SF3465 27 Gelderd Road, Leeds

ARBORICULTURAL SURVEY REPORT I BS 5837:2012

Revision B - December 2023

SMEEDEN FOREMAN

Landscape Architecture • Ecology • Arboriculture

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Document Check Sheet

Job Title: 27 Gelderd Road, Leeds			**Job Number:** 3465	
Document Title: Arboricultural Survey Report				
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CONTENTS

1.0 INTRODUCTION

1.1.1 Smeeden Foreman Ltd has been appointed to undertake an arboricultural survey of trees at 27 Gelderd Road, Leeds (see Figure 1).

1.1.2 The survey was undertaken on 13th October 2023 and was based upon topographical survey plan S24044-T produced by Survey and Engineering Projects. The trees have been surveyed in accordance with BS5837:2012. The limitations of survey techniques and analysis are included in Appendix A.

1.1.3 The site is located at 27 Gelderd Road, Leeds (see Figure 1). The site comprises an existing restaurant building and car park. The borders of the site are planted with trees and shrubs.

1.2 LEGAL STATUS OF TREES ON SITE

1.2.1 The trees on site are not protected by a Tree Preservation Order, and the site is not situated within a Conservation Area (Digital mapping provided by Kirklees Council, accessed 17.10.2023).

1.2.2 **Felling Licences** The Forestry Commission controls tree felling by issuing felling licences. A felling licence may be required, whether or not trees are covered by a TPO.

1.2.3 A felling licence is not required for all projects and there are various exemptions which are based on the location, type of tree work, the volume and diameter of the tree and other permissions already in place. For example, you do not need a licence to fell trees in gardens.

1.2.4 A licence is not required for tree felling for the purpose of carrying out development that is authorised by the approval of full planning permission, or is allowed as permitted development.

1.2.5 It is recommended to contact the nearest Forestry Commission area office before felling to check whether a licence is required.

1.3 TREES AND PLANNING

1.3.1 Local Planning Authorities have a statutory duty to consider the protection and planting of trees when granting planning permission for development. The effect of development on trees, whether protected (e.g. by a TPO or Conservation Area) or not, is a material consideration that is taken into account when considering planning applications.

1.3.2 Pre-emptive tree felling may adversely effect **Biodiversity Net Gain** calculations.

1.4 TREES AND ECOLOGY

1.4.1 **Birds** - All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended) during breeding. Schedule 1 bird species are afforded additional protection from disturbance while breeding, with some species utilising mature trees for nesting purposes. It is therefore recommended that any vegetation clearance takes place outside the core bird nesting period (March – August inclusive) unless checks by an appropriately qualified ecologist find active nests to be absent immediately prior to clearance works.

1.4.2 **Bats** - Bats and their roosts are afforded full legal protection under both UK and European legislation. Prior to tree works, it is recommended that trees are subject to a ground level survey by an appropriately qualified ecologist to assess bat roost suitability. Further surveys may be recommended to determine presence/likely absence of roosting bats. If a bat roost is identified a European Protected Species Licence (EPSL) may be required prior to proposed tree felling/surgery works commencing.

Figure 1 – Location Plan

2.0 Aims and Methodology

2.1 Aims

The aims of the survey are to undertake a non-invasive survey of the identified trees and any trees which have the potential to be affected by future works within the vicinity. The Tree Constraints Plan shows the location and category of the surveyed trees.

2.2 Survey Methodology

The survey was carried out to British Standard 5837:2012 using the categories explained below:

2.2.1 The trees were assessed visually from ground level. Where potential problems were identified, further inspection by tree climbing is recommended. No digging or drilling methods were employed during this survey

2.2.2 The tree numbers or group numbers within the schedules refer to the order in which the trees were recorded and shown on the tree survey plan

2.2.3 The approximate height of each tree is measured from ground level to top of canopy using a clinometer;

2.2.4 The diameter of each tree is measured at 1.5m above ground level. Where a tree stem divides below 1.5m each stem is measured at 1.5m above ground level in accordance with Annex C of the British standard. The diameter of trees where the trunk was inaccessible have been estimated and marked as such within the schedules.

2.2.5 The age of each tree is based upon our experience and is divided into young, semi-mature, early-mature, mature, over-mature.

2.2.6 The water demand of each tree (As listed in table 12, appendix 4.2 – A, NHBC standard chapter 4.2) noted on or adjacent to the site is recorded. Shrinkable soils are subject to changes in volume as their moisture content is altered. Soil moisture content varies seasonally and is influenced by a number of factors including the action of tree roots. The resulting shrinkage or swelling of the soil can cause subsidence or heave damage to foundations, the structures they support or services.

Engineers should consider the soil condition and the potential impact of the species of the trees/ hedges on and adjacent to the site when preparing building/structure design.

2.2.7 The condition of the tree is based upon our experience and is an assessment of the health and vigour of the tree.

2.2.8 Estimated remaining contribution and category/rating of each tree is based on our experience;

2.2.9 The retention category of each tree or group of trees is based upon the information detailed above using the following categories:

- A Trees of high quality and estimated remaining life expectancy of at least 40 years (Light green on plan)
- B Trees of moderate quality and estimated remaining life expectancy of at least 20 years (Mid blue on plan)
- C Trees of low quality and estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150mm Grey on plan)
- U Trees cannot realistically be retained as living trees in context of current land use for longer than 10 years (Dark red on plan)

2.2.10 The following subcategories have been used in rating tree value:

- 1 Mainly arboricultural value
- 2 Mainly landscape value
- 3 Mainly cultural values, including conservation

2.3 Key to Survey Schedules

Tree no.	Tree number as recorded on the plan: T1, T2 etc and for tree groups: G1, G2 etc. Hedges: H1, H2 etc. Woodland: W1, W2 etc.
Species	Common name / Scientific name
Height	Overall estimated height of the tree in metres (rounded up to the nearest metre for trees over 10m high).
Stem Dia	Stem diameter measured in millimetres at 1.5m above ground (on sloping ground measured on the upslope of the stem) in accordance with Annex C of BS5837:2012.
Branch spread	Measured in metres (rounded up to the nearest half metre) along the four cardinal points: north, east, south and west to derive an accurate representation of the crown.
Ht crown clearance	The existing height, measured in metres, above ground level of: the first significant branch and direction of growth and the canopy.
Age class:	
Young (**Y**)	Recently planted or establishing tree. Typified by vigorous growth and distinct apical dominance (definite, discernible leader).
Semi-mature (**SM**)	A tree in its first third of life span. Tree that has not reached its ultimate potential height. Phase includes considerable girth thickening and the start of crown spreading.
Early mature (**EM**)	A tree in its second third of life span. A tree that is reaching its ultimate potential height. The growth rate is slowing down but the tree, will still increase in stem diameter and crown spread.
Mature (**M**)	A tree in its final third of life span. The tree has attained its largest proportions and has reached its ultimate height. The tree is typified by thicker bark plates and a large spreading crown.
Over-mature (**OM**)	The tree has attained its maximum height and growth rate slows considerably. Characterised by the loss of large limbs, large amounts of deadwood and decay. Limited safe life expectancy.
Water Demand	High, Moderate, Low (As listed in table 12, appendix 4.2 – A, NHBC standard chapter 4.2)
Physiological condition	Good (G), fair (F), poor (P), dead (D).
Comments	Overall form of tree, presence of any decay, any physical defects and observations
Preliminary Management Recommendations	Including any further investigations required, wildlife habitat potential, management or pruning works.
ERC	The estimated remaining contribution measured in years: <10, 10+, 20+, 20-30+, 40+)
Cat	Category U or A to C grading as defined in Table 1 BS 5837: 2012
RPA	Root protection area measured in square metres, calculated according to BS 5837:2012

Other abbreviations used:

N	North
S	South
E	East
W	West
GL	Ground level
OSB	Outside site boundary
MS	Multi-stemmed
#	Estimate
NWR	No work required
NVD	No visible defects

3.0 Tree Survey Schedules

Tree No.	*Species*	*Top Height (crown height) m*	*Branch Spread (m)*				*Stem Dia. (mm)*	*Age Class*	*Water Demand*	*Condition*	*Comments*	*ERC (years)*	*Recommendations*	*Category*
			N	*E*	*S*	*W*								
T1	Prunus (Prunus species)	4(2)	2	2	2	2	100	SM	M	Fair	Low vitality. Broken branches in crown. Crown lifted- occluding pruning scars.	10+	Removal to facilitate development.	C2
T2	Prunus (Prunus species)	4(2)	3.5	3.5	3.5	3.5	150	SM	M	Fair	Unable to inspect stem due to undergrowth. Crown lifted- occluding pruning scars.	10+	No work required.	C2
T3	Betula pendula (Silver Birch)	7(2)	3	3	3	3	200	EM	L	Fair	Unable to inspect stem due to undergrowth. Crown lifted- occluding pruning scars.	20+	No work required.	B2
T4	Betula pendula (Silver Birch)	7(2)	3	3	3	3	200	EM	L	Good	Unable to inspect stem due to undergrowth. Crown lifted- occluding pruning scars.	20+	Removal to facilitate development.	B2
T5	Betula pendula (Silver Birch)	8(2)	4	4	4	4	250	EM	L	Good	Unable to inspect stem due to undergrowth. Crown lifted- occluding pruning scars.	20+	Removal to facilitate development.	B2
T6	Betula pendula (Silver Birch)	4(2)	3	1	1	2	150	SM	L	Fair	Poor shape & form. Leaning North. Minor deadwood. Unbalanced crown shape.	10+	Removal to facilitate development.	C2
T7	Acer pseudoplatanus (Sycamore)	8(2)	4	4	4	4	300	EM	M	Good	Clear stem to 2m.	40+	No work required.	B2

Tree No.	*Species*	*Top Height (crown height) m*	*Branch Spread (m)*				*Stem Dia. (mm)*	*Age Class*	*Water Demand*	*Condition*	*Comments*	*ERC (years)*	*Recommendations*	*Category*
			N	*E*	*S*	*W*								
T8	Acer pseudoplatanus (Sycamore)	6(2)	3.5	3.5	3.5	3.5	250	EM	M	Good	Clear stem to 2m.	40+	Removal to facilitate development.	B2
T9	Acer pseudoplatanus (Sycamore)	6(2)	3.5	3.5	3.5	3.5	230	EM	M	Good	Unable to inspect base of stem due to undergrowth.	40+	Removal to facilitate development.	B2
T10	Acer pseudoplatanus (Sycamore)	10(2)	5	5	6	5	400	EM	M	Good	Branches encroaching upon building.	40+	Removal to facilitate development.	B2
T11	Acer pseudoplatanus (Sycamore)	6(2)	4	4	4	4	250	EM	M	Good	Unable to inspect stem due to undergrowth. Branches encroaching upon building. Tree planted in unsustainable location too close to existing building. RPA adjusted by existing site features.	20+	Removal to facilitate development.	B2
T12	Acer pseudoplatanus (Sycamore)	7(2)	5	5	5	5	250	EM	M	Good	Unable to inspect stem due to undergrowth. Branches encroaching upon building. Tree planted in unsustainable location too close to existing building. RPA adjusted by existing site features.	20+	Removal to facilitate development.	B2
T13	Sorbus aucuparia (Rowan)	2.5(0.5)	1.5	1.5	1.5	1.5	100	SM	M	Fair	Stem divides below 1.5m.	10+	No work required.	C2
T14	Betula pendula (Silver Birch)	5(2)	2	2	2	2	150	SM	L	Fair	Unable to inspect stem due to undergrowth.	10+	No work required.	C2

Tree No.	*Species*	*Top Height (crown height) m*	*Branch Spread (m)*				*Stem Dia. (mm)*	*Age Class*	*Water Demand*	*Condition*	*Comments*	*ERC (years)*	*Recommendations*	*Category*
			N	*E*	*S*	*W*								
T15	Betula pendula (Silver Birch)	3(0.5)	2	2	0.5	2	150	SM	L	Fair	Unable to inspect stem due to undergrowth. Unbalanced crown shape. Crown distorted due to group pressure.	10+	No work required.	C2
G16	Acer pseudoplatanus (Sycamore)	8(3)	4	4	4	4	250	EM	M	Good	Unable to inspect stem due to undergrowth. Crown lifted- occluding pruning scars.	40+	Removal to facilitate development.	B2
T17	Prunus (Prunus species)	4(2)	2	2	2	2	100	Y	M	Fair	Unable to inspect stem due to undergrowth.	10+	No work required.	C2
T18	Prunus (Prunus species)	6(2)	7	4.5	4.5	4.5	300	EM	M	Fair	Unable to inspect stem due to undergrowth. Broken branches in crown. Branches encroaching upon building.	20+	Removal to facilitate development.	B2
T19	Prunus (Prunus species)	4(2)	4	4	4	4	150	Y	M	Fair	Low vitality. Unable to inspect stem due to undergrowth.	10+	Reinspect annually.	C2
T20	Acer platanoides (Norway Maple)	4.5(2)	3	3	3	3	250	SM	M	Fair	Unable to inspect stem due to undergrowth.	20+	No work required.	B2
T21	Acer platanoides (Norway Maple)	4.5(2)	3	4	3	3	250	SM	M	Fair	Unable to inspect stem due to undergrowth. Crown distorted due to group pressure.	20+	No work required.	B2
T22	Sorbus aucuparia (Rowan)	2.5(2)	1.5	1	0.5	1	75	Y	M	Poor	Poor shape & form. Broken branches in crown.	10+	Removal to facilitate development.	C2

4.0 TREE CONSTRAINTS - *Principles of design in relation to trees*

4.1 The extent to which a tree may represent a constraint to development will depend both upon the location of the trunk and size and nature of the canopy and also the extent of the roots below ground. The tree survey plan (SF3465 TS01) plots the location, the true canopy spread and the Root Protection Area of the trees, through application of the calculation provided in section 4.6 of the BS5837:2012 Trees in relation to design demolition and construction – Recommendations.

4.2 **The Root Protection Area (RPA)** is the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability where the protection of the roots and soil structure is treated as a priority.

4.3 Trees have a relatively shallow but wide spreading root system; the majority of the root structure is found in the uppermost 600mm of the soil profile. The depth of roots may be varied by species and site conditions.

4.4 The RPA should represent the most likely spread of roots based on the existing site conditions. The circular shape of the RPA may be modified in pattern, although not overall area, by existing features such as structures and surfaces (section 4.6.2/3 of the BS5837:2012).

4.5 The default position should be that structures are located outside the RPA of retained trees.

4.6 Within the RPA, there should be a presumption against excavation, construction, changes in ground level, storage of materials and vehicular movement, unless consideration is given to the potential effects on the tree to be retained. Appropriate tree protection measures will be recommended to mitigate impacts to trees.

4.7 **Future Growth.** The potential for retaining trees on a development site includes the extent of the influence of the tree at the time of survey. Consideration is also given to the ultimate mature size of tree species and the effects of future growth within the context of the proposed development. Structures should be designed and located without the need for frequent remedial pruning or maintenance.

4.8 **Shading.** Shading by trees can affect buildings and gardens. The potential nuisance caused by shading to new buildings both after construction and also once trees reach their ultimate size is considered. For example, natural light will be shaded from a new house which is located too close to large trees on the boundary of a site. This may lead to future complaints and pressure to remove the trees. Garden space should also be considered and designed to receive sunlight for at least part of the day. If required, a tree shade diagram can be provided (as per the methodology described in 5.2.2 *NOTE 1* BS5837:2012).

4.9 The Arboricultural Impact Assessment identifies direct or indirect effects of the proposed design on trees and makes recommendations for mitigation as required.

5.0 Arboricultural Impact Assessment

5.1 Development proposals

5.1.1 The proposals for the site are shown on drawing 18587 THPW XX XX DR A 0100 produced by The Harris Partnership.

5.1.2 The development proposals have been assessed in relation to the existing trees on drawing SF3465 AIA01 (Appendix C).

5.2 Summary of proposed tree removal to facilitate development

Trees proposed for removal to implement the design.

Tree No.	Species	Proposed Works	Category
T1	Cherry	Removal	C2
T4	Silver birch	Removal	B2
T5	Silver birch	Removal	B2
T6	Silver birch	Removal	C2
T8	Sycamore	Removal	B2
T9	Sycamore	Removal	C2
T10	Sycamore	Removal	B2
T11	Sycamore	Removal	B2
T12	Sycamore	Removal	B2
G16	Cherry	Remove 3 trees	B2
T18	Cherry	Removal	B2
T22	Rowan	Removal	C2

Total = 14 trees

5.3 Evaluation of proposed tree removal and new tree planting

5.3.1 14 trees will require removal to implement the proposed development.

5.3.2 10 trees proposed for removal are category B; trees of moderate quality and value with a minimum 20 years life expectancy.

5.3.3 4 trees proposed for removal are category C; trees of low quality and value with a minimum 10 years life expectancy, or young trees of low value with a stem diameter less than 150mm. A young tree in category C should not be regarded as a significant constraint as it can be easily replaced with new planting.

5.3.4 The removal of trees will be mitigated by planting 14 new trees (standard extra heavy), as indicated on drawing 18587 VEC XX XX DR L 1001 (see Appendix D).

5.4 Tree Works

5.4.1 All tree works recommended within this report shall be carried out to existing trees on site and shall be in accordance with BS 3998:2010 Recommendations for Tree Work, industry best practice and in line with any works already agreed with the Local Authority.

5.4.2 The Tree Surgeon shall be chosen from The Arboricultural Association's Approved Contractor list and all work shall be undertaken at the appropriate time and with the consent and approval of the Site Agent who shall approve a programme of work.

APPENDIX A

Tree survey to BS 5837:2012 -Trees in relation to design demolition and construction limitation notes

This survey to BS 5837:2012 is a visual assessment undertaken from ground level without any physical investigation and should be regarded as a preliminary overview of the trees on site. 'This term [visual] describes a general approach to tree surveying using visual observation and recording, combined with experience and knowledge of tree biology and structure to draw conclusions about tree condition'p8[1]

Observations on structural condition, preliminary management recommendations, (e.g. pruning) and the estimated remaining contribution are based on visual indicators present at the time of inspection (i.e. a single point in time).

It should be noted that numerous potential defects may not be detectable dependent upon timing of inspection, in particular wood decay fungi which may only occasionally produce external fruitifications or may not provide external symptoms until an advanced state of invasion is achieved.

Trees are long lived organisms with a significant proportion of growth below ground, (in addition to what is evident above ground) that naturally lose branches and may potentially fail in many ways.

Risk Assessments

Whilst hazards may be identified in this document e.g. a defect 'that may cause harm'. The risk, (i.e. 'the chance high or low) that somebody could be harmed by these and other hazards, together with an indication of how serious the harm could be' is not assessed. [2]

Requirements for ongoing inspections (to monitor observed defects) and risk assessments will be suggested as necessary in the body of the report. The level and frequency of assessment required (in line with HSE advice) will depend on a range of factors for example 'the frequency of public access to the tree' p4 [3]. A balanced and proportionate approach to tree safety management is advocated in the National Tree Safety Group publication 'Common sense risk management of trees'. [4]
The health, (condition) and resulting safety of trees for a risk assessment should be checked on a cyclical basis, alternating between early and late seasons to ensure a full picture of the trees current health is established. Therefore the assessment of risk that trees present on a particular site would be additional to the scope of this BS 5837:2012 tree survey.

Arboricultural Impact Assessments, Tree Protection Plans, Method Statements, Tree Management Plans

These items are additional services identified relating to design demolition and construction in BS5837:2012 which may form part of a strategy to manage risks.

NHBC Guidelines

The technical requirements of the National House Building Council Chapter 4.2 Building near trees are not fully met under the requirements of BS BS5837:2012 in relation to shrinkable soils and 'vegetation surveys' (which include hedgerows and shrubs.). p4 [5]

References/ Further reading

[1] The Arboricultural Association Guidance Note 7 Tree Surveys: A Guide to good Practice.

[2] Health and Safety Executive Guidance http://www.hse.gov.uk/risk/risk-assessment.htm

[3] HSE guidance on Tree Management SIM01/2007/05 Management of the risk from falling trees or branches.

[4] National Tree Safety Group Guidance – Common Sense Risk Management of Trees.

[5] National House Building Council Chapter 4.2 Building near trees (Part 4 Foundations).

APPENDIX B

SF3465 TS01 Tree Survey Plan

Key

- Existing hedge
- Existing vegetation
- **Tree retention category A** High quality with an estimated life expectancy of at least 40 years
- **Tree retention category B** Moderate quality with an estimated life expectancy of at least 20 years
- **Tree retention category C** Low quality with an estimated life expectancy of at least 10 years, OR young tree with a stem diameter below 150mm
- **Tree category U** Poor condition with an estimated life expectancy of less than 10 years
- **RPA** minimum Root Protection Area

Trees have been surveyed and categorized as per the recommendations and guidance in BS 5837:2012 Trees in relation to design, demolition and construction.

This drawing is to be read in conjunction with the Arboricultural Survey report.

This drawing is to be reproduced in colour.

FOR INFORMATION

Rev.	Date	Comments	Drawn	Chkd
-	-	-	-	-

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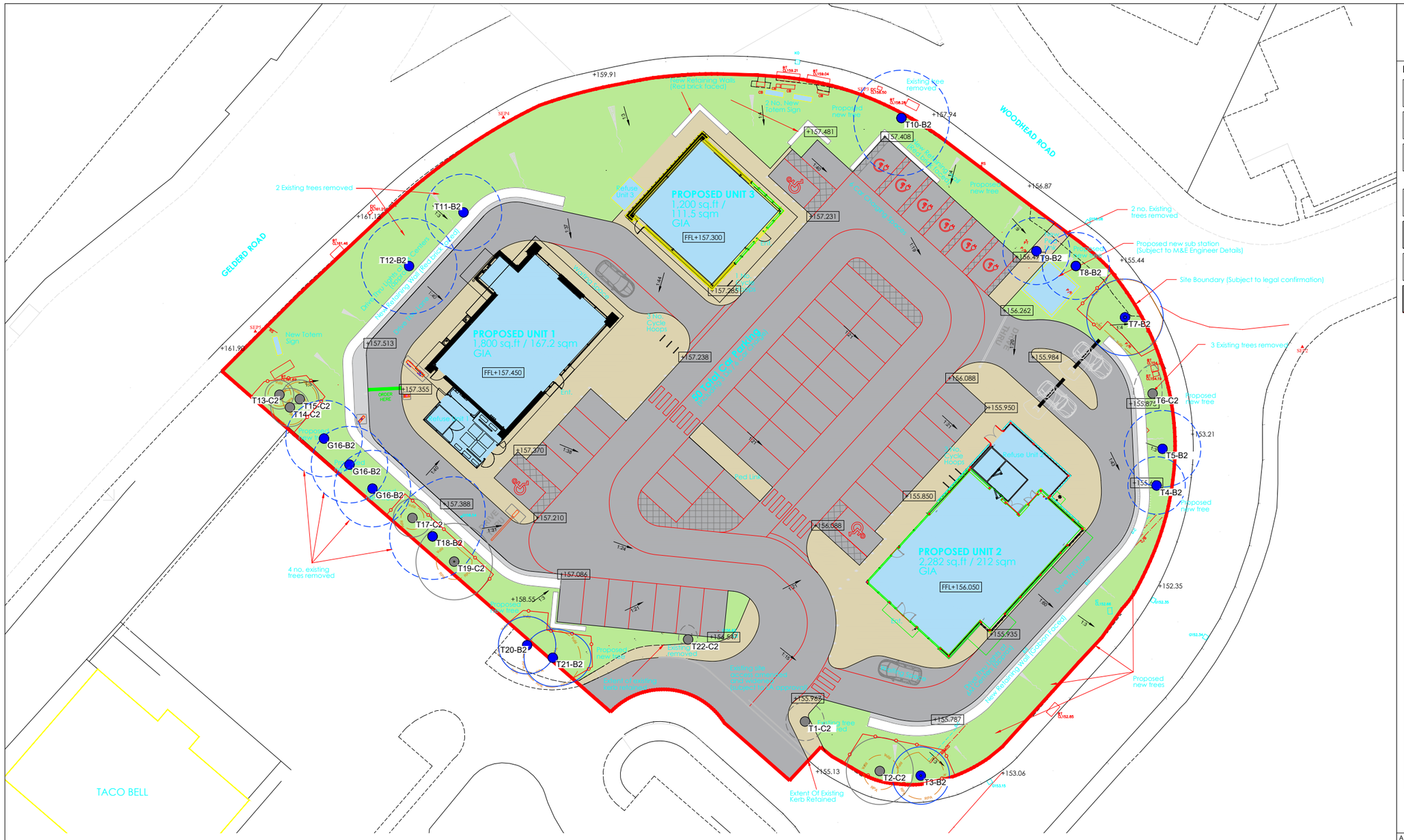
Project	27 Gelderd Road, Leeds
Title	Tree Survey Plan

Project No.	Drawing No.	Rev.
SF 3465	TS01	-

Scale	Date
1:200 @ A1	12.10.23
Drawn by: DR	Checked by: MS

APPENDIX C

SF3465 AIA01 Arboricultural Impact Assessment Plan



Key

- **Tree retention category A** — High quality with an estimated life expectancy of at least 40 years
- **Tree retention category B** — Moderate quality with an estimated life expectancy of at least 20 years
- **Tree retention category C** — Low quality with an estimated life expectancy of at least 10 years, OR young tree with a stem diameter below 150mm
- **Tree category U** — Poor condition with an estimated life expectancy of less than 10 years
- **RPA** — minimum Root Protection Area
- **Proposed tree removal** — To facilitate development
- Tree protection fencing see Details A & B and method statement

Trees have been surveyed and categorized as per the recommendations and guidance in BS 5837:2012 Trees in relation to design, demolition and construction.

This drawing is to be read in conjunction with the Arboricultural Survey report.

This drawing is to be reproduced in colour.

Proposed tree removal to facilitate development

Tree No.	Species	Proposed Works	Category
T1	Cherry	Removal	C2
T4	Silver birch	Removal	B2
T5	Silver birch	Removal	B2
T6	Silver birch	Removal	C2
T8	Sycamore	Removal	B2
T9	Sycamore	Removal	C2
T10	Sycamore	Removal	B2
T11	Sycamore	Removal	B2
T12	Sycamore	Removal	B2
G16	Cherry	Remove 3 trees	B2
T18	Cherry	Removal	B2
T22	Rowan	Removal	C2

Total 14 trees

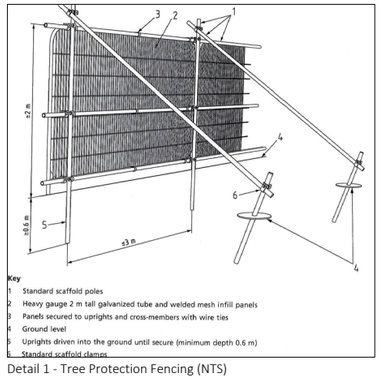
TREE PROTECTION FENCING

Tree protection fencing must be installed in the position as shown on the Tree Protection Plan before any other works on site can be undertaken.

Tree Protection Fencing should be set out as per Section 6.2 of BS5837; 2012 and will comprise a scaffold framework, consisting of vertical and horizontal scaffolds with vertical tubes spaced at a maximum of 3m intervals and driven securely into the ground. Weld mesh (Heras or similar) panels will be securely fixed on to this framework with scaffold clamps. Tubes will be firmed into holes in the ground made with post hole boring equipment. Bracing poles will be fixed to the inside of the barrier to ensure maximum rigidity, and should be located to avoid contact with structural roots.

See Detail 1 for details of the protective fencing to be employed in all circumstances, where existing site conditions allow. Fencing is to be erected as shown on the drawing. All fencing must be fixed in position with driven scaffold poles so that they cannot be moved during the construction period.

All-weather notices, A4 size, shall be attached to the tree protection fencing every 10m at 1.5m high with the words: 'Tree Protection Fence–strictly no access'.



Key

1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

Detail 1 - Tree Protection Fencing (NTS)

FOR INFORMATION

Rev.	Date	Comments	Drawn	Chkd
A	14.12.23	Revised layout	DR	MS

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Project
27 Gelderd Road, Leeds

Title
Arboricultural Impact Assessment

Project No.	Drawing No.	Rev.
SF 3465	AIA01	A

Scale	Date
1:200 @ A1	04.12.23
Drawn by: DR	Checked by: MS

APPENDIX D

Landscape Plan

SOFT LANDSCAPE SPECIFICATION NOTES

NOTE: All soft landscape works to be carried out in accordance with BS4428:1989.

SUBSOIL
Subsoil should be broken up to relieve compaction and aid drainage prior to topsoiling to the following depths:
- For light and non cohesive subsoils: 300mm
- For stiff clay and cohesive subsoils: 450mm
Immediately before spreading topsoil, remove stones larger than 50mm.

TOPSOIL
Existing site won topsoil to be reused for soft landscape areas if sufficient quantities are available and the topsoil meets the criteria for multipurpose topsoil as defined in table 1 of BS3882:2015 specification for Topsoil.

If imported topsoil is required it is to be supplied and spread by the main contractor to the approval of the Landscape contractor, in accordance with BS 3882 :2015. To be a natural sandy loam, of medium texture, with a pH between 5.5 and 7.8, not more than slightly stony and free of pernicious weeds. Subsoil to be well broken up prior to top-soiling to relieve compaction. Topsoil depths should be:
Areas for Ornamental Shrub Planting: minimum 400mm
Areas for cultivated turf: minimum 150mm

CULTIVATION
Weeds to be prevented from seeding or becoming established by applying a suitable herbicide and allowing the correct time to elapse, as directed by the manufacturer. Compacted soil to be broken up to a depth of 100mm, with any stones, grass tufts or rubbish larger than 50mm in any direction to be removed, leaving a regular and even surface. Suitable slow release fertiliser to be supplied and spread @ 50g/m2 to all planted areas.

CLIMATIC CONDITIONS
Topsoiling should be carried out in the driest conditions possible – cultivation to be carried out when the soil is moist, friable and not waterlogged or frozen. Topsoil should not be handled during or after heavy rainfall or when it is wetter than the plastic limit as defined by BS 3882. Planting should not take place in waterlogged conditions or when the ground is frozen.

SOIL AMELIORANT
Peat-free compost to be spread over ornamental shrub beds @ minimum 50mm depth prior to cultivation.

TREES
All trees within shrub beds to be planted in separate pits in accordance with tree planting detail.
All plant material to comply with BS 3936 Part 1 :1992, be obtained from a nursery certified by the HTA and transported to site in accordance with the HTA Plant Handling Guide: 1996. All trees to be planted to the original root collar and secured in place with underground guying system in accordance with tree planting detail. All trees to be fitted with aeration and irrigation system in accordance with tree planting detail.

If the trees are to beplanted outside of the planting season (late October - Late March) then containerised stock to be used in lieu of root ball to the same specification- allowance to be made for this at tender stage if required once construction timetable is known and CA informed immediately.

EXISTING SHRUBS
Existing shrubs to be trimmed back at appropriate time of year for the species and maintained in conjunction with the proposed planting. All pruning works should be carried out by an approved member of the Arboricultural Association or other approved specialist using approved methods for that species and should result in a balanced form on all sides.

PROPOSED ORNAMENTAL SHRUB PLANTING
All shrubs to be positioned as shown on the drawing and to the density and specification noted in the plant schedule. Planting holes to be 150mm wider than the root spread, have the base ground thoroughly broken up before planting and backfilled with peat free compost.
All shrubs to be equally spaced throughout the planting areas to the specified density in a staggered arrangement unless otherwise noted in the planting schedule.

GRASSED AREAS
Seeded areas should be sown in accordance with BS 3969:1998: Recommendations for Turf for general purposes and BS 4428-1989 General Landscape Operations.
Height of initial growth: 100mm
Height of first cut: 50mm
Height of growth: The height of growth must not exceed 100mm at any time.
Frequency: Cut as and when necessary to a height of 25mm, using a rotary mower and remove all arisings.
Timing: When grass reaches scheduled height of maximum growth and is reasonably dry.
Application: At the time of each cut, trim all grass edges round the base of trees, manholes etc and remove arisings.
Sweep all adjoining hard areas clear of cuttings and remove.
Weeding: Keep the sward substantially free of broad leaved weeds by applying a suitable selective herbicide.
Fertilizer: March application: 15:10:10 Spring turf fertilizer at 35g/m2.
September application: 5:10:10 Autumn turf fertilizer at 50g/m2.

SUBSTITUTIONS:
Upon submission of evidence that certain materials, including plant materials, are not available at the time of the landscape contract, the Landscape Contractor may be permitted to substitute other materials and plants in exceptional circumstances during the contract with an agreed adjustment of prices.
All substitutions shall be of nearest equivalent species and variety to the original specified but shall be subject to approval by the Landscape Architect before any change is made.

TIMES OF YEAR FOR PLANTING:
Soft landscape works to be carried out during the first possible planting periods following completion of the building and associated engineering works to car park and access roads in accordance with the times of year for planting notes below:
- Native and ornamental trees: During dormant winter period - Late October to late March (only if planted in the planting season otherwise containerised stock to be used).
- Bare root native transplants: During dormant winter period - Late October to April.
- Container grown ornamental and specimen shrubs: At any time if ground and weather conditions are favourable.

MULCH
75mm depth of 8-35mm ornamental bark mulch (peat-free) to be supplied and spread to all planting areas. Finished mulch level to be installed and maintained at 25mm below any adjacent kerbs or paving surfaces.

MAINTENANCE
All planting areas to be maintained to a high standard by the contractor for 12 months after practical completion, to ensure the landscape scheme is successful, and discourage decline of the area.
Minimum frequency of maintenance visits:
December / January / February & March - 1no. visit each month
April to November - 2No. visits each month.

Generally, during the first 12months:
- All planting beds to be re-firmed and kept weed free through hand weeding and application of an approved herbicide where appropriate.
- All litter to be picked and removed from landscape areas.
- Mulch to be topped up as required to maintain the specified thickness.
- The condition of all trees is to be regularly checked, with ties and stakes adjusted or replaced as necessary.
- Shrubs to be pruned at appropriate times of year for each species to promote healthy growth and desirable ornamental features.
- Grass lawn area to be cut and maintained in accordance with specification note above.
- All arisings to be removed from site.
- Any defects or plant losses occurring during the first 12 months defects period to be replaced at the contractors expense.

Following the initial 12 month establishment period the ongoing landscape management will be the responsibility of an commercial landscape maintenance contractor under a landscape maintenance contract.

GENERAL WATERING
All soft landscaping to be subject to a watering regime which is absolutely essential to ensure the continued success of the scheme, particularly during the initial 12 month establishment period. The watering frequency should be as necessary to ensure the continued thriving of all grass, hedges, trees and ornamental planting. During dry periods minimum weekly visits should be made to the site to ensure the soil has not dried out and to action watering if necessary. The soil should be checked for dryness using either a soil moisture sensor or by inserting a spade into the ground to a depth of 300mm to observe the appearance of the soil. If the soil is moist there is no need to water but if it is bone dry then watering procedure should be carried out immediately. Water supply should be from potable mains water or an approved alternative. The full depth of topsoil should be wet without loosening or damaging plants. Any compacted soil should be broken up sufficiently to allow water to reach the rootzone.

WATERING TREES
Trees to be watered in accordance with BS 8545-2014 Tree - From Nursery to Independence.
Trees should be watered via the installed irrigation / aeration pipes around the base of the trees stem in accordance with the manufacturer's instructions to ensure the water reaches the roots of the tree. Below is a suggested watering regime but this should be used as a guide only and may require modification in times of drought or flood, dependant on the ground conditions at the time, which should be monitored as above:

- March - October: 20 litres to be poured into irrigation pipe twice a week (40 litres in total)

SOFT LANDSCAPE KEY:

Existing trees to be removed
In order to facilitate the proposed development.
Refer to Arboricultural Assessment Report **SF3465** by Smeeden Foreman for further information on existing site trees.

Existing trees to be retained
Retained and protected during construction and landscape works in accordance with BS5837:2012 guidance

Proposed trees in soft landscape
Refer to plant schedule for species & specification

Proposed specimen shrub planting
Refer to plant schedule for species & specification

Proposed ornamental shrub planting
Refer to plant schedule for species & specification

Proposed formal hedge planting
Refer to plant schedule for species & specification
To be maintained at 1.2m high

Proposed close mown grass area
To be cultivated amenity turf

Existing grass area to be retained
and made good as required

Proposed ornamental bark mulch surface finish
- *1m dia of ornamental bark mulch in accordance with BS8545 :2014 recommendations*
- *500mm maintenance margin / over run strip*

PLANTING SCHEDULES:

Trees

Species	Abb.	Form	Girth (cm)	Height (cm)	Clear stem (cm)	Root	Quantity
Acer campestre 'Streetwise'	AcS	Standard Extra Heavy	14-16	425-600	175-200	RB	3
Betula pendula	Bp	Standard Extra Heavy	14-16	425-600	175-200	RB	3
Betula pendula 'Fastigiata Joes'	BpFJ	Standard Extra Heavy	14-16	425-600	175-200	RB	3
Carpinus betulus 'Frans Fontaine'	CbFF	Standard Extra Heavy	16-18	min 450	min 200	RB	1
Liquidamber styraciflua ' Slender Silouette	LsS	Standard Extra Heavy	16-18	425-600	min 220	RB	2
Prunus mackii 'Amber Beauty'	PmAB	Standard Extra Heavy	16-18	min 450	min 220	RB	1
Sorbus aucuparia	Sa	Standard Extra Heavy	18-20	min 450	min 220	RB	1

Specimen Shrub Planting:

Name	Abb	Height (cm)	Root	Container	Habit	Quantity
Amelanchier lamarckii	Al	175-200	RB	/	3 - 5 main stems	1
Phormium tenax 'Purpureum'	PtP	/	C	15L	Triple Crown	2
Phormium 'Yellow Wave'	PYW	/	C	10-12L	Triple Crown	1

Hedge Planting

Name	Abb	Height(cm)	Root	Specification	Centre Spacing
Taxus baccata	Tb	80-100	RB	Bushy, Clipped sides	50cm centres, 40cm between rows
Prunus lusitanica	Pl	80-100	RB	Bushy, Clipped sides	50cm centres, 40cm between rows

Ornamental Shrub Planting:

Name	Abb	Height (cm)	Root	Container	Habit	Density
Carex elata 'Aurea'	CeA	/	C	5L	V	6/m²
Euonymus fortunei 'Silver Queen'	EfSQ	30-40D	C	5L	Bushy	5/m²
Hebe 'Red Edge'	HRE	30-40D	C	5L	Bushy	5/m²
Lonicera nitida 'Maigreen'	LnM	30-40	C	3L	Bushy	5/m²
Prunus laurocerasus 'Otto Luyken'	PlOL	30-40	C	3L	Bushy	4/m²
Stipa tenuissima	St	/	C	3L	V	5/m²

0 2 5 10 20 50m
Scale: 1:200 @ A1

NOTE:
SURROUNDING CONTEXTUAL BUILDINGS AND INFORMATION ARE BASED ON RECEIVED ORDNANCE SURVEY DRAWINGS AND ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. ASSUMED SITE BOUNDARY IS SUBJECT TO CONFIRMATION

NORTH

General Notes:

All proposed tree locations are subject to co-ordination with drainage layout and subject to modification depending on the location of underground services and utilities. Drainage engineer to co-ordinate services layout in conjunction with the landscape plan to avoid conflict as much as possible. Allowance to be made at tender stage for the possible requirement for root barriers once the drainage layout is confirmed, CA to be informed immediately once this is available.

PLANNING DRAWING

This drawing has been prepared for submission to the Local Planning Authority as part of a Planning Application. It is not intended to assist with the pricing of any elements.

For Structural details refer to the Structural & Civil Engineers detailed design drawings & specifications.

For M&E information, refer to the M&E Engineers and sub contractor's design drawings & specifications.

Do not scale from this drawing. Verify all dimensions and setting out on site. Notify any discrepancies to the architect.

For Health & Safety information, refer to the Designers Risk Assessments. This drawing is copyright and may not be reproduced in whole or part without written authority.

Rev	Date	Description	Drawn	Chk'd
P02	14.12.23	Updated to co ordinate with Architects latest site plan	FW	-
P01	08.12.23	Updated to co ordinate with the latest site plan	FW	-

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Client
LONDON METRIC DT LIMITED

Project Title
PROPOSED DEVELOPMENT
GELDED ROAD
BIRSTALL
BATLEY
WF17 9TB

Drawing Title
LANDSCAPE PLAN

Drawn	Checked	Scale @A1	BIM Status	Date
FW	AS	1:200	N/A	12/23

Drawing Status	Rev.	THP Project No
PLANNING	P02	18587

Project No.	Originator	Volume	Level	Type	Role	Number
18587	VEC	XX	XX	DR	L	1001