPOs may be unenforceable	Some old tree preservation orders may no longer be valid. In some cases, trees may no longer be present and in other situations the land around the trees may have changed significantly.	Review the oldest TPOs in the borough. Revoke unenforceable TPOs and make new ones where necessary.

References

British Standards Institution (2012). *BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations*. BSI, London.

British Standards Institution (2013*). BS 8601:2013 Specification for subsoil and requirements for use*. BSI, London.

British Standards Institution (2014*). BS 8545:2014 Trees: From Nursery to Independence in the Landscape – Recommendations*. BSI, London.

British Standards Institution (2015). *BS 3882:2015 Specification for topsoil*. BSI, London.

CIRIA, (2015). *SuDS Manual*. CIRIA. London.

Forestry Commission and Natural England (2018). *Ancient Woodland, Ancient Trees and Veteran Trees: Protecting them from Development*. Available at: www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences

Forest Research (2018). *The Urban Tree Manual – the right tree in the right place for a resilient future*. https://www.forestresearch.gov.uk/tools-and-resources/urban-tree-manual/

Hand, K. L. and Doick, K. J. (2019). *Research Note FRRN039 – Understanding the role of Urban Tree Management on ecosystem services*. Forest Research. Alice Holt Lodge, Farnham, Surrey.

London Tree Officer's Association (2017). *Risk Limitation Strategy*. [online] Available at: https://www.ltoa.org.uk/resources/risk-limitation-strategy [Accessed 1st February 2021].

National Tree Safety Group (2011). *FCMS024 - Common Sense Risk Management of Trees*. First published by the Forestry Commission https://ntsgroup.org.uk/wp-content/uploads/2016/06/FCMS024.pdf [Accessed 1st February 2021].

Trees and Design Action Group (2018). *Tree Species Selection for Green Infrastructure: A Guide for Specifiers*. TDAG, London. http://www.tdag.org.uk/species-selection-for-green-infrastructure.html

Appendix A

Planning obligations - Trees

Policy background

A.1 The justification for requiring obligations in respect of new or compensatory tree planting is supported by policy INF10 of the Council's Core Strategy which aims to create, improve, manage and maintain high quality green infrastructure in the borough. This sits alongside the All London Green Grid (ALGG) partnership.

A.2 To ensure that we retain the benefits that trees provide, and remain resilient as we change and grow, it is important to minimise the numbers of mature trees lost through development and to ensure that replacements are agreed up to at least the equivalent benefit. Therefore, all planning applications that impact trees should be informed by a BS5837 tree survey. It should be assumed that Category A trees are to be retained and protected during site development. The site layout should also be designed to retain the Category B trees identified during this survey (unless there is an overriding reason to remove them). Category C trees are not worthy of constraining development, but they should be retained where possible. Despite being led by these principles it is accepted that some trees may be lost to facilitate new developments. As our city region develops and grows, some of our existing trees will inevitably be lost to make way for new buildings and infrastructure. Where such losses occur, the planning authority will require mitigation planting.

A.3 The Hounslow Tree Replacement Policy tree replacement policy has been designed to ensure that adequate tree replacements are carried out when trees are lost. The primary aim of the policy is for trees lost to development to be replaced on site. However, where it is not possible to plant a sufficient number of replacement trees on site developers will need to pay a levy to the Council to fund new tree planting on public land nearby to mitigate the impact of a development.

A.4 Replacement tree planting should be designed in accordance with good practice, and schemes that involve planting small or densely spaced trees will not be accepted unless there is a clear justification for doing so. Landscaping schemes that identify replacement planting

should be submitted at the planning application stage, at which point their suitability will be evaluated by the planning authority.

When the tree replacement policy will apply

A.5 The Hounslow Tree Replacement Policy will apply to all new developments, including Council-led projects.

A.6 The Tree Replacement Policy will not apply in the following situations:

1. Where Category U trees are removed. Category U trees are of very low value because they are either dead or in poor condition with less than ten years useful life expectancy, i.e., their removal is recommended regardless of any development proposals.
2. Self-sown Category C trees that would not be compatible with a new site layout.
3. Small domestic applications such as house extensions, garden offices, individual garages, or garden landscaping.

What the money will be used for

A.7 The funds received from Community Infrastructure Levy (CIL) payments will be used for new tree planting only. The contribution covers the cost of providing the tree pit (where appropriate), purchasing, planting, protecting, establishing, and initially maintaining the new tree.

A.8 All tree planting on public land is to be undertaken by the Council, or by approved contractors, to ensure a consistent approach and level of quality, and to reduce the likelihood of new tree stock failing to survive.

Level of contribution

A.9 Where planting can take place directly into open ground the contribution will be lower than where the planting is in areas of hard standing, this is due to the need to plant trees located in areas of hard standing in an engineered tree pit. The level of contribution is as follows:

- Tree in open ground (no tree pit required) **£900.00**
- Tree in hard standing (tree pit required) **£10,000.00**

A.10 The “open ground” figure applies where development results in the loss of trees on the development site and is unable to provide replacement tree planting on site. The Council will provide replacement tree planting in the nearest appropriate area of open space.

A.11 The “hard standing” figure will apply where new tree planting in hard standing is required to mitigate the impact of development (for example street trees required as part of highway improvements). Under this scenario the Council will implement tree planting in specific locations identified through the planning approval process.

A.12 The number of trees required to compensate for loss of existing trees depends upon the size of the trees to be lost as set out in **Table A.1**.

Table A.1: The Hounslow Tree Replacement Policy.

Trunk diameter of tree lost to development (cm measured at 1.5 metres above ground level)	No. of replacement trees
<15	0–1
15–19.9	1
20–29.9	2
30–39.9	3
40–49.9	4
50–59.9	5
60–69.9	6
70–79.9	7
80 +	8