Land at Thomas Street, Lindley, Huddersfield

Arboricultural Impact Assessment and Method Statement

May 2023

MÜLLER
PROPERTY GROUP

Arboricultural Impact Assessment and Method Statement

Land at 21 Thomas Street, Lindley, Huddersfield

Reference: 80-761-R1-5

Date: April 2023

ARBORICULTURAL IMPACT ASSESSMENT AND METHOD STATEMENT

Land at 21 Thomas Street, Lindley, Huddersfield

Prepared for:
Muller Property Group

Report Ref: 80-761-R1-5
Date Issued: 27/04/2023

E3P

Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

+ 44 (0) 161 707 9612
https://e3p.co.uk/

Registered in England
CRN: 08725262

QUALITY ASSURANCE

PROJECT NUMBER	80-761		
VERSION	Version 3	Version 4	Version 5
REMARKS	Minor amendment	Minor amendment	Minor amendment
DATE	April 2022	May 2022	April 2023
PREPARED BY	Martin Dilworth	Martin Dilworth	Martin Dilworth
QUALIFICATIONS	FdSc MArborA	FdSc MArborA	FdSc MArborA
CHECKED BY	C. Barlow	C. Barlow	C. Barlow
QUALIFICATIONS	BSc (Hons), MSc, MIEnvSc, CEnv, MCIEEM	BSc (Hons), MSc, MIEnvSc, CEnv, MCIEEM	BSc (Hons), MSc, MIEnvSc, CEnv, MCIEEM
AUTHORISED BY	C. Barlow	C. Barlow	C. Barlow
QUALIFICATIONS	BSc (Hons), MSc, MIEnvSc, CEnv, MCIEEM	BSc (Hons), MSc, MIEnvSc, CEnv, MCIEEM	BSc (Hons), MSc, MIEnvSc, CEnv, MCIEEM

Table of Contents

EXECUTIVE SUMMARY

Site Address	Land at 21 Thomas Street, Lindley, Huddersfield, HD3 3JJ
Co-ordinates	E 411651, N 418281
Site Area	Approximately 0.3 ha
Results	The site survey identified a total of 35 individual trees on and adjacent the site. These included 22 individual trees graded Category B trees of moderate value, 11 individual trees graded Category C trees of low value. Two individual trees have been categorised as unsuitable for retention regardless of the site proposals (i.e. 'U' category).
Recommendations	Tree T4, T5, T6, T7, T8, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T22, T23, T25, T26, T27, T28, T29, T30, T31, T32, T33 and T34 are all subject to Tree Preservation Order (TPO No. 12/12 G1 & G2). Regarding the above it is emphasised that the scheduling or carrying out of any works to trees covered by TPO protection at the site, that are not directly related to the implementation of a detailed (i.e. full) planning permission, must be authorised by the Council's planning department. An appraisal of the proposal documentation provided to date identified that construction of the development as proposed will require the removal of four individual trees graded 'B' category), six individual trees graded 'C' category and two individual trees graded 'U' category, of which, five trees (T12, T13, T28, T29, T30, T31, T34) are subject to Tree Preservation Order. Specific details regarding replacement tree planting should be prepared by a suitably qualified and experienced landscape architect as part of a landscape scheme. The appraisal identified various elements of the development that are proposed within and close to the RPAs and canopy spreads of several retained trees located both on site and on adjacent land. As such, various special working and protection methods and materials have subsequently been proposed in accordance with current government guidance. Adequate protective fencing as outlined in the Arboricultural Method Statement should be installed around all retained trees, where practical, before any materials and machinery are brought on site. Any excavation within the RPA of a tree must be supervised by an Arboricultural Clerk of Works (ACoW). Excavation must be undertaken by hand. Site operations involving plant with booms, jibs and counterweights should be planned in advance to prevent contact with retained trees. All operations involving such plant in close proximity to trees should be conducted under the supervision of a banksman to ensure that adequate clearance from the retained trees is maintained.

	All site storage areas, cement mixing and washing points for equipment and vehicles and fuel storage areas should be outside RPAs. No discharge of potential contaminants should occur within the RPA of a retained tree stem or where there is a risk of run off into RPA. All tree works should be carried out by a competent arborist in accordance with BS 3998:2010, Tree Work Recommendations. This document encloses a Preliminary Arboricultural Method Statement, which provides guidance on tree protection measures and mitigation.

1. BACKGROUND

1.1. PURPOSE OF THE REPORT

E3P Ltd have been instructed by Muller Property Group to produce an Arboricultural Impact Assessment and Method Statement relating to a proposed construction works at Land at 21 Thomas Street, Lindley, Huddersfield, hereafter referred to as 'the site'.

The purpose of the report is to:

- Assess the quality of the trees on and immediately adjacent to the site, in accordance with British Standards (2012)[1], hereafter referred to as 'BS5837: 2012'.
- Identify trees suitable for retention and for removal due to the proposed development.
- Prescribe tree protection measures to ensure that retained trees survive the proposed development and thrive after its completion.
- Prescribe arboricultural recommendations for the long-term management of trees on the site.
- If necessary, to assess the site for its suitability for mitigation planting, and to specify planting requirements.

1.2. SITE DETAILS

The site is located on land at 21, Thomas Street, Lindley, Huddersfield, HD3 3JJ, within the administrational boundaries of Kirklees Council. The site is currently derelict and comprises areas of rough grassland and hardstanding. The site is bordered by a number of scattered trees of varying age and quality.

Cranfield (2022)[2] identified the soil type of the site and the surrounding area as freely draining slightly acid loamy soils. No further detailed soil analysis was undertaken.

1.3. LEGISLATION

A search on Kirklees Council's online data base on the 25th March 2022) identified two groups of trees subject to Tree Preservation Orders (TPOs) and confirmed that the site is not within a Conservation Area.

It is understood that there are two group TPOs (TPO No. 12/12 G1 & G2) which are silver birch (*Betula pendula*) trees, identified as trees T4, T5, T6, T7, T8, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T22, T23, T25, T26, T27, T28, T29, T30, T31, T32, T33 and T34 on the Tree Constraint Plan.

Regarding the above it is emphasised that the scheduling or carrying out of any works to trees covered by TPO protection at the site, that are not directly related to the implementation of a detailed (i.e. full) planning permission, must be authorised by the Council's planning department.

[1] British Standards (2012). *BS5837: 2012 - Trees in Relation to Design, Demolition and Construction: Recommendations.* British Standards Institute, London
[2] Cranfield (2022). *Soilscapes* [online]. Available at: >www.landis.org.uk< [accessed 25th March 2022]

1.4. TOWN AND COUNTRY PLANNING (TREE PRESERVATION) (ENGLAND) REGULATIONS 2012

The Town and Country Planning (Tree Preservation) (England) Regulations 2012 make provision for, amongst other things, the form of Tree Preservation Orders (TPOs) and for applications for consent to carry out work on trees subject to an order. The order makes it an offence to cut down, uproot, prune, lop or damage the tree (including the roots) in question without first obtaining the Council's consent. A TPO can apply to a single tree, a group of trees or woodland. Anyone who wishes to fell or carry out work to a tree protected by a TPO must apply to the Council to obtain permission.

There are exemptions for statutory undertakers under the Town and Country Planning Regulations which include:

- where the land on which the tree is situated is operational land of the statutory undertaker and the work is necessary; and
- in the interests of the safe operation of the undertaking;
- in connection with the inspection, repair or renewal of any sewers, mains, pipes, cables or other apparatus of the statutory undertaker;
- to enable the statutory undertaker to carry out development permitted by or under the Town and Country Planning (General Permitted Development) Order 1995. This is only where works are within an operational site and does not include works outside of operational sites.
- where works are granted planning permission no additional specific permission in regard to works to TPOs is required.

1.5. TOWN AND COUNTRY PLANNING ACT 1990 (AS AMENDED).

Conservation Areas are protected under the Town and Country Planning Act 1990 (as amended). Where trees within a Conservation Area are not a TPO permission must also be obtained by the Local Planning Authority (LPA) under a Section 211 notice, which gives the LPA the opportunity to consider protecting a tree. The exception is when a tree is less than 7.5 cm in diameter, measures 1.5 m above ground or 10 cm if thinning to help the growth of other trees.

1.6. THE PLANNING PROCESS

The National Planning Policy Framework (NPPF 2019) seeks to ensure that new development is sustainable and underlines the importance of green infrastructure, of which trees form an integral part. This includes 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 (TPO) or other statutory designation) is a material consideration in determining a planning application.

BS 5837 provides a framework which sets out how trees should be considered in the planning process and also explicitly applies to development where planning consent is not required.

BS 5837 recommends that a tree survey is undertaken to identify the quality and benefits of trees and the spatial constraints associated with them. This information is then used to produce a Tree Constraints Plan (TCP) illustrating the above and below ground constraints associated with trees (the Root Protection Area (RPA)). The TCP is intended to be used to inform the design process and to identify those trees considered to be a constraint to development due to the quality and value (in a non-fiscal sense).

Following the production of the final scheme design, an Arboricultural Impact Assessment (AIA) is produced to identify the likely direct and indirect impacts of the proposed development, along with a Tree Protection Plan (TPP) to identify trees to be removed and retained and to illustrate the protection of retained trees. An Arboricultural Method Statement (AMS) is also often required as a condition of planning consent to detail how sensitive operations are to be undertaken in close proximity to retained trees.

These documents and plans are considered the minimum requirement for arboricultural matters within a planning application and are intended to ensure both a long term sustainable and harmonious relationship between existing trees and the proposed development.

1.6.1. NATIONAL PLANNING POLICY FRAMEWORK 2021

At the heart of the National Planning Policy Framework (NPPF) is a presumption in favour of sustainable development, and specifically states that for decision making, the LPA should be approving development proposals that accord with the development plan without delay.

Section 15 of the NPPF recognises the importance of conserving and enhancing the natural environment, and specifically acknowledges the role of trees and woodland in the provision of natural capital and ecosystem services.

It further acknowledges the importance of ancient woodlands and veteran trees for habitats and biodiversity and requires that planning consent should be refused where development schemes require the removal of such features unless there are wholly exceptional reasons, stating that:

It was confirmed that there are no designated ancient woodlands or veteran trees within the survey area.

2. METHODS

2.1. SITE SURVEY

The site survey was carried out by Martin Dilworth on 25th March 2022. All trees on site were inspected from ground level, using the Visual Tree Assessment (VTA) method. Any notable defects of trees were recorded, although the site survey did not constitute a full tree safety assessment.

Tree heights and crown clearances were measured to the nearest 0.5 m with a clinometer. Crown spreads of trees were measured on their north, east, south and west aspects to the nearest 0.5 m. The Diameter at Breast Height (DBH) of trees was measured to the nearest 1 cm, and was used to calculate the Root Protection Area (RPA) of trees using methods prescribed in BS 5837:2012.

In accordance with BS 5837:2012, trees were classified as either A, B, C or U using the criteria shown in Table 2.1. Trees were further classified by the subcategories 1, 2 and 3, depending upon whether they had mainly arboricultural, landscape, or cultural qualities. The additional subcategory does not affect the retention value of the tree, e.g. a Category A2 tree does not have a higher retention value than a Category A1 tree.

TABLE 2.1 BS 5837 CASCADE CHART (ADAPTED FROM BRITISH STANDARDS, 2012)

CATEGORY	DEFINITION	RETENTION	COLOUR CODE
CATEGORY A	Trees of high quality with an estimated remaining life expectancy of at least 40 years; trees that are particularly good examples of their species, especially if rare or unusual.	Highly desirable	**Light green**
CATEGORY B	Trees of moderate quality with an estimated remaining life expectancy of at least 20 years; trees lacking the special quality to merit Category A designation.	Desirable	**Dark blue**
CATEGORY C	Trees of low quality with an estimated remaining contribution of at least 10 years, or trees with a stem diameter below 150 mm; unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Feasible, but should be removed if posing a constraint to development	**Grey**
CATEGORY U	Trees that have serious, irremediable, structural and/or physiological defects, including those that will become unviable after removal of other Category U trees.	Unfeasible	**Dark red**

2.2. CONSTRAINTS

Topographical base mapping was provided; however, a number of trees were not recorded by the topographical survey, therefore these trees were manually plotted using GPS.

Some sections of the study area were covered with dense undergrowth or located within adjacent land, preventing a full assessment and an accurate measurement of some trees. Where tree survey data has been estimated (based on assessments from the nearest safe vantage points). These trees are denoted by a # in the associated schedules.

Only trees within the likely influence of the proposed development have been included within this report. Any additional trees in the vicinity of the site have been deemed to not be affected by the proposals and have not been included.

Trees are living organisms and as such their health and condition are naturally subject to change over time. Unforeseen future circumstances such as neglect, wilful damage or severe/extreme weather conditions may affect the future health and condition of the trees included in this report.

2.3. QUALIFICATIONS OF THE AUTHOR

Martin Dilworth is a suitably qualified arboricultural consultant, who is a Professional member of the Arboricultural Association, and holds an FdSc in Arboriculture, and the LANTRA Professional Tree Inspection Certificate.

3. TREE SURVEY ASSESSMENT

3.1. TREE POPULATION ASSESSMENT

The site survey identified a total of 35 individual trees on and adjacent the site. These included 22 individual trees graded Category B trees of moderate value, 11 individual trees graded Category C trees of low value. Two individual trees have been categorised as unsuitable for retention regardless of the site proposals (i.e. 'U' category).

TABLE 3.1 TREE CATEGORIES RECORDED

TREE CATEGORY	NO. OF INDIVIDUAL TREES	NO. OF GROUPS OF TREES	NO. OF HEDGEROWS	NO. OF WOODLANDS
CATEGORY A (TREES OF HIGH QUALITY)	0	0	0	0
CATEGORY B (TREES OF MODERATE QUALITY)	22	0	0	0
CATEGORY C (TREES OF LOW QUALITY)	11	0	0	0
CATEGORY U (TREES OF POOR QUALITY UNSUITABLE FOR RETENTION)	2	0	0	0
TOTALS	**35**	**0**	**0**	**0**

3.2. TREE SPECIES DIVERSITY

Several tree species were recorded as individual or as groups of trees during the survey and are represented throughout the study area. Species of trees recorded includes Ash (*Fraxinus excelcior*), Silver birch (*Betula pendula*), Sycamore (*Acer pseudoplatanus*), Whitebeam (*Sorbus aria*) and Wych elm (*Ulmus glabra*).

Tree data can be viewed in **Appendix I: Tree Survey Schedule**. Photographs of trees can be viewed in **Appendix II: Photographs.** Tree locations can be viewed in **Appendix III: Tree Constraints Plan**.

4. IMPACT ASSESSMENT

4.1. TREE REMOVALS DUE TO DEVELOPMENT

From the information provided to date it is projected that, as detailed in Table 4.1, construction of the development as proposed will require the removal of four individual trees graded 'B' category), six individual trees graded 'C' category and two individual trees graded 'U' category.

TABLE 4.1 TREE REMOVALS REQUIRED TO ACCOMMODATE DEVELOPMENT PROPOSALS

CATEGORY	REMOVALS NECESSARY TO IMPLEMENT DEVELOPMENT	TOTAL NO. OF REMOVALS
CATEGORY A	-	0 trees
CATEGORY B	T2, *T28, *T29, *T34	4 trees
CATEGORY C	*T12, *T13 T20, T21, *T31, T35	6 trees
CATEGORY U	T1, *T30	2 trees

***T* -Denotes trees subject to Tree Preservation Order**

4.2. MITIGATION FOR TREE LOSS

As detailed on the Tree Impact and Protection Plan, and in Table 4.1, four individual moderate quality trees. Six individual low-quality trees and two trees unsuitable for retention are proposed for removal in order to facilitate the proposals. Consequently, specific details regarding replacement tree planting should be prepared by a suitably qualified and experienced landscape architect as part of a landscape scheme.

All new tree planting should be in accordance with British Standard 8545: Trees: From Nursery to Independence in the Landscape – Recommendations, 2014[3] and all tree works must be carried out by a qualified contractor in accordance with BS3998:2010[4]: Tree Work – Recommendations.

Adequate protection of the Root Protection Areas (RPAs) of retained trees during construction is essential if their long-term viability is to be assured. RPAs, which are calculated through a method provided in BS5837:2012, are ground areas that should be protected by temporary protective fencing as Construction Exclusion Zones (CEZs) throughout the development process, or by temporary ground protection measures thereby keeping the trees' root zones free from disturbance.

4.3. WORKS WITHIN RPAS

The appraisal identified that the following development works are close to and within retained trees' RPAs and canopies:

- Various proposed hard surfaced areas encroach within trees' RPAs;
- Proposed construction of carpark and footpaths within various trees' RPAs and canopies.

[3] British Standards Institution (2014) BS 8545: Trees: From nursery to Independence in the Landscape – Recommendations.
[4] British Standards Institution (2010) BS 3998:2010, Tree Work Recommendations.

TABLE 4.2 ROOT PROTECTION AREA INCURSIONS

Element of Proposal with Potential to Impact Upon Retained Trees	Trees Impacted	Proposed Special Measures	Relevant BS5837 Section(s) to be Adhered to	Information Required or Provided and Relevant Specialist
Construction of Carpark, footpaths, and hard landscaping within trees RPAs	T3, T4, T5, T6, T7, T10, T14, T15, T16, T17, T18, T22, T23, T25, T26,	• New Carpark and hard surfaces for footpaths and hard landscaping within RPA of trees to be constructed using a three-dimensional cellular confinement system in order to avoid root loss and damage due to ground excavation and/or compaction. • Remaining soft surfaces of tree RPA to be afforded adequate protection using temporary fencing and/or ground plates. • All site operations involving plant with booms, jibs and counterweights to be planned in advance to prevent contact with retained trees and works adjacent to trees conducted under the supervision of a banksman, under arboricultural direction, to ensure that adequate clearances from retained trees is maintained.	7.3, 7.5	Supplier of 3D system to prepare and supply plans with existing and proposed finished levels and detailed work specification

Element of Proposal with Potential to Impact Upon Retained Trees	Trees Impacted	Proposed Special Measures	Relevant BS5837 Section(s) to be Adhered to	Information Required or Provided and Relevant Specialist
New landscaping and fencing within trees RPA's	All retained trees	• All proposed landscaping to be carried out within and close to retained trees' RPAs should be carried out in strict accordance with the guidance detailed in section 8 of BS5837:2012. • All fence post excavations are to be carried out manually, using handheld tools only. Due to the highly alkaline leachate produced during the curing of wet concrete, which can have a detrimental effect on tree roots and overall tree health, an impermeable liner is to be installed in each fence post hole that is located within tree RPAs. • Protect RPA adjacent to proposed building using temporary ground protection measures alongside fencing. • No vehicular or plant access within retained trees' RPAs under soft surfaces.	7.2, 7.3, 7.4, 8	Ground works contractor to provide detailed schedule of works and method statement
Possible installation of drainage to extents of proposed buildings within tree RPAs	All retained trees	• Routes which pass the minimum distance through RPAs to be agreed between project arboriculturist and relevant consultant. • Specialist excavation methods, under arboricultural supervision, to be used where utilities are projected to pass through RPAs. • Inspection chambers for services to be positioned outside RPAs.	7.7	Detailed services plan to be supplied by relevant consultant. Detailed methods and schedule of works to be supplied by groundworks contractor.

Any excavation within the RPA of a tree must be supervised by an Arboricultural Clerk of Works (ACoW).

4.4. GENERAL CONSTRUCTION PRECAUTIONARY MEASURES

Adequate protective fencing as outlined in the Arboricultural Method Statement should be installed around all retained trees, where practical, before any materials and machinery are brought on site.

Site operations involving plant with booms, jibs and counterweights should be planned in advance to prevent contact with retained trees. All operations involving such plant in close proximity to trees should be conducted under the supervision of a banksman to ensure that adequate clearance from the retained trees is maintained.

All site storage areas, cement mixing and washing points for equipment and vehicles and fuel storage areas should be outside RPAs. No discharge of potential contaminants should occur within the RPA of a retained tree stem or where there is a risk of run off into RPA.

Any fence post excavations Within a trees RPA are to be carried out manually, using handheld tools only, and in accordance with the guidelines set out in section 7.2.1 of BS5837:2012.

All proposed landscaping to be carried out within and close to retained trees' RPAs should be carried out in strict accordance with the guidance detailed in section 8 of BS5837:2012.

4.5. FACILITATION PRUNING

Based on the information currently available, it is not possible to predict the requirement for access facilitation pruning. Any requirements for access facilitation pruning should be discussed at a pre-commencement meeting with the project arboriculturalist.

All tree works should be completed prior to the commencement of any development or construction vehicles/plant entering either site. It is recommended that all tree works are carried out in accordance with BS3998:2010: Tree Work - Recommendations.

4.6. UNDERGROUND UTILITIES AND DRAINAGE

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. 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).

To date, there are no proposed works to service and/or drainage in respect of the development under consideration. In order to ensure that utilities and services are either routed outside RPAs where possible or special working methods are used, where required to install services within RPAs, the provision of a bespoke method statement can be conditioned to a planning approval.

5. SUMMARY AND CONCLUSIONS

The site survey identified a total of 35 individual trees on and adjacent the site. These included 22 individual trees graded Category B trees of moderate value, 11 individual trees graded Category C trees of low value. Two individual trees have been categorised as unsuitable for retention regardless of the site proposals (i.e. 'U' category).

Tree T4, T5, T6, T7, T8, T10, T11, T12, T13, T14, T15, T16, T17, T18, T19, T22, T23, T25, T26, T27, T28, T29, T30, T31, T32, T33 and T34 are all subject to Tree Preservation Order (TPO No. 12/12 G1 & G2).

Regarding the above it is emphasised that the scheduling or carrying out of any works to trees covered by TPO protection at the site, that are not directly related to the implementation of a detailed (i.e. full) planning permission, must be authorised by the Council's planning department.

An appraisal of the proposal documentation provided to date identified that construction of the development as proposed will require the removal of four individual trees graded 'B' category), six individual trees graded 'C' category and two individual trees graded 'U' category, of which, five trees (T12, T13, T28, T29, T30, T31, T34) are subject to Tree Preservation Order.

Specific details regarding replacement tree planting should be prepared by a suitably qualified and experienced landscape architect as part of a landscape scheme.

The appraisal identified various elements of the development that are proposed within and close to the RPAs and canopy spreads of several retained trees located both on site and on adjacent land. As such, various special working and protection methods and materials have subsequently been proposed in accordance with current government guidance.

Adequate protective fencing as outlined in the Arboricultural Method Statement should be installed around all retained trees, where practical, before any materials and machinery are brought on site.

Any excavation within the RPA of a tree must be supervised by an Arboricultural Clerk of Works (ACoW). Excavation must be undertaken by hand.

Site operations involving plant with booms, jibs and counterweights should be planned in advance to prevent contact with retained trees. All operations involving such plant in close proximity to trees should be conducted under the supervision of a banksman to ensure that adequate clearance from the retained trees is maintained.

All site storage areas, cement mixing and washing points for equipment and vehicles and fuel storage areas should be outside RPAs. No discharge of potential contaminants should occur within the RPA of a retained tree stem or where there is a risk of run off into RPA.

All tree works should be carried out by a competent arborist in accordance with BS 3998:2010, Tree Work Recommendations.

This document encloses a Preliminary Arboricultural Method Statement, which provides guidance on tree protection measures and mitigation.

6. ARBORICULTURAL METHOD STATEMENT

6.1. TIMING OF WORKS

The phasing of works must be carried out in accordance with Table 6.1.

TABLE 6.1 TIMING OF WORKS

STAGE	WORKS
1	Site induction
2	Install temporary tree protection fencing
3	Inspection by arboriculturist
4	Carry out construction works, subject to precautionary measures
5	Remove tree protection fencing once works complete
6	Final inspection by arboricultural consultant

6.2. SITE INDUCTION

Prior to works commencing, all contractors must attend a site induction. All contractors will be briefed on arboricultural concerns arising from the development proposals, including tree Root Protection Areas (RPAs). This method statement must be made available to all contractors working on the site.

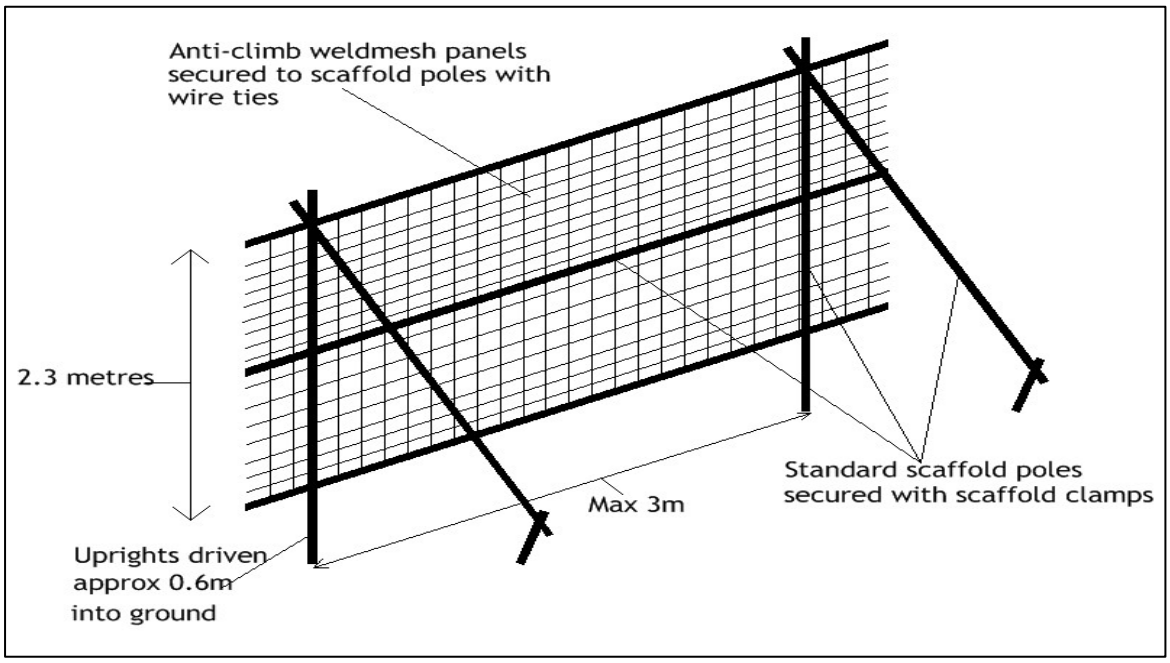
6.3. TREE PROTECTION FENCING

Prior to machinery entering the site, it will be necessary to ensure that all trees are adequately protected. This will require the installation of temporary tree protection fencing.

Tree protection fencing will consist of a vertical scaffold framework, well braced to resist impacts. The vertical poles must be spaced at a maximum interval of 3 m and driven securely into the ground. Onto this framework, welded mesh panels will be fixed (see Figure 6.1).

Laminated waterproof A3 signs will be fixed securely to fencing panels on each enclosure at 9 m intervals. The signs must clearly read: ‘Protected Tree Zone, no storage or operations within fenced off areas’. Once the construction works have been completed, the tree protection fencing may be removed. This must be done with care to ensure that no damage to trees is caused.

FIGURE 6.1 TREE PROTECTION FENCING SPECIFICATION



6.4. CELLULAR CONFINEMENT SYSTEM

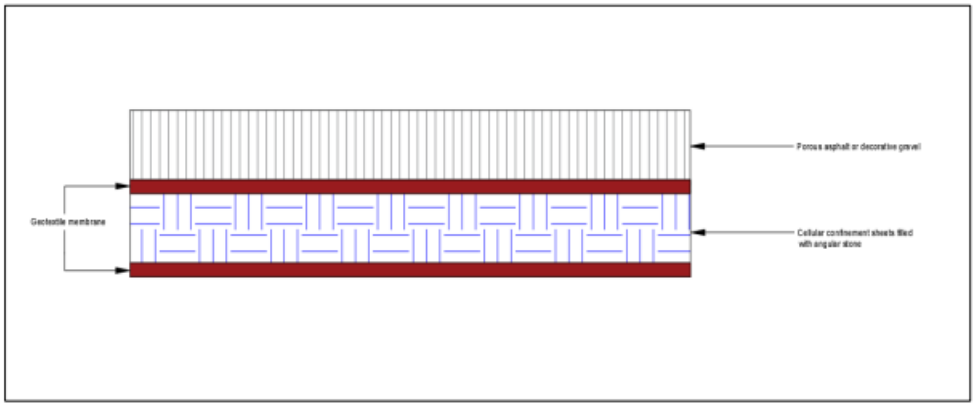
Where hardstanding is required within the RPAs of trees, this will need to be constructed of a cellular confinement system to minimise compaction and to enable uptake of air, water and nutrients by tree roots. The cellular confinement should be installed in the following stages:

- Level ground with hand tools only.
- No pruning of roots should be undertaken without notifying a consultant arboriculturist.
- Cover surface with a non-woven, geotextile separation filtration layer.
- Install cellular confinement sheets.
- Place 40/20 mm clean angular stone into open cells.
- Cover with second non-woven geotextile separation filtration layer.
- Install 75 mm porous asphalt, or 60mm decorative gravel.

As the majority of tree roots are typically found within 1 m of ground level, particular attention should be paid to existing levels, and any unavoidable excavations into the soil should be carried out by use of hand operated tools only.

Figure 6.2 shows the layers of the cellular confinement system.

FIGURE 6.2 CELLULAR CONFINEMENT SPECIFICATION



6.5. GENERAL PRECAUTIONARY MEASURES

Prior to works commencing, a site storage area will be designated, which must be outside of the RPAs of trees. No materials hazardous to tree health, such as oil, bitumen or cement will be stored within RPAs of trees. Where possible this area should be extended to 10 m away from the tree protection fencing.

Where there is a risk of polluted water runoff into RPAs, heavy duty plastic sheeting and sandbags will be used to contain any spillages and prevent contamination. No fires will be lit within 20 m of the protective fencing.

If any breach in the tree protection measures occurs it is the site manager's responsibility to report this to an arboricultural consultant so the appropriate measures may be taken.

7. ARBORICULTURIST CONTACT DETAILS

If at any point during construction works, works are required within RPAs, if there is a breach within the tree protection fencing, and/or if the proposals change from those detailed within the Tree Protection Plan, the project arboriculturist must be consulted immediately. The project arboriculturist's details are below:

Martin Dilworth

E3P
Taylor Road
Trafford Park
Urmston
Manchester
M41 7JQ

trees@e3p.co.uk
Office: 01617079612

END OF REPORT

APPENDIX I TREE SURVEY SCHEDULE

A plan showing tree locations can be viewed in **Appendix III: Tree Constraints Plan**.

TABLE A.1 KEY FOR TREE TABLES

KEY	
SPECIES	Common name and scientific name
HEIGHT	Measured to nearest 0.5 m
C.C	Height of crown clearance, measured to nearest 0.5 m
DBH	Diameter at breast height (1.5 m), in centimetres
CROWN SPREAD	Measured to nearest 0.5 m
AGE	Y - sapling/newly planted tree
	SM - semi-mature; tree in 1/3 of estimated lifespan
	EM - early-mature; tree in 2/3 of estimated lifespan
	M -mature; tree in 3/3 of estimated lifespan
	V - Veteran tree
ERC	Safe useful life expectancy of tree, in years
CATEGORY	See cascade chart (Table 1.1)
#	Estimated value

TABLE A.2 TREE DATA

TREE NO.	SPECIES	HEIGHT (M)	DBH (MM)	CROWN SPREAD				HEIGHT OF C.C	AGE	COMMENTS	ERC	CATEGORY	RPA (M^2)	RPA RADIUS (M)
				N	E	S	W							
T1	Ash (*Fraxinus excelcior*)	5	60	2	2	2	2	0	Y	Selfseeded young tree in hard standing. Multiple stems at ground level.	<10	U	11	1.9
T2	Whitebeam (*Sorbus aria*)	6	320	3	3	3	2	1.5	EM	No signs of ill health or significant structural defects.	20+	B1	46	3.8
T3	Wych elm (*Ulmus glabra*)	8	#180 180 120 100	5	5	5	2	0	SM	Multiple stems at ground level. Stems growing through boundary fence. Canopy suppressed on west side by adjacent trees.	10+	C1	40	3.6
T4	Silver birch (*Betula pendula*)	16	330	3	3	4	4	2	EM	Slight lean in stem towards east.	20+	B1	49	4.0
T5	Silver birch (*Betula pendula*)	15	330	3	1.5	4	2	0	EM	mutual suppression of canopy with adjacent trees.	20+	B1	49	4.0
T6	Silver birch (*Betula pendula*)	15	250	3	2	1.5	1.5	3	EM	Mutual suppression of canopy with adjacent trees.	20+	B1	28	3.0
T7	Silver birch (*Betula pendula*)	14	390	1	3	5	5	3	EM	Stem bifurcates at approximately 2m. Canopy suppressed on north side by adjacent trees.	20+	B1	69	4.7

TREE NO.	SPECIES	HEIGHT (M)	DBH (MM)	CROWN SPREAD				HEIGHT OF C.C	AGE	COMMENTS	ERC	CATEGORY	RPA (M^2)	RPA RADIUS (M)
				N	E	S	W							
T8	Silver birch (*Betula pendula*)	6	90	0.5	0.5	0.5	0.5	2	Y	Crown suppressed by adjacent trees. Natural sweep in stem at base.	10+	C1	4	1.1
T9	Wych elm (*Ulmus glabra*)	9	#180	1	3	4	4	2	SM	Located on adjacent land behind fence. Crown suppressed by adjacent trees.	10+	C1	15	2.2
T10	Silver birch (*Betula pendula*)	15	300	2	2	2	4	0	EM	Slight lean in stem towards north. Mutual suppression of canopy with adjacent trees.	20+	B1	41	3.6
T11	Silver birch (*Betula pendula*)	9	160	1.5	1	0.5	3	3	SM	Slight lean in stem towards north east. Crown suppressed by adjacent trees.	10+	C1	12	1.9
T12	Silver birch (*Betula pendula*)	15	230	2	2	1	1	3	SM	Tall drawn up form. Mutual suppression of canopy with adjacent trees.	20+	B1	24	2.8
T13	Silver birch (*Betula pendula*)	15	260	2	4	2	1	5	SM	Acute lean in stem towards north. Mutual suppression of canopy with adjacent trees.	10+	C1	31	3.1

TREE NO.	SPECIES	HEIGHT (M)	DBH (MM)	CROWN SPREAD				HEIGHT OF C.C	AGE	COMMENTS	ERC	CATEGORY	RPA (M^2)	RPA RADIUS (M)
				N	E	S	W							
T14	Silver birch (*Betula pendula*)	16	430	3	2	3	4	2	EM	No signs of ill health or significant structural defects.	20+	B1	84	5.2
T15	Silver birch (*Betula pendula*)	15	390	4	4	3	2	2	EM	Mutual suppression of canopy with adjacent trees.	20+	B1	69	4.7
T16	Sycamore (*Acer pseudoplatanus*)	5	#90	2	3	2	3	0	Y	Located on adjacent land behind fence, unable to fully inspect.	10+	C1	4	1.1
T17	Silver birch (*Betula pendula*)	15	#330	5	4	2	2	2	EM	Located on adjacent land behind fence, unable to fully inspect. Ivy on stem.	20+	B1	49	4.0
T18	Silver birch (*Betula pendula*)	12	#240	3	2	1	5	3	SM	Located on adjacent land behind fence, unable to fully inspect.	20+	B1	26	2.9
T19	Sycamore (*Acer pseudoplatanus*)	11	#240	3	3	3	3	0	SM	Located on adjacent land behind fence, unable to fully inspect.	20+	B1	26	2.9
T20	Whitebeam (*Sorbus aria*)	5	220	2.5	3	2	0.5	0	SM	Crown suppressed on west side by adjacent trees.	10+	C1	22	2.6
T21	Whitebeam (*Sorbus aria*)	5	160	2	1	2	1	2	Y	Crown suppressed by adjacent trees.	10+	C1	12	1.9

TREE NO.	SPECIES	HEIGHT (M)	DBH (MM)	CROWN SPREAD				HEIGHT OF C.C	AGE	COMMENTS	ERC	CATEGORY	RPA (M^2)	RPA RADIUS (M)
				N	E	S	W							
T22	Silver birch (*Betula pendula*)	15	#350	5	4	4	4	2	EM	Located on adjacent land behind fence, unable to fully inspect.	20+	B1	55	4.2
T23	Silver birch (*Betula pendula*)	14	#430	5	5	3	5	1	EM	Located on adjacent land behind fence, unable to fully inspect.	20+	B1	84	5.2
T24	Sycamore (*Acer pseudoplatanus*)	4	80	1	1	1	1	0	Y	Selfseeded young tree.	10+	C1	3	1.0
T25	Silver birch (*Betula pendula*)	16	330 250 190	1	5	5	5	0	EM	Multiple stems at ground level. Mutual suppression of canopy with adjacent trees.	20+	B1	94	5.5
T26	Silver birch (*Betula pendula*)	16	330 260 190	4	5	3	5	0	EM	Multiple stems at ground level. Mutual suppression of canopy with adjacent trees.	20+	B1	96	5.5
T27	Silver birch (*Betula pendula*)	13	255	4	3	0.5	3	0	EM	Mutual suppression of canopy with adjacent trees.	20+	B1	29	3.1
T28	Silver birch (*Betula pendula*)	16	360	0.5	4	4	3	2	EM	Mutual suppression of canopy with adjacent trees. Slight lean in stem towards south.	20+	B1	59	4.3

TREE NO.	SPECIES	HEIGHT (M)	DBH (MM)	CROWN SPREAD				HEIGHT OF C.C	AGE	COMMENTS	ERC	CATEGORY	RPA (M^2)	RPA RADIUS (M)
				N	E	S	W							
T29	Silver birch (*Betula pendula*)	15	340	3	4	3	3	2	EM	Mutual suppression of canopy with adjacent trees. Slight lean in stem towards south.	20+	B1	52	4.1
T30	Silver birch (*Betula pendula*)	2.5	150	0	0	0	0	0	Y	Dead tree stump.	<10	U	10	1.8
T31	Silver birch (*Betula pendula*)	5	100	4	0	0	0	2	Y	Crown suppressed by adjacent trees.	10+	C1	5	1.2
T32	Silver birch (*Betula pendula*)	16	290	3	2	2	3	2	EM	Mutual suppression of canopy with adjacent trees.	20+	B1	38	3.5
T33	Silver birch (*Betula pendula*)	16	270	3.5	2	3	1	2	EM	Mutual suppression of canopy with adjacent trees.	20+	B1	33	3.2
T34	Silver birch (*Betula pendula*)	15	290	3	5	5	1	3	EM	Mutual suppression of canopy with adjacent trees. Slight lean in stem towards east.	20+	B1	38	3.5
T35	Ash (*Fraxinus excelcior*)	4	120 90	2	2	1.5	0.5	0	Y	Twin stemmed at ground level. Suppressed by adjacent trees.	10+	C1	10	1.8

APPENDIX II
PHOTOGRAPHS

PLATE 1 TREE T1

PLATE 2 TREE T2

PLATE 3 TREES T25-T34

PLATE 4 TREE T3-T23

APPENDIX III TREE CONSTRAINTS PLAN

Tree Categorisations:

Those to be Considered for Retention:

Category 'A' Tree/Group/Hedge
Those of a High Quality with an Estimated Remaining Life Expectancy of at Least 40 Years

Category 'B' Tree/Group/Hedge
Those of a Moderate Quality with an Estimated Remaining Life Expectancy of at Least 20 Years

Category 'C' Tree/Group/Hedge
Those of Low Quality with an Estimated Remaining Life Expectancy of at Least 10 Years, or Young Trees

Those Unsuitable for Retention:

Category 'U' Tree/Group/Hedge
Those in Such a Condition that they Cannot Realistically be Retained as Living Trees in the Context of the Current Land Use for Longer Than 10 Years

Root Protection Areas (RPAs):

RPAs
Area(s) of Ground Around Trees that Should be Protected Throughout Development Works with Protective Fencing to form a Construction Exclusion Zone - see Appended Temporary Protective Fencing Specification

Notes:

Phase	Issue	Date	Drawn	Checked
P1	REVA	25.03.2022	MD	MD

Client:
Muller Property Group

Job Title:
Land at 21 Thomas Street, Lindley, Huddersfield

Job No: 80-761

Date: 25.03.2022

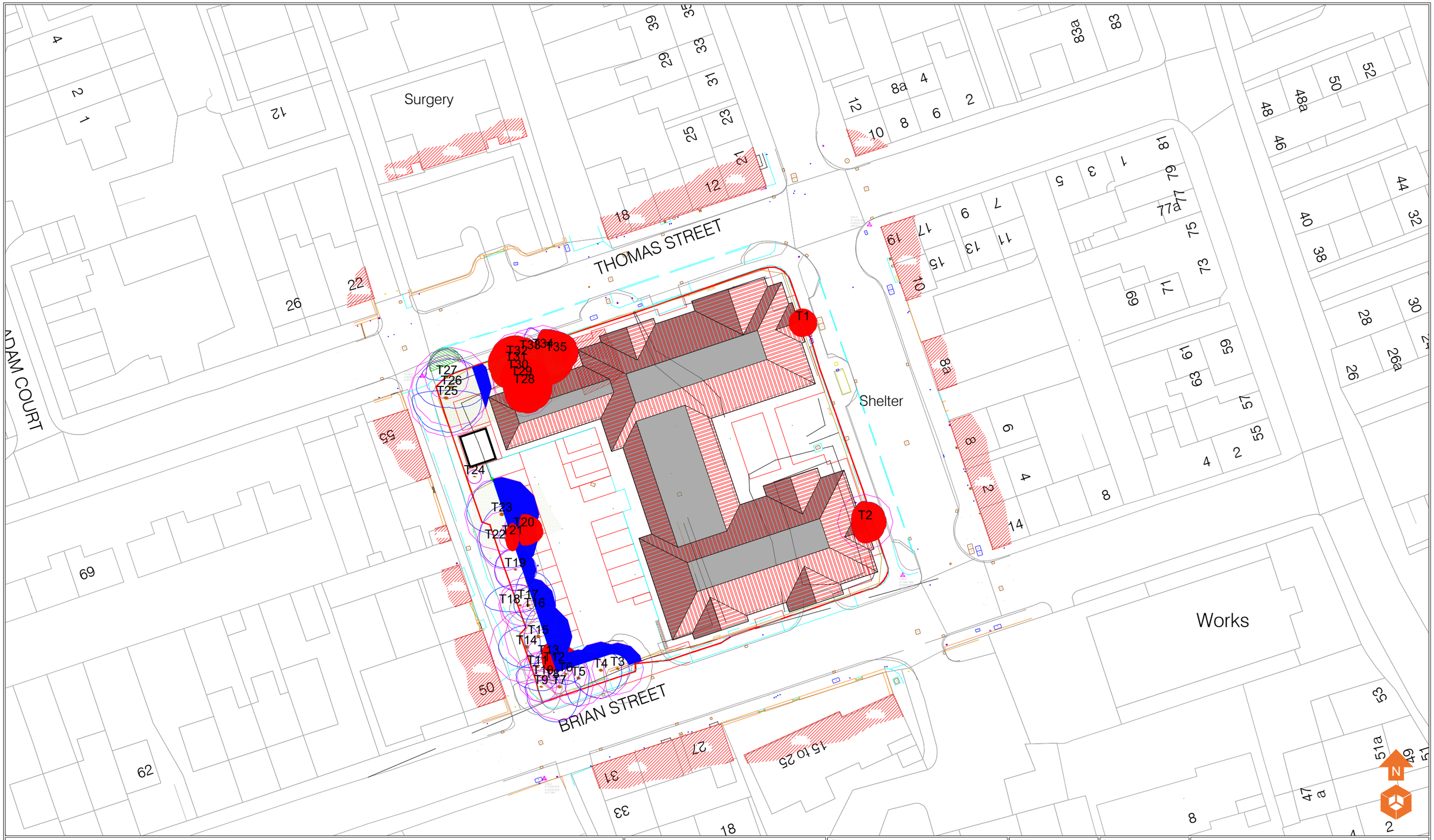
Drawing No: 001

Scale: 1:500 @ A3

Drawing Title:
Tree Constraints Plan

e3p
Environmental Engineering Partnership Ltd
Taylor Road, Trafford Park
Urmston, Manchester, M41 7JQ
Tel: 0161 707 9612
E-mail: info@e3p.co.uk
Website: www.e3p.co.uk

APPENDIX IV TREE IMPACT & PROTECTION PLAN



Tree Categorisations:

Those to be Considered for Retention:

Category 'A' Tree/Group/Hedge
Those of a High Quality with an Estimated Remaining Life Expectancy of at Least 40 Years

Category 'B' Tree/Group/Hedge
Those of a Moderate Quality with an Estimated Remaining Life Expectancy of at Least 20 Years

Category 'C' Tree/Group/Hedge
Those of Low Quality with an Estimated Remaining Life Expectancy of at Least 10 Years, or Young Trees

Those Unsuitable for Retention:

Category 'U' Tree/Group/Hedge
Those in Such a Condition that they Cannot Realistically be Retained as Living Trees in the Context of the Current Land Use for Longer Than 10 Years

Root Protection Areas (RPAs):

RPAs
Area(s) of Ground Around Trees that Should be Protected Throughout Development Works with Protective Fencing to form a Construction Exclusion Zone - see Appended Temporary Protective Fencing Specification

Tree Removals:

Tree removals
Proposed tree removals in the context of the development proposals

Root Protection Area Encroachment:

Tree Protective Fencing:

Notes:

Client:
Muller Property Group

Job No: 80-761

Date: 03.05.2023

Drawing No: 001

Scale: 1:500 @ A3

Phase	Issue	Date	Drawn	Checked
P1	REVA	03.05.2023	MD	MD

Job Title:
Land at 21 Thomas Street, Lindley, Huddersfield

Drawing Title:
Tree Impacts & Protection Plan

e3p
Environmental Engineering Partnership Ltd
Taylor Road, Trafford Park
Urmston, Manchester, M41 7JQ
Tel: 0161 707 9612
E-mail: info@e3p.co.uk
Website: www.e3p.co.uk

MÜLLER