

Northern Arc Central Avenue

Arboricultural Impact Assessment

Homes England

Project number: 60610807

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Quality information

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1. Introduction

Background

AECOM has been instructed by Homes England (HE) (The Applicant) to carry out an Arboricultural Impact Assessment of the development proposals for the Northern Arc Central Avenue which connects the Western Bridge Link Road (WBLR) and Eastern Bridge and Link Road (EBLR) projects (hereafter referred to as 'the Site' and 'Proposed Development') in support of a planning application. This report identifies the likely direct and indirect impacts of the Proposed Development along with suitable mitigation measures, as appropriate. The Tree Protection Plan (included within Appendix D) identifies trees to be removed and how retained trees are to be successfully protected.

Trees and the Planning Process

The National Planning Policy Framework (NPPF) seeks to ensure that new development is sustainable and underlines the importance of Green Infrastructure, of which trees form an integral part. This encompasses a recognition of the importance of trees in relation to the management of air, soil and water quality along with other associated ecosystem services and climate change adaption. The NPPF also seeks to achieve the protection and enhancement of landscapes and a net gain in biodiversity. Finally it specifically identifies veteran and ancient trees and woodland as a highly valuable and irreplaceable habitat.

Local Planning Authorities (LPA) in the UK have a statutory duty to consider both the protection and planting of trees when considering planning applications. The potential impact of development on all trees (including those not protected by a Tree Preservation Order or other statutory designation) is therefore a material consideration.

'BS5837:2012 *Trees in relation to design demolition and construction – Recommendations (BS5837)*' provides a framework which sets out how trees should be considered in this context and also explicitly applies to development where planning consent is not required.

BS5837:2012 recommends that a tree survey is undertaken to identify the quality and benefits of trees and the spatial constraints associated with them. This is then used to produce a Tree Constraints Plan showing the above and below ground constraints associated with trees. This drawing is used to inform the design process and to allow the retention of good quality trees where appropriate.

An Arboricultural Impact Assessment is then developed to identify the likely direct and indirect impacts of the Proposed Development, and a Tree Protection Plan is prepared to identify trees to be removed or retained and to illustrate how retained trees are to be protected. An Arboricultural Method Statement is often required as a condition of planning consent to detail how sensitive operations are to be achieved in close proximity to retained trees. These elements are the minimum normally required for a planning application and are intended to ensure both a sustainable and harmonious relationship between trees and new development.

Local Policy Context

The Site is positioned within the operating boundary of Mid Sussex District Council (MSDC) who have a number of policies relating to trees and new development within the Mid Sussex District Plan (2014-2031) adopted in March 2018. In addition MSDC submitted the District Plan 2021 – 2039 for examination in July 2024 however this document had not been adopted at the time of writing. Excerpts from these policies relating to trees and new development are included below:

Mid Sussex District Plan (2014-2031):

Policy DP37: Trees, Woodland and Hedgerows

"The District Council will support the protection and enhancement of trees, woodland and hedgerows... In particular, ancient woodland and aged or veteran trees will be protected. Development that will damage or lead to the loss of trees, woodland or hedgerows... will not normally be permitted."

Policy DP38: Biodiversity

"Biodiversity will be protected and enhanced by ensuring development takes opportunities to improve, enhance, manage and restore biodiversity and green infrastructure, so that there is a net gain in biodiversity.... protects existing biodiversity, so that there is no net loss of biodiversity; Minimises habitat and species fragmentation and maximises opportunities to enhance and restore ecological corridors to connect natural habitats and increase coherence and resilience; Avoids damage to, protects and enhances the special characteristics of internationally designated Special Protection Areas, Special Areas of Conservation; nationally designated Sites of Special Scientific Interest...; and locally designated Sites of Nature Conservation Importance, Local Nature Reserves and Ancient Woodland or to other areas identified as being of nature conservation interest, including wildlife corridors, aged or veteran trees, Biodiversity Opportunity Areas and Nature Improvement Areas".

Mid Sussex District Plan 2021-2039 (Submission Draft):

DPN4: Trees, Woodland and Hedgerows

Trees, woodland and hedgerows will be protected because they are valuable natural capital assets including for biodiversity, nature recovery, green infrastructure, health and wellbeing, and increasing resilience to the effects of climate change.

Protection of trees, woodland and hedgerows

The District Council will support the protection and enhancement of trees, woodland and hedgerows, and encourage new planting. As an irreplaceable habitat, ancient woodland and ancient or veteran trees and their soils will be protected. Where ancient wood pasture and historic parkland are identified, these areas will have the same consideration as other forms of ancient woodland.

Development (including construction and operational activities) that is adjacent to irreplaceable habitats including ancient woodland and ancient or veteran trees must incorporate appropriate buffers and/or root protection areas.

Development that will damage or lead to the loss of trees, woodland or hedgerows that contribute, either individually or as part of a group, to the visual amenity value or character of an area, and/or that have landscape, historic or wildlife importance, will not normally be permitted.

Development (including construction and operational activities) resulting in the direct or indirect deterioration, damage or loss of irreplaceable habitats including ancient woodland and ancient or veteran trees will not be permitted unless there are wholly exceptional reasons and in such circumstances, a suitable compensation strategy will be provided, including measures that respect the features and characteristics of the ancient woodland and ancient, aged or veteran trees.

The value of trees, woodland and hedgerows individually and cumulatively in providing connectivity and continuity across the landscape and a network for nature recovery will be taken into account so that habitat fragmentation, particularly of large and extensive woodland areas, is minimised.

New trees, woodland and hedgerows

Proposals for new trees, woodland and hedgerows must be of suitable species, usually native and from local or UK sourced stock, and where required for visual, noise or light screening purposes, trees, woodland and hedgerows must be of a size and species that will achieve this purpose.

Proposals for new woodland creation will need to follow best practice guidance and take into account a range of considerations including all of the following:

- *The biodiversity and amenity value of the existing habitat*
- *The landscape and its character*
- *Soil conditions*
- *Heritage and archaeology features*
- *Protected species*
- *Opportunities for natural regeneration*
- *Opportunities to connect to and extend existing woodland*
- *The long-term management arrangements for new woodland planting*
- *Resilience to the effects of pests, disease and climate change.*

Development and trees, woodland and hedgerows

Trees, woodland and hedgerows will be protected and enhanced by ensuring development:

1. *Retains and incorporates existing trees, woodland and hedgerows, including along the boundaries, into the design of new development and its landscape scheme.*
2. *Is orientated to have a positive edge to these features and the wider countryside.*
3. *Is designed to avoid the overshadowing of residential gardens which can lead to pressure for the removal of trees.*
4. *Prevents damage to root systems and takes account of expected future growth through respecting the root protection area.*
5. *Has appropriate protection measures throughout the development and construction process.*
6. *Secures appropriate long-term management and stewardship arrangements.*
7. *Where possible, incorporates retained trees, woodland and hedgerows within public open space rather than private space to safeguard their long-term management and stewardship.*
8. *Takes opportunities to plant new trees, woodland and hedgerows within the new development to enhance on-site green infrastructure and increase resilience to the effects of climate change.*
9. *Does not sever ecological corridors created by these assets and makes a positive contribution to the local nature recovery network and green infrastructure network.*

All development proposed within 15 metres of any trees, measured from the trunk, will be required to submit an Arboricultural Impact Assessment and Arboricultural Method Statement prepared by a qualified arboriculturist.

Developments should integrate street trees and other urban greening measures into new streets and open spaces, and tree-lined streets will be encouraged. Appropriate species must be selected ensuring tree roots have sufficient space to support healthy, long-lived trees. Appropriate long-term management and stewardship arrangements will need to be in place and secured by planning conditions and/or planning obligations.

Works to trees and hedgerows

Proposals for works to trees and/or hedgerows, including felling, will be considered taking into account all of the following:

- *The condition and health of the trees and/or hedgerows.*
- *The contribution of the trees and/or hedgerows to the character and visual amenity of the local area.*
- *The amenity, biodiversity and nature conservation value of the trees and/or hedgerows.*
- *The extent and impact of the works.*
- *Any replanting proposals.*

Inappropriate or excessive works to trees and/or hedgerows that will damage their health and/or amenity value and/or biodiversity value will be resisted. Proposals for works to trees and/or hedgerows, including felling, may be refused if sufficient information is not provided to justify why works are necessary. Proposals for works to trees or proposals affecting trees will need to be in accordance with the relevant British Standards. For example, BS 3998:2010 Tree work – Recommendations and BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations (or as updated).

The felling of protected or established trees will only be permitted if there is no appropriate alternative. Where a protected or established tree or group of trees is felled, a replacement tree or group of trees, on a greater than 1:1 basis and of an appropriate size and type, will normally be required. The replanting should take place as close to the felled tree or trees as possible having regard to the proximity of adjacent properties. Replacement trees must be of suitable species, usually native and from local or UK sourced stock.

Use of buffer zones

Development must be positioned as far as possible from ancient woodland with a minimum buffer of 15 metres maintained between ancient woodland and the development boundary. A buffer will also be required for ancient, aged and veteran trees and should be at least 15 times larger than the diameter of the tree or 5m from the edge of the tree's canopy if that area is larger than 15 times the tree's diameter. To avoid damage to hedgerows and a reduction in its resilience to change, an appropriate buffer strip along each side of a hedgerow of a minimum 2 metres must be maintained. The Council will encourage larger buffers and will expect applicants to demonstrate, through an assessment, that the distance and size of the buffer zone is appropriate and adequate to protect the trees, woodland and hedgerows.

The size of a required buffer zone may need to expand according to the nature of the site and the size and nature of the proposed development, and if there are other impacts likely to extend beyond the minimum buffer zone distance such as significant engineering operations or after-uses that generate significant disturbance. Buffer zones will be expected to contribute to green infrastructure and wider ecological networks, prevent fragmentation of habitats and consist of a semi-natural habitat with appropriate planting.

Buffer zones will be expected to prioritise ecological enhancement rather than the amenity of the proposed development and should not contain built or constructed features including roads, pavements or private space such as residential gardens. These requirements for an ancient woodland or tree buffer will apply unless superseded by a more environmentally favourable national standard set out in legislation or guidance.

Methodology

The tree survey has been based on the topographical survey plan provided (ref: 60610807-ACM-CS-ZZ-M2-ZZ-0001.dwg by Survey Solutions).

A number of trees were not included on the topographical survey plan and have been plotted indicatively with reference to site features and publicly available aerial photography. Such trees have been marked with an ‘*’ on the Tree Survey Schedule included as Appendix B. As such all positions for these trees must be considered to be indicative only and the relative distances of features must be measured out on the Site as required. The survey was otherwise conducted in accordance with the requirements of BS5837.

The initial fieldwork was undertaken on 28 November 2022 with an additional survey undertaken on 29 November 2023 during which dimensional data and observational information were collected. A diameter tape measure was used to measure stem diameters where feasible.

The fieldwork informing this report has comprised a preliminary, non-intrusive, visual survey undertaken from ground level with the specific intention of evaluating the quality and benefits of trees on the Site. Where further inspection is deemed appropriate to ascertain the condition of the tree or other arboreal features, this has been identified within the preliminary management recommendations. Average dimensions or dimensional ranges have occasionally been used, where appropriate, to best describe features.

One area of the Site has not been subject to a detailed tree survey which is located to the north of T189 within an Ancient Semi Natural Woodland. This area was subject to a walkover survey intended to identify significant tree features including veteran or ancient trees and none were identified.

The Root Protection Area (RPA) is the notional extent of what is considered to be the key rooting area for tree health and function. This is generally depicted as a circle but can be amended to a polygon with an equivalent area in accordance with Section 4.6.2 of BS5837 where the RPA is likely to have developed asymmetrically. The RPA of all surveyed trees is depicted as a circle.

Trees T23, T24, T72, T181 and T189 have been recorded as veteran and therefore their RPAs have been amended to 15 times the stem diameter measured at 1.5m or 5m from the edge of the canopy (whichever is greatest) in accordance with standing advice. No further RPAs have been amended.

A Tree Constraints Plan showing the position of trees and the spatial constraints associated with them is included as Appendix A of this report, which corresponds with the Tree Survey Schedule presented in Appendix B.

The tree categorisation process recommended by BS5837:2012 is summarised in the table below and corresponds with the tree canopy outline shown on the Tree Constraints Plan (Appendix A) and the information in the Tree Survey Schedule (Appendix B).

Table 1: BS5837:2012 Tree Categorisation process

Category	Definition
A	High quality, minimum of 40+ years remaining contribution
B	Moderate quality, minimum of 20+ years remaining contribution
C	Low quality, minimum of 10+ years remaining contribution
U	Unsuitable for retention, <10 years remaining contribution
1	Arboricultural value
2	Landscape value
3	Conservation or cultural value

2. General Arboricultural Principles

General Principles

Trees are dynamic living organisms which provide essential benefits to society and the wider environment. Any Proposed Development with the potential to impact on trees must take into consideration the value of trees on the Site; the impact of any proposed activity along with any potential future conflicts on the Site. Suitable measures to safeguard retained trees or mitigate the loss of trees (to be removed) will need to be fully considered and may be subject to a condition of planning consent.

Tree branches and roots frequently grow across site boundaries and off site trees can pose a significant constraint and should be carefully considered when assessing the developable space within a site.

Below ground constraints

Below ground tree roots and the soil environment in which they grow need to be protected if the tree is to be retained. Trees grow in association with fungi and other soil organisms which are of key importance to tree health. Roots are essential for anchorage, the uptake of water and nutrients, and the storage of energy (carbohydrates) for the future growth and function of the tree.

Roots can be damaged by physical severance or wounding (e.g. following excavation of the soil) which can lead to the development of decay and a decline in vitality and/or instability. Raising the soil level can bury tree roots at a depth where suitable conditions for growth are less available. Toxic materials discharged into the soil (such as cement based aggregates, fuel and chemicals) can lead to root death and dysfunction. Soils can be compacted to levels inhospitable to tree growth with even a single pass of machinery, regular pedestrian traffic or the storage of plant and materials. Relieving compaction can be problematic and may require costly remedial works. Changes in drainage/water levels can also have significant long term impacts for tree health.

The effects of these incursions may take many years to manifest, with a resulting decline in amenity value and potentially the death or failure of the tree. It should be noted that older trees are particularly sensitive to damage and changes in conditions.

The Root Protection Area (RPA) is a notional area considered to be the minimum zone that must be protected to avoid any adverse impacts on retained trees. This area is deemed to be particularly important for tree stability, growth, function and health. However, roots may extend far greater distances, with the distribution of the root system relating directly to the availability of suitable conditions for growth (namely oxygen, water and nutrients). It is generally accepted that tree roots are predominantly located in the upper 1000mm of soil; however, roots may develop at deeper levels where conditions allow.

RPAs are calculated as per BS5837:2012 Annex C, D and Section 4.6 in the BS 5837:2012 Document.

The RPA of the existing tree stock is an important material consideration when considering site constraints and planning development activities. The RPA of significant trees on the Site is shown on the Tree Constraints Plans included as Appendix A.

The default position must be that all development, including any associated services will occur outside the RPAs of retained trees. Where this is unavoidable, it may be appropriate to use special measures to install structures, services or surfacing within RPAs which allow the protection of roots and soil structure which are essential for tree growth and keep any incursion to a minimum.

Further steps to improve or increase the useable rooting area available to the tree may also be required.

Soils

On shrinkable clay soil, tree growth can lead to the differential movement of structures as moisture is removed from the soil during the growing season. Soils must be carefully assessed, and any foundations must be installed following the recommendations of National House Building Council (NHBC) Standards *Chapter 4.2: Building Near Trees* (2024) to avoid potential future damage. Where trees which predate existing structures are to be removed, this can result in heave as the soils are re-wet.

The advice of a suitably qualified engineer must be obtained to inform any potential issue of heave. Specific advice in relation to this issue is beyond the scope of this report.

Above ground constraints

Tree stems and branches can restrict available space on the Site. Damage or wounding (including excessive pruning) can significantly reduce the amenity contribution of the tree and may lead to the development of dysfunction and decay, with significant long term implications for tree health. The future impact of existing trees should be carefully considered, including individual species characteristics (such as potential future size, fruit fall, shade etc.) and how the tree will interact with any proposed development and future land use. Annual tree growth can lead to direct damage if stems/branches (or roots) come into physical contact with structures and this must also be taken into consideration.

Trees and Risk in the Context of Development

Tree owners/managers have a legal duty to prevent foreseeable harm. It is generally accepted that this duty can be fulfilled by undertaking proactive inspections of significant trees to identify obvious defects and by taking appropriate remedial action or gaining further advice as appropriate.

AECOM can provide surveys and advice in relation to tree risk management if required. Further guidance is available from the National Tree Safety Group¹.

The tree survey carried out as the basis of this report is primarily for planning purposes, focusing on the quality and benefits of the trees and is not specifically designed to assess the safety of trees on the Site. However, when obvious issues have been identified recommendations have been included in the Tree Survey Schedule.

The Construction (Design and Management) Regulations (2015) states that developers and contractors have responsibilities for health and safety as a result of their actions. Should trees be left in an unstable or hazardous condition the Health and Safety Executive (HSE) could seek to prosecute those responsible along with the potential for further Civil claims for damages.

Trees and Wildlife

Full consideration must be given to the presence of species protected under the Wildlife and Countryside Act (1981 - as amended), the Countryside Rights of Way Act (2000) and the Conservation of Habitats and Species Regulations (2017), in particular the presence of bats and nesting birds. It is recommended that wherever possible, significant tree/hedge works take place outside of the typical bird nesting season of March to September.

Tree Works

Any tree surgery recommendations contained within this report are to be undertaken in accordance with BS3998: 2010 Tree work – Recommendations (BS3998) by suitably qualified and insured contractors. Significant pruning works are best undertaken when trees are dormant or outside periods of high functional activity to reduce the overall impact on energy available to the tree for growth and processes. In general the optimum period for works is between November to February and July to August (subject to the presence of protected species) when the tree is less active and better placed to respond to wounding and a reduction in leaf area.

¹ National Tree Safety Group (NTSG), 2024. Common sense risk management of trees. 2nd Edition. Forest Research and the Arboricultural Association.

3. Field Work Observations

The Site

The Site is shown on the Tree Constraints Plan (TCP) included within Appendix A of this report.

The Site is located to the north of Burgess Hill and includes a section of Cuckfield Road (B2036), extending from Burgess Hill Golf Centre north up to the Bodle Bros equestrian shop. The Site then extends east and west from Cuckfield Road, east through one arable field up to Isaac's Lane (A273) and west of Cuckfield Road through three arable fields. The Site is bordered by further arable fields to the north, east, south and west and includes several small dwellings adjacent to Cuckfield Road.

The Trees

The tree survey recorded 193 tree features including 149 individual trees, 19 tree groups, 23 hedgerows and two woodlands.

The trees on the Site predominantly form the borders of arable fields, align Cuckfield Road and Isaac's Lane and generally consist of hedgerows with established semi mature to mature individual trees set within. The trees are predominantly in fair to good condition. Species present include field maple (*Acer campestre*), sycamore (*Acer pseudoplatanus*), horse chestnut (*Aesculus hippocastanum*), hornbeam (*Carpinus betulus*), cypress (*Chamaecyparis* sp.), hazel (*Corylus avellana*), hawthorn (*Crataegus monogyna*), beech (*Fagus sylvatica*), common ash (*Fraxinus excelsior*), Scots pine (*Pinus sylvestris*), blackthorn (*Prunus spinosa*), common oak (*Quercus robur*), willow (*Salix* sp.), yew (*Taxus baccata*) and Leyland cypress (*X Cupressocyparis leylandii*).

The most significant trees included within the survey are T23, T24, T72, T181 and T189 that have been recorded as veteran trees. These trees have a number of veteran features which include large sections of deadwood, significant crown dieback, large limb failures, animal holes, stem hollowing and fungal fruiting bodies. Veteran trees are considered to form irreplaceable habitat features and are given a very high priority in the planning process.

The survey also identified a further 29 individual trees that have been recorded as high quality (Category A) and these are considered to provide significant landscape and amenity value.

One area of the Site has not been subject to a detailed tree survey which is located to the north of T189 within an Ancient Semi Natural Woodland. This area was subject to a walkover survey intended to identify significant tree features including veteran or ancient trees and none were identified. This area following a vehicular access track with a raised embankment either side. The eastern side features dense areas of mature blackthorn and hawthorn reverting to early mature ash further north outside the Site boundary. The western side features scattered hawthorn with one larger mature hawthorn.

Tree work recommendations are included within the preliminary management recommendations in the Tree Survey Schedule included within Appendix B and should be actioned within the recommended timescales.

Site photography can be found at Appendix C located to the rear of this report.

Statutory and Non Statutory Designations

Statutory Designations

AECOM viewed the Mid Sussex District Council online mapping² on 20th January 2025 for the presence of statutory designations relating to trees including Tree Preservation Orders (TPO) and Conservation Area (CA) designations. No CA designations were identified within or immediately adjacent to the Site. One area TPO (ref: TP/16/0008) was identified to the east of Isaac's Lane, however this designation does not correlate with any surveyed trees.

AECOM also viewed Magic Map³ on 20th January 2025 for any other statutory designations relating to trees such as Sites of Special Scientific Interest (SSSI) and none were identified within or immediately adjacent to the Site.

The Hedgerow Regulations (1997) protect agricultural or countryside hedgerows which meet the requirements of an 'important hedgerow'. These include a minimum length of 20m (or meets another hedge at each end) and a minimum age of at least 30 years. A wide range of other ecological and archaeological/heritage features can constitute an important hedgerow and further advice from a qualified ecologist is recommended in advance of any planned works which could impact established hedgerows on or bordering agricultural or countryside land. Prior to the removal or destruction of a protected hedgerow an application must be made to the Local Planning Authority. Full planning consent is an exemption to this requirement.

A felling licence may be required by the Forestry Commission to fell more than 5m³ in any calendar quarter (subject to relevant exceptions including trees in gardens, designated public open spaces or churchyards).

² <https://www.midsussex.gov.uk/planning-building/trees-and-hedgerows/tree-preservation-order-tpo-map/>

³ <https://magic.defra.gov.uk/>

Full planning consent is an exemption from the need to apply for consent for works to trees protected by a Tree Preservation Order, the need to give notice of the intention to undertake works within a Conservation Area and the need to apply for a Felling Licence with the Forestry Commission (to fell more than 5m³ per calendar quarter). Prior to any tree works the status of trees to be removed or pruned must be verified with MSDC and the Forestry Commission as appropriate.

Non-Statutory Designations

AECOM viewed Magic Map on 20th January 2025 for the presence of any non-statutory designations relating to trees and a number of Ancient Semi-Natural Woodland (ASNW) and Ancient Replanted Woodland (ARW) designations were identified. Three ASNW designations correspond with surveyed trees which includes T51 to the west of the Site, H185 (part) to the north of the Site and, T174 and W175 to the south of the Site.

Natural England are currently undertaking an exercise to identify all ancient woodland (including ancient wood pasture which is a form of ancient woodland) between 0.25-2 ha across England; however, no information within the Site is available at this time.

Ancient Woodland is considered to be an irreplaceable habitat which is afforded a high priority in the planning process. Damage or loss of ancient woodland should not be permitted unless there are '*wholly exceptional circumstances*' and '*a suitable compensation strategy exists*' in accordance with the NPPF (2024). A minimum 15m buffer should be applied to ancient woodland where no works or impacts take place in accordance with standing advice from Natural England and Forestry Commission (2023) and this buffer is shown on the Tree Constraints Plan (Appendix A).

In addition a number of Deciduous Woodland designations, as identified in the Priority Habitat Inventory, were identified within and adjacent to the Site. This is a non-statutory designation that has the potential to be a material consideration in the planning process.

Non-statutory designations as identified on Magic Map are shown in Figure 2 below and on the Tree Constraints Plans in Appendix A.

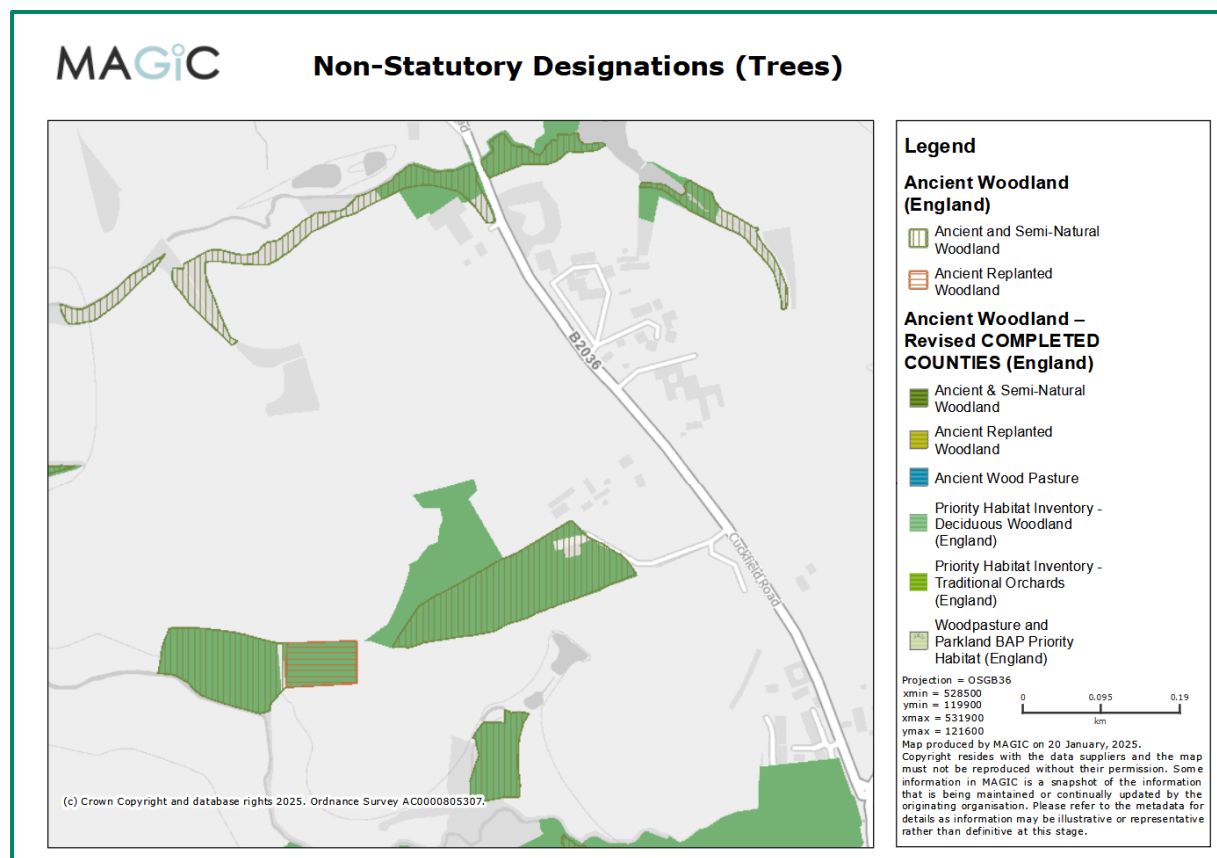


Figure 1 – Showing non-statutory designations related to trees on Magic Map.

AECOM also viewed the Woodland Trust Ancient Tree Inventory⁴ on 20th January 2025 for the presence of notable, veteran or ancient trees and none were identified within or immediately adjacent to the Site. However trees T23, T24, T72, T181 and T189 have been identified as veteran due to a number of veteran features including large deadwood, significant crown dieback, large limb failures, animal holes, stem hollowing and fungal fruiting bodies. Veteran trees are considered to be irreplaceable habitat which is afforded a high priority in the planning process. Damage or loss of veteran trees should not be permitted unless there are 'wholly exceptional reasons' and 'a suitable compensation strategy exists' in accordance with the NPPF (2024). The RPAs of these trees on the TCP have been extended to 15 times their stem diameter (measured at 1.5m) or 5m from the edge of their canopy (whichever is greatest) as per standing advice.

4. The Proposed Development

The Proposed Development is detailed on the Tree Protection Plan included as Appendix D and includes the following:

The construction of a single carriageway link road from the tie-in with the proposed Western Bridge and Link Road (WBLR), through to the proposed tie-in with Eastern Bridge and Link Road (EBLR) including tie-ins to the existing B2036 Cuckfield Road. The primary east-west route will typically comprise of a new 6.5m carriageway with one 3m shared footway/cycleway and one 2m wide footway and two 2.75m verges. While the 6.5m wide carriageway will be consistent throughout, some sections of the primary east-west route will diverge from this typical arrangement to complement area specific requirements e.g. no verge is proposed to front the future Central Neighbourhood Center. The northern link to the B2036 Cuckfield Road from the proposed east-west road will consist of a new 6.5m wide carriageway and single 2m footway. The southern link to the B2036 Cuckfield Road from the proposed east-west road will consist of a new 6.5m wide carriageway and a short extension of the Green Super Highway extending to the driveway entrance servicing the existing Oak Barn Bar & Restaurant carpark. The western end of the east-west road corridor and the southern link to the B2036 Cuckfield Road will both facilitate connections to the Green Superhighway. All will be constructed to an adoptable standard, together with associated crossing points, earthworks and vegetation removal, surface water and foul drainage infrastructure, utilities corridors and diversions, road lighting, soft landscaping, including tree-planting and temporary fencing, on-street parking and provision of in-line bus stops for bus services.

⁴ <https://ati.woodlandtrust.org.uk/tree-search>

5. Arboricultural Impact Assessment

Purpose

This impact assessment sets out the likely principal direct and indirect impacts of the Proposed Development on the trees on or immediately adjacent to the Site and suitable mitigation measures to allow for the successful retention of significant trees or to compensate for trees to be removed, where appropriate.

A brief summary of trees to be removed, tree works and incursions related to the Proposed Development are detailed within the table below.

Table 2: Summary of Removals, Incursions and Pruning to Facilitate the Proposed Development

Impact	Category A	Category B	Category C	Category U
Trees to be removed to facilitate the Proposed Development	0	T76, T77, T171, T172, T191, G100 (part), G179 (part), G186 (part) and W188 (part)	T12, T37, T39, T45, T47, T78, T83, T125, G122, H190, G117 (part), H98 (part), H99 (part), H105 (part), H119 (part), H120 (part), H124 (part), H170 (part) and H177 (part)	T31 and T86
Total	0	5 individual trees, 3 part groups and 1 part woodland	8 individual trees, 1 group, 1 part group, 1 hedgerow and 8 part hedgerows	2 individual trees
Trees which may require some incursion into their construction exclusion zone to allow the Proposed Development.	T18, T19, T67, T91 and T189	T4, T6, T20, T25, T34, T36, T42, T49, T52, T60, T61, T63, T81, T87, T93 and T169	T3, T27, T46, T82, T85, T127, G123, H96, H112 and H118	0
Total	5 individual trees	16 individual trees	6 individual trees, 1 group and 3 hedgerows	0
Trees to be pruned to facilitate the Proposed Development	0	T169	0	0
Total	0	1 individual tree	0	0

Trees to be Removed

A total of 30 tree features will require removal or part removal to facilitate the Proposed Development; this includes five individual trees, three part tree groups and one part woodland as moderate quality (Category B), eight individual trees, one tree group, one part tree group, one hedgerow and eight part hedgerows classified as low quality (Category C) and the remaining two individual trees classified as unsuitable for retention (Category U). The Category U trees are arguably not suitable for long term retention and their removal is justified regardless of the Proposed Development.

All of the trees to be removed are within the red line application boundary.

Tree removals are required due to a direct conflict with the Proposed Development, to avoid inappropriate tree retention close to the new highway and associated infrastructure and to achieve the landscaping objectives for the Site.

Tree removals will be mitigated with a high quality scheme of new tree planting and associated landscaping works which will represent an opportunity to enhance the quality, benefits and resilience of trees on the Site.

All of the remaining recorded trees can be retained and protected.

Tree Works

Tree removals and pruning works to facilitate the Proposed Development are detailed in the Tree Survey Schedule included as Appendix B.

The northern crown of T169 has been identified to require minor clearance pruning to facilitate construction access to allow the installation of a drainage pipe. Therefore a localised crown reduction of up to 1m is proposed to the northern crown of T169. Pruning will be undertaken back to growth points and will be agreed with an arboriculturist prior to the works. This tree is semi mature and was recorded to be in good condition at the time of the survey and therefore the works are not considered likely to negatively impact its physiological or structural condition. Following the installation of the pipe the crown will be allowed to grow back to its previous dimensions.

No additional works to retained trees are likely to be required. All tree work is to follow the principles of *BS3998: 2010 Treework – Recommendations* and must be carried out by suitably qualified and insured contractors. The Arboricultural Association provides a list of contractors who meet these requirements which can be found at www.trees.org.uk.

Should the requirement for additional tree works be identified, this will be discussed with an arboriculturist and no works will be undertaken without the consent of the MSDC.

Incursions within the RPA or Canopy Spread

Resurfacing works within RPAs

The Proposed Development will require the resurfacing of existing hard surfacing within the RPAs of T3, T18, T19, T20, T27, T42, T49, T52, T60, T63, T67, T87, T91, T93, H96, H112 and G123

There is already hard surfacing in these areas, therefore the construction works should utilise the existing surface, or, as a minimum, its existing sub-base, which can be ameliorated as required. The removal of any existing wearing course must be achieved using an excavator with an untoothed bucket, working backwards away from retained trees. All plant must be positioned on existing, intact, hard surfacing at all times. The new surfacing can then be installed on the current sub-base, which will be retained intact and ameliorated as required. No additional works to the sub-base are to be carried out without the advice and supervision of an arboriculturist.

The existing kerb will be replaced and must be removed along with the haunching by hand with the use of a handheld pneumatic breaker under the supervision of an arboriculturist. New haunching will be installed within the same footprint and is to be installed on top of impermeable sheeting to contain any uncured concrete and to prevent leaching into the RPA.

Any uncovered tree roots will be carefully worked around and retained intact where possible and will be managed in accordance with Appendix E.

These works will not negatively impact the physiological or structural condition of the trees and all works within the RPAs of retained trees will be supervised by an arboriculturist.

Footway Widening within RPAs

The Proposed Development will require the widening of an existing footway along Cuckfield Road within the RPAs of T81, T82, T87 and T93. The existing footway will be widened to the north east towards retained trees on what is currently unsurfaced soft ground.

Therefore to avoid negatively impacting the physiological or structural condition of the trees the footway will follow 'no dig' principles to avoid adverse impacts to the structure of the soil and excavation which could require root severance. This will be achieved with the use of a three-dimensional cellular confinement system (such as Cellweb, ArborRaft or equivalent) that is designed to meet the highest expected loads and is positioned on top of the existing ground level.

The cellular confinement system should be laid across the entire width of the proposed footway and is recommended to be laid on top of the existing wearing course. Alternatively the existing wearing course could be removed which must be achieved using an excavator with an untoothed bucket, working backwards away from retained trees.

All plant must be positioned on existing, intact, hard surfacing at all times. The cellular confinement system can then be installed on the current sub-base, which will be retained intact and ameliorated as required. No additional works to the sub-base are to be carried out without the advice and supervision of an arboriculturist.

This methodology will increase the final level of the hard surfacing and this must be taken into consideration.

Edging for the road will be required within the RPAs of T87 and T93. To minimise negative impacts to tree roots kerbing and haunching will be installed in the shallowest trench feasible, which will be excavated by hand under the supervision of an arboriculturist. All uncovered roots will be managed in accordance with section E.3 within Appendix E and will be retained and worked around where feasible. All uncured concrete will be contained within impermeable sheeting to avoid the leaching of toxic chemicals into the soil within or adjacent RPAs.

These works must be supervised by an arboriculturist.

New Footway within RPAs

The Proposed Development will require the installation of a new footway along Cuckfield Road within the RPAs of T20, T25, T34 and T63.

Therefore to avoid negatively impacting the physiological or structural condition of the trees the footway will follow 'no dig' principles to avoid adverse impacts to the structure of the soil and excavation which could require root severance. This will be achieved with the use of a three-dimensional cellular confinement system (such as Cellweb, ArborRaft or equivalent) that is designed to meet the highest expected loads and is positioned on top of the existing ground level. This methodology will increase the final level of the hard surfacing and this must be taken into consideration.

Edging is often not required to stabilise the load bearing surface and the edge of the surface. If edging is required within retained tree RPAs it must be installed without excavation. Methods of edging for different circumstances would include the use of treated wooden peg and boards or railway sleepers pinned in position.

More significant edging will be required adjacent to the road within the outer RPAs of T20 and T63. Negative impacts to tree roots will be minimised by ensuring that kerbing and haunching is installed in the shallowest trench feasible, which will be excavated by hand under the supervision of an arboriculturist. All uncovered roots will be managed in accordance with section E.3 within Appendix E and will be retained and worked around where feasible. All uncured concrete will be contained within impermeable sheeting to avoid the leaching of toxic chemicals into the soil within or adjacent RPAs.

These works must be supervised by an arboriculturist.

Restoration of Hard Surfacing to Soft Ground within RPAs

The Proposed Development will require several small areas of the existing hard surfaced Cuckfield Road to be restored to soft ground which will require a small incursion into the RPAs of T82, T91 and H118 which will improve the growing conditions for the trees.

The removal of any existing wearing course and the upper section of the sub base must be achieved using an excavator with an untoothed bucket, working backwards away from retained trees. All plant must be positioned on existing, intact, hard surfacing at all times. The lower sub-base (e.g. lower 100mm) will then be carefully removed by hand with the use of a hand held pneumatic breaker. All arisings will be stored outside of RPAs or on existing hard surfacing. Any roots uncovered growing through the sub-base will be carefully worked around and retained intact in accordance with section E.3.

Following removal of the sub-base a suitable uncompacted free draining topsoil will be applied and lightly hand tamped only. Where significant increases in levels are required a granular fill material (such as washed angular stone or gravel) will be utilised with a layer of free draining topsoil used to finish the build-up. The final specification of this will be agreed at the detailed design. This area will then be fenced off with suitable Tree Protection Fencing in accordance with the TPP.

This work must be supervised by an arboriculturist.

Earthworks within RPAs

The Proposed Development will require minor ground level increases along Cuckfield Road within the RPAs of T6, T20, T25, T34, T36 and T46 to tie into the final level of the proposed road and footway.

Prior to these works existing ground vegetation shall be treated with an approved herbicide (such as glyphosate) 2-3 weeks before construction takes place. Killed vegetation can then be subject to a maximum 50 mm vegetative scrape which must take place by hand. Any arisings shall be removed (if left in situ they could cause anaerobic conditions as they break down which could be detrimental to tree roots).

Ground level increases will then utilise an uncompacted granular material which will be installed by hand and hand tamped only. Due to the minor increases in ground level no retaining feature is expected to be required.

These works will not significantly negatively impact the physiological or structural condition of the trees and the works will be supervised by an arboriculturist.

Incursions within the RPAs of T19, T67 and T91

The Proposed Development will require the installation of a drainage pipe along the existing retained Cuckfield Road to the east of the Site. The current alignment of the drainage pipe will require an incursion into the outer RPAs of T19, T67 and T91 and is proposed to be installed using an open cut methodology. Due to the condition and availability of possible rooting areas on and adjacent to the Site it is considered likely that a reduced volume of roots are present beneath the hard surfaced road. Furthermore a drainage ditch along the eastern edge of Cuckfield Road adjacent to T67 is likely to reduce this further. The alignment of the drainage pipe adjacent to T19 and T91 has been positioned at the furthest point from the tree stems whilst keeping within the footprint of the road which is likely to be the least root occupied area beneath Cuckfield Road. Therefore, providing the following principles are adhered to these works are considered unlikely to have a significant negative impact to the physiological or structural condition of the trees. The detailed design will seek to further reduce the impacts to these trees.

Arboricultural preparatory works will be required prior to pipe installation which will include the careful excavation by hand (using compressed air and a soil vacuum where available) to a depth of 1m along the drainage pipe alignment within the RPA. Roots (if present) will be carefully exposed and where they are not considered retainable will be severed with a clean sharp tool to leave a clean cut end (set back 200mm from the edge of the excavation).

All roots will be managed in accordance with section E.3 in Appendix E.

Root pruning will be timed to avoid times of high physiological activity for the tree (e.g. in winter or late summer avoiding periods of drought) where possible and will be supervised by an Arboriculturist.

Following this operation robust immovable tree protection fencing will be installed along the excavation line and all works will be completed from outside of the fencing reaching towards retained trees and working backwards.

Incursions within the RPA of T189 (Veteran tree)

The Proposed Development has been designed to avoid veteran trees where possible. However complete avoidance has not been possible and one minor incursion is required in the outer RPA of T189 to facilitate the installation of a manhole. At this stage an incursion into the RPA of this veteran tree has not been avoidable due to onsite constraints and to meet design requirements such as requiring a straight pipe to connect to the sandbag headwall to the north. The detailed design will seek to further avoid or reduce the incursion within this veteran tree.

The manhole within the RPA is proposed to be 1.2m in diameter and the preferred construction method is a precast concrete manhole. Arboricultural preparatory works will be required prior to manhole installation which will include the careful excavation by hand (using compressed air and a soil vacuum where available) of a 2.5m diameter, 1m deep hole within the footprint of the proposed manhole. Any tree roots encountered will be carefully exposed and where they are not considered retainable will be severed with a clean sharp tool to leave a clean cut end (set back 200mm from the edge of the excavation).

All roots will be managed in accordance with section E.3 in Appendix E.

Any root pruning will be timed to avoid times of high physiological activity for the tree (e.g. in winter or late summer avoiding periods of drought) and will be supervised by an Arboriculturist. The RPA will be compensated for by protected undisturbed ground to the north and east of the tree.

All access within the RPA will be managed with fit for purpose ground protection, specified to the highest expected load in accordance with E.2 in Appendix E. This area is predominantly within the footprint of an existing grassed vehicular access track.

Following excavation of the manhole footprint the precast concrete manhole will be carefully lifted into place by an excavator (or similar), positioned outside the RPAs of retained trees. Following drainage connections the manhole will be buried, likely using a granular fill material (such as washed angular stone or gravel) and a free draining topsoil will be used to finish the build-up.

Where uncured concrete is required, it will be contained within impermeable sheeting to avoid the leaching of toxic chemicals into the soil within or adjacent to RPAs.

A banksman will be used where the movement of plant or long reach machinery occurs within 5m of any part of a retained tree to ensure no damage is sustained.

Providing the above principles are adhered to root pruning will remove a maximum of approximately 1.2% of the RPA and with the implementation of ground protection the soil structure will be maintained. An offset of protected soil to compensate for the RPA incursion will be available to the north and east. Therefore these works are not considered likely to significantly negatively impact the physiological or structural condition of the tree.

Incursions within an Ancient Semi Natural Woodland

Following the installation of the manhole within the RPA of T189 a drainage pipe and associated sandbag headwall is proposed to the north, extending into an area of recorded Ancient Semi Natural Woodland (Bridge Farm Shaw North).

The Proposed Development has been designed to avoid ancient woodlands and their buffer zones where possible. However an incursion within the Bridge Farm Shaw North ASNW has been deemed unavoidable to meet the drainage requirements for the Proposed Development. Therefore an incursion into the ASNW and its buffer zone will be required to facilitate the installation of a pipe (using trenchless techniques) and associated sandbag headwall.

An S73 application was submitted for these proposals and it was agreed that trenchless installation techniques would be used (to a sufficient depth to avoid impacting tree roots) and a minimum impact sandbag headwall would be constructed in a location to minimise impacts to existing trees.

Providing the following principles are adhered to minimal negative impacts are anticipated to the ASNW and retained trees. Whilst no tree survey information is available in this location a site walkover was undertaken in March 2022 to identify the presence of significant trees including veteran or ancient trees and none were identified. The only trees located near to the proposed pipe and sandbag headwall are scattered low lying tree features including hawthorn, blackthorn and hazel on either side of a grassed vehicular access track and no tree loss is anticipated to achieve these works. Any requirement for further tree works not identified within this report will require prior approval from the MSDC Tree Officer.

To avoid negatively impacting the structure of the soil and retained trees the pipe will utilise trenchless techniques with access and retrieval pits located outside the RPAs of retained trees. To the north within the ASNW the pipe will connect to a sandbag headwall. Construction of the sandbag headwall will require an area of excavation of approximately 8.5m² to allow its installation. All excavated soil will be kept within the ASNW and will be used to achieve the recommended cover over the pipe to the immediate south of the headwall. Soil will be carefully laid over the location of the pipe with soil profiles maintained and topsoil preserved for the upper horizons and will be lightly hand tamped only.

No materials will be brought in to the ASNW (e.g. soil) other than the specific materials required for the sandbag headwall and those required for the pipe connection. Sandbags will be filled with sharp sand with no salt content.

All access within the ASNW and its buffer zone will be managed with fit for purpose ground protection, specified to the highest expected load in accordance with E.2 in Appendix E. The existing grassed access route (with likely disturbed soil) will be utilised where possible.

Where uncured concrete is required, it will be contained within impermeable sheeting to avoid the leaching of toxic chemicals into the soil within or adjacent to RPAs.

A banksman will be used where the movement of plant or long reach machinery occurs within 5m of any part of a retained tree to ensure no damage is sustained.

All works within the ASNW and its buffer zone will be supervised by an arboriculturist.

The Future Impact of Retained Trees

The future impact of retained trees in conjunction with the Proposed Development and future use of the Site has been considered.

The Site contains a significant population of large trees in varying condition.

Trees within the Site will require ongoing maintenance and assessment by a competent person to ensure that any risks from tree failure are managed in accordance with best practice. All tree works recommended as a result of the preliminary tree survey of the Site which considered trees in the context of the current use of the Site (these works are included as preliminary management recommendations in the Tree Schedule in Appendix B of this report) should be actioned within the recommended timescales.

Tree Protection

Retained trees are vulnerable to damage from construction activities which can include physical damage to stems and branches following impacts with plant. Root severance following trenching, root death or dysfunction following damage to soil structure (caused by the movement of people or machinery on unsurfaced ground) or via the spillage of materials toxic to tree health. The default position is that the RPA and Canopy spread of trees to be retained will form an effective Construction Exclusion Zone, secured with robust fencing where no access will be permitted. Where access is necessary within this area special measures such as the use of ground protection and arboricultural supervision are generally required.

Outline tree protection measures are considered in Appendix E of this report. An Arboricultural Method Statement is often required as a condition of planning consent to set out the phasing of site operations, the finalised tree protection measures for the Site and to provide detail on how sensitive elements of work are to be achieved in proximity to retained trees. Issues to be addressed by the Method Statement are listed in the Conclusion of this report.

Site Organisation, Storage and Use of Materials, Plant and Machinery.

All construction site facilities including site huts, staff and contractor parking and areas for storage will be located outside of the RPA or crown spread of retained trees, including those not specifically covered in this report. Space is likely to be constrained on the Site and will need to be carefully considered. The Construction Exclusion Zones identified on the Tree Protection Plan must be fully respected and their location and significance is to be highlighted to all site staff and contractors during the formal site briefing.

The use, mixing and washing of materials can lead to run off or inadvertent spillage into tree root zones. Many substances often used on construction sites can be toxic to tree roots (such as concrete, fuels, salts, builders sand and herbicides) and can result in the death of tree roots and beneficial soil organisms and can have a significant impact on the future health and appearance of the tree.

The storage of materials and arising's can result in an effective raised soil level. This buries tree roots at depths where air and water are less available and can lead to the decline or death of the tree.

For these reasons the storage of materials and any washing, mixing or refuelling will take place in agreed allocated areas at least 5m from the edge of the RPA of retained trees.

Any slope effect must be taken into account and where there is a potential for run off, heavy duty polythene sheeting and sandbags must be in place as bunding to prevent toxic materials reaching RPAs.

Particular care is required where high sided vehicles, long reach machinery and plant with jibs, booms and counterweights are to operate with in proximity to retained trees. A banksman will be used where the movement of plant or long reach machinery occurs within 5m of any part of a retained tree to ensure no damage is sustained.

Tree Planting

Existing areas of unsurfaced ground must be protected during the demolition and construction phases if they are to be re-used for new plantings. Protection can be achieved using fit for purpose ground protection measures as set out in BS5837:2012 Section 6.2.3 or by creating a fenced exclusion zone. Where protection is not feasible, soil amelioration or replacement works will be required to ensure suitable growing conditions for new trees to fully establish.

Where new trees are to be planted, the minimum planting distances detailed in Annexe A, Table A.1 of BS5837:2012 must be adhered to, to prevent direct damage to services and structures from future tree growth.

New tree planting should be implemented in accordance with the guidance set out in BS8545: 2014 Trees: from nursery to establishment in the landscape – Recommendations.

Services

No detailed information is available in relation to utilities and services (notwithstanding the proposed drainage works considered above).

Where existing services become redundant within the RPA of a retained tree, the default position must be that they be decommissioned and left in situ. Where this is not feasible the following principles are to be observed.

Existing services are to be removed by winching out from an access/inspection chamber located outside of an RPA. It may be acceptable to fill redundant pipe work with an inert material or undertake pipe bursting where necessary within the RPA of retained trees. All works must fully avoid the RPA of veteran trees and the buffer zones associated with ancient woodlands.

Excavation to install services has the potential to result in unacceptable root severance which could result in instability, dysfunction or the death of trees. Repeated incursions are particularly damaging and must be avoided by bundling services wherever possible.

The default position will therefore be that all services be routed outside of the RPA of retained trees. The following general principles will apply and where services must be routed within the RPA of a retained tree this process will be subject to a detailed method statement with approval from the Planning Authority. The principles of the National Joint Utilities Group (NJUG) Volume 4 guidance must be adhered to. All works must fully avoid the RPA of veteran trees and the buffer zones associated with ancient woodlands.

All services must be bundled as far as possible and installed within RPAs using hand/compressed air excavation (e.g. for shallow service runs) or trenchless techniques such as impact moling (thrust boring) with all access pits and inspection chambers being located outside of the RPA. The route must run as far from the main stem of a retained tree as possible and must be at a minimum depth so that the upper 2m of the soil profile is undisturbed. The depth of the run may need to be adjusted to account for soil type and species variation and this must be determined subject to the advice of an arboriculturist.

This operation must take place as specified in a Method Statement. Any water pipes must be constructed so as to be resistant to ingress by tree roots (both existing trees, and newly planted trees) which could include the use of root barriers where appropriate.

6. Conclusions

The Proposed Development will require the removal or part removal of 30 tree features; this includes five individual trees, three part tree groups and one part woodland as moderate quality (Category B), eight individual trees, one tree group, one part tree group, one hedgerow and eight part hedgerows classified as low quality (Category C) and the remaining two individual trees classified as unsuitable for retention (Category U). The Category U trees are arguably not suitable for long term retention and their removal is justified regardless of the Proposed Development.

All of the trees to be removed are within the red line application boundary.

Tree removals are required due to a direct conflict with the Proposed Development, to avoid inappropriate tree retention close to the new highway and associated infrastructure and to achieve the landscaping objectives for the Site.

One tree (T169) has been identified to require a minor localised crown reduction to facilitate construction access to install a drainage pipe. Following the works the canopy will be allowed to grow back into the previously occupied space and due to the trees age and condition these works are not considered likely to significantly negatively impact the physiological or structural condition of the tree.

The Proposed Development will require RPA or canopy incursions for 31 tree features which includes hard surfacing works, earthworks and drainage installation. Providing the principles included within this report are adhered to these works are unlikely to significantly negatively impact the physiological or structural condition of the trees.

One veteran tree (T189) will require a very minor outer RPA incursion to facilitate the installation of a manhole. These works are likely to require the removal of 1.2% of the RPA in an area already used for vehicular access (which will be offset and compensated for via protected areas to the north and east) and will be undertaken under the supervision of an arboriculturist. Providing the principles included within this report are adhered to these works are unlikely to significantly negatively impact the physiological or structural condition of the tree. The detailed design will seek to further avoid or reduce this impact where possible.

Works will be required within a recorded ASNW to facilitate the construction of a drainage pipe and sandbag headwall. This location generally aligns with an existing grassed vehicular access track subject to previous disturbance. No detailed tree survey information is available for this area however a walkover to identify the presence of significant trees such as veteran or ancient trees was undertaken in March 2022 and none were identified. Unsurveyed trees in this location consist of scattered low lying tree features including hawthorn, blackthorn and hazel on either side of the access track. All excavated soil will be retained within the recorded woodland boundary and no materials (e.g. soil) other than those required to install the sandbag headwall and those require for the pipe connection will be brought into the ASNW. Providing the principles set out within this report are adhered to the works within the recorded ASNW are likely to have minimal negative impacts to the soil and retained trees and these principles align with what was agreed within the S73 agreement. The detailed design will seek to further avoid or reduce these impacts where possible.

Tree loss will be mitigated with a robust and high quality scheme of new tree planting which represents an opportunity to increase the quality, impact, diversity and resilience of the local tree stock.

Soil structure for areas of new tree planting where the ground is currently unsurfaced will either be protected using ground protection or fenced exclusion zones; or the soil structure will be ameliorated or replaced following the completion of construction works on the Site.

Issues to be addressed by an Arboricultural Method Statement:

- Conditions of planning consent
- Pre commencement meeting and site briefing
- Order and phasing of operations
- Tree works
- Tree protection fencing
- Ground protection
- Site storage and facilities
- Movement of people, plant and materials
- Enabling works
- Restoration of hard surfacing to soft ground within RPAs under arboricultural supervision
- Specialised construction of hard surfacing within RPAs under arboricultural supervision
- Ground level increases within RPAs under arboricultural supervision
- Installation of new surfacing
- Careful installation of the manhole, sandbag headwall and associated pipeline adjacent to T189 (veteran tree) and within the ASNW under arboricultural supervision
- Installation of new services and/or diversion of existing services
- Hard landscaping
- Soft Landscaping
- Removal of tree protection measures

References

British Standards Institution (BSI), BS5837:2012. Trees in relation to design, demolition and construction – Recommendations. BSI

British Standards Institution (BSI), BS3998:2010. Tree work – Recommendations. BSI

British Standards Institution (BSI) BS8545: 2014 Trees: from the nursery to independence in the landscape - Recommendations

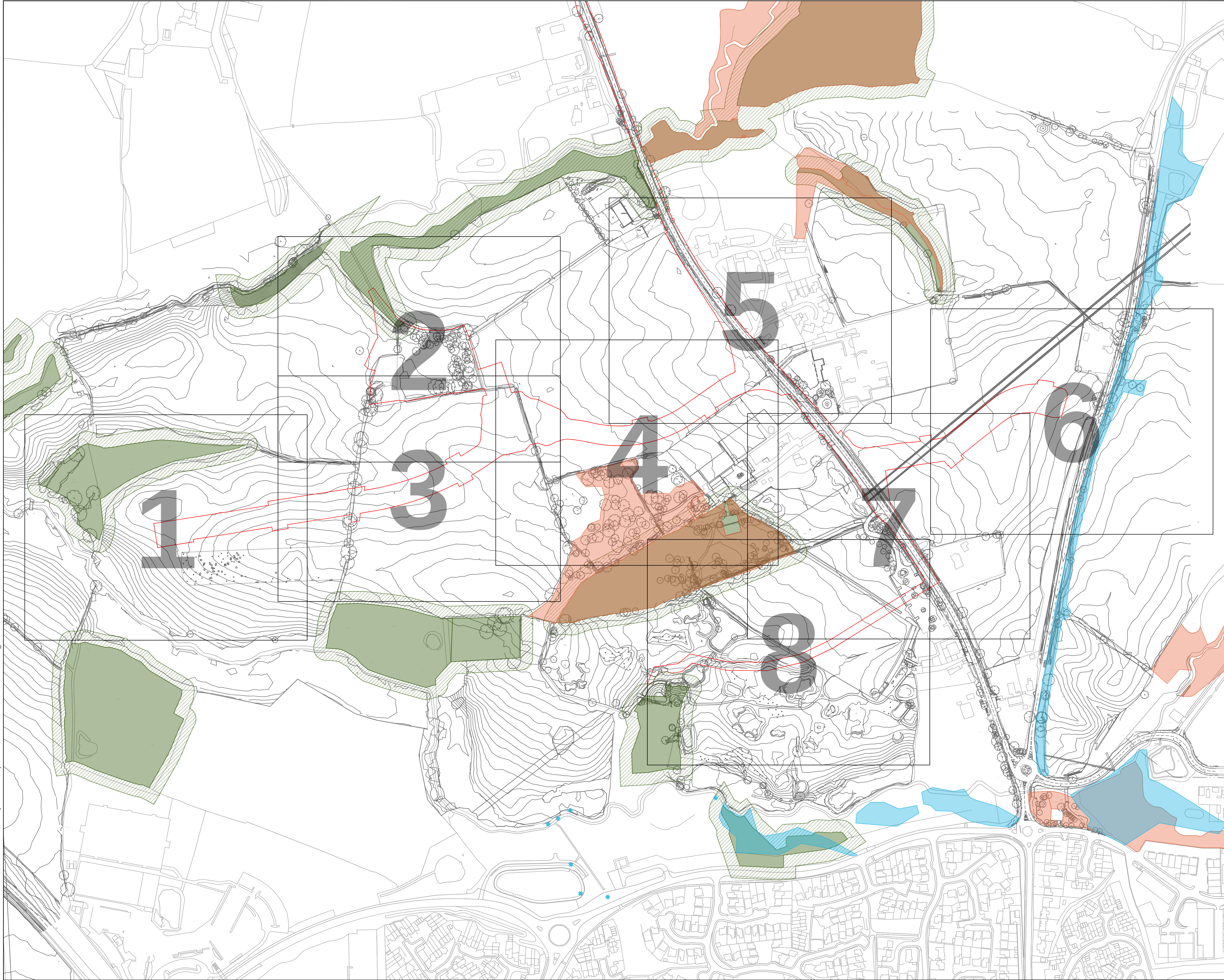
National House Building Council (NHBC) Standards, (2025). Chapter 4.2: Building Near Trees

National Joint Utilities Group (NJUG) Volume 4, Issue 2, (2007). NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees.

National Tree Safety Group (NTSG), 2024. Common sense risk management of trees. 2nd Edition. Forest research and the Arboricultural Association.

Department for Housing, Levelling Up and Communities (DHLUC)), 2024. National Planning Policy Framework (NPPF).

Appendix A Tree Constraints Plan



AECOM

PROJECT

NORTHERN ARC
CENTRAL AVENUE
CLIENT

HOMES ENGLAND

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GENERAL NOTES

1. TREE CATEGORIES AS DEFINED BY BS 5837:2012
2. TREE LOCATIONS ARE BASED ON THE TOPOGRAPHICAL SURVEY, AERIAL IMAGERY, AND GPS CO-ORDINATES FROM ON SITE WALKOVER.
3. * INDICATES A TREE / GROUP WHOSE POSITION IS APPROXIMATE AS BASED UPON AERIAL PHOTOGRAPHY AND ON SITE OBSERVATIONS. ARBORICULTURAL REPORT.
4. PLANS SHOULD BE READ IN CONJUNCTION WITH THE AECOM ARBORICULTURAL REPORT.
5. THE ORIGINAL OF THIS DRAWING WAS PRODUCED IN COLOUR - A MONOCHROME COPY SHOULD NOT BE RELIED UPON.
6. DRAWING REFERENCES:
CS_Map.dwg
60610807-ACM-CS-ZZ-M2-ZZ-0001.dwg

KEY

- FEATURE ID TAGS**
(A PREFIX OF 'T' DENOTES A SINGLE TREE, 'G' A GROUP, 'H' A HEDGE, 'W' A WOODLAND, AND AN ASTERISK SUFFIX '*' MEANS THE FEATURE WAS PLOTTED INDICATIVELY)
- RED LINE BOUNDARY**
 - A CATEGORY TREE, GROUP, HEDGE, OR WOODLAND**
(HIGH QUALITY & VALUE)
 - B CATEGORY TREE, GROUP, HEDGE, OR WOODLAND**
(MODERATE QUALITY & VALUE)
 - C CATEGORY TREE, GROUP, HEDGE, OR WOODLAND**
(LOW QUALITY & VALUE)
 - U CATEGORY TREE, GROUP, HEDGE, OR WOODLAND**
(UNSUITABLE FOR RETENTION)
 - ROOT PROTECTION AREAS (RPA)**
(AS DEFINED BY BS 5837:2012)
 - VETERAN TREE MARKER**
(INDICATES POSITION OF TREE OF VETERAN STATUS)
 - ANCIENT WOODLAND (W15m BUFFER ZONE)**
(AREA CLASSIFIED AS AN ANCIENT WOODLAND)
 - PRIORITY HABITAT**
(CONSIDERED AN AREA OF PRIORITY HABITAT)
 - TREE PRESERVATION ORDER**
(AREA COVERED BY A TREE PRESERVATION ORDER (TPO))

ISSUE/REVISION

NO	DATE	DESCRIPTION
P03	26.01.24	ADDITIONAL SURVEY DATA
P02	05.10.23	TOPO UPDATE
P01	06.03.23	FIRST ISSUE
VR	DATE	DESCRIPTION

DRAWING STATUS

ISSUE

PROJECT NUMBER

60610807

SHEET TITLE

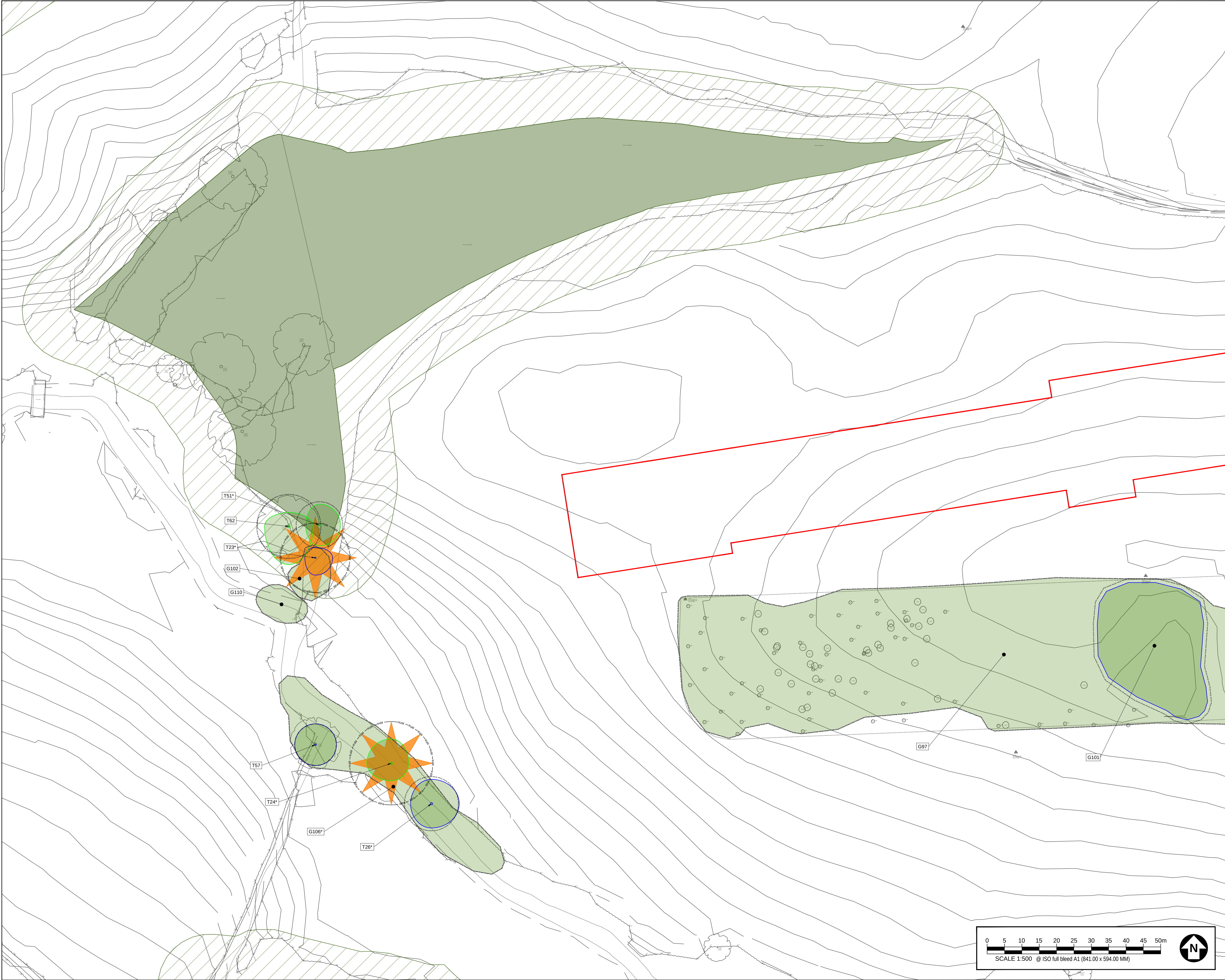
TREE CONSTRAINTS PLAN
(SHEET 0)

SHEET NUMBER

60610807-ACM-XX-XX-AB-TCP-00

REV.

P03



PROJECT

NORTHERN ARC
CENTRAL AVENUE
CLIENT

HOMES ENGLAND

CONSULTANT

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www.aecom.com

GENERAL NOTES

1. TREE CATEGORIES AS DEFINED BY BS 5837:2012
2. TREE LOCATIONS ARE BASED ON THE TOPOGRAPHICAL SURVEY, AERIAL IMAGERY, AND GPS CO-ORDINATES FROM ON SITE WALKOVER.
3. * INDICATES A TREE / GROUP WHOSE POSITION IS APPROXIMATE AS BASED UPON AERIAL PHOTOGRAPHY AND ON SITE OBSERVATIONS.
4. PLANS SHOULD BE READ IN CONJUNCTION WITH THE AECOM ARBORICULTURAL REPORT.
5. THE ORIGINAL OF THIS DRAWING WAS PRODUCED IN COLOUR - A MONOCHROME COPY SHOULD NOT BE RELIED UPON.
6. DRAWING REFERENCES:
OS_Map.dwg
60610807-ACM-CS-ZZ-M2-ZZ-0001.dwg

KEY PLAN



KEY

- FEATURE ID TAGS**
(A PREFIX OF 'T' DENOTES A SINGLE TREE, 'G' A GROUP, 'H' A HEDGE, 'W' A WOODLAND, AND AN ASTERISK '*' MEANS THE FEATURE WAS PLOTTED INDICATIVELY)
- RED LINE BOUNDARY**
 - A CATEGORY TREE, GROUP, HEDGE, OR WOODLAND (HIGH QUALITY & VALUE)**
 - B CATEGORY TREE, GROUP, HEDGE, OR WOODLAND (MODERATE QUALITY & VALUE)**
 - C CATEGORY TREE, GROUP, HEDGE, OR WOODLAND (LOW QUALITY & VALUE)**
 - U CATEGORY TREE, GROUP, HEDGE, OR WOODLAND (UNSUITABLE FOR RETENTION)**
 - ROOT PROTECTION AREAS (RPA) (AS DEFINED BY BS 5837:2012)**
 - VETERAN TREE MARKER (INDICATES POSITION OF TREE OF VETERAN STATUS)**
 - ANCIENT WOODLAND (W15m BUFFER ZONE) (AREA CLASSIFIED AS AN ANCIENT WOODLAND)**
 - PRIORITY HABITAT (CONSIDERED AN AREA OF PRIORITY HABITAT)**
 - TREE PRESERVATION ORDER (AREA COVERED BY A TREE PRESERVATION ORDER (TPO))**

ISSUE/REVISION

VR	DATE	DESCRIPTION
P03	26.01.24	ADDITIONAL SURVEY DATA
P02	05.10.23	TOPO UPDATE
P01	06.03.23	FIRST ISSUE

DRAWING STATUS

ISSUE

PROJECT NUMBER

60610807

SHEET TITLE

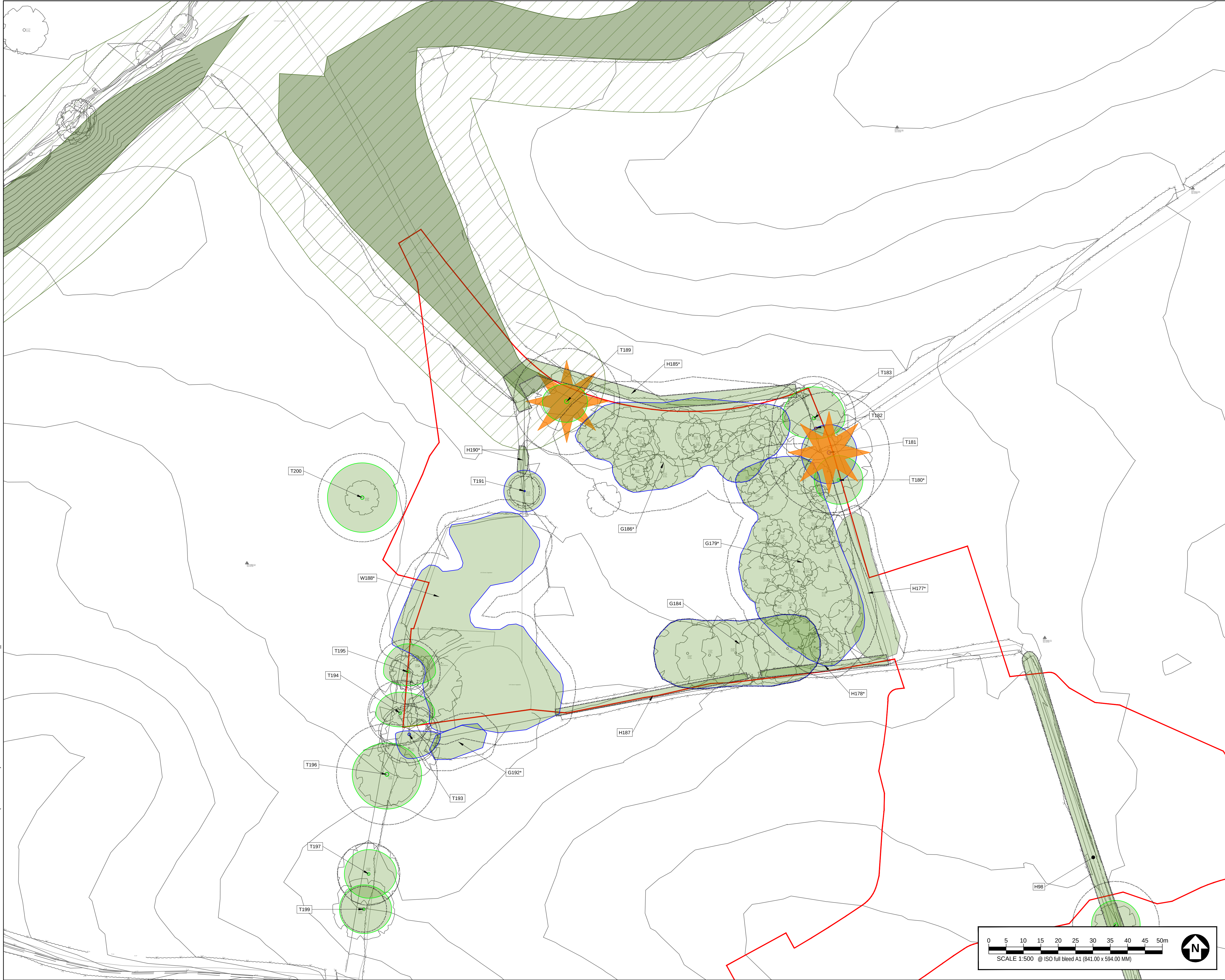
TREE CONSTRAINTS PLAN
(SHEET 1)

SHEET NUMBER

60610807-ACM-XX-XX-AB-TCP-01

REV.

P03



PROJECT

NORTHERN ARC
CENTRAL AVENUE
CLIENT

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CS_Map.dwg
60610807-ACM-CS-ZZ-M2-ZZ-0001.dwg

KEY PLAN



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ISSUE/REVISION

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P03	26.01.24	ADDITIONAL SURVEY DATA
P02	05.10.23	TOPO UPDATE
P01	06.03.23	FIRST ISSUE

DRAWING STATUS

ISSUE

PROJECT NUMBER

60610807

SHEET TITLE

TREE CONSTRAINTS PLAN
(SHEET 2)

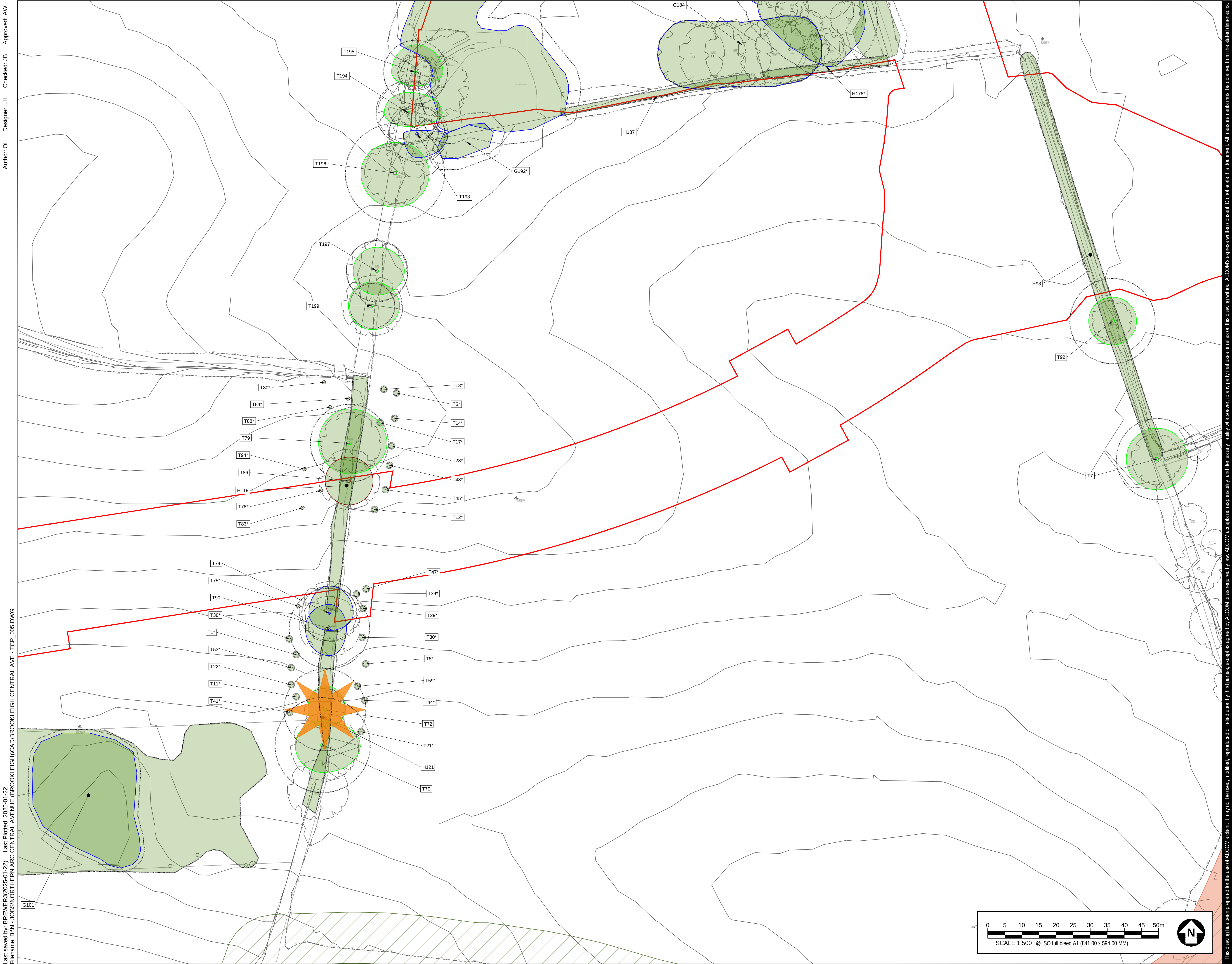
SHEET NUMBER

60610807-ACM-XX-XX-AB-TCP-02

REV.

P03

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PROJECT

NORTHERN ARC
CENTRAL AVENUE
CLIENT

HOMES ENGLAND

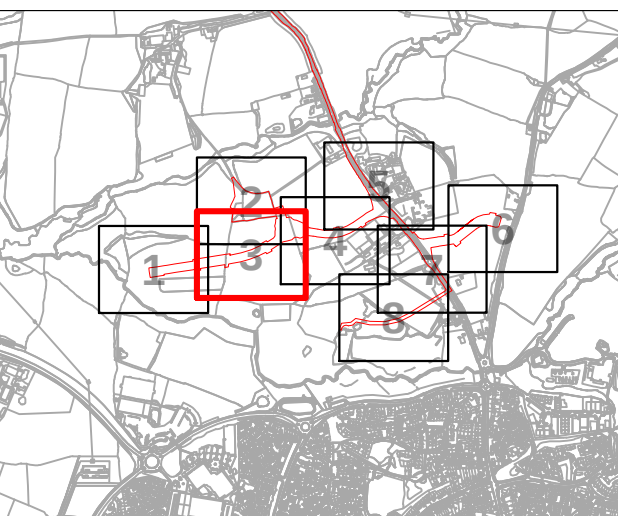
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60610807-ACM-CS-ZZ-M2-ZZ-0001.dwg

KEY PLAN



KEY

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(AS DEFINED BY BS 5837:2012)
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(CONSIDERED AN AREA OF PRIORITY HABITAT)
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(AREA COVERED BY A TREE PRESERVATION ORDER (TPO))

ISSUE/REVISION

VR	DATE	DESCRIPTION
P03	26.01.24	ADDITIONAL SURVEY DATA
P02	05.10.23	TOPO UPDATE
P01	06.03.23	FIRST ISSUE

DRAWING STATUS

ISSUE

PROJECT NUMBER

60610807

SHEET TITLE

TREE CONSTRAINTS PLAN
(SHEET 3)

SHEET NUMBER

60610807-ACM-XX-XX-AB-TCP-03

REV.

P03

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