

BS:5837:2012

Arboricultural Impact Assessment

**Unit A Finlan Road, Stakehill
Industrial Estate, Middleton,
Manchester**



Presented to: Savills Plc

Issued: December 2025

Lucion Contract Number: 120999.649224

Report Details

Client	Savills Plc
Report Title	BS:5837:2012 Arboricultural Impact Assessment
Site Address	Unit A Finlan Road, Stakehill Industrial Estate, Middleton, Manchester M24 2RW
Contract Reference.	120999.649224
Lucion Contact	Chris Callaghan

Quality Assurance

Issue No.	Status	Issue Date	Comments	Author	Technical Review	Authorised
1	V1 Final	16 th December 2025		Chris Callaghan Principal Arboricultural Consultant	Jonathan Spencer Associate Director – Ecology Team Lead	Jonathan Spencer Associate Director – Ecology Team Lead

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1.0 Introduction

1.1 Purpose and Scope of the Survey

Lucion Delta-Simons Ltd ("Lucion") was instructed by Savills Plc (the 'Client') to produce an Arboricultural Impact Assessment (AIA) to British Standard (BS) 5837:2012. The AIA was undertaken of an area of land at Unit A Finlan Road, Stakehill Industrial Estate, Middleton, Manchester M24 2RW (hereafter referred to as 'the Site'). The assessment was undertaken in order to inform a planning application for the refurbishment and extension of the existing unit (Use Class B2 / B8 and/or E(g)(iii)), with additional service yard space and car parking (the 'proposed development').

The aims of the AIA were to:

- Detail foreseeable tree related issues within this Report to inform the Local Planning Authority (LPA);
- Provide an initial analysis of the impacts that the proposed development is projected to have on trees both within the Site and, where considered pertinent and where practicable, on land immediately adjacent to its boundaries; and
- Provide guidance on suitable retained tree management and mitigation for projected losses, along with advice on appropriate tree protection measures in the context of the proposed development in accordance with current guidance.

1.2 Site Description

The Site is centred at Ordnance Survey (OS) grid reference SD 89228 08023, to the north-east of Middleton in Greater Manchester. The Site covers an area of 2.72 ha and comprises an existing warehouse, with associated hardstanding including car parks, footpaths, and service yard. The hardstanding is bounded by amenity grassland, with some scattered trees, and dense native scrub. The north-eastern, south-eastern, and part of the south-western boundaries are defined by broadleaved woodland, with a further section in the north-western extent of the Site.

The Site is bounded by woodland to the north, east and south, with a continuation of industrial land to the west. There is grassland, scrub, woodland and a mosaic of industrial development in the wider surrounds.

The Site layout and area surveyed is shown in Figure 1.

1.3 Proposed Development

It is understood from the drawing provided (Drawing 1) that the Proposed Development will comprise:

The construction phase will comprise:

- Demolition of the existing single storey office projection and service yard canopy/veranda.
- Erection of an extension and alterations to the existing building; and
- A series of physical works to reconfigure the site with new hard and soft landscaping.

The operational phase will comprise:

- Use of buildings for Use Class B2 / B8 and / or E(g)(iii) purposes;
- Management of retained and created habitats in accordance with the Biodiversity Net Gain (BNG) assessment and Habitat Management and Maintenance Plan (HMMP);

1.4 Site Visit, Data Collection and Tree Plans

Further to the completion of a Tree Survey of the Site by Lucion, which took place in November 2025, all tree data collected from the Site is set out in the attached tabulated Tree Survey Schedule (TSS) at Appendix B and shown on the Tree Constraints Plan (TCP) (Figure 2).

The survey identified four individual trees (prefixes 'T') and six groups of trees (prefixes 'TG'). The surveyed vegetation has been numbered accordingly on the TCP and Tree Impact Plan (TIP), as appended (see Figure 2 and Figure 3, respectively). The TCP details the existing Site with the readily definable tree constraints, whilst the TIP also has an overlay of the development proposals along with associated projected tree related impacts. The plans are based on topographical survey of the existing and proposed Site plans that were provided in electronic format by the Client, and for the purpose of this Report, it is assumed that these are accurate.

The results of the email enquiry undertaken on 13th December 2025 to the Rochdale council planning department have yet to be answered at the time of writing this report. There is no Tree Preservation Order (TPO), or Conservation Area (CA) information available on the Rochdale Council website.

2.0 Legislation

2.1 Tree Preservation Orders and Conservation Area Designations

The Town & Country Planning Act (1990) (the Act) and associated Regulations empower LPAs to protect trees in the interests of amenity by making TPOs. The Act also affords protection for trees of over 75 mm diameter that stand within the curtilage of a CA. Subject to certain exemptions, an application must be made to the LPA in question to carry out works upon or remove trees that are subject to a TPO, whilst six weeks' notice of intention must be given to carry out works upon or remove trees within a CA that are not protected by a TPO.

2.2 Protected Species

2.2.1 Nesting Birds

Nesting birds are afforded statutory protection under the Wildlife & Countryside Act (1981, as amended) and their potential presence should, therefore, be considered when trimming hedges, removing climbing plants and pruning and removing trees. The breeding period for nesting birds runs from March to late July, inclusive. Hedges provide valuable nesting sites for many birds and management should, therefore, be avoided during this period. Trees, hedges and ivy should be inspected for nests by a suitably qualified ecologist prior to pruning or removal, and any work likely to destroy or disturb active nests should be avoided until the young have fledged.

2.2.2 Bats

All bats and their roosts are protected under Section 9 of the WCA 1981 (as amended) and Annex IV of the Habitats and Species Regulations 2017.

It is an offence, either deliberately or recklessly, to destroy, damage or obstruct access to any bat roost, or to disturb a bat using such a place. It should be noted that a roost is protected whether or not bats are present and any activity or works affecting a roost, even when bats are absent, are likely to require a Natural England European Protected Species Licence.

2.3 Felling Licences

Subject to certain exemptions the Forestry Act (1967) requires that a 'Felling Licence' be obtained to remove growing trees amounting to more than five cubic metres of timber in a calendar quarter. Felling Licences are administered by the Forestry Commission and contravention of the associated controls can incur substantial penalties. A Felling Licence is, however, not required where tree removals are required for the purpose of implementing a development authorised by detailed (i.e. full) planning permission granted under the Act (1990).

3.0 The Tree Population

The Site is described in Section 1.0 of this Report.

As noted previously, four individual trees and six groups of trees were surveyed for the purpose of this appraisal. The trees on this site are mainly either planted woodland groups or naturally regenerated woodland groups,

The woodland groups on the outward facing northern, eastern and western slopes are of higher visual amenity value because they can easily be seen from outside the site. Woodland groups located to the south of the site are not readily visible from outside the site because they are surrounded by embankments.

All trees present within the Site are at a varied life stage, from Mature, early mature, semi-mature or young. None of the trees within the Site boundary show signs of past management, except or T1, T2, and T3 which show sign of previous crown lifting and basal epicormic removal. All on-Site groups of trees appear to be in fair condition, with normal amounts of deadwood – except for group TG005 which contains a group of 3 dead Ash trees.

In respect to the TSS, it should be noted that tree quality is categorised within the existing Site context without taking any development proposals into account. However, recommendations for works included in the TSS takes both current Site usage into consideration and the proposed Site development where there are definable development related issues with regards to specific trees.

The TSS includes a column ('Cat. Grade') listing the trees' respective retention values, where they are rated either 'A', 'B', 'C' or 'U', as per BS5837:2012 Table 1 (Appendix B). 'A' category trees are those considered to be of 'high quality' and, accordingly, the most suitable for retention, whilst 'B' category trees are those considered to be of 'moderate quality'. As detailed in Table 1 (below), no trees were categorised as high quality ('A'), four tree groups were categorised as moderate quality ('B'), 4 trees and 1 tree group were assessed as being of low quality ('C'). A single tree group was categorised as being of poor quality ('U').

Table 1: BS5837-2012 Retention Categories of the Surveyed Trees

Tree Quality	Ret. Cats.	Tree/Group Numbers	Totals
Those of a moderate or high quality that should be afforded appropriate consideration in the context of development	'A'	N/A	0
	'B'	TG001, TG002, TG003, and TG004	4 Tree Groups
Those of a low quality that should not be considered a material constraint to development	'C'	T001, T002, T003, T004, and TG006	4 Trees & 1 Tree Group
Those that should be removed for management reasons regardless of site proposals	'U'	TG005	1 Tree Group
Totals			4 Trees & 6 Tree Groups

It is understood that the Site is proposed for refurbishment and extension of the existing unit (Use Class B2 / B8 and/or E(g)(iii)), with additional service yard space and car parking (Drawing 1).

Accordingly, the TCP has been overlaid on the development plan provided by the Client in order to appraise the projected impacts that the development will potentially have on the Site vegetation, as detailed on the TIP.

3.1 Projected Arboricultural Losses Relating to the Proposal

As detailed in Table 2, below, and on the TIP, implementation of the proposed development as it stands is projected to require the removal of 3 trees T001, T002, T003. The remainder of on-Site trees are to be retained with the option to remove TG005 due to them being dead and dying.

Table 2: Arboricultural Impacts of Proposed Development and Other Tree Removal Proposals

Tree Quality	Ret. Cats.	Removals Necessary to Implement Development	Removals Suggested for Non-Development Related Reasons	Total Number of Tree Removals
Those of a moderate or high quality that should be afforded appropriate consideration in the context of development	'A'	0	0	0 Trees
	'B'	0	0	0 Trees
Those of a low quality that should not be considered a material constraint to development	'C'	T001, T002, T003		3 Trees
Those that should be removed for management reasons regardless of Site proposals	'U'	0	TG005	1 Tree Group
Totals				3 Trees and 1 Tree Group

3.2 Mitigation for Projected Tree Losses as Part of Site Landscaping

New tree planting as part of the Site landscaping plans is proposed within the Site, as shown in Drawing 1. The proposals include provision for tree planting within the Site centre and within areas of retained trees, which are projected to mitigate for the necessary development related tree losses.

4.0 Summary and Conclusions

The Site is located at Stakehill Industrial estate, Middleton, Manchester. A total of four Trees & six Tree Groups were surveyed in respect of the proposed development of the Site. It is understood that the existing Site is proposed for refurbishment and extension of the existing unit (Use Class B2 / B8 and/or E(g)(iii)), with additional service yard space and car parking (Drawing 1). New tree planting is proposed throughout the Site and tree and vegetation cover is to be retained around the boundaries, with predominantly trees in the southwest of the Site removed to facilitate the proposed development.

It should be noted that the trees which are to be removed are only visible from outside the site when viewed from the site entrance on Finland road as a result of the site topography.

Four tree groups were categorised as having high retention values. Four Trees and two tree groups of trees were made of low to medium value.

An evaluation of the proposed development in the context of the existing Site has indicated that it will be necessary to remove three trees groups of low retention value. However, the provision of new tree planting within the development's landscaping is projected to mitigate for the necessary development related tree losses.

In consideration of the above findings, it is concluded that, from the details provided to date, the Site in question can be developed as proposed, whilst retaining the individual trees and tree groups around the boundaries and, in turn providing new tree planting within the Site, predominantly around the centre and along the northern and southern boundaries. This should provide a varied age range within the tree stock and allow retained trees to grow to maturity while providing younger trees space to grow. However, in order to ensure successful existing tree preservation, it is essential that the retained trees are protected in strict accordance with current Government guidance and the recommendations included herein.

5.0 Recommendations for Successful Tree Retention in the Context of Development

5.1 Root Protection Areas and Construction Exclusion Zones

Adequate protection of the Root Protection Areas (RPAs) of retained trees during construction is essential to ensure their long-term viability. RPAs, which are calculated through a method provided in BS5837:2012, are ground areas that must be protected by temporary protective fencing (Specification given in Appendix C) as Construction Exclusion Zones (CEZs) throughout the development process, thereby keeping the trees' root zones free from disturbance, including compaction. Consequently, the RPA distances, as detailed in the TSS, and included on the TCP and TIP indicate the likely on-Site below-ground constraints in respect of tree roots, whilst assisting in planning for appropriate tree retention in relation to feasible development. In certain situations, such as at this Site, there is a limited degree of flexibility in the CEZ positioning, as discussed below.

The TSS includes two columns listing the RPAs of the individually surveyed trees and, where applicable, the largest of the trees in any surveyed groups as overall areas in square metres and as radial distances. The radial RPAs are indicated as blue coloured circles on the TCP and TIP. With regard to CEZs the design, materials and construction of the fencing should be appropriate for the intensity and type of site construction works and should conform to at least section 6.2 of BS5837:2012 and should be secured by the imposition of a suitably worded planning condition. A default Temporary Protective Fencing Specification is included at Appendix C.

5.2 Underground Utilities

The installation of underground utilities in close proximity to trees can cause serious damage to their roots. As such, it is essential that utilities be routed outside RPAs unless there is no other available option, and specifics regarding these routes should be included as part of a detailed planning application. Where RPAs cannot be avoided then guidelines set out in the National Joint Utilities Group publication '*Volume 4: NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (Issue 2) – Operatives Handbook*' should be followed (e.g. trenches of a very limited width to be hand dug or the use of directional drilling).

5.3 Arboricultural Method Statement and Tree Protection Plan

Government guidance recommends that, where considered practical by the LPA, an Arboricultural Method Statement (AMS) and a Tree Protection Plan (TPP) be prepared detailing mitigation for trees during the construction process. Essentially, the AMS and TPP describe and detail the procedures, working methods and protective measures to be used in relation to retained trees in order to ensure that they are adequately protected during the construction process.

6.0 Other Recommendations

6.1 Non-Development Related Tree Works and Recommendations

Any general management pruning works for retained trees that are stated to be non-development related, as detailed in the TSS, are recommended in accordance with prudent Arboricultural management and should, therefore, be carried out regardless of any development proposals and potential changes in land usage associated with the Site. All tree works should be carried out in accordance with BS3998:2010 - Tree Work – Recommendations.

6.2 Tree Work Related Consents

No tree pruning nor removal works should commence on-Site until necessary consents have been obtained from the LPA (if required).

6.3 Arboricultural Contractors

All tree works should be carried out by suitably qualified and experienced Arboricultural contractors carrying appropriate public liability insurance cover and be implemented to the minimum current UK industry standards and in accordance with industry codes of practice. Only certificated personnel should, in accordance with The Control of Pesticides Regulations, apply any pesticides.

6.4 Contractors and Subsequently Identified Tree Defects

Tree contractors should be made aware that, should any significant tree defects become apparent during operations that would not have been immediately obvious to the surveyor, then such defects should be notified immediately to the Client and subsequently confirmed to the consultant within five working days.

6.5 New Tree Planting

All tree planting at the Site should be carried out in accordance with BS4428:1989 - Code of Practice for General Landscape Operations, BS3936-1:1992, Nursery Stock – Part 1: Specification for Trees and Shrubs and BS4043:1989, Transplanting Root-Balled Trees where applicable, or any ensuing superseding guidance where applicable.

6.6 Retained Tree Management

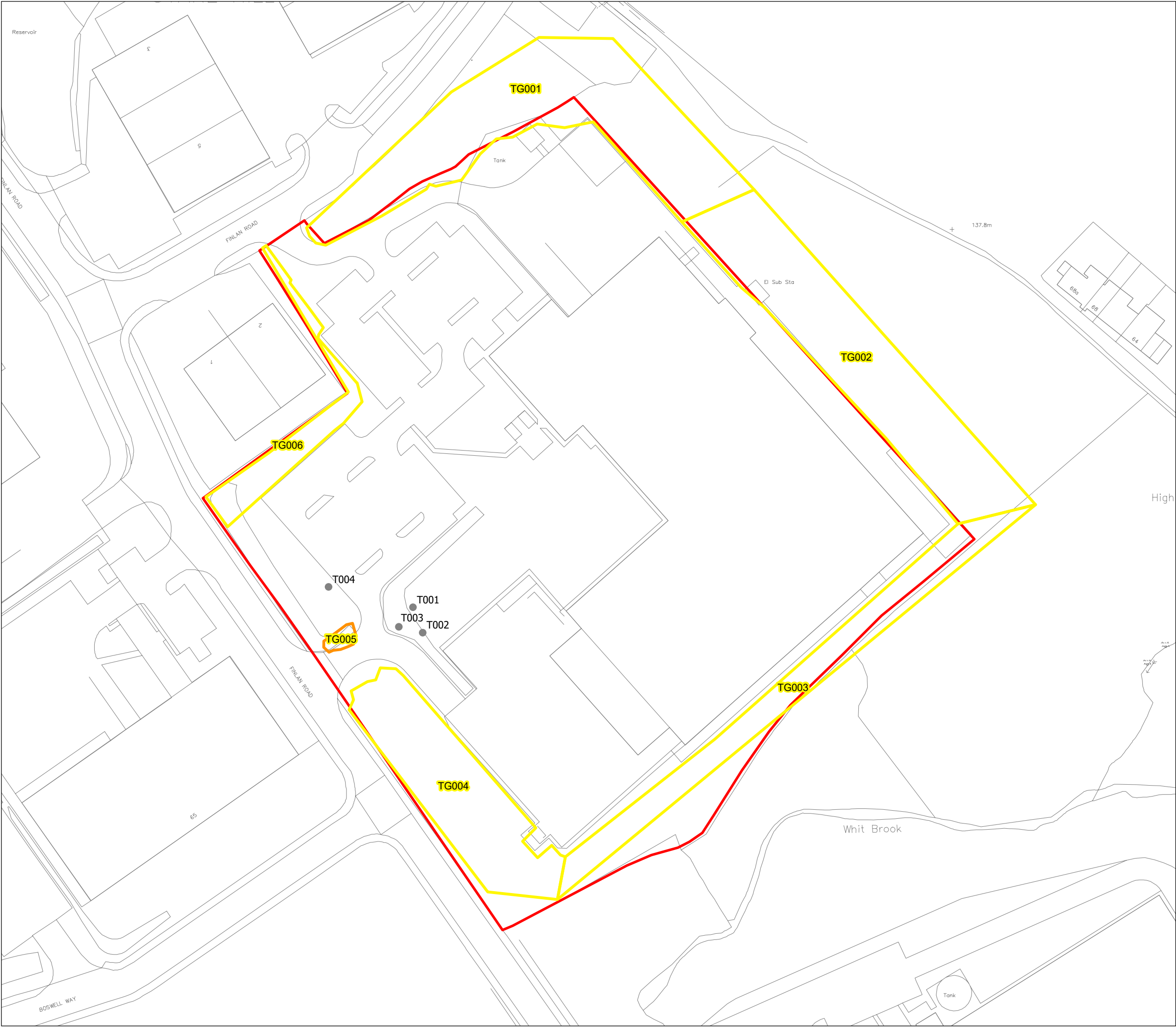
Any tree risk management appraisals and subsequent recommendations made in this report were based on observations and Site circumstances at the time of the survey. It should be noted that trees are dynamic living organisms with constantly changing structures, and even those evidently in good condition can succumb to damage and/or environmental stress. In this respect, it should be noted that, under the Occupiers' Liability Act (1957 & 1984), Site occupants have a duty of care to take reasonable steps to prevent or minimise the risk of personal injury and/or damage to property from any tree located within the curtilage of the land they occupy. It is accepted that these steps should normally include commissioning a qualified and experienced arboriculturist to survey their trees in order to identify any risk of harm to persons or damage to property that they may present and, where unacceptable risks are identified, taking suitable remedial action to negate those risks.

7.0 Limitations of the Arboricultural Impact Assessment

The recommendations contained in this Report represent Lucion's professional opinions, based upon the information referred to in Section 1.0 of this Report, exercising the duty of care required of an experienced Environmental Consultant.

This Report was prepared by Lucion for the sole and exclusive use of the Client and for the specific purpose for which Lucion was instructed as defined in Section 1.1 of this Report. Nothing contained in this Report shall be construed to give any rights or benefits to anyone other than the Client and Lucion, and all duties and responsibilities undertaken are for the sole and exclusive benefit of the Client and not for the benefit of any other party. In particular, Lucion does not intend, without its written consent, for this Report to be disseminated to anyone other than the Client or to be used or relied upon by anyone other than the Client. Use of the Report by any other person is unauthorised and such use is at the sole risk of the user. Anyone using or relying upon this Report, other than the Client, agrees by virtue of its use to indemnify and hold harmless Lucion from and against all claims, losses and damages (of whatsoever nature and howsoever or whensoever arising), arising out of or resulting from the performance of the work by the Consultant.

Figure 1 – Tree Survey Area



Legend

- Site boundary
- Tree group
 - Fair
 - Poor
- Single tree
 - Category C

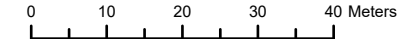
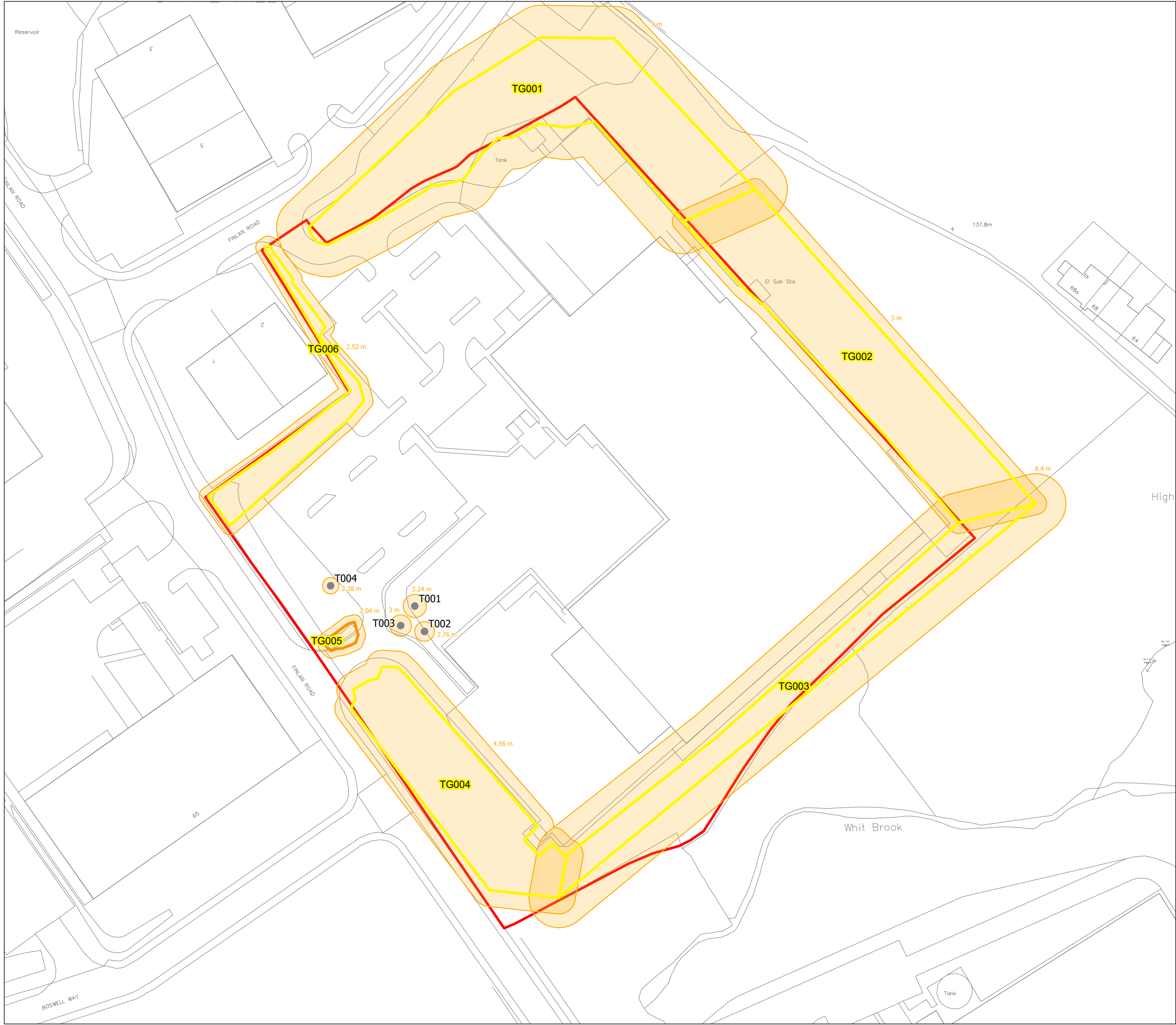


Figure	Tree Survey		
Job	Unit A, Stakehill Industrial Estate		
Client	Savills		
Figure No.	2	Revision	A
		Date	15/12/2025
Drawn	BB	Checked	CC
		Scale	1:1,000 @ A3
Job No.	120999.649224		Central GR
			389232E 408022N



Figure 2 – Tree Constraints Plan



Legend

Site boundary

Tree group

Fair

Poor

Single tree

Category C

Root protection area

010203040 Meters

N

Figure	Tree Constraints Plan		
Job	Unit A, Stakehill Industrial Estate		
Client	Savills		
Figure No.	3	Revision	A
		Date	15/12/2025
Drawn	BB	Checked	CC
		Scale	1:1,000 @ A3
Job No.	120999.649224		Central GR
			389232E 408022N



DO NOT SCALE.
NOT FOR CONSTRUCTION.

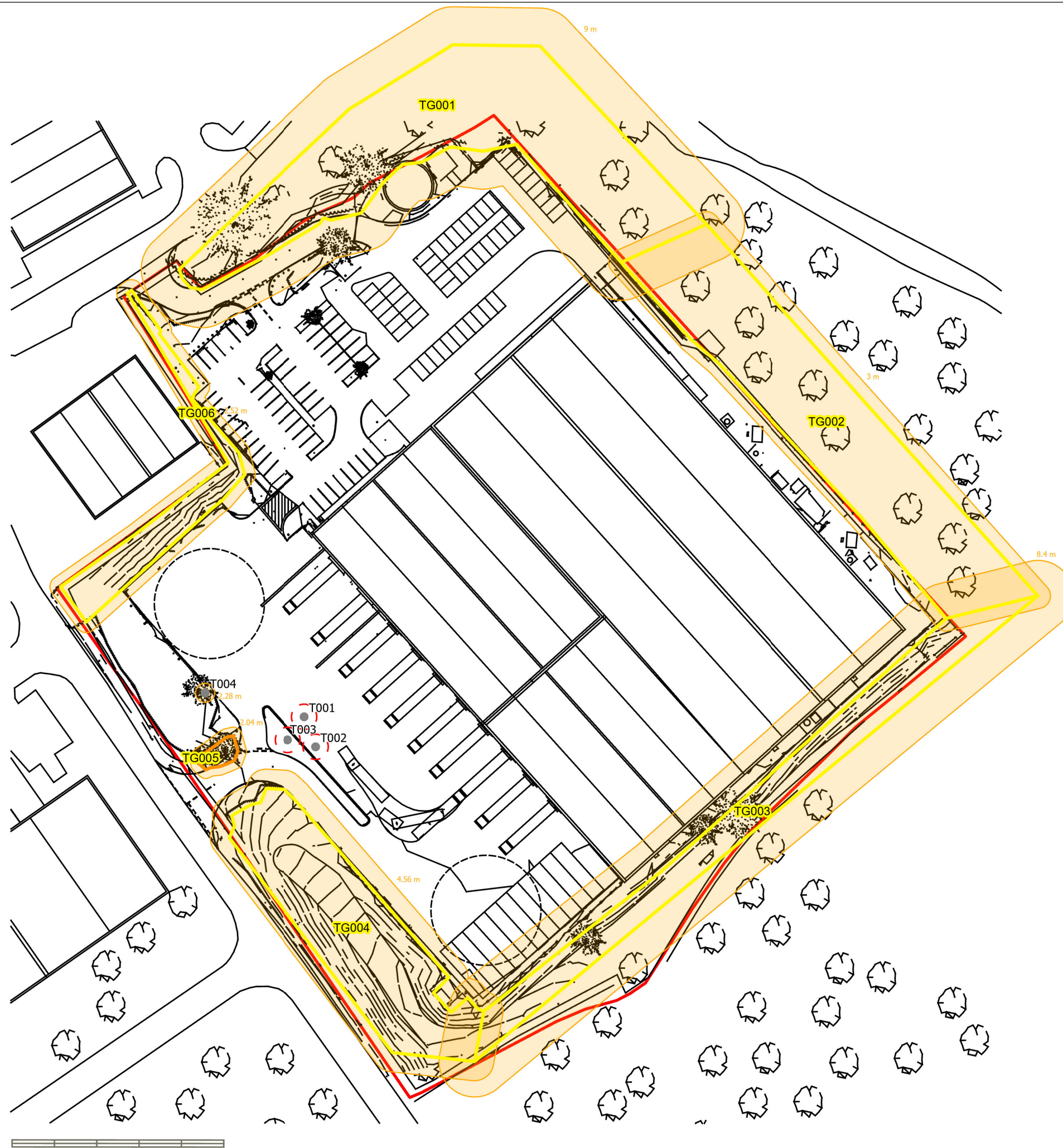
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Figure 3 – Tree Impact Plan



Legend

Site boundary

Tree group

Fair

Poor

Single tree

Category C

Root protection area

Trees Removed

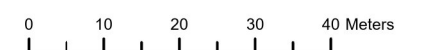


Figure Tree Impacts Plan

Job Unit A, Stakehill Industrial Estate

Client Savills

Figure No.	4	Revision	A	Date	15/12/2025
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Drawn	JV	Checked	CC	Scale	1:1,000 @ A3
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Job No.	120999.649224	Central GR	389232E 408022N
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Drawing 1 – Proposed Development Plan

AREAS OF ADDITIONAL SOFT LANDSCAPING

- 01

479 sqm

Native Wild Planting Area

Species-rich grass planting and scattered trees with some sections of native hedge
- 02

100 sqm

Native Wild Planting Area

Species-rich grass planting and scattered trees with some sections of native hedge
- 03

104 sqm

Grass Picnic Area

Grass to be seeded with hard wearing grass mix
- 04

226 sqm

Native Wild Planting Area with perimeter ornamental hedge

Species-rich grass planting and scattered trees with some sections of native hedge
- 05

76 sqm

Native Wild Planting Area

Species-rich grass planting and scattered trees with some sections of native hedge
- 06

25 sqm

Native Wild Planting Area

Species-rich grass planting and scattered trees with some sections of native hedge

TOTAL 1010 sqm
Total 97 parking spaces



PERSPECTIVE VIEW SHOWING PROPOSED ENTRANCE AND ASSOCIATED LANDSCAPING

LEGEND

- HARD LANDSCAPE
- Proposed Tarmac Surfacing
- Solid Concrete Hard Standing
- Proposed Concrete Block Paving

Material: Marhalls Saxon, 400x400mm

Colour: Natural , Buff and Charcoal to be used

Laying Bond: Running Bond
- SOFT LANDSCAPE
- Existing Tree and Hedges to be Retained

Trees and hedges to be retained and protected in line with BS5837:2012.
- Proposed Native Wild Planting Area
- Proposed Native Avenue Trees

Advanced Nursery Stock, 18-20cm girth, with 2m clear stem. To be planted with a double timber stakes secured with a rubber tree tie.
- Proposed Native Trees in resin bond treepit

Extra Heavy Standard, 14-16cm girth, 4.5-6.25m high to be planted with a double timber stake secured with a rubber tree tie.
- Smaller Proposed Native Trees

Set in a raised planters, planted with ornamental shrubs and grasses
- Ornamental Shrub Planting

Proposed shrubs and flowering herbaceous plants to be planted as 5-10L pots at 3-5 per sq.m., 10-12L pots.
- Proposed Grass

Grass to be seeded with hard wearing grass mix
- Existing Ornamental Hedges to be retained

To be maintained at 100cm high.
- Proposed Native Semi-Evergreen Woodland Mix

Proposed native woodland mix to be bare root stock, 40-60cm high, planted at 1.5 plants per sq.m.
- Proposed Native Semi-Evergreen Shrub Mix

Proposed native shrub mix to have minimum 3 species. To be bare root stock, 40-60cm high, planted at 2 plants per sq.m.
- Existing Trees to be Retained
- Existing Trees and Hedges to be Removed
- BOUNDARIES

Existing Fencing to be retained
- Proposed dividing fencing with heavy duty raise barrier arm.
- Armco barrier to protect the proposed retaining wall
- Proposed Benches and srub planters located in front of building entrance
- Proposed Bollards

Notes: Do not scale from this drawing. Use figured dimensions in all cases. Check all dimensions on site. Report any drawing errors or discrepancies to O'Brien & Noel Architects before proceeding. This drawing has been created for the purposes identified in the status and should only be used for this purpose. This is not a construction drawing. To be read in conjunction with all approved documents, permits, drawings and information and drawings from other appointed consultants.

Rev	Description	Date
A		24/02/2023
B	Additional annotations added to drawings	03/04/2023
C	Additional planting added to replace existing car park entrance	18/04/2023
D	Legend updated	19/04/2023
E	Tree annotation updated	20/04/2023
F	Existing tree annotation updated	09/07/2025

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LOCATION
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Stakehill-Industrial-Estate
Middleton
M24 2SJ

PROJECT
UNIT A - Partial Demolition, Proposed Extension
& Site Landscape Alterations.

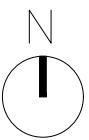
CLIENT
UBS Triton Property Fund

DRAWING TITLE
Proposed Landscape Plan

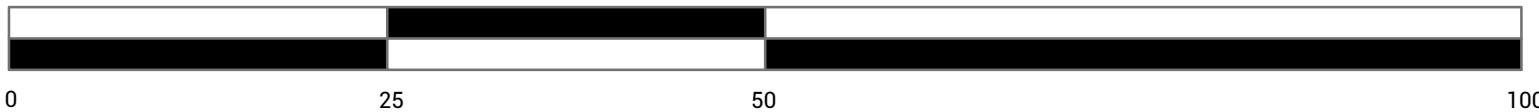
PURPOSE OF ISSUE
PLANNING

DRAWN BY MO	CHECKED BY PN	DATE JUL 2025
SCALE (@ A1) AS SHOWN	PROJECT NUMBER 0127	
DRAWING NUMBER P105		REV F

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PROPOSED LANDSCAPE PLAN
Scale 1 : 500 @ A1



Appendix A – References

BS4428:1989 - Code of Practice for General Landscape Operations. BSI British Standards, London.

BS3936-1:1992, Nursery Stock – Part 1: Specification for Trees and Shrubs. BSI British Standards, London.

BS3998:2010 - Tree Work - Recommendations. BSI British Standards, London.

BS4043:1989 - Transplanting Root-Balled Trees. BSI British Standards, London.

BS5837:2012 - Trees in Relation to Design, Demolition and Construction – Recommendations. BSI, London.

National House Building Council (2008). NHBC Standards Chapter 4.2 - Building Near Trees. NHBC, Amersham.

National Joint Utilities Group (2007). Volume 4: NJUG Guidelines for the Planning.

Installation and Maintenance of Utility Apparatus in Proximity to Trees (Issue 2) – Operatives Handbook.

Appendix B – BS5837:2012 Tree Schedule

Table 1 – BS 5837:2012 Tree Schedule

	Tree Species		Measurements				Crown (m)					Tree Condition							
Tree number	Common name	Latin name	Maturity	Height (m)	Stems	Average stem diameter (mm)	Crown clearance	N	E	S	W	Roots	Stem	Crown	Comments	Overall condition	Life expectancy	Category	RPA (m)
T001	Hybrid lime	<i>Tilia x europaea</i>	EM	9	S	270	1	4	3	3	4	Fair	Fair	Fair	Epicormic growth at base	F	>40 years	C 2	3.24
T002	Hybrid lime	<i>Tilia x europaea</i>	EM	7	S	230	2	4	3	4	4	Fair	Fair	Fair	Minor cavity in stem at 3m on NW side	F	>40 years	C 2	2.76
T003	Hybrid lime	<i>Tilia x europaea</i>	EM	8	S	250	3	4	4	4	4	Fair to poor	Fair	Fair	Poor rooting environment to the south of stem	F	>40 years	C 2	3
T004	Ash	<i>Fraxinus excelsior</i>	Y	6	S	190	2	2	2	1.5	2	Fair	Fair	Fair	No signs of Ash dieback at time of survey	F	10-20 years	C 2	2.28
TG001	Ash, Oak, Cherry, Sycamore, Beech	<i>Fraxinus excelsior, Quercus robur, Prunus avium, Acer pseudoplatanus, Fagus sylvatica</i>	M	19	S	750	1	4	4	4	3	Fair	Fair	Poor	Minor and major deadwood throughout crowns. Several larger trees show signs of defects including decay, with multiple cavities of differing sizes amongst them. Remove deadwood and trees with defects for health and safety	F	20-40 years	B 2	9
TG002	Willow, Oak, Ash, Hawthorn, Silver birch	<i>Salix spp, Quercus robur, Crataegus monogyna, Fraxinus excelsior, Betula pendula</i>	SM	15	S	250	0	3	3	2	3	Fair	Fair	Fair	Access restricted Minor and major deadwood throughout crowns	F	20-40 years	B 2	3
TG003	Willow, Silver birch, Sycamore, Oak, Hawthorn, Ash	<i>Salix spp, Quercus robur, Crataegus monogyna, Betula pendula, Fraxinus excelsior,</i>	M	18	S	700	0	3	4	3	3	Fair	Fair	Fair	Minor and major deadwood throughout crowns	F	>40 years	B 2	8.4
TG004	Willow, Sycamore, Silver birch, Oak, Hawthorn, Ash	<i>Salix spp, Quercus robur, Crataegus monogyna, Betula pendula, Fraxinus excelsior,</i>	SM	9	S	380	0	3	2	3	3	Fair	Fair	Fair	Restricted access Minor and major deadwood throughout crowns	F	>40 years	B 2	4.56
TG005	Ash	<i>Fraxinus excelsior</i>	Y	5	S	170	1	2	2	2	2	Fair	Poor	Poor	A group of 3 Ash with Ash dieback disease Remove	P	<10 years	U 1	2.04
TG006	Ash, Goat willow, Hawthorn, Cherry	<i>Fraxinus excelsior, Salix caprea, Crataegus monogyna, Prunus avium,</i>	EM	11	MS	210	1	3	2.5	2	2	Fair	Fair	Fair	Minor and major deadwood throughout crowns	F	20-40 years	C 2	2.52

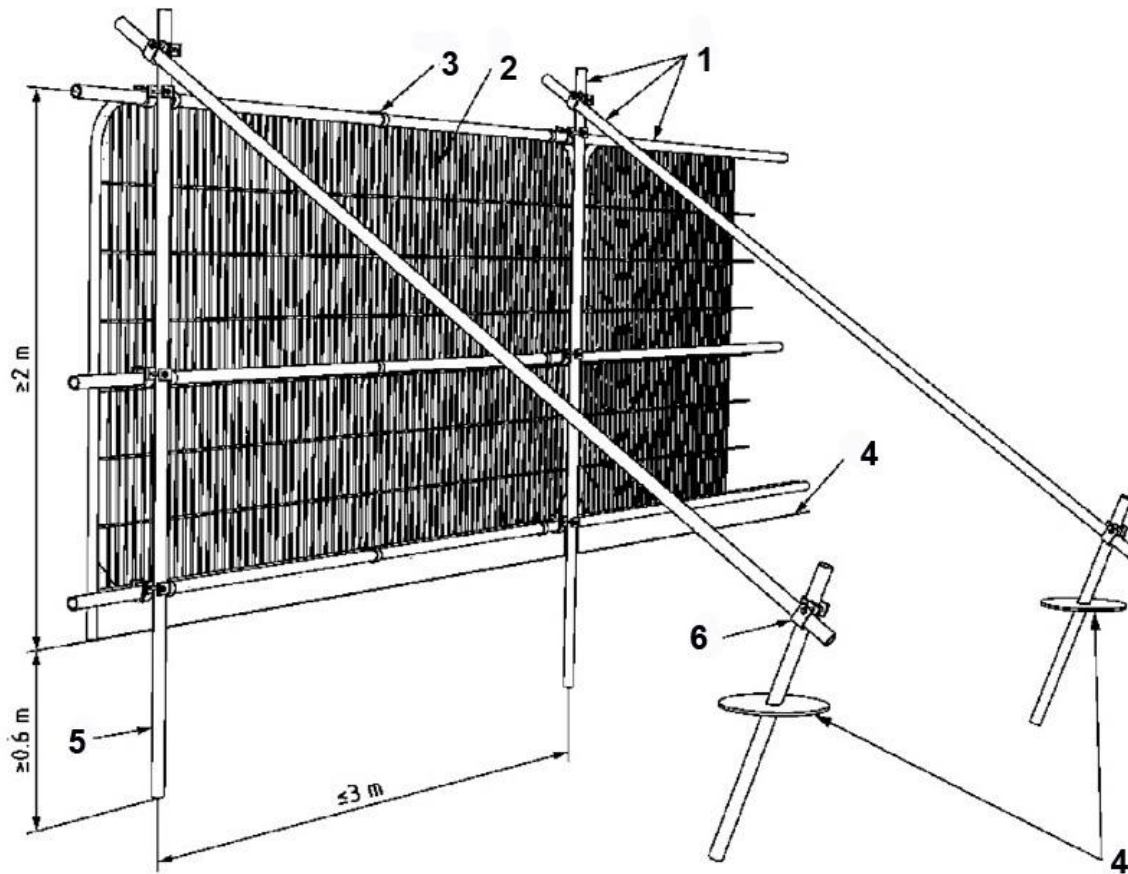
Table 2 – Key to Tree Schedule

BS 5837: 2012 Tree Survey Key to Terminology		
Term	Explanation	Notes
Tree Ref.	Sequential reference number for individual tree or distinct tree in hedgerow	The measurement conventions are as follows. Height, crown spread, and crown clearance are recorded to the nearest half metre (crown spread is rounded up) for dimensions up to 10 m and the nearest whole metre for dimensions over 10 m Stem diameter is recorded in millimetres, rounded to the nearest 5 mm Estimated dimensions (e.g. for off-site or otherwise inaccessible trees where accurate data cannot be recovered) should be clearly identified as such (e.g.suffixed with a “#”) RPA_r – Radius of nominal circle of Root Protection Area in metres from centre of tree stem. Figures used originate from Annex D BS5837: 2012 (p.40). Provided as a minimum distance and calculated in accordance with section 4.6 BS5837: 2012 (p.10) RPA_{m2} – Extent of root protection area *signifies dimensions have not been recorded
Common Name	Tree species listed by common name	
Height	Overall tree height measured in metres (m)	
Branch Spread	Taken as a minimum at the four cardinal points (North, South, East & West) to derive a representation of the crown spread	
Stem Diameter	Diameter of single stem trees on level ground measured at 1.5m above ground level. Diameters of other commonly encountered tree stems should be measured in accordance with Annex C (BS5837 2012 p39)	
Crown Clearance	Height of first significant branch	Measurements taken to provide information relating to ground clearance, crown/stem ratio and shading of site
Life Stage	Young (Y)	Tree within the first one quarter of life expectancy
	Semi mature (SM)	Tree in second quarter of life expectancy
	Early mature (EM)	Tree in third quarter of life expectancy
	Mature (M)	Tree in final quarter of life expectancy

	Over mature (OM)	Tree having reached the anticipated maximum height and spread typical for its species and setting and which has entered a period of stasis where physiological processes maintain a functional status quo.
	Veteran tree (V)	Tree that, by recognized criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned. NOTE: These characteristics might typically include a large girth, signs of crown retrenchment and hollowing of the stem. Veteran trees may be subject to a tree preservation order (TPO). Clients are responsible for determining whether a TPO is present.
General Observations	To provide information on the structural and/or physiological condition (e.g. the presence of any decay and physical defects), and/or preliminary management recommendations	
Physiological Condition - An assessment of the physiological condition (i.e. health/vitality) of the tree	GOOD FAIR POOR DEAD	Tree in a healthy condition with no significant problems Tree generally in good health with some problems that can be remediated Tree in poor health with significant problems that can't be remediated Tree without sufficient live material to sustain life
Structural Condition - An assessment of the structural/safe condition of the tree	GOOD FAIR POOR	Tree in a sound condition with no significant defects Tree in a sound condition at present but with defects or with significant defects that can be remediated Tree with significant defects that can't be remediated
Notes related to both physiological and structural condition follow the categorisation in order support		the statement and give greater detail on the true quality and value of the tree
Preliminary Management Recommendations	These may include further investigations for the presence or extent of decay or climbed inspections, ivy removal or pruning works when access is a non-moveable aspect etc. (NB this is not intended to be a specification for tree work and further	

	advice maybe required prior to implementation). Trees assessed as being in apparently immediately hazardous condition will be notified to the client separately as soon as practicable	
Estimated remaining contribution (yrs)	An estimate of the remaining life contribution in years that the tree or group of trees is expected to have based on species, condition on the site in its current context	<10 - Tree is dead or dying and unlikely to contribute beyond 10 years 10+ - Tree is assessed as being able to contribute to the site for 10+ years 20+ - Tree is assessed as being able to contribute to the site for 20+ years 40+ - Tree is assessed as being able to contribute to the site for 40+ years
Category grading	Category of tree in accordance with BS5837 2012 Cascade Chart (Source BS5837 2012 p9)	'U' Unsuitable for retention, within the context of the current land user 'A' Trees of high quality with 40yr remaining lifespan 'B' Trees of moderate quality and remaining lifespan of at least 20yrs 'C' Trees of low quality with an estimated remaining lifespan of at least 10 yrs or young trees with a stem diameter below 150mm Categories A-C are further classified as 1 (mainly arboricultural qualities), 2 (mainly landscape qualities), 3 (mainly cultural values, including conservation). For further details refer to Cascade Chart in BS 5837 2012 p. 9

Appendix C – Temporary Protective Fencing Specification



1. Standard scaffold poles
2. Heavy Gauge 2m tall galvanised tube and weld mesh infill panels
3. Panels secured to uprights and cross members with wire ties
4. Ground Level
5. Uprights driven into ground until secure (up to 0.6m)
6. Standard scaffold clamps

Temporary Protective Fencing Specification

Temporary Protective Fencing Specification

- **Construction Exclusion Zones (CEZs)**, enclosed by **Temporary Protective Fencing**, as detailed below and to be agreed with the Local Planning Authority (LPA), shall:
- Be retained in place throughout the development process, as specified in the 'Temporary Protective Fencing Construction' section below and detailed in BS5837:2012 ;
- Be sited in the area(s) defined by the Root Protection Areas or, if applicable, the CEZ, as detailed on the associated Tree Plan;
- Be erected prior to any construction, demolition or excavation works and remain in place for the duration of the project;
- Preclude any delivery of site accommodation and/or materials and/or plant machinery;
- Preclude all construction related activity, with the sole exception of specified arboricultural works and any other works to be carried out under supervision that have been agreed by all parties; and
- Preclude the storage of all development related materials and substances including fuels, oils, additives, cement and/or any other deleterious substance. Any incursion into CEZs must be by prior arrangement, following consultation with the LPA.

Temporary Protective Fencing Construction

- Temporary protective fencing panels shall be weldmesh "Heras" panels of at least 2.0 m in height;
- The panels shall butt together and be securely fixed to a scaffold framework, as per 3 to 5 below;
- The scaffold framework shall comprise of upright poles of at least 3.0 m in length driven no less than 0.6 m into the ground at maximum 3.0 m centres with horizontal and diagonal poles fixed to the uprights, as per 4 to 5 below;
- The two horizontal rail poles shall be attached to the uprights at heights of 0.6 and 1.8 m with 3 no. clamps to each joint;
- The diagonal scaffold pole struts be clamped to the top rail of the scaffold framework at a 45° angle and extend back into the CEZ and clamped to a 0.7 m length of scaffold tube that shall be driven no less than 0.5 m into the ground;
- No fixing shall be made to any tree and all possible precautions shall be taken to prevent damage to tree roots when locating posts;
- A 600 mm x 300 mm warning sign reading "TREE PROTECTION AREA KEEP OUT" (see Figure A, below) shall be fixed to every 10 m length of protective fencing; and
- On completion and prior to any demolition or construction works, site preparation, excavation or delivery of plant and materials, the LPA shall inspect and approve the Temporary Protective Fencing.

Appendix D – CEZ WARNING SIGN

