



## **The Former Stag Brewery, Mortlake**

### Arboricultural Impact Assessment

July 2022

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**Client Name:** Reselton Properties Limited  
**Document Reference:** WIE18671-102-R-6-3-2-AIA  
**Project Number:** WIE18671-102

## Quality Assurance – Approval Status

This document has been prepared and checked in accordance with Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS EN ISO 45001:2018)

Issue	Date	Prepared by	Checked by	Approved by
Draft	January 2022	Richard Harris Associate Director	Tom Hurlstone Associate Director	Tom Hurlstone Associate Director
Second	March 2022	Richard Harris Associate Director	Tom Hurlstone Associate Director	Tom Hurlstone Associate Director
Final	July 2022	Richard Harris Associate Director (Arboriculture)	Stephen Brindle Associate Director	Stephen Brindle Associate Director

## Comments

Second – Clients comments adopted and updated Proposed Site Wide Landscape Masterplan added

Final – Text in paragraph 8.13 changed from "Tree protection should generally accord with the recommendations contained within BS5837:2012" to "Tree protection will generally accord with the recommendations contained within BS5837:2012" at request of LBRuT's Tree Officer.



## Disclaimer

This report has been prepared by Waterman Infrastructure & Environment Limited, with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporation of our General Terms and Condition of Business and taking account of the resources devoted to us by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at its own risk.



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## **Contents**

## 1. Introduction

- 1.1. This Arboricultural Impact Assessment has been prepared by Waterman Infrastructure and Environment Ltd (“Waterman IE”) on behalf of Reselton Properties Limited (“the Applicant”) in support of two linked planning applications (“the Applications”) for the comprehensive redevelopment of the former Stag Brewery Site in Mortlake (“the Site”) within the London Borough of Richmond upon Thames (LBRuT).

### Proposals

- 1.2. The Applications seek planning permission for:

#### Application A:

**“Hybrid application to include the demolition of existing buildings to allow for comprehensive phased redevelopment of the site:**

**Planning permission is sought in detail for works to the east side of Ship Lane which comprise:**

- a) **Demolition of existing buildings (except the Maltings and the façade of the Bottling Plant and former Hotel), walls, associated structures, site clearance and groundworks**
- b) **Alterations and extensions to existing buildings and erection of buildings varying in height from 3 to 9 storeys plus a basement of one to two storeys below ground**
- c) **Residential apartments**
- d) **Flexible use floorspace for:**
  - i. **Retail, financial and professional services, café/restaurant and drinking establishment uses**
  - ii. **Offices**
  - iii. **Non-residential institutions and community use**
  - iv. **Boathouse**
- e) **Hotel / public house with accommodation**
- f) **Cinema**
- g) **Offices**
- h) **New pedestrian, vehicle and cycle accesses and internal routes, and associated highway works**
- i) **Provision of on-site cycle, vehicle and servicing parking at surface and basement level**



- j) Provision of public open space, amenity and play space and landscaping**
- k) Flood defence and towpath works**
- l) Installation of plant and energy equipment**

**Planning permission is also sought in outline with all matters reserved for works to the west of Ship Lane which comprise:**

- a) The erection of a single storey basement and buildings varying in height from 3 to 8 storeys**
- b) Residential development**
- c) Provision of on-site cycle, vehicle and servicing parking**
- d) Provision of public open space, amenity and play space and landscaping**
- e) New pedestrian, vehicle and cycle accesses and internal routes, and associated highways works”**

#### **Application B:**

**“Detailed planning permission for the erection of a three-storey building to provide a new secondary school with sixth form; sports pitch with floodlighting, external MUGA and play space; and associated external works including landscaping, car and cycle parking, new access routes and all other associated works”**

- 1.3. Together Applications A and B described above are the ‘Proposed Development’.

#### **Background to Submission**

- 1.4. The current applications follow the refusal of earlier planning applications which were refused by the Greater London Authority and the GLA. The refused applications were for:
- a) Application A – hybrid planning application for comprehensive mixed-use redevelopment of the former Stag Brewery site consisting of:
    - i. Land to the east of Ship Lane applied for in detail (referred to as ‘Development Area 1’ throughout); and
    - ii. Land to the west of Ship Lane (excluding the school) applied for in outline (referred to as ‘Development Area 2’ throughout).
  - b) Application B – detailed planning application for the school (on land to the west of Ship Lane).
  - c) Application C – detailed planning application for highways and landscape works at Chalkers Corner.
- 1.5. The London Borough of Richmond (the Council) resolved to grant planning permission planning permission for Applications A and B but refuse Application C.
- 1.6. Following the LBRuT’s resolution to approve the Applications, the Mayor called-in the Applications

and became the determining authority. The Mayor's reasons for calling in the Applications were set out in his Stage II letter (dated 4 May 2020) but specifically related to concerns regarding what he considered was a low percentage of affordable housing being proposed for the Site and the need to secure a highways solution for the scheme following the LBRuT's refusal of Application C.

- 1.7. Working with the Mayor's team, the Applicant sought to meaningfully respond to the Mayor's concerns on the Applications. A summary of the revisions to the scheme made and submitted to the GLA in July 2020 is as follows:
- i. Increase in residential unit provision from up to 813 units to up to 1,250 units;
  - ii. Increase in affordable housing provision from (up to) 17%, to 30%;
  - iii. Increase in height for some buildings of up to three storeys;
  - iv. Change to the layout of Blocks 18 and 19, conversion of Block 20 from a terrace row of housing to two four storey buildings;
  - v. Reduction in the size of the western basement, resulting in an overall car parking spaces reduction of 186 spaces and introduction of an additional basement storey under Block 1;
  - vi. Internal layout changes and removal of the nursing home and assisted living in Development Area 2;
  - vii. Landscaping amendments, including canopy removal of four trees on the north west corner of the Site; and
  - viii. Alternative options to Chalkers Corner in order to mitigate traffic impacts through works to highway land only and allow the withdrawal of Application C.
- 1.8. The application was amended to reflect these changes.
- 1.9. Notwithstanding this, and despite GLA officers recommending approval, the Mayor refused the applications in August 2021.
- 1.10. The Mayor's reasons for refusal in respect of Application A were:
- (i) height, bulk and mass, which would result in an unduly obtrusive and discordant form of development in this 'arcadian' setting which would be harmful to the townscape, character and appearance of the surrounding area;
  - (ii) heritage impact. The proposals, by reason of its height, scale, bulk and massing would result in less than substantial harm to the significance of several listed buildings and conservation areas in the vicinity. The Mayor considered that the less than substantial harm was not clearly and convincingly outweighed by the public benefits, including Affordable Housing, that the proposals would deliver;
  - (iii) neighbouring amenity issues. The proposal, by reason of the excessive bulk, scale and siting of Building 20 and 21 in close proximity to the rear of neighbouring residential properties in Parliament Mews and the rear gardens of properties on Thames Bank, would result in an unacceptable overbearing and unneighbourly impact, including direct overlooking of private amenity spaces. The measures in the Design Code would not sufficiently mitigate these impacts; and

(iv) no section 106 agreement in place.

1.11. Application B was also refused because it is intrinsically linked with Application A and therefore could not be bought forward in isolation without Application A.

### **The Proposed New Scheme**

1.12. This 3<sup>rd</sup> iteration of the scheme seeks to respond directly to the Mayor's reasons for refusal, and in doing so also addresses a number of the concerns raised by the LBRuT.

1.13. The amendments can be summarised as follows:

i. A revised energy strategy is proposed in order to address the London Plan (2021) requirements;

ii. Several residential blocks have been reduced in height to better respond to the listed buildings along the Thames riverfront and to respect the setting of the Maltings building, identified as a Building of Townscape Merit (BTM) by the LBRuT;

iii. Reconfiguration of layout of Buildings 20 and 21 has been undertaken to provide lower rise buildings to better respond to the listed buildings along the Thames riverfront; and

iv. Chalkers Corner light highways mitigation works.

1.14. Following the submission of the two planning applications in March 2022, on 27 May 2022 the Applicant received statutory consultee comments in particular from LBRuT officers, the Health and Safety Executive (HSE), Environment Agency (EA), Thames Water and Sports England. The Applicant has sought to respond to statutory consultee comments which has necessitated some minor scheme changes to the hybrid planning application. The proposed amendments include a reduction in 14 residential units (to 1,071) and minor reduction in office (79 sqm GIA) and flexible use (55 sqm GIA) at the ground floor. Two buildings (B01- the cinema and B10) have reduced by no more than one storey each, and another building (B02) facing the riverside has undergone further development of the proposed architectural treatment. Some minor changes have also been made to the drainage, landscape, fire, waste, energy and lighting strategies. The text in paragraph 8.13 has changed from "Tree protection should generally accord with the recommendations contained within BS5837:2012" to "Tree protection will generally accord with the recommendations contained within BS5837:2012" at request of LBRuT's Tree Officer. The Landscape Masterplan (Drawing 4) has also been updated in response to consultee comments.

1.15. The school proposals (submitted under 'Application B') are unchanged. The Applicant acknowledges LBRuT's identified need for a secondary school at the Site and the applications continue to support the delivery of a school. It is expected that the principles to be agreed under the draft Community Use Agreement (CUA) will be the same as those associated with the refused school application (LBRuT ref: 18/0548/FUL, GLA ref: GLA/4172a/07).

1.16. Overall, it is considered that together, the Applications respond successfully to the concerns raised and feedback provided by stakeholders in respect of the previous schemes and during pre-application discussions on the revised Proposed Development, whilst also retaining elements of the previous scheme which were supported by stakeholders, including third parties and decision makers. As a result, the Applicant is confident that the Proposed Development presents a scheme that can be truly supported and brought to fruition at the Site.

1.17. The purpose of this AIA is to evaluate the direct and indirect effects of the proposed design on the tree stock present both on and adjacent to the Site. It includes recommendations for an appropriate

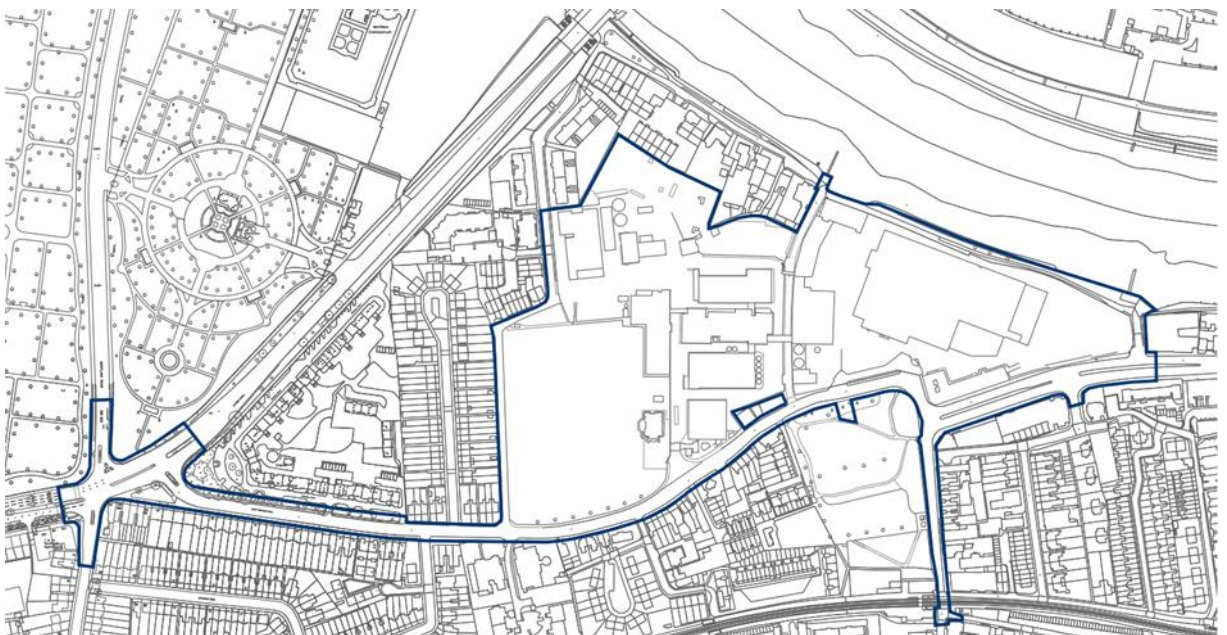
level of mitigation and/or compensation where necessary.

- 1.18. The assessment documents the findings of a baseline survey of the arboricultural features on and immediately adjacent to the Site. The above and below ground constraints posed by the canopy shape and subterranean rooting area of the surveyed trees are described.
- 1.19. This report should be read in conjunction with the other documents, plans and technical studies submitted to support the proposed development of the Site.
- 1.20. Trees are a material consideration in the planning process and as such, the information within this report has been aligned where possible with the general policies and development objectives of the relevant planning policies outlined within **Appendix A** and the principles set out in BS5837.

## 2. Site Description

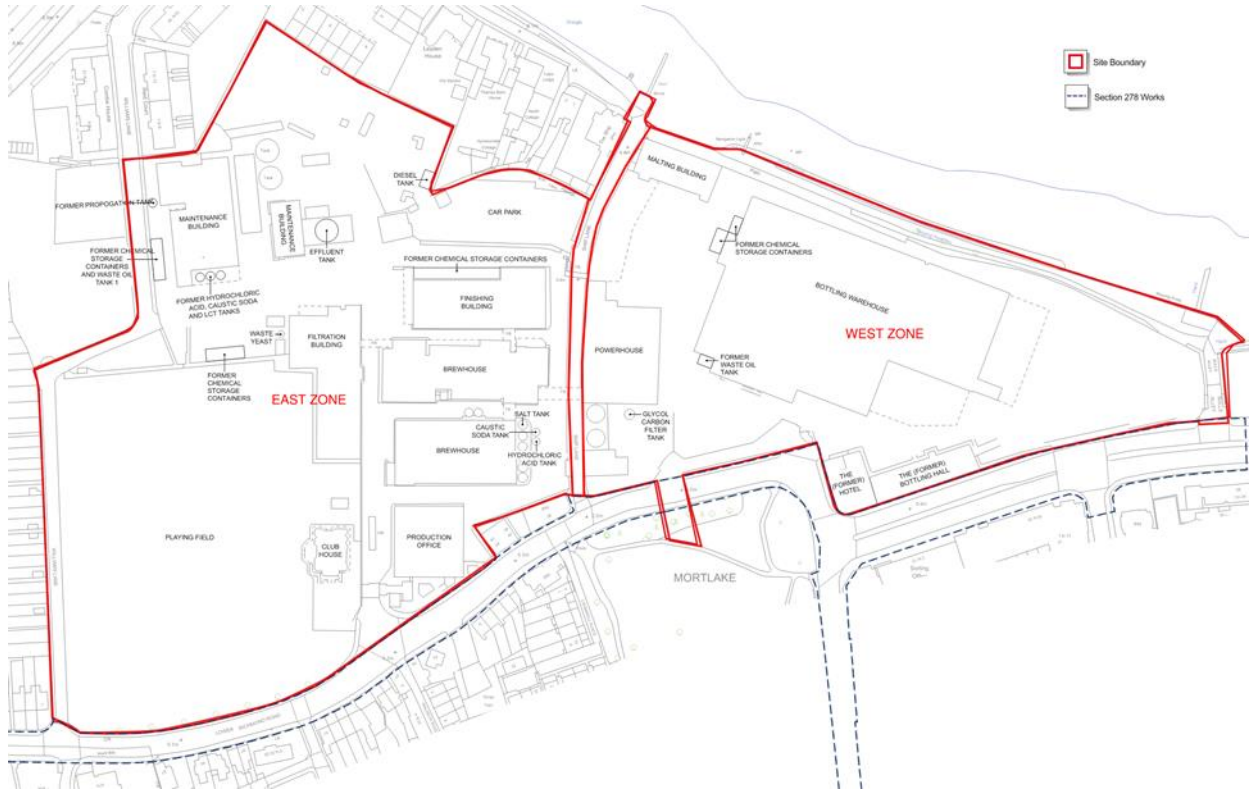
- 2.1. The Site is located at National Grid Reference 520360, 175990, in Mortlake, south-west London. The Site comprises two adjacent land plots bisected by Ship Lane, an 'East Zone' and a 'West Zone'. The East Zone is entirely occupied by brewery buildings, with the West Zone occupied by further brewery buildings in the north and east, and a playing field in the south-west.
- 2.2. The Site comprises both the Stag Brewery and the adjacent Lower Richmond Road and Mortlake High Street to the south and west, and Sheen Lane to the south. The Site boundary plan is included in **Figure 1**. A pre-demolition building layout plan for the Stag Brewery area of the Site is in **Figure 2**.

Figure 1: Site Boundary (denoted by blue line)



Source: *Project Boundary Plan 2022*

Figure 2: Stag Brewery Existing Site Layout



Source: 2016 Site Plan

### 3. Tree Survey Methodology

- 3.1. A tree survey of the Site was carried out in December 2021. The tree survey methodology followed the recommendations set out in BS5837.
- 3.2. The survey involved collecting the following information on all trees (both on and off-site) with a stem diameter over 75mm which have the potential to influence the proposed Development.

#### Tree Numbers<sup>1</sup>

- 3.3. Individual trees surveyed were given the prefix 'T'. Trees have been grouped where they form cohesive aerodynamic (i.e. companion shelter), visual (i.e. screening) or cultural (i.e. parkland) arboreal features of similar quality, as identified by the prefix 'G'. Hedges and Woodland groups were given the prefixes 'H' and 'W' respectively.

#### Species

- 3.4. Species are listed by both their common name and Latin name in the schedule in **Appendix B** and by their common name in the body of the report.

#### Height

- 3.5. Tree heights are approximate and estimated in metres.

#### Stem Diameter

- 3.6. The stem diameter of single stemmed trees is measured at 1.5m above ground level and given in millimetres. The diameter measurement of multi-stemmed trees is shown as a measurement of each major stem present. Where stems fork or swell, the measurement is taken at the narrowest point below the fork or swelling. Where access to the trunk of a tree is not available, an estimation of the stem diameter is made and identified by '\*' on the accompanying tree survey table.

#### Crown Spread

- 3.7. Radial crown spread is measured in metres to the nearest 0.5m (rounded up). These are recorded for each of the four cardinal points where access allows. Where access is not available the crown spread is a visual estimate derived from site-based observations and identified by '\*' on the accompanying tree survey table. As such, the canopy shape for surveyed trees depicted on the accompanying plans accurately represents the canopy spread as measured on Site.

#### Height of Crown Clearance and Canopy

- 3.8. The height of crown clearance is the height above ground in metres of the first significant branch and the direction of growth. The height of canopy is the average height above ground in metres of

<sup>1</sup> Previous tree surveys of the Site were undertaken in February 2016 and April 2017. Due to the age of those surveys, it was decided to undertake a new survey for the current application. For reasons of consistency the numbering system from the old survey has been utilised where possible. However, in some instances individual trees that were present in the earlier surveys no longer exist, or trees are no longer considered to be relevant to this application (usually because they are outside the application boundary) and therefore the reference numbers used in this survey are not sequential. Furthermore, some trees that were surveyed as groups in the previous surveys have now been recorded as individuals (usually because a number of trees in the original groups no longer exist and therefore it is considered more appropriate to record the trees as individuals). Where these extra trees have been recorded they have been given a new reference number starting from 300.

the main canopy. These are measured to the nearest half metre (rounded up) for dimensions up to 10m and the nearest whole metre for dimensions over 10m.

### Age Class

3.9. The age of each tree is defined as follows:

Young (Y):	Within the first 1/4 of useful life expectancy.
Semi-mature (SM):	Within the second 1/4 of useful life expectancy.
Early Mature (EM):	Within the third 1/4 of useful life expectancy.
Mature (M):	Within the fourth 1/4 of useful life expectancy.
Over Mature (OM):	Tree has exceeded normal life expectancy.
Veteran (V):	Tree displaying veteran characteristics 2.

### Physiological and Structural Condition

- 3.10. The physiological or structural condition of each tree, tree group, hedgerow and woodland is described, highlighting specific features. The survey involved ground level examination of the external features of the trees. The structural condition for each tree is described as being Good, Fair or Poor and the physiological condition is described as Good, Fair, Poor, Moribund or Dead.
- 3.11. Where appropriate, notes on the structural integrity are provided on form, taper, forking habit, storm damage, decay, fungi, pests, etc. Where identified, signs of substantial defects or debility have been recorded. Where access to a tree was not possible, an estimation of physiological and structural condition has been made.

### Estimated Remaining Contribution (ERC) in Years

- 3.12. The Estimated Remaining Contribution (ERC) for each tree is based on species and the existing physiological and structural condition of the tree. The ERC may affect proposed development layout because the longer the tree is likely to live, the greater the contribution it will make and the greater the need for retention.

### Category Grading

- 3.13. Each individual tree was given a Category Grading in accordance with BS5837 to reflect their overall quality and value. Further details of the tree categorisation method can be found in **Appendix C** and Section 7 of this report.

### Preliminary Management Recommendations

- 3.14. Any recommendations made for management of the trees (for example, tree surgery) prior to development are not a 'specification' for tree work. These recommendations are proposed on the basis that they are undertaken by a qualified arboricultural contractor, such as those listed in the Arboricultural Association's Approved Contractors Directory ([www.trees.org.uk](http://www.trees.org.uk)). Any work undertaken by the contractor should be in accordance with best practice, such as the European

<sup>2</sup> <http://www.ancienttreeforum.co.uk/ancient-trees/what-are-ancient-veteran-trees/>



Tree Pruning Guide<sup>3</sup>, or required by BS3998: 2010 'Tree work – recommendations'<sup>4</sup>.  
Where management recommendations are made, they are accompanied by a recommended timeframe in which they should be undertaken.

<sup>3</sup> European Tree Pruning Guide, 2001, Arboricultural Association

<sup>4</sup> BS3998:2010 'Tree work - recommendations', 2010, BSI

## 4. Root Protection Area

- 4.1. The Root Protection Area (RPA) of a tree is defined in BS5837 as a “*layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree’s viability and where the protection of the roots and soil structure is treated as a priority*”. For single stemmed trees it is equivalent to a circle with a radius 12 times the stem diameter when measured at 1.5m above ground level. BS5837 outlines the calculation of RPA as follows:

$$\text{RPA(m}^2\text{)} = \left( \frac{\text{stem diameter (mm) @ 1.5 m} \times 12}{1\ 000} \right)^2 \times \pi \text{ (3.142)}$$

- 4.2. Trees with more than one stem originating below 1.5m above ground level are given an aggregate stem diameter using either of the following two calculations as outlined in BS5837. This diameter is then used in the above calculation to estimate RPA:

- a) For trees with two to five stems:

$$\sqrt{(\text{stem diameter 1})^2 + (\text{stem diameter 2})^2 \dots + (\text{stem diameter 5})^2}$$

- b) For trees with more than five stems:

$$\sqrt{(\text{mean stem diameter})^2 \times \text{number of stems}}$$

- 4.3. The RPA of existing tree stock is an important material consideration when considering site constraints and planning development activities.
- 4.4. Unless there is an overriding justification for them, construction activities, materials storage or changes in level should be avoided within the RPA of a retained tree. This is because these operations have the potential to damage or kill the tree, the safe retention of which may be a condition of planning permission. If operations are proposed within the RPA of a retained tree, it may be necessary to prove to the relevant Local Planning Authority that:
- All other alternative solutions have been explored and proven unviable;
  - That the tree can remain viable and that the area lost to encroachment can be compensated for elsewhere, contiguous with its RPA;
  - That mitigation measures can be put in place to improve the soil environment that is used by the tree (if necessary).

## 5. Limitations

- 5.1. This report is intended to assist with the planning and management of construction, refurbishment and/or demolition operations under current best practice guidance. It focuses on measures which will need to be implemented to ensure the protection of retained trees. It is the responsibility of the design team and site manager to ensure that any recommendations made also comply with all relevant health, safety and construction guidance and legislation.
- 5.2. This report is concerned with the arboricultural features of the Site only. Ground condition/history information has not been consulted as part of this assessment (such as history of ground disturbance, root damage, changes in soil levels, previous utility installations or changes in site conditions) unless otherwise stated.
- 5.3. All trees were visually inspected from ground level with no climbing, boring or core sampling undertaken. All measurements are metric and approximate. The comments made are based on observable factors present at the time of inspection.
- 5.4. Trees that were not directly accessible at the time of survey have been denoted with a '\*\*' and detailed in the comments section within **Appendix B**.
- 5.5. The tree survey was based upon existing topographical information relating to the Site, produced by APR services (Job no. 915213, dated July 2015 and 916061, dated February 2017) and provided by the Applicant. For the purposes of this report, it is assumed that the detail of the topographical survey is accurate and correct.
- 5.6. The design and construction of foundations on Site should be informed by appropriate soil sampling and laboratory testing in accordance with Chapter 4.2 of 'Building Near Trees' of the National House Building Council's Standards 2019. This report does not specifically relate to risks associated with subsidence, heave or other forms of disturbance associated with tree root growth or tree removal.
- 5.7. This report is not intended to confirm the safety (or otherwise) of surveyed trees or tree groups. References to defects or potential safety issues are not exhaustive and are intended as a guide only to inform the provision of further resources / more detailed investigations. The persons(s) responsible for the management of trees surveyed as part of this report are recommended to commission a separate Tree Condition Survey by a suitably qualified and experienced person in order to manage the health and safety aspects of trees under their control and discharge their reasonable 'Duty of Care' owed under the Occupiers' Liability Act 1984<sup>5</sup>.
- 5.8. Owing to the changing nature of trees as living, dynamic features and other Site circumstances, the baseline survey results are representative of the arboricultural features on the date of survey only and are subject to change. The impact assessment is based on development proposals as provided to Waterman IE and contained in **Drawings 4 and 5**. Any alteration to the application Site or development proposals could change the current circumstances and may invalidate this report and any recommendations made.
- 5.9. Unless otherwise stated, trees should be inspected regularly to satisfy the 'Duty of Care' owed under the Occupiers' Liability Act 1984<sup>6</sup>, or directly after heavy storms (i.e. force 6-7 and above on the Beaufort scale). It is recommended that advice from an ecologist is sought prior to carrying out

<sup>5</sup> Occupiers' Liability Act 1957 and 1984. HMSO

<sup>6</sup> Occupiers' Liability Acts 1957 and 1984. HMSO

any works to trees, in order to ensure these are carried out in accordance with (in particular) the protection afforded to wild birds and bats under The Wildlife and Countryside Act<sup>7</sup> and The Conservation of Habitats and Species Regulations<sup>8</sup>.

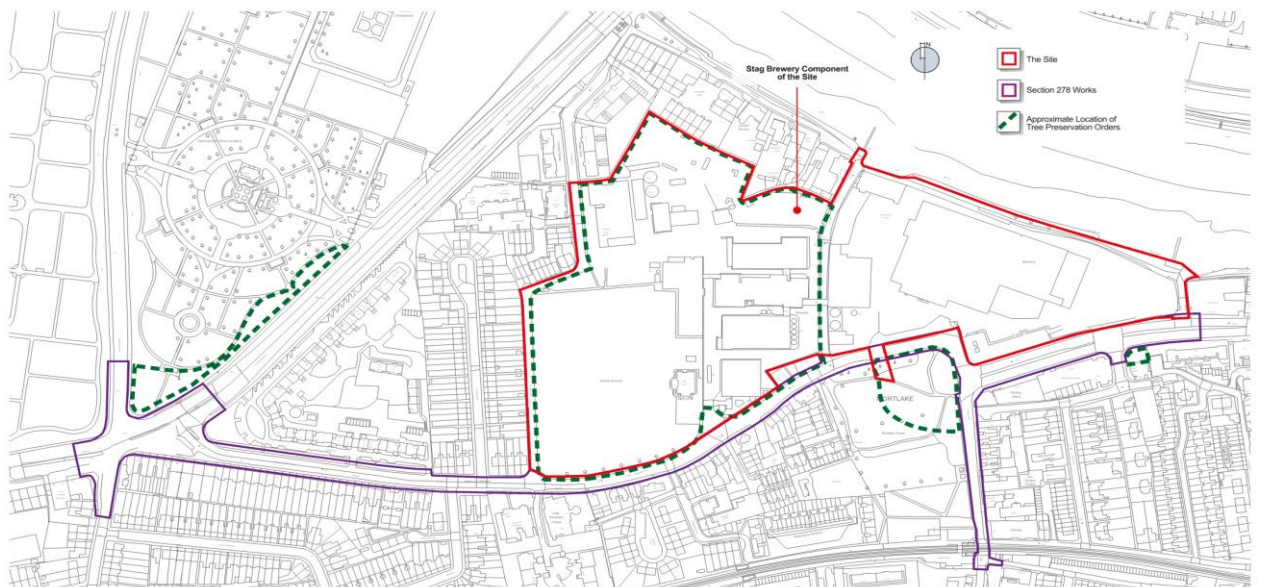
<sup>7</sup> The Wildlife and Countryside Act 1981 (as amended), OPSI

<sup>8</sup> The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, OPSI

## 6. Tree Preservation Orders and Conservation Areas

- 6.1. Under Part VII of the *Town and Country Planning Act 1990* and as amended in the *Town and Country Planning (Tree Preservation) (England) Regulations 2012*, local planning authorities are given the powers to protect trees, groups of trees and woodlands through the provisions of a Tree Preservation Order (TPO). TPOs prohibit:
- cutting down;
  - topping;
  - lopping;
  - uprooting;
  - wilful damage; and
  - wilful destruction without the local planning authority's written consent.
- 6.2. All trees with a stem diameter above 75mm in diameter when measured at 1.5m above ground level are also afforded protection if they are located within a Conservation Area.
- 6.3. The western portion of the Site (i.e. to the west of Ship Lane) is covered by an area Tree Preservation Order (TPO) (ref. T0880 dated March 2016). 29 trees / tree groups (G58a-w inclusive, T59, T60, T145, G146, G147 and T152) are also afforded protection due to their location within Mortlake Conservation Area. The location of the TPOs within the Site and surrounding area are shown in **Figure 3** and detailed in **Table 1**.

Figure 3: Tree Preservation Orders within the Site and Surrounding Area



## 7. Existing Tree Stock

- 7.1. The tree surveys detailed in Section 3. identified a total of 149 individual trees and 3 tree groups within the Survey Area.
- 7.2. Surveyed trees are located both adjacent to its boundaries and within internal areas of the Site (**Photographs 1 and 2**). Trees present at Chalkers Corner are located adjacent to carriageways (**Photograph 3**). Off-Site trees surveyed include those located around the perimeter of Chertsey Court adjacent to Chalkers Corner, trees within a portion of Mortlake Green (**Photograph 4**), trees located along Mortlake High Street and a group bounding the north-eastern boundary of Development Area 2 (G101). The tree stock present within the Survey Area comprises a high proportion of amenity species with London Plane (*Platanus x hispanica*) being common. This species is well-suited to the challenging urban growing conditions including those locally found within the Survey Area.

Photograph 1 (T67-T82)



Photograph 2 (T8-T11)



Photograph 3 (T103 – T105)



- 7.3. The majority of trees within the Site are broadly similar in age and are considered likely to date from the construction of the brewing facilities (circa late 19<sup>th</sup> and early 20<sup>th</sup> centuries). Trees at Chalkers Corner are also broadly similar in age and are considered likely to date from the development of this road junction.
- 7.4. Further details relating to the existing tree stock on or adjacent to the Site can be found in **Appendix B** and on **Drawing 1**.

## Quality Category Grading

7.5. Each arboricultural feature was given a Category Grading in accordance with the principles of BS5837. The Category Gradings are defined according to the following criteria, which are further divided into sub-categories based on arboriculture, landscape and/or historic/cultural value, as defined within BS5837 and contained at **Appendix A**. Table 1 summarises the arboricultural features by category.

- **Category Grading A:** Trees of high quality and value (with an estimated remaining life expectancy of at least 40 years) (coloured green on **Drawing 1**).
- **Category Grading B:** Trees of moderate quality and value (with an estimated remaining life expectancy of at least 20 years) (coloured blue on **Drawing 1**).
- **Category Grading C:** Trees of low quality and value (with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter less than 150mm) (coloured grey on **Drawing 1**).
- **Category Grading U:** Trees which are 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 (coloured red on **Drawing 1**).

Table 7-1: Summary of tree features by category

Category	Quantity	Description
A	22	T3, T29, T48, T49, T50, T51, T52, T53, T54, T55, T56, T57, T64, T74, T75, T77, T78, T82, T106, T107, T155, T321
B	56	T4, T5, T6, T7, T8, T9, T10, T11, T14, T15, T25, T26, T27, T31, T34, G58 <sup>9</sup> , T59, T84, T85, T86, T88, T89, T90, T93, T94, T95, T97, T98, T99, T100, T133, T134, T136, T137, T140, T145, T149, T154, T157, T163, T165, T166, T312-319, T320, T327, T329, T330, T331, T340
C	58	T2, T12, T16, T17, T19, T20, T24, T30, T33, T37, T38, T39, T40, T41, G42, T43, T44, T45, T46, T47, T60, T61, T62, T67, T70, T71, T73, T79, T81, T83, T96, T120, T144, T152, T158, G162, T171, T172, T300, T303, T304, T305, T306, T309, T310, T322, T323, T324, T325, T326, T332, T333, T334, T335, T336, T337, T338, T339
U	16	T22, T28, T32, T35, T68, T72, T76, T121, T139, T142, T143, T302, T307, T308, T311, T328

<sup>9</sup> G58 has been awarded a category B overall due to its value as a landscape feature (as prescribed in BS5837), however on Drawing 1 the individual trees within the group are identified as being within different categories in order to identify any trees whose individual merit may be lower.

## 8. Arboricultural Impact Assessment

- 8.1. The Development proposals as shown on the Tree Protection and Removal Plans (TPRP) which are contained as **Drawings 2 and 3** comprise the works described in Section 1.
- 8.2. The proposed layout shown on **Drawing 2** was taken from the Proposed Site Wide Landscape Masterplan (Drawing ref. P10736-00-004-GIL-0101) which is contained as **Drawing 4** and the layout shown on **Drawing 3** was taken from the Proposed Highway Works Lower Richmond Road and Mortlake High Street drawing (Drawing ref. 38262/5514/034) which is contained as **Drawing 5**.
- 8.3. The relationship between the proposed Development and the existing tree stock has been assessed taking into account existing site-specific factors such as topography, waterbodies and existing built form.

### Trees to be Removed

- 8.4. Based on the Development layout shown in **Drawings 4 and 5**, a number of trees will need to be removed, as set out within **Drawings 2 and 3** and detailed within **Table 8-1**. These trees require removal to facilitate construction of the Development layout and / or proposed hard and soft landscape design. The design team has actively sought to restrict tree removals to lower quality trees wherever possible and protect the vast majority of high quality and value 'A' grade trees.

Table 8-1: Trees to be Removed

Category Grading	Tree/Group		Total no. trees or tree groups by Category Grading (all applications)
	Application A	Application B	
A	T29	T64	2
B	T5, T6, T7, T8, T9, T10, T11, T14, T15, T25, T26, T27, T31, T34, T59	T89, T90, T93, T94, T95, T97, T98, T99, T100	24
C	T12, T16, T17, T24, T33, T37, T38, T39, T40, T45, T46, T60, T61, T62, T303, T304	T67, T96	18
U	T22, T28, T30, T32, T35	T68	6
<b>Total</b>	<b>37</b>	<b>13</b>	

- 8.5. A further three trees will be removed as a result of the potential S278 works. T107 (category A) will be removed as it is within the footprint of the realignment works at Chalkers Corner, and T152 and T333 (both category C) will be removed as they would impact the proposed zebra crossing on Mortlake High Street.

### Proposed New Tree Planting

- 8.6. Up to 404 new trees will be provided as an integrated part of the Development as shown within the Site Wide Landscape Plan in **Drawing 4**.
- 8.7. The proposed planting can be broken down into the following landscape types:



- Large feature trees underpin pedestrian avenues and squares, framing the urban sphere by creating a soft backdrop and creating a shaded threshold to any main spaces; Clusters of small feature trees are informally scattered in large green area to provide shade and define more intimate spaces within.
  - The Courtyards: mainly small trees will be chosen for their hardiness in these conditions, light weight and light dappled canopy to ensure their suitability for the conditions encountered.
  - Structural Street Tree Planting: along the streets, tree planting is to be predominantly species with columnar canopies, allowing the trees to be situated in close proximity to the building massing & thereby providing shade and shelter from wind and giving seasonal interest in leaves, bark and form. Interspersed softscape bays and corners are populated with clusters that unify the street scene and define their own character.
  - Augmented tree planting in softscape areas throughout the wider masterplan: these are predominantly of a smaller habit, native species and mixed forms with some multi-stem species that have good seasonal qualities, suited to the spaces and anticipated light levels.
  - Specimen trees: will be interspersed throughout the development in selected parts of pedestrianised areas and in locations which present a good opportunity to host and display trees of particular merit. 7. Native small trees will be located in a grove in the pocket park below the school, providing community access and educational opportunities for students.
- 8.8. The selection will conform to the Borough's Greenscape Guidance - being a varied palette of predominantly native trees, with a sourcing preference for UK stock with adaptability to climate change.

### Trees to be Retained

- 8.9. All remaining trees can be retained and integrated within the landscape masterplan as part of the Development. This includes the retention of several significant features, including the linear avenue of London Plane trees along Ship Lane (T48-T58), the avenue of trees along Lower Richmond Road (T67-T82), the off-Site trees bordering the River Thames (G58) and a number of those along the north-western boundary of the Stag Brewery component of the Site, as discussed below.
- 8.10. T48-T58 along Ship Lane potentially have a long-life expectancy in this location (perhaps 50-100 years+) and their retention within the Development will maintain the amenity, landscape and screening value these trees offer to this location. The Development will also provide the opportunity to improve both the growing conditions and public amenity value of these trees. This is likely to include the careful removal of some / all of the concrete hardstanding surrounding them and carefully demolishing and removing the existing boundary wall to the east of this line of trees, controlled via the implementation of a Site-specific Arboricultural Method Statement (see below).
- 8.11. The retention of trees along Lower Richmond Road (T70-T82) will filter views of the proposed built form within the Stag Brewery component of the Site. These trees would benefit from ongoing management including a gradual programme of replacement planting to ensure the integrity of this tree line is maintained.

### Protection of Existing Trees to be Retained

- 8.12. Where existing trees are retained in proximity to construction work, tree protection will be required to mitigate for potential above and below ground impacts, and to ensure these trees are retained successfully. The factors which most commonly result in below ground damage affecting oxygen diffusion and availability of water, and which therefore must be avoided, include:
- Compaction of the ground;

- Any change in soil levels (even if temporary), including ground excavation and soil stripping;
  - Covering the root zone with impervious surfaces;
  - A rise in the water table level or ground saturation; and
  - Damage by the direct toxicity of some materials (e.g. petrol, oil and lime in cement can kill underlying roots).
- 8.13. Tree protection will generally accord with the recommendations contained within BS5837:2012. The area occupied by the canopy spread or RPA, (whichever is the greater) will be secured as a Construction Exclusion Zone (CEZ) where no unauthorised access or construction operations (including Site compounds / facilities / storage of materials) are permitted in order to protect the ground from compaction or excavation and canopies from physical damage. This will be secured by means of temporary protective fencing as shown in **Drawings 2 and 3** with weatherproof signage as per the examples provided within **Appendices C and D**. Given the urbanised nature of the Site, traditional tree protection fencing will not be a practical solution with regards to certain trees. Instead, temporary tree protection boxes would be installed with weatherproof signage as per the examples provided within **Appendix E** and as shown on **Drawings 2 and 3**.
- 8.14. Where construction or soft landscape works are required within the RPA of retained trees, the area within the canopy spread and / or RPA of these trees (whichever is the greater) would become a **Construction Working Area (CWA)**. All demolition and construction works affecting the CWA (which may include removal of existing hard surfacing, construction of new soft/hard landscape, access for piling activities and / or remediation activities (see paragraph 3.25 below)) would be carefully planned and executed via a Site specific Arboricultural Method Statement, secured via Planning Condition, to manage and minimise damage to the retained trees. Most tree roots can be expected to be found within the upper soil horizons (usually the top 600mm of field soil) and soft landscape operations within the CWA will have regard to the potential presence and protection of tree roots within this location.
- 8.15. Tree protection systems as shown on the **Drawings 2 and 3** are indicative and will be confirmed at the next detailed design stage.
- 8.16. The location / extent of individual CWAs will be identified and marked on Site prior to the commencement of any construction operations. In addition to the principles outlined within BS5837:2012, the Works within the CWAs will be planned and developed using the following method statement:
- Select site access routes and construction plant that can safely access the Site given the physical constraints imposed by the height of the existing retained tree canopies;
  - For construction purposes, systems for the control and suppression of dust, hydrocarbons, cementitious and other phytotoxic elements will be employed to prevent damage to the adjacent trees;
  - Do not store materials or construction plant within the canopy spread or RPA of trees to be retained;
  - In order to minimise damage to shallow tree roots, excavation work within the CWA will be minimised to avoid significant harm to retained tree. No-dig systems would be used where possible with regards to required finished levels;
  - Where existing surface within the CWA is removed, this area will be protected from excessive compaction from people/plant. This will include the use of temporary ground protection and selection of light, tracked plant over heavier, wheeled alternatives;

- Where paving and surfacing systems are proposed within the RPAs of retained trees, consideration has been given to the use of permeable paving/surfacing systems (including resin-bound gravel) in order to assist with the long-term passive infiltration of air and water into the rootzone. Specialist pavement treatments have been designed within the RPAs of retained trees as detailed within the Design and Access statement submitted with the application. With regards to outline application areas, the use of Cellweb TRP systems or similar 3D cellular confinement systems is recommended;
  - Where piling activities are required in proximity to retained trees (i.e. for the construction of basement structures to the west of the canopy spreads/RPAs of T48-57 inclusive along Ship Lane), above and below ground arboreal constraints will be considered and managed within CWAs. This will include careful equipment selection, use of existing hard surfacing for piling mats and / or load-bearing ground protection systems, and consideration to above ground constraints posed by canopy spreads (which may include localised lateral canopy reduction works where required) in accordance with Section 7.5 of BS5837:2012. As detailed above, all works required within CWAs will be carefully planned and executed via Site specific Arboricultural Method Statements, secured via Planning Condition.
  - Where new underground services cannot be routed outside the CWA, excavation for these would be undertaken in line with the principles of Section 7.7 of BS5837:2012, including the use of hand or air-spade to prevent damage to retained tree roots;
  - Where tree roots are encountered during essential ground intrusive works, roots exceeding 25mm diameter should remain undamaged, intact and protected by damp hessian/straw to prevent desiccation prior to backfilling with arisings from the original excavation; and
  - Where tree roots below 25mm diameter are encountered, and cannot be retained, these can be cut with a single, sharp saw to minimise the cut area and potential for ingress of pathogens or diseases. Any torn/damaged roots should similarly be cut back to sound wood with a clean cut.
- 8.17. All ground contamination remediation activities will be carefully managed and considered within proximity to retained trees. As detailed within the Framework Construction Management Plan, the intention is to remove contaminated soils as required in all areas apart from RPAs of retained trees. Whilst a detailed remediation strategy is yet to be produced, a range of remediation strategies will be carefully considered where identified as required within RPAs. This will focus on minimising the impact upon existing trees and will be assessed on a tree-by-tree basis by the project Arboriculturalist. It is considered that minor increases in soil levels are unlikely to result in significant harm to retained trees where such trees currently exist within impermeable hard surfaces (i.e. whilst an increase in soil level may result, access to air, water and nutrients in these locations will likely be improved due to the removal of hard surfacing and replacement with permeable soft landscape).
- 8.18. Should any tree surgery be proposed to retained trees to facilitate construction access, this would be undertaken by an Arboricultural Association Approved Contractor with works compliant with BS3998:2010 and BS5837:2012. Trees to be felled or vegetation to be removed should be clearly marked. Tree work should be timed to avoid the bird nesting season and other potential ecological constraints (e.g. bats), subject to consultation with an ecologist. If required, tree surgery work on trees with deadwood, cavities, split / lifted bark and dense ivy should be carried out under an Ecological Watching Brief. Care should be taken not to damage any surrounding vegetation to be retained.
- 8.19. The tree protection measures recommended above should be managed through an Arboricultural Method Statement (MS), conditioned as part of Planning Approval, that is bespoke to the Site/each application and activities concerned, including detailed construction proposals and final position of fencing / construction working areas as agreed with the Main Contractor.



## **DRAWINGS**

Drawing 1: Tree Survey Plan (Drawing ref. 18671-102-WIE-ZZ-XX-DR\_L\_7701 and 7702)

Drawing 2: Tree Retention and Protection Plan – Applications A and B (Drawing ref. 18671-102-WIE-ZZ-XX-DR\_L\_7703)

Drawing 3: Tree Retention and Protection Plan – S278 Works (Drawing ref. 18671-102-WIE-ZZ-XX-DR\_L\_7704)

Drawing 4: Proposed Site Wide Landscape Rendered Masterplan (Drawing ref. P10736-00-004-GIL-0101)

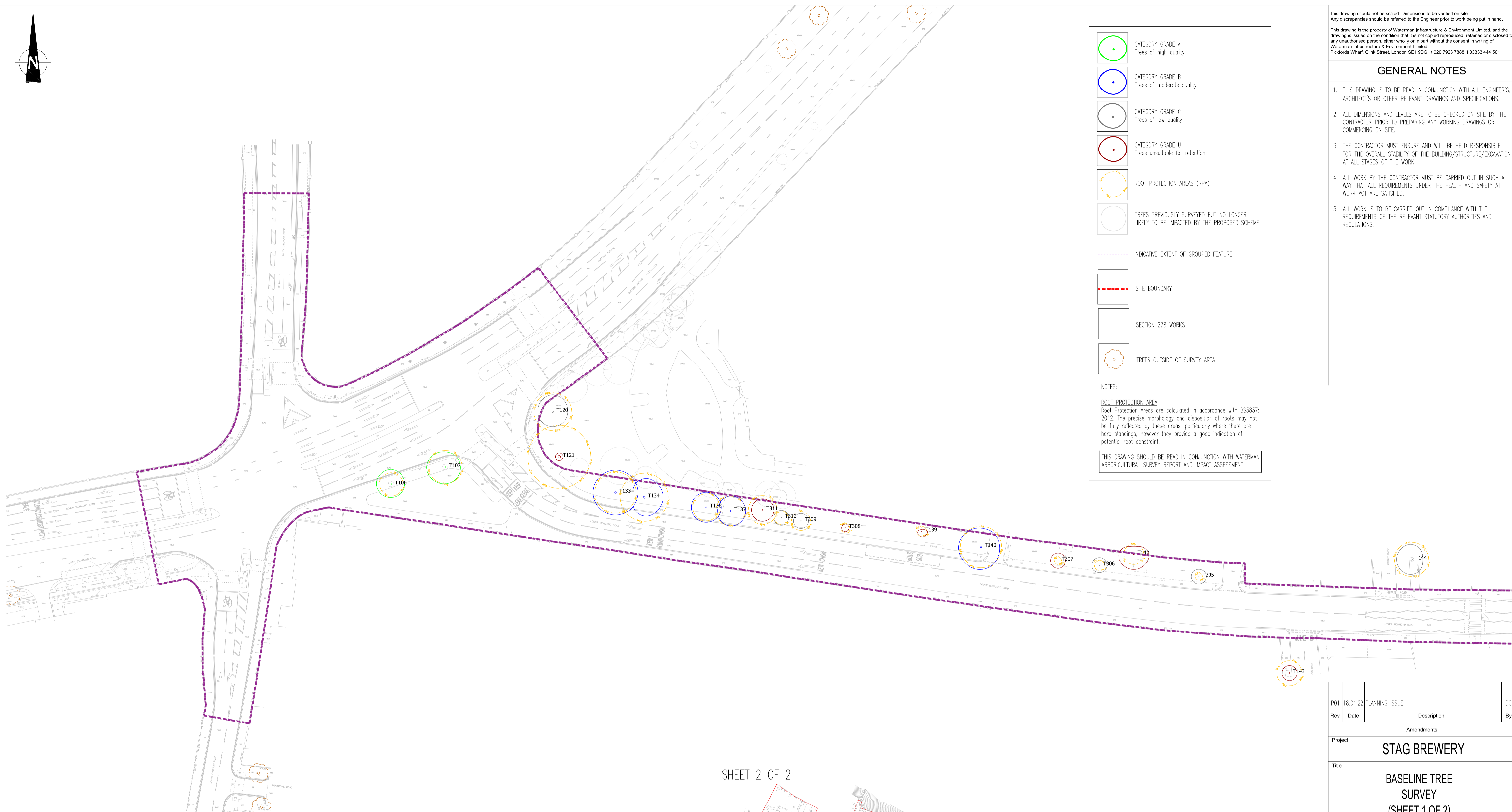
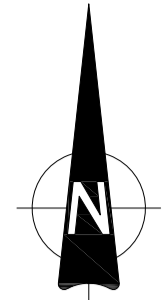
Drawing 5: Proposed Highway Works Lower Richmond Road and Mortlake High Street drawing (Drawing ref. 38262/5514/034).

### **Drawings**

The Former Stag Brewery, Mortlake

Project Number: WIE18671-102

Document Reference: WIE18671-102-R-6-3-2-AIA



**LEGEND**

- CATEGORY GRADE A  
Trees of high quality
- CATEGORY GRADE B  
Trees of moderate quality
- CATEGORY GRADE C  
Trees of low quality
- CATEGORY GRADE U  
Trees unsuitable for retention
- ROOT PROTECTION AREAS (RPA)
- TREES PREVIOUSLY SURVEYED BUT NO LONGER LIKELY TO BE IMPACTED BY THE PROPOSED SCHEME
- INDICATIVE EXTENT OF GROUPED FEATURE
- SITE BOUNDARY
- SECTION 278 WORKS
- TREES OUTSIDE OF SURVEY AREA

**NOTES:**

**ROOT PROTECTION AREA**  
Root Protection Areas are calculated in accordance with BS5837:2012. The precise morphology and disposition of roots may not be fully reflected by these areas, particularly where there are hard standings, however they provide a good indication of potential root constraint.

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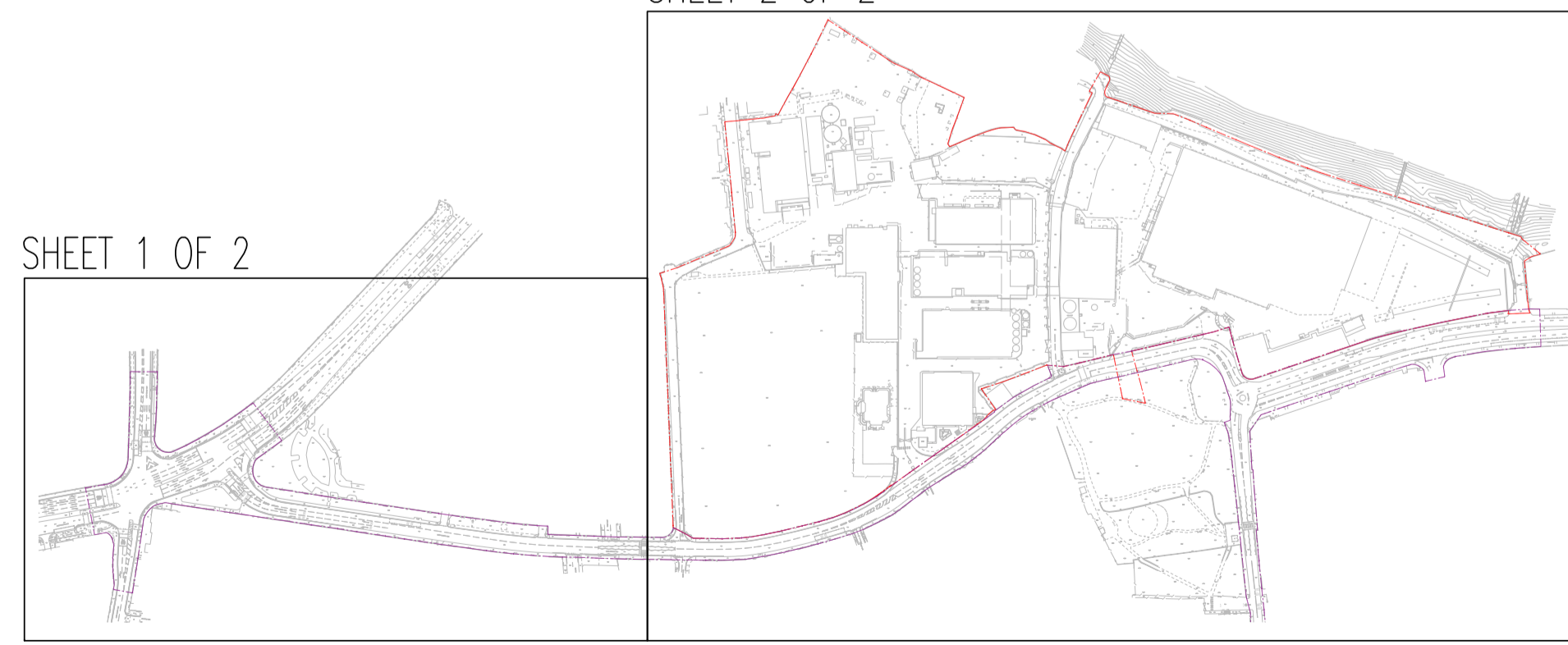
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SHEET 2 OF 2

SHEET 1 OF 2



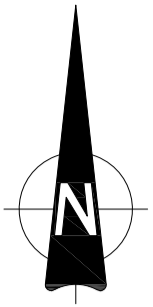
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Project	STAG BREWERY
Title	BASELINE TREE SURVEY (SHEET 1 OF 2)
Client	RESELTON PROPERTIES LIMITED



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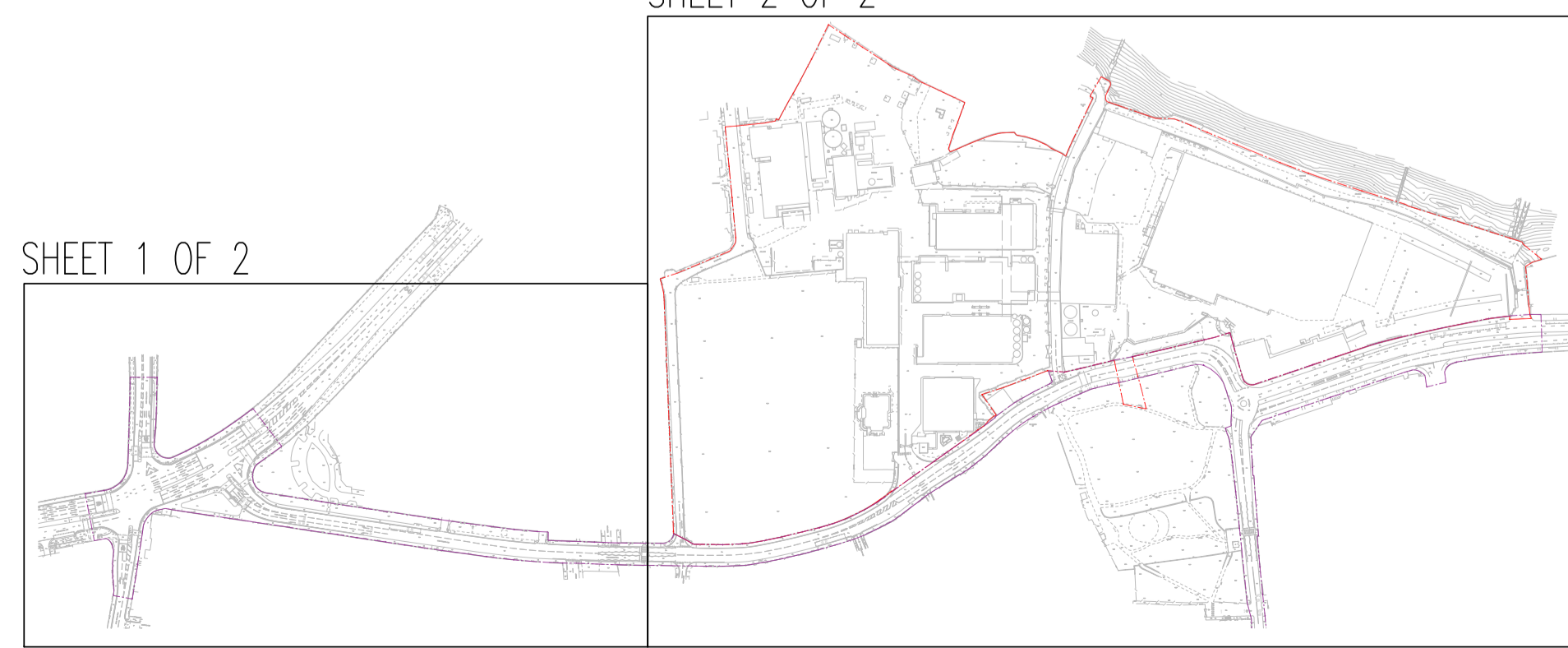
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	ROOT PROTECTION AREAS (RPA)
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	INDICATIVE EXTENT OF GROUPED FEATURE
	SITE BOUNDARY
	SECTION 278 WORKS
	TREES OUTSIDE OF SURVEY AREA

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SHEET 2 OF 2

SHEET 1 OF 2

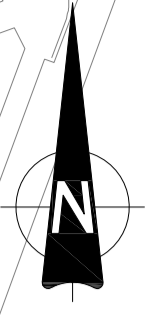
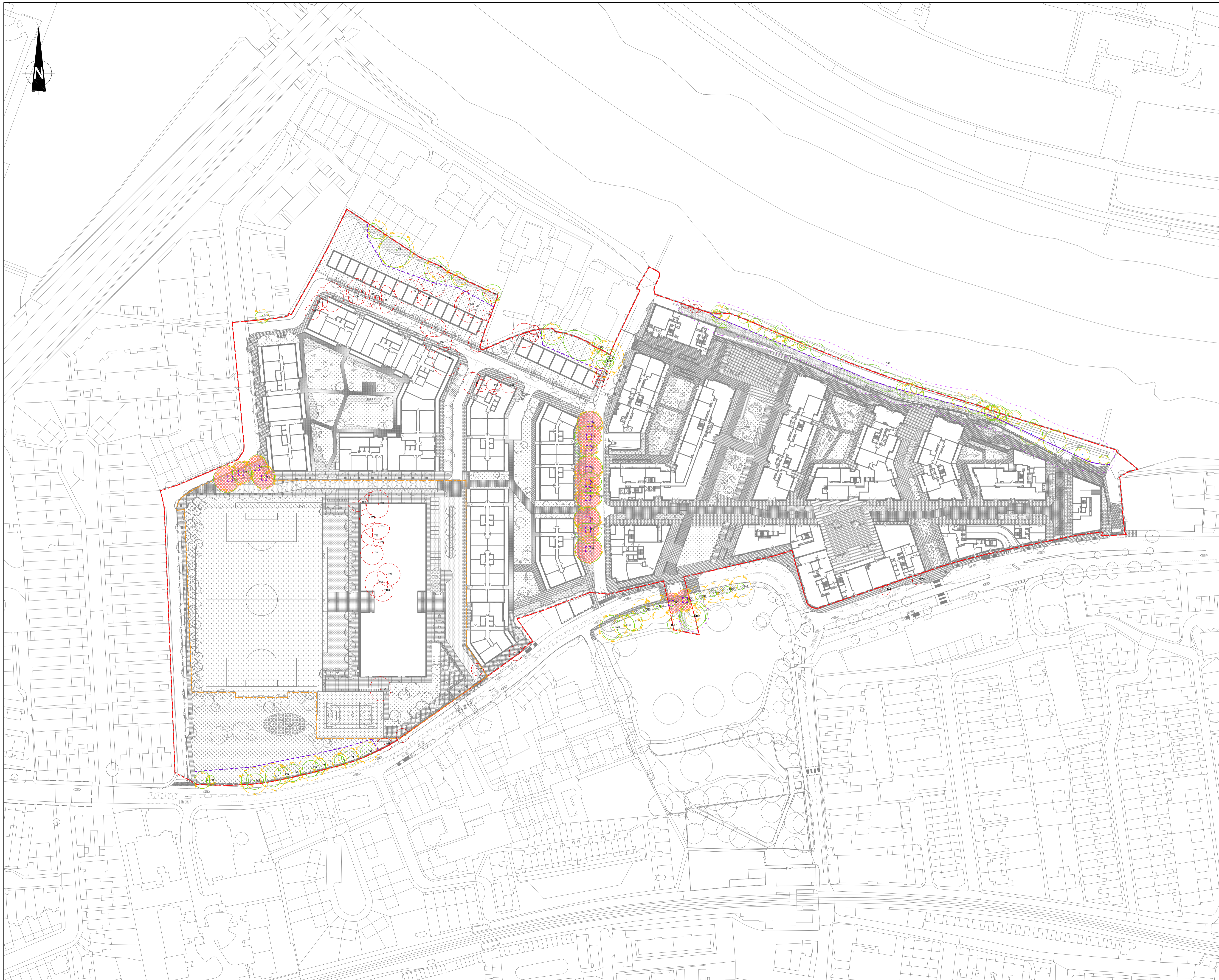


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Project		STAG BREWERY	
Title		BASELINE TREE SURVEY (SHEET 2 OF 2)	
Client		RESELTON PROPERTIES LIMITED	



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**LEGEND**

- TREES TO BE RETAINED
- TREES TO BE REMOVED
- ROOT PROTECTION AREAS (RPA)
- INDICATIVE EXTENT OF GROUPED FEATURE
- TREE PROTECTION FENCING
- TREE PROTECTION BOXES
- CONSTRUCTION WORKING AREA (CWA)
- MASTERPLAN APPLICATION A BOUNDARY
- MASTERPLAN APPLICATION B BOUNDARY

**NOTES:**  
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Rev	Date	Description	By
P01	21.01.22	PLANNING ISSUE	DC
Amendments			

**Project**  
 STAG BREWERY

**Title**  
 MASTERPLAN APPLICATIONS A & B - TREE PROTECTION PLAN

**Client**  
 RESELTON PROPERTIES LIMITED

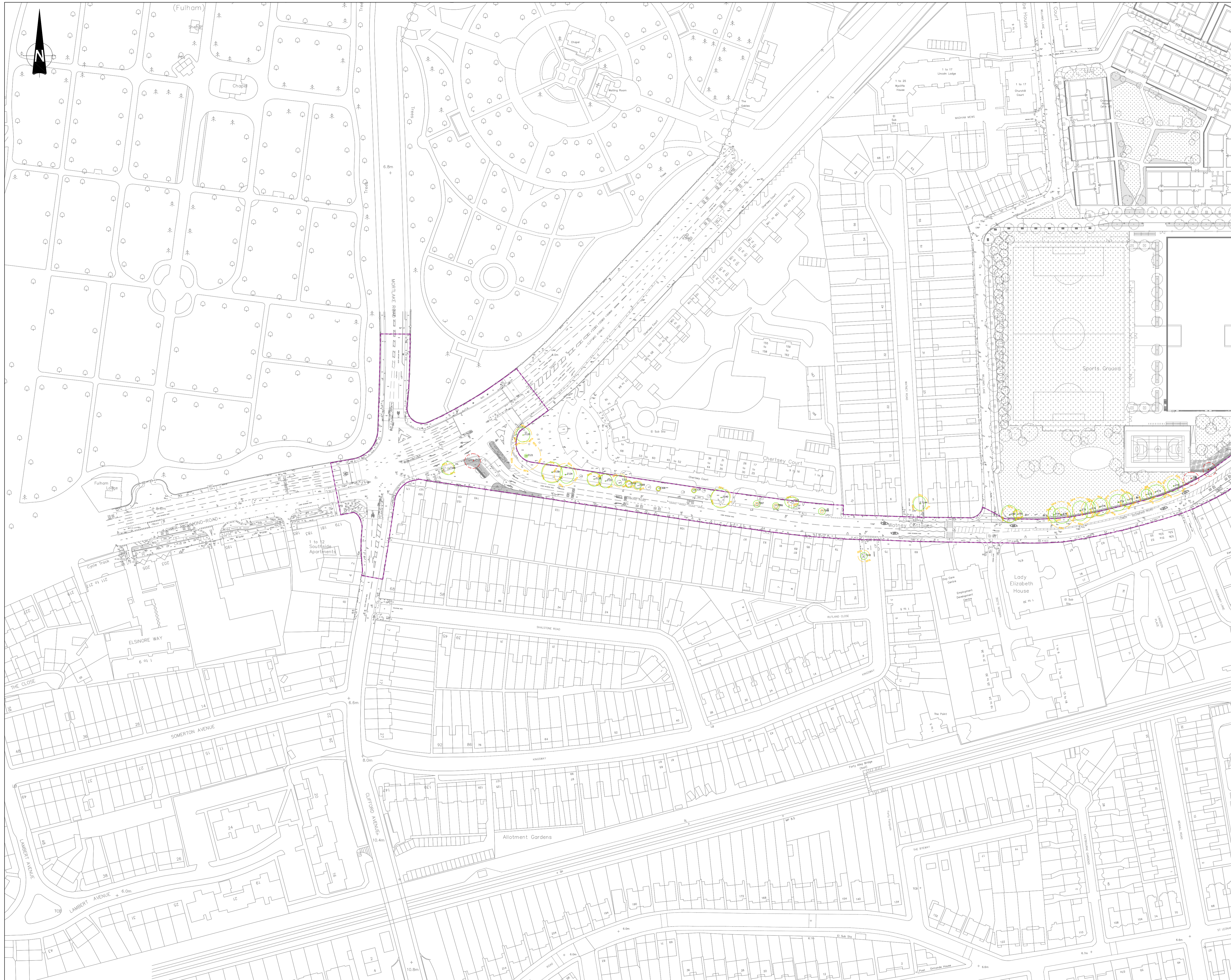


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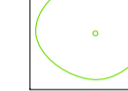
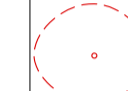





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**LEGEND**

-  TREES TO BE RETAINED
-  TREES TO BE REMOVED
-  ROOT PROTECTION AREAS (RPA)
-  INDICATIVE EXTENT OF GROUPED FEATURE
-  SECTION 278 WORKS

**NOTES:**  
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Rev	Date	Description	By
P01	21.01.22	PLANNING ISSUE	DC

Project: **STAG BREWERY**

Title: **SECTION 278 - TREE PROTECTION PLAN (SHEET 1 OF 2)**

Client: **RESELTON PROPERTIES LIMITED**



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