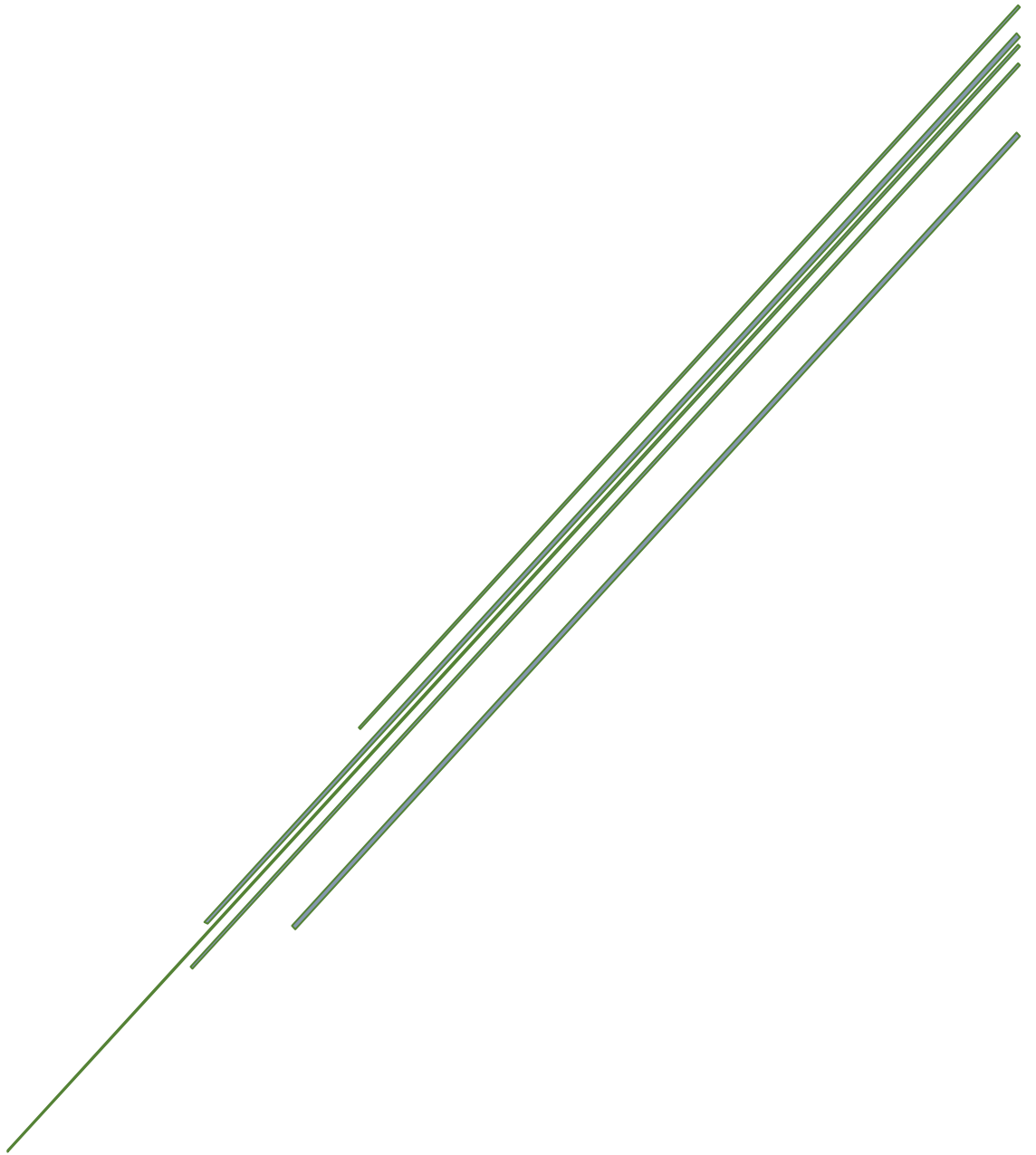


ARBORICULTURAL IMPACT ASSESSMENT AND TREE SURVEY

466-472 Moss Lane East, Manchester



Steven Calderbank BSc (Hons), MArborA

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1. Report Summary.

- 1.1 This Arb impact report was produced by Langtree Arb Consultancy, initially commissioned by City Side UK LTD. It was then asked to be re-evaluated by a takeover corporation, Alumno Group (hereafter referred to as the client). The information given is to assist all parties involved in the planning process to make impartial balanced judgements regarding arboricultural features in relation to the proposed demolition of the dwelling and construction of Student accommodation at the site of 466-472 Moss Lane East, Manchester, M14 4PJ.
- 1.2 This report deals with all notable vegetation currently on the site assessing current health and safety regulations to a QTRA tolerance rating of 1/300K agreed upon by both parties
- 1.3 The proposal is for the demolition of the building noted 470 Moss Lanes East and the construction of multi-story student accommodation. This report includes:
- An assessment of the trees, their quality and benefits and value to the wider area, and constraints to development proposed
 - The context and observations of the trees on the site
 - The planning policies relevant to the consideration of the trees on the site
 - The impact of the proposed development upon the tree population in and around the site
 - Measures to be taken to protect trees during the proposed works
 - Remedial actions to take to minimize disturbance or replacement of trees needed to be removed.
- 1.4 The conclusions are that the development and construction of the building are arboriculturally acceptable. Best practice guidance has been given and followed, in the assessment of the trees. The proposal includes sustainable removal of low quality and low amenity valued assets that currently add little to the surrounding green infrastructure and environment. It will include the planting of trees in more suitable and beneficial locations with species more tolerable to prevailing stress and in keeping with the natural surrounding flora upon the completion of building. Recommendations have also been given for remedial pruning works to ensure the continued safety towards the building being retained and

sustainable tree retention.

- 1.5 Where trees are to be retained adequate protection to root protection areas (RPA) have been recommended for implementation to reduce the impact of compaction and damage to retain with minimal stress. All recommendations made through out are complimentary of BS:5837: trees in relation to design, demolition, and construction:2012 (BS:5837:2012) and BS:3998: British Standard for tree works:2010 (BS:3998:2010)
- 1.6 With expression from the client, recommendations have been made to ensure that any trees possible on the site can be retained to comply with BREEAM excellence. Trees that are proposed to be removed are recommended after inspection of current on-site conditions that show true Arboricultural reasons or reasons that may allude to poor future sustainability post construction.
- 1.7 Any replanting recommendations are to be made using Tree Species Selection for Green Infrastructure: A Guide for Specifiers, that hold similar, or exceed the benefits currently provided by the onsite trees and are in keeping with the surrounding environmental factors. The renewed contract explicitly implies a planting ratio of 2 trees for every tree loss.

2. Introduction.

- 2.1 This report was written and produced by Steven Calderbank BSc Hons. Steven has been working the Arboricultural industry for 16 years, 10 years in a technical climbing role and 6 years as a tree inspector and consultant. Steven is the owner and head consultant at Langtree Arb Consultancy. He holds a Bachelor of Science (Hons) from the University of Central Lancashire (Myerscough College), is a registered user of QTRA and has attained the LANTRA Professional Tree Inspection qualification.
- 2.2 This re-evaluation report has been commissioned by Alumno Group to support the planning application for the demolition of a dwelling at 466-472 Moss Lane East, Manchester M14 4PJ and the construction of a multi-story building for student accommodatio

3. Scope and limitations.

- 3.1 The contents of this report are the intellectual property of Langtree Arb Consultants. The report has been created to the limitations of the authors experience and education. This report may be used in support of planning application and to be made available to all parties

involved in the planning, demolition, and construction process of the Moss Lane East site. It may not be distributed, copied, or used for any other purpose without the permission of the author. A copy has been supplied with agreed quotation along with a copy of signed contracts and agreements to services provided and agreement of risk tolerability.

- 3.2 No change was made to the tolerability level as of 2024. This report is only valid for a period of 24 months from the date of issue
- 3.3 Trees are dynamic organisms and as such are subject to influence and change from extenuating factors such as the weather, vandalism, and age.
- 3.4 The QTRA assessment was made on site with presenting facts. No speculation has been made. As such certain seasonal defects may have been missed due to the lack of presence.

4. Documents provided.

- 4.1 This report has been produced with the following supporting documents provided by City Side UK Ltd and are provided in Appendix 1: Site Plans:
 - EX - Existing Site Plan
 - GA – Ground Floor. Proposed GA plan
- 4.2 There where no new documents provided for the re-evaluation assessment.

5. Legislative Guidance and Constraints.

- 5.1 BS: 5837:2012 provides methodologies as well as categorization of trees in relation to building, construction and demolition. It is intended to assist with decision making regarding the procedures and sets out principles to be applied to achieve long term sustainability.
- 5.2 BS:3998 British Standard for tree work sets the standard for all remedial works needed on site. All works must comply to this standard to allow for the best chance of continued vitality.
- 5.3 BS 8545:2014 Trees: from nursery to independence in the landscape. Recommendations (BS: 4845:2014), sets precedent to how to plant and establish trees in the environment. This gives the trees the best opportunity for successful establishment and long-term sustainability.
- 5.4 According to the Manchester City Council website there are the site is not in a conservation area. There is no information available to inform of any Tree Protection Orders (TPO) set on the Moss Lane East Site due to renovations to the city council website. An application must

be made to gather this information and due to time constraints of this report have not been obtained. This must be confirmed with the council prior to works commencing.

6. Site Observations and Local Context.

- 6.1 An initial site visit was conducted by Steven Calderbank on the 2nd October 2022 at 10am. He was met on site, a representative of City Side UK Ltd. The purpose of the site visit was to undertake Visual Tree Assessments (VTA), obtain physical knowledge of the area and gain a scope of the proposed development to ensure proper practice and guidance is delivered to the trees affected, in the immediate vicinity, by the proposed construction process.
- 6.2 In 2024 LAC was contacted by a representative of the client. Due to the 18-month gap between assessments, a change in developers and as suspect change impacts, a reassessment of the site was required
- 6.3 The site is situated on the southern side Moss Road East close the center of Manchester City center (map 1). Moss road is a busy A road and leads to 2 main through fairs in the city. It is located across from Whitworth Park (map 2) which is a naturalized park hosting native, nonnative, and naturalized flora and fauna. The park appeared busy on the day of inspection with families and groups of people using it to gather. The tree species lining the parks southern border, opposite the site, is predominantly mature Ash (*F. excelsior*) and London Plane (*Platanus x acerifolia*).
- 6.4 The site is approximately 0.5 acres in size (map 3). It currently has 2 separate residential buildings on site along the northern border. The western building (WB) is planned to be retained and the eastern building (EB) is being planned to be demolished and replaced on an alternate foundation on the site. There is a pay and park carpark to the rear of the buildings on the southern half. Access to the carpark is off Heald Place to the west. There are manhole covers and building water stop tap 2m North to the front each building. The site is predominantly used for residential purposes.

7. Flora on Site.

- 7.1 The trees on site were a mixture of non-native and native broadleaf and coniferous species. The trees on site were generally low quality and suffering from multiple defects and abnormalities.
- 7.2 Since the initial survey T1 and T2 of the original trees have been removed. As such the tree numbers have changed to reflect these in the tree removals plan in Appendix 1
- 7.3 A renewed desk study was undertaken on the 08 July 2024.
- 7.4 There were no veteran, or ancient tree found on the Ancient Tree Inventory resources on the site
- 7.5 Utilizing the Magic maps online tool there were no ancient woodland or traditional orchards found on site
- 7.6 There appeared to be constraints on the sites in relation to conservation areas or Tree Protection Orders.

8. Soil Conditions

- 8.1 Soil conditions have a significant impact on tree growth and can influence:
 - Specimen choice for replanting
 - Rooting depths of certain species
 - Any potential subsidence or heave issues
 - Available soil volume that can be used by roots and the li tolerance of trees to soil disturbance.
- 8.2 The soil structure according to the Cranfield Soil and Agriculture Institute Soilscape Map the site is located on Soils cape 17: slowly permeable seasonally wet acid loamy and clayey soils. It is shown to hold water and shown in arable and forest areas. Planting plans should take this into consideration.

9. Planning Policy Context.

- 9.1 National Planning Policy Framework (NPPF) which came into immediate effect on 27 March 2012. The NPPF replaces the previous national planning policy documents including Planning Policy Guidance (PPGs) and Planning Policy Statements (PPSs). The NPPF is the legislation that aids in determining planning applications.
- 9.2

- 9.3 The NPPF sets out overarching planning policy and at its core is a presumption in favour of sustainable development. Sustainable development is defined in the NPPF as having economic, social, and environmental strands that are interdependent. Planning should meet the needs of the present without compromising the ability of future generations to meet their own needs with “regeneration and change; and the importance of securing well-designed, attractive and healthy places”.
- 9.4 The NPPF states that planning should be “not only about scrutiny, but instead be a creative exercise in finding ways to enhance and improve the places in which people live their lives” while “always seek to secure high quality design and a good standard of amenity for all existing and future occupants of land and buildings;” Also that planning should contribute to conserving and enhancing the natural environment and reducing pollution” while it provides “opportunities to achieve net environmental gains”
- 9.5 The NPPF identifies 13 aspects contributing to the delivery of sustainable development. These include:
- Establishing a strong sense of place
 - Responding to local character and history
 - Providing developments that are visually attractive because of good architecture and appropriate landscaping.
- 9.6 Paragraph 61 of the NPPF states “planning policies and decisions should address the connections between people and places and the integration of new development into the natural, built and historic environment.” The NPPF states that “planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland unless they outweigh the need for, and benefits of, the development in that location loss”.

10. Analysis of the development regarding Trees.

10.1 Proposed Development.

10.1.1 The development plans can be viewed on plan GA – Ground Floor. Proposed GA plan

10.2 BS: 5897:2012 Tree Categories.

10.2.1 Table 1 highlights all the arboricultural categories found on site.

		Trees	Hedges	Total
Cat A	High quality	0	0	0
Cat B	Moderate quality	0	0	0
Cat C	Low Quality	4	2	6
Cat U	Unsuitable	2	0	2
	Total	6	2	8

Table 1: BS:5837 categories of trees on site

10.2.2 Eight arboricultural features were assessed on site. Out of these eight two were hedges and six were individual trees.

10.2.3 There were no trees valued to be of high or moderate quality

10.3 Identified Impacts and Tree Works

10.3.1 The impacts identified on site in relation to the proposed construction include:

- Removal of trees on site will be required to facilitate the design proposal or for the health and safety of the workers.

10.3.2 Tree works highlighted that may be impacted by the construction are recommended to go ahead prior to demolition of EB. Other tree works highlighted are to be done on the time scales provided in the tree survey and assessments in Appendix 2: Tree condition surveys.

10.4 Planting Proposals.

10.4.1 All removed trees are proposed to be replanted in more suitable locations on site. The plan is available at Appendix 1: Site maps, to view proposed locations.

10.4.2 Tree planting should be undertaken once construction has finished to minimize the mal

effects of heavy machinery on establishing root zones. Specimen selection should be decided once the construction is concluded., This is to allow the site constraints and environmental factors to be assessed and specimens selected that would provide the best benefits and growth form to suit the space. It is recommended that these be selected from the Trees and Design Action Group Tree Species Selection for Green Infrastructure: A Guide for Specifiers (TDAG).

- 10.4.3 Tree planting should be undertaken in accordance with BS: 8545:2014 Trees: from nursery to independence in the landscape. All trees planted need to include tree pits as recommended. This is to ensure minimal future disturbance to the nearby footpath/foundations and underground utilities on site.

10.5 Root Protection Areas

- 10.5.1 There are no trees on the site that is to be retained that may be affected by the demolition and building works. If designs change then a root protection area (RPA) must be in place to help sustainable retention. The RPA will comply to that set out by BS: 5837:2012 at 12 the radius of the stem at DBH. The protection area will be secluded using the fencing design stated in BS: 5837:2012 chapter 6.2.2 Barriers and ground protection paragraph 6.2.2.2.

11. Discussion.

- 11.1 A site visit was initially undertaken in October 2022. It found that there were 8 trees of notable size and 2 hedges within the study area.
- 11.2 A re-evaluation of the site was conducted in July 2024. The re-evaluation found that two of the initial trees assessed, T1 and T2, had been removed. Two of the initial trees to be categorized as moderate quality had significantly decreased in physiological vigor and structural condition and have been lowered to a cat C, low quality, categorization. All trees where renumbered.
- 11.3 There are no statutory constraints within the study area and no veteran trees or ancient woodland.
- 11.4 The proposed design will require the removal of all on site arboricultural features either to

accommodate the proposal or to ensure the safety of workers on site.

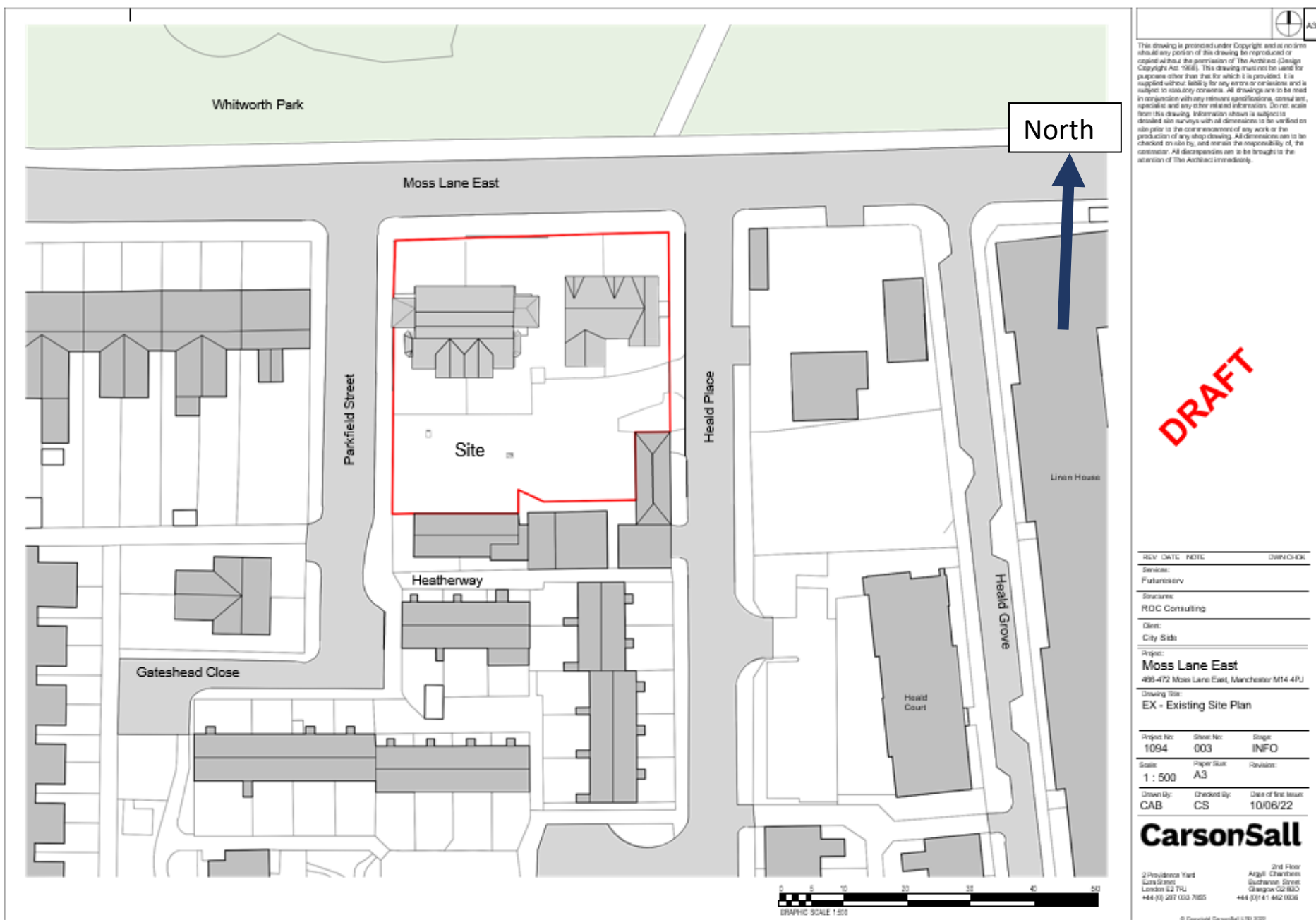
- 11.5 All tree loss will be mitigated as stated by the client to a ratio of 2 trees planted for every tree loss. This should be influenced by the TDAG guide and implemented under guidance of a competent contractor under BS:8545:2014 recommendations to ensure the best survival probabilities.
- 11.6 The approach to the tree management on this site is sustainable, in the long term, if the recommendations and best practice is adhered to. 197 of the Town and Country Planning Act 1990 says that Local Planning Authorities have a duty “to ensure, whenever it is appropriate, that in granting planning permission for any development adequate provision is made, by the imposition, of conditions, for the preservation or planting of trees”. As such, it is recommended that the Planning Authority approve the application for 466-472 Moss Lane East development subject to the implementations of the constraints and recommendations made in this document. This has the requirement for ongoing arboricultural supervision which includes:
- Communication of method statements with the building contractor and their appointed Arboriculturalist.
 - Completion of recommended tree works prior to works on site
 - Continuous monitoring of tree health of retained trees throughout the construction process, especially around times of critical construction activities i.e. demolition
 - Planting reinstatement once building works have been completed

Appendices

Appendix 1: site maps.

The following list are the titles and pages of the specific site maps:

- Page 13. Map 1: EX - Existing Site Plan
- Page 14. Map 2: GA – Ground Floor. Proposed GA plan
- Page 15. Map 3: Google maps snippet of wider general location
- Page 16. Map 4: Site map and sizing (Google Maps)
- Page 17. Map 5: On site flora location (Google Maps)
- Page 18. Map 6: Recommended tree planting locations using GA – Ground Floor.
Proposed GA plan



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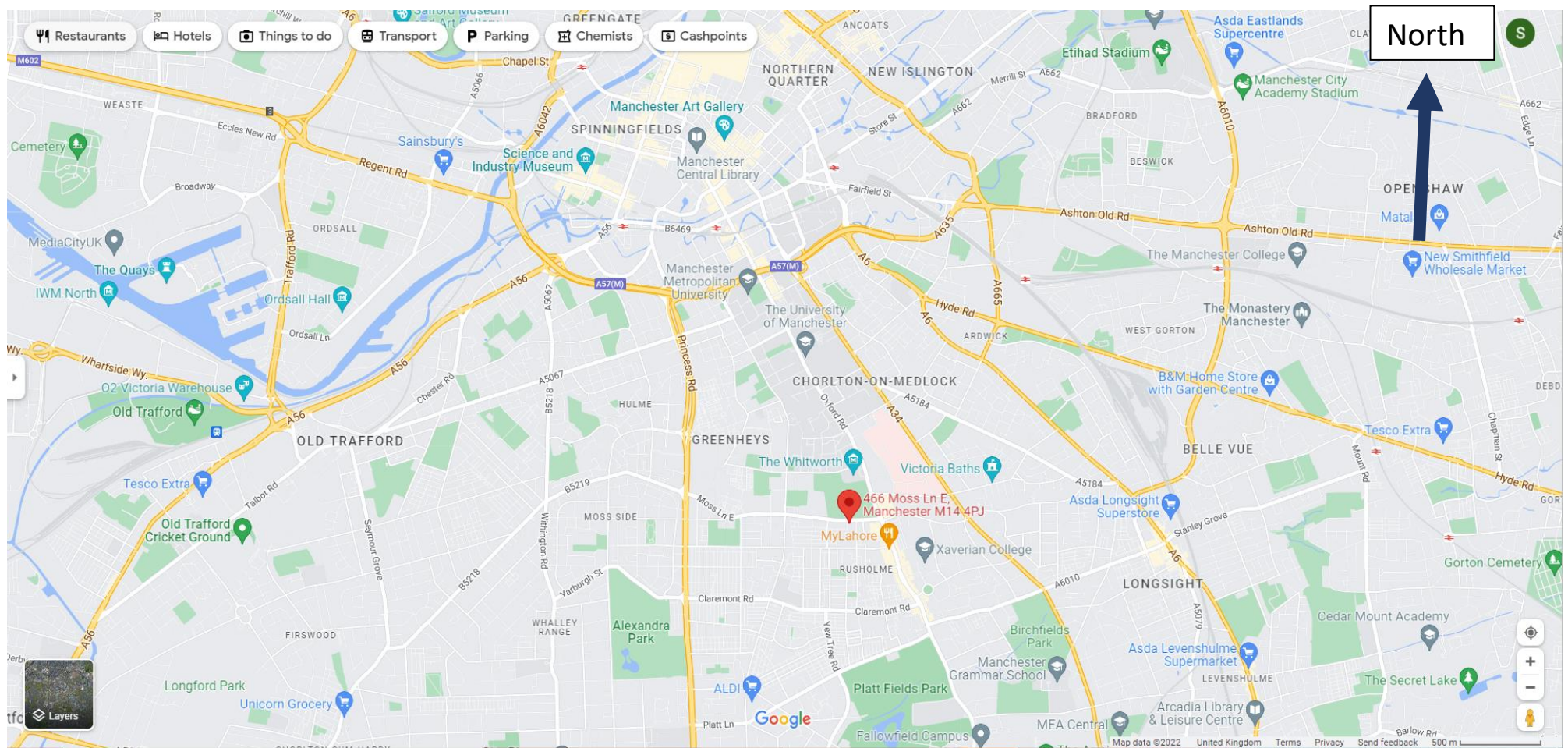
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Futurism			
Structures:			
ROC Consulting			
Clerk:			
City Side			
Project:			
Moss Lane East			
499-472 Moss Lane East, Manchester M14 4PU			
Drawing Title:			
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CAB	CS	10/06/22	

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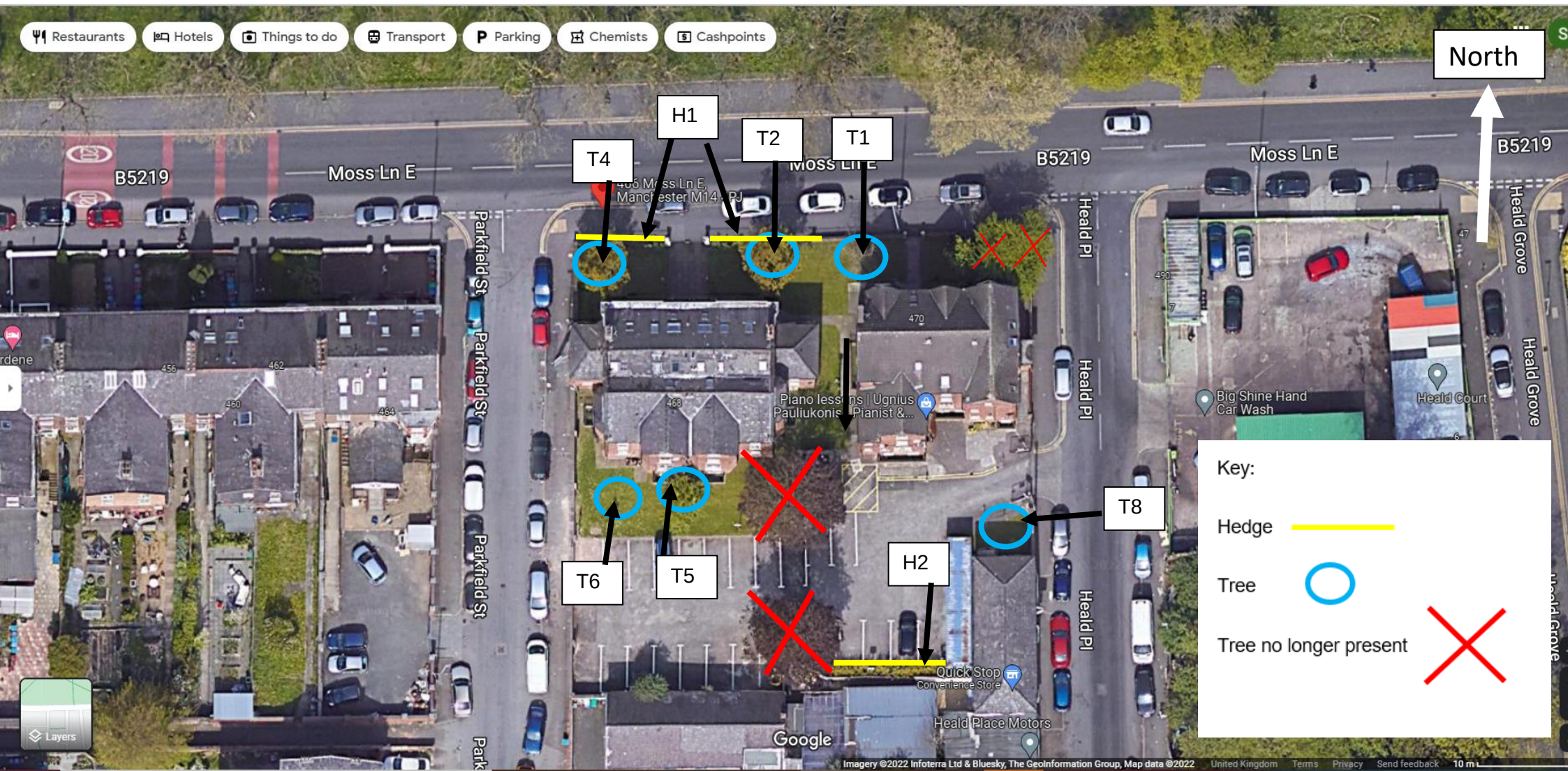
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Argyll Chambers
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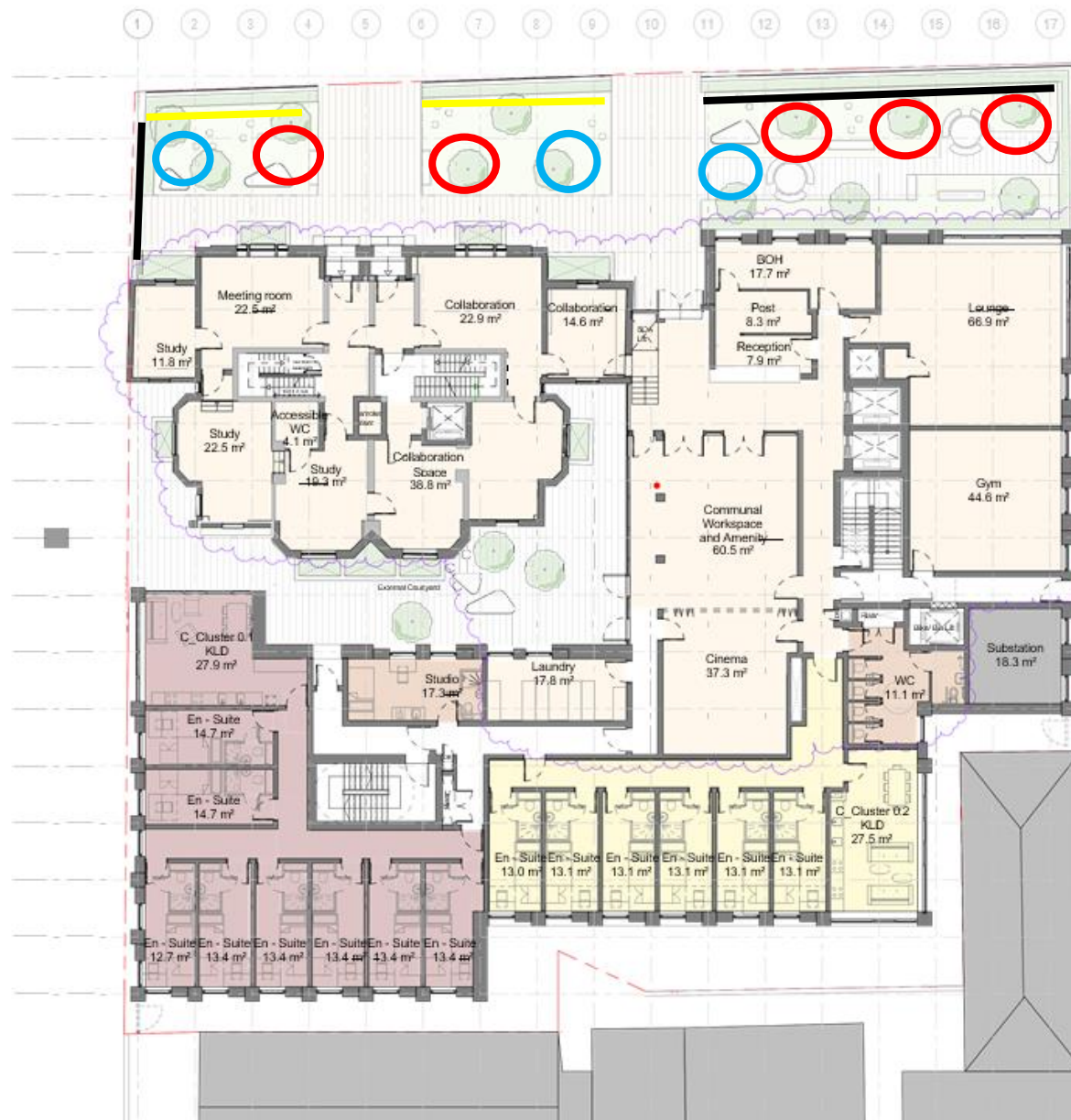
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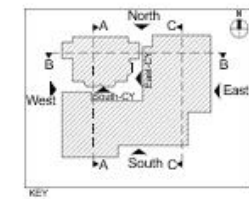
Area 1801 meters², 19385 feet² 0.45 acres 0.001 miles² 0.002 km²
Perimeter 142 meters , 467 feet 0.089 miles 0.142 km







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R1	08/07/22	Layout communal amended CS	CS
	10/06/22	DTM issue	CS
REV	DATE	NOTED	DWN/CHK
Services:			
Futureserv			
Structures:			
ROC Consulting			
Client:			
City Side			
Project:			
Moss Lane East			
455-472 Moss Lane East, Manchester M14 4PJ			
Drawing Title:			
GA - Ground Floor			
Proposed GA plan			
Project No:	Sheet No:	Stage:	
1094	100	INFO	
Scale:	Paper Size:	Revision:	
1 : 100	A1 A3	R1	
1 : 200			
Drawn By:	Checked By:	Date of first issue:	
ND	CS	28/10/21	



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Appendix 2: Tree condition surveys

Tree condition surveys are below followed by supporting pictures

Tree number: T1	Botanical name: Liquidambar styraciflua	Height (m): 4	DBH (cm): 17
Name: Sweet Gum			
Crown Spread (M): North: 3.5 East: 3 South: 3 West 3		Age Category: Semi Mature	
Context on the site: Tree is located centrally along the northern border of the site. It lies 3m from the northwest corner of the eastern building.			
Condition survey: -1x exposed root (S) damaged with visual discoloration to the exposed heart wood. -3x stubs on the stem (S) (W) (E) at 1-2m 30cm in length -1 st 2 opposite limbs at 1.5m (NW) (SE) are included -No change in resonance throughout the stem -(S) crown 0.2m from building			
Offsite notes: Tree has declined since 2022 and thus has been reduced in its 5837 category			
Works required and time scales: Reduce the southern canopy by 1.5m to reduce likelihood of damaged caused by falling debris from demolition process. Prior to start of work			
Works required: Fell to ground level prior to work starting			
QTRA Rating: Whole tree failure <1/1mil	Physiological condition: Fair	Structural condition: Fair	BS:5837 category: C1

Tree number: T2	Botanical name: Prunus ssp.	Height (m): 7	DBH (cm): 25
Name: Cherry			
Crown Spread (M): North: 3.5 East: 3 South: 3.5 West 2		Age Category: Semi Mature	
Context on the site: Tree is in the northwest section of the site. It lies 5m north from the western building and 4m south of the boundary with Moss Lane East.			
Condition survey: -Exposed roots 360 degrees from the base of the tree to 2m. roots show evidence of damage with visual discoloration of the exposed cambium -Evidence of oozing from damaged roots (E) 2m from stem -Hanging branches at 3m (S), 2.5m (Central), 5m (N). branches are <50mm in dia and well lodged -Die back at the tips throughout the crown 10%			
Offsite notes- Tree has declined in condition since the initial 2022 survey			
Works required and time scales: Fell and remove prior to construction			
QTRA Rating: Whole tree failure 1/1mill yellow	Physiological condition: poor	Structural condition: fair	BS:5837 category: C1

Tree number: T3	Botanical name: Prunus ssp.	Height (m): 8.5	DBH (cm): 28
Name: Cherry			
Crown Spread (M): North: 4.5 East: 4 South: 4 West 4		Age Category: Semi Mature	
Context on the site: Tree is in the northwest corner of the site. It lies 5m north from the western building and 3m south of the boundary with Moss Lane East, and 3m east of the boundary wall with Parkfield St			
Condition survey: -Exposed roots 360 degrees from the base of the tree to 2m. Roots show evidence of damage -Indented growth at 0.5m (W) 30cm long 1cm wide. No change in resonance -Central stem included at 2m -Small cavity at 1.5m (S). 3cm diameter 2cm deep. Good sealing wood around the wound and no change in resonance. -1 st limb at 1.5m (W) included. No cracking -Die back throughout the crown. -Crown sparser on the (N) (E) (SE) side -Tips of the crown on the (S) 0.5m from building			
Offsite notes- Tress is to be retained throughout the construction process. Tree is visually suffering with die back and suspected mechanical damage to the roots			
Works required and time scales: Reduce the crown on the south side by 1m/provide a 2m clearance on the south side from the building. Within 12 months			
Monitor frequency: Reinspect every 18months. Monitor for further decline by professional Arboriculturalist			
QTRA Rating: Whole tree failure 1/1mil Yellow	Physiological condition: Poor	Structural condition: fair	BS:5837 category: C1

Tree number: T4	Botanical name: Prunus ssp.	Height (m): 7	DBH (cm): 25
Name: Cherry			
Crown Spread (M): North: 3 East: 3.5 South: 4.5 West 4		Age Category: Semi Mature	
Context on the site: Tree is south 3m south of the western building in a grass area. It lies 4m north of the car park to the rear of the property.			
Condition survey: -Exposed roots (SW) 0.5m from stem, small fungi present -Exposed roots 0.5m from stem (W). fungi present but loosely on grass next to wound -Excessive bleeding throughout the stem and limbs. -Excessive scaring on the stem. Change in resonance throughout the stem from ground level to 3m -0.2m from building and touching phone lines			
Offsite notes- Tree is showing signs of bleeding canker (Phytophthora). This can lead to tree failure in cherries. Coupled with the other fungi present this tree need immediate removal			
Works required and time scales: Fell and remove within 1 month			
Monitor frequency: Fell and remove within 1 month			
QTRA Rating: Whole tree failure 1/3k unacceptable	Physiological condition: fair	Structural condition: poor	BS:5837 category: U

Tree number: T5		Botanical name: Acer campestre	Height (m): 2m	DBH (cm): 5cm
Name: Field Maple				
	Crown Spread (M): North: 1 East: 1 South: 1 West 1		Age Category: young	
Context on the site: Tree is south 3m south of the western building in a grass area. It lies 4m north of the car park to the rear of the property.				
Condition survey: -Multiple damage to stem and branches. -Tie wrap enveloped by stem				
Offsite notes- Tree is very juvenile. It appears to been planted too deep, not staked, no evidence of tree pit and has many defects for such a young tree. In such this will lead to bad physiological growth in future and not be sustainable				
Works required and time scales: Fell and remove prior to works and replace in more suitable location once works have finished				
QTRA Rating: <1/1mil		Physiological condition: poor	Structural condition: fair	BS:5837 category: U

Tree number: T6	Botanical name: Larix decidua	Height (m): 4	DBH (cm): unknown due to dense foliage
Name: Larch			
Crown Spread (M): North: 2 East: 2 South: 2 West 2		Age Category: young	
Context on the site: Tree is located on the grass patch to the south of the Heald Place entrance. It is 1m from the wall to the east and 0.5m from the property and its ducting fans to the south. The tops of the trees are beginning to breach the phone lines above			
Condition survey: No major or visual defects to the tree			
Offsite notes- Tree is the wrong specimen in the wrong place. To retain the tree would require remedial works that are impracticable and lead to poor future form and potential damage to the surrounding infrastructure. As such before the tree requires remedial works to reduce from the phone lines and reduce from damaging property it would be recommended to remove and replace with a more suitable specimen in another location.			
Works required and time scales: Fell and remove within 12 months			
Monitor frequency: Fell and remove within 1 month			
QTRA Rating: <1/1mil	Physiological condition: fair	Structural condition: fair	BS:5837 category: C1

Tree number: H1	Botanical name: Prunus ssp	Height (m): 1.5	DBH (cm): unknown due to dense foliage
Name: Laurel			
10-20m long		Age Category: semi mature	
Context on the site: Hedge is located along the northern boarder of the property on the western side 10+ specimins			
Condition survey: No major or visual defects to the hedge			
Offsite notes-			
Works required and time scales: Fell to accommodate proposal and reinstate			
QTRA Rating: <1/1mil+	Physiological condition: fair	Structural condition: fair	BS:5837 category: C1

Tree number: H2	Botanical name: Cupressus x leylandii	Height (m): 2-2.5m	DBH (cm): unknown due to dense foliage
Name: Leylandii			
10-20m long		Age Category: young	
Context on the site: Hedge is located along the southeastern boarder 10+ trees			
Condition survey: No major or visual defects to the hedge Tree is located 1.5m to the property to the rear top to property			
Offsite notes- With eh growth potential of the species it is unfeasible and impracticable to expect correct management for long term sustainability. It is recommended this hedge to be removed and replaced once construction is finished in a more suitable location with suitable specimens			
Works required and time scales: Fell and remove prior to the start of construction			
QTRA Rating: <1/1mil	Physiological condition:fair	Structural condition: fair	BS:5837 category: C1

Appendix 3: BS: 5837:2012 RPA

BRITISH STANDARD BS 5837:2012

6.2 Barriers and ground protection

6.2.1 General

- 6.2.1.1 All trees that are being retained on site should be protected by barriers and/or ground protection (see 5.5) before any materials or machinery are brought onto the site, and before any demolition, development or stripping of soil commences. Where all activity can be excluded from the RPA, vertical barriers should be erected to create a construction exclusion zone. Where, due to site constraints, construction activity cannot be fully or permanently excluded in this manner from all or part of a tree's RPA, appropriate ground protection should be installed (see 6.3.3).
- 6.2.1.2 Areas of retained structural planting, or designated for new structural planting, should be similarly protected, based on the extent of the soft landscaping shown on the approved drawings.
- 6.2.1.3 The protected area should be regarded as sacrosanct, and, once installed, barriers and ground protection should not be removed or altered without prior recommendation by the project arboriculturist and, where necessary, approval from the local planning authority.
- 6.2.1.4 Where required, pre-development tree work may be undertaken before the installation of tree protection measures, with the agreement of the project arboriculturist or local planning authority if appropriate (see also 8.8.1).
- 6.2.1.5 It should be confirmed by the project arboriculturist that the barriers and ground protection have been correctly set out on site, prior to the commencement of any other operations.

Barriers

- 6.2.1.1 Barriers should be fit for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained tree(s). Barriers should be maintained to ensure that they remain rigid and complete.
- 6.2.3.2 The default specification should consist of a vertical and horizontal scaffold framework, well braced to resist impacts, as illustrated in Figure 2. The vertical tubes should be spaced at a maximum interval of 3 m and driven securely into the ground. Onto this framework, welded mesh panels should be securely fixed. Care should be exercised when locating the vertical poles to avoid underground services and, in the case of the bracing poles, also to avoid contact with structural roots. If the presence of underground services precludes the use of driven poles, an alternative specification should be prepared in conjunction with the project arboriculturist that provides an equal level of protection. Such alternatives could include the attachment of the panels to a free-standing scaffold support framework.
- 6.2.3.3 Where the site circumstances and associated risk of damaging incursion into the RPA do not necessitate the default level of protection, an alternative specification should be prepared by the project arboriculturist and, where relevant, agreed with the local planning authority. For example, 2 m tall welded mesh panels on rubber or concrete feet might provide an adequate level of protection from cars, vans, pedestrians and manually operated plant. In such cases, the fence panels should be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The

distance between the fence couplers should be at least 1 m and should be uniform throughout the fence. The panels should be supported on the inner side by stabilizer struts, which should normally be attached to a base plate secured with ground pins (Figure 3a). Where the fencing is to be erected

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