

Sovereign Distillery, Halewood Business Park, Huyton

Arboricultural Report

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Prepared by: Guy Morrison <i>Arboriculturist</i>		Checked by: Suzanne Stamp <i>Associate Landscape Architect</i>	Approved By: Emily Jones <i>Associate Director Landscape Architect</i>
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1.0 SUMMARY

- 1.1.1 Tetra Tech was commissioned to consider the impact on trees of redevelopment of part of the Sovereign Distillery site in Huyton. This report considers the northern part of the site where it is proposed to construct new industrial units.
- 1.1.2 The assessment is based on a tree survey carried out in accordance with BS5837:2012 which covered the whole site. This report considers trees in and adjacent to the redevelopment area only.
- 1.1.3 The site is set within Halewood Business Park which is located close to Junction 6/1 at the intersection of the M62 and M57 and approximately 10km east of Liverpool city centre.
- 1.1.4 A band of trees on the southern and western boundaries of the wider site are protected by a Tree Preservation Order. These protected trees are not located within or adjacent to the proposed redevelopment site. The site is not located in a Conservation Area.
- 1.1.5 The site was surveyed in August 2021. The survey assessed 43 individual trees and four groups of tree on and adjacent to the area of proposed redevelopment. The individual trees are all located on the site close to the eastern boundary or offsite on the verge of Wilson Road to the east. Three of the groups of trees are areas of self-set scrub in the north-west of the site and the remaining group is a row of Leyland cypress trees on the western boundary.
- 1.1.6 The survey did not identify any trees of high quality and value (BS5837 Category A) within and adjacent to the redevelopment area. Twenty one individually surveyed trees are considered to be of moderate quality and value (BS5837 Category B). A total of 18 individually surveyed trees and all four groups of trees were assessed as being of low quality (BS5837 Category C). Four trees are unsuitable for retention (BS5837 Category U).
- 1.1.7 The proposed redevelopment will require the removal of five individually survey trees and three groups of trees. Of the trees to be removed, two are moderate quality (Category B), two are low quality (Category C) and one is unsuitable for retention (Category U). All of the groups to be removed are areas of scrub of low quality (Category C). In addition, it is also proposed to remove another tree that is unsuitable for retention because of its poor condition.
- 1.1.8 The report includes an Arboricultural Method Statement and Tree Protection Plan, which contain proposals for the protection of the retained trees during redevelopment.

2.0 INTRODUCTION

2.1 Scope & Brief

- 2.1.1 Tetra Tech was commissioned Network Space Ltd to consider the impact on trees of redevelopment of part of the Sovereign Distillery site, Huyton. This report considers the northern part of the site where it is proposed to construct new industrial units.
- 2.1.2 The assessment is based on a tree survey carried out in accordance with BS5837:2012 'Trees in Relation to Design, Demolition and Construction –Recommendations'¹. This determined the size, condition and value of trees, and provided recommendations for remedial work and root protective distances to ensure the future health and stability of retained trees. The survey was carried out in August 2021.
- 2.1.3 This report considers trees in and adjacent to the redevelopment area only. A previous Tree Survey Report² considered trees across the wider site.
- 2.1.4 This report comprises an Arboricultural Impact Assessment of the proposed development and provides an Arboricultural Method Statement for the construction stage of the project. A Tree Protection Plan accompanies the report.
- 2.1.5 The report was prepared by Guy Morrison DipArb(RFS) MICFor MARborA, who is an arboricultural consultant and associate of Tetra Tech.

2.2 Report Limitations

- 2.2.1 Trees were assessed visually from ground level. No climbed inspection, removal of ivy or detailed investigation of decay was made.
- 2.2.2 Some parts of the site were not accessible because of fencing and overgrown vegetation. Therefore, some trees were assessed at a distance and estimates of the condition of the attributes were made. These trees are identified in the survey schedule.
- 2.2.3 Tree condition can change significantly over a relatively short period of time, and therefore the results and recommendations of this survey can only be held to be valid for a period of 18 months following the survey date.

¹BS5837:2012. *Trees in Relation to Design, Demolition and Construction – Recommendations*, British Standards Institute, 2012

² *Tree Survey Report - Sovereign Distillery, Huyton*. Tetra Tech Report, August 2021

3.0 SITE DESCRIPTION

3.1 Site Location & Boundaries

3.1.1 The site is situated approximately 10km east of Liverpool city centre and close to Junction 6/1 at the intersection of the M57 and M62. The site is an existing commercial / industrial site within the Huyton Business Park. OS grid reference for the site centre is SJ 45673 89664.

3.1.2 This report covers the area of proposed redevelopment in the northern part of the site. The extent and location of this area is shown in the Tree Constraints Plan in Appendix D.

3.2 Land Use

3.2.1 The site is an existing industrial / commercial space operating as a drinks bottling and distribution centre. The site contains an area of unused brown field land in the north-west. The site is within a wholly urban setting within the Halewood Business Park.

3.2.2 There is no public access on the site.

3.3 Topography, Geology & Soils

3.3.1 The topography of the land is flat with no significant slopes.

3.3.2 The geology at the site is of mudstone, siltstone and sandstone of the Pennine Middle and Lower Coal Measures Formations³. Superficial deposits of glacial till are recorded.

3.3.3 Soils at the site are recorded as slowly permeable seasonally wet acid loamy and clayey soils⁴. The site has a history of industrial use and soils are likely to be highly altered by this use.

3.4 Statutory Protection & Designation

TREE PRESERVATION ORDER & CONSERVATION AREAS

3.4.1 Knowsley Council confirmed by email (dated 12/08/2021) that the band of trees forming the southern and western boundaries to the wider site are protected by a Tree Preservation Order (TPO No. 2 2001). This TPO corresponds with trees T12-108, and tree groups G1-3 and G17-18. All of these trees are located beyond the area of proposed redevelopment and are not considered in this report.

3.4.2 The site is not located within a Conservation Area.

FELLING LICENCES

3.4.3 Tree felling on non-residential land is also controlled by the need to obtain a tree Felling Licence from the Forestry Commission before felling more than five cubic metres in any calendar quarter

³ <https://mapapps.bgs.ac.uk/geologyofbritain/home>

⁴ www.landis.org.uk/soilscapes/

(e.g. Jan to Mar, Apr to Jun, Jul to Sep and Oct to Dec), as long as no more than two cubic metres are sold, subject to various exemptions and variations⁵. There is an exemption from the need to seek a Felling Licence where tree felling is necessary to implement a scheme that has full planning permission.

PROTECTED SPECIES

- 3.4.4 Trees and scrub provide habitat for a wide range of species, some of which are protected. Most nesting birds and their nests are protected by the Wildlife and Countryside Act 1981 (as amended). All bats and their roosts are protected by the Wildlife and Countryside Act 1981 (as amended) and gain additional protection under the Conservation of Habitats and Species Regulations 2010 (as amended). Birds listed under Schedule 1 of the Wildlife and Countryside Act 1981 are also protected from disturbance when building a nest, nesting, or when dependent young are at or near the nest.

VETERAN TREES

- 3.4.5 Veteran trees gain status in the National Planning Policy Framework 2019⁶. The Woodland Trust's Ancient Tree Inventory⁷ does not hold any records for ancient or veteran trees on or close to the site.

⁵ www.gov.uk/guidance/tree-felling-licence-when-you-need-to-apply

⁶ www.gov.uk/government/collections/revised-national-planning-policy-framework

⁷ <https://ati.woodlandtrust.org.uk/tree-search/>, accessed 29/09/21

4.0 TREE SURVEY

4.1 Methodology

- 4.1.1 The site was visited during August 2021 to carry out an assessment in accordance with BS5837:2012.
- 4.1.2 A topographical survey of the site was supplied and was the basis for the Tree Constraints Plan (Appendix D).
- 4.1.3 The following information was collected for each tree: species, age class, height, stem diameter at 1.5m above ground level, crown spread in the four cardinal directions and height of the crown above the ground (excluding basal sprouts and epicormic branches). Tree age class categories are listed below:
- Young (Y) - <1/3 of life expectancy
 - Semi-mature (SM) - 1/3 – 1/2 of life expectancy
 - Early-mature (EM) – 1/2 - 2/3 of life expectancy
 - Mature (M) - >2/3 of life expectancy
 - Late-mature (LM) - >2/3 of life expectancy, and crown retracting due to age.
- 4.1.4 An assessment was made of the trees' physiological and structural condition, noting any disorders or biomechanical features that present an obvious hazard to present or future users of the site or affect the trees' life expectancy.
- 4.1.5 Preliminary management works were proposed in order to either remove/reduce hazards or promote good future growth of the tree.
- 4.1.6 The trees' overall quality and value for retention was assessed in accordance with BS5837:2012 Table 1 (Appendix C). This was dependent on the trees' physiological and structural condition, safe useful life expectancy and arboricultural, landscape, cultural, ecological value and amenity value (as a function of size, prominence, attractiveness and screening).
- 4.1.7 The Tree Constraints Plan shows the RPA of trees of the individually surveyed trees. The distribution and shape of the RPA reflects the opportunities for rooting available to each tree. Irregularly shaped RPAs have been drawn where there are significant obstacles to rooting caused by buildings or major roads.

4.2 Survey Results - Summary

- 4.2.1 The survey at the wider site considered 211 individual trees and 18 groups of trees. The survey assessed 43 individual trees and four groups of trees on and adjacent to the area of proposed redevelopment which are considered in this report.
- 4.2.2 The individual trees on and adjacent to the area of proposed redevelopment are all located on the site close to the eastern boundary or offsite on the verge of Wilson Road to the east. Three of the groups of trees are areas of self-set scrub in the north-west of the site and the remaining groups is a row of Leyland cypress trees on the western boundary.

4.2.3 The full survey results are given in the survey schedule in Appendix A and the trees are shown on the Tree Constraints Plan (Appendix D).

4.2.4 The most commonly occurring species are sycamore and bastard service tree. The majority of the trees considered in the report are highway trees on the verge of Wilson Road to the east of the site, where these species have been planted. Other species are present in lower numbers where they have been planted on the site. Figure 1 below illustrates the range of species recorded in and adjacent to the area of proposed redevelopment, and the frequency of each species.

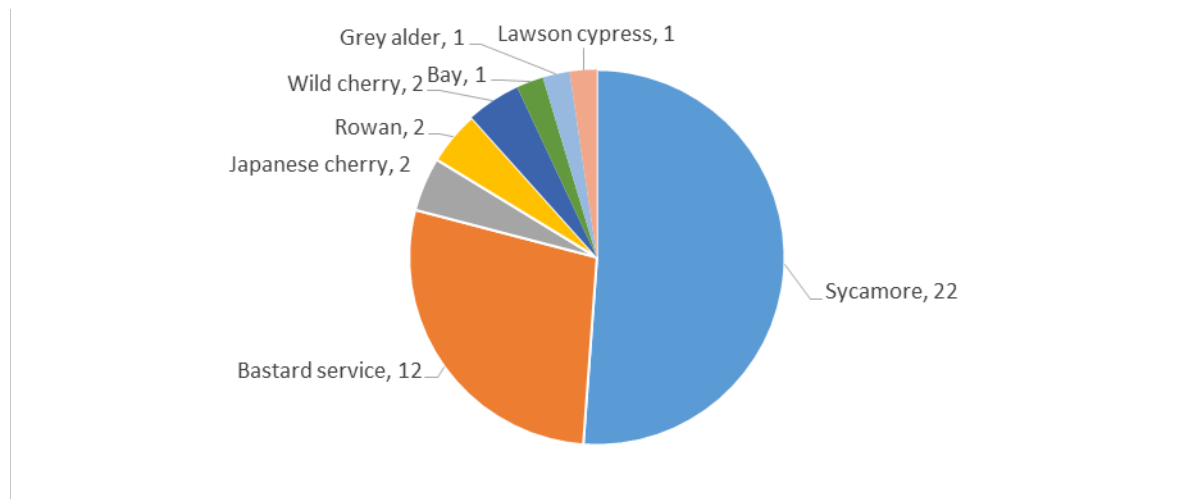


Figure 1: Showing the species mix of trees recorded as individuals in the survey.

4.2.5 The groups at the site are comprised of groups of scrubby, self-set trees dominated by goat willow.

4.2.6 Over half of the individual trees at the site are semi-mature, with a lesser number of early-mature and mature trees. Figure 2 below illustrates the range of age categories recorded in and adjacent to the area of proposed redevelopment, and the frequency of each age category.

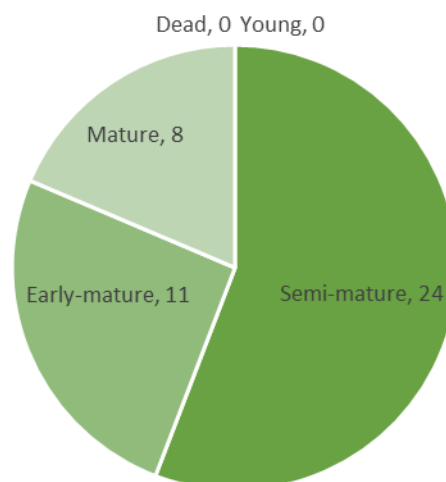


Figure 2: Frequency of age classes among individually surveyed trees

4.3 Survey Results – Quality & Value Category

4.3.1 The individual trees and groups of trees were assigned to Categories A, B, C and U in accordance with BS5837 as summarised in Table 1 below.

Table 1. Number of trees and groups of trees assigned to BS5837 categories.

	No. of Trees	No. of Groups
A Category - High quality & value	0	0
B Category - Moderate quality & value	21	0
C Category - Low quality & value	18	4
U Category - Unsuitable for retention	4	0
<i>Total</i>	<i>43</i>	<i>4</i>

A CATEGORY

4.3.2 None of the trees within and adjacent to the area of proposed redevelopment are considered to be of high quality and value (Category A). Trees in this category would be expected to make a substantial contribution for a period of at least 40 years.

B CATEGORY

4.3.3 A total of 21 individually surveyed trees within and adjacent to the area of proposed redevelopment were assigned to the moderate quality and value category (Category B). Moderate quality trees are likely to make a significant contribution over a period of at least twenty years, although many will have a life expectancy well in excess of this.

4.3.4 The category includes three trees on the site, the grey alder T169 and the wild cherry T170 and T171. The other trees in this category are all highway trees located offsite on the verge of Wilson road to the east. These include the sycamore T186, T190-193, T195-199, T201, T207 and T209, and the bastard service trees T178, T179, T183, T187 and T204.

C CATEGORY

4.3.5 A total of 18 individually surveyed trees and all four groups of trees within and adjacent to the area of proposed redevelopment have been assigned to the low quality and value category (Category C). All these groups are considered to be of low quality and value and the trees and features in this category include smaller and younger trees, and those with defects or limited life expectancy that prevent their assignment to a higher category.

4.3.6 The groups assigned to this category are three groups of scrub dominated by goat willow on brownfield land in the north-west (G13-15) and a tall screen of Leyland cypress planted on the western boundary (G16).

U CATEGORY

4.3.7 Four trees within and adjacent to the area of proposed redevelopment are considered as unsuitable for retention (Category U). These include two Japanese cherry on the site (T174 and T177) which are suffering from severe dieback and decay. The other trees in this category are a sycamore (T205) and bastard service tree (T206) located offsite on the highway verge to the east.

5.0 ARBORICULTURAL IMPACT

5.1 Development Proposal

5.1.1 It is proposed to redevelop the northern part of the site. Existing industrial units will be demolished, and new industrial units constructed on the cleared land, and the brownfield land in the north-west of the site.

5.1.2 The proposed layout is shown on the Tree Protection Plan (Appendix E).

5.2 Tree Removal Impacts

5.2.1 The proposed redevelopment will require the removal of five individually survey trees and three groups of trees. Of the trees to be removed, two are moderate quality (Category B), two are low quality (Category C) and one is unsuitable for retention (Category U). All of the groups to be removed are areas of scrub of low quality (Category C). The trees and groups to be removed are:

- T169 - Grey alder (B)
- T170 - Wild cherry (B)
- T172 – Lawson cypress (C)
- T173 – Bay (C)
- T174 – Japanese cherry (U)
- G13 – Goat willow, ash, elder and hawthorn (C)
- G14 – Goat willow (C)
- G15 – Goat willow (C)

5.2.2 In addition it is also proposed to remove the Japanese cherry T177 because of its condition. The tree has suffered significant dieback and is unsuitable for retention (Category U).

5.3 Impacts on Retained Trees

5.3.1 The proposed redevelopment works will take place beyond the RPA of the retained trees and no impacts on these are envisaged if care is taken to protect the trees during the works, as set out in the Arboricultural Method Statement. Precautions to protect the trees include protective fencing and monitoring by an arboriculturist.

6.0 ARBORICULTURAL METHOD STATEMENT

6.1 Introduction

- 6.1.1 This document provides an Arboricultural Method Statement for redevelopment of land at Sovereign Distillery.
- 6.1.2 This method statement is provided to identify suitable procedures and methodologies to ensure the protection of trees during site works. This method statement does not provide a detailed design or specification for works to and adjacent to trees. It also does not replace the requirement for contractors to prepare a method statement for health and safety purposes.
- 6.1.3 This is a preliminary Arboricultural Method Statement. The following information will be required before it is finalised:
- The location of the construction compound and contractor parking,
 - The drainage layout, and
 - The routing of utility services.

6.2 Responsibilities for Tree Protection

- 6.2.1 The Site Manager shall provide all sub-contractors with a copy of this method statement. Each sub-contractor shall be responsible for ensuring construction and tree protection in line with this method statement.
- 6.2.2 No alteration to the construction method or tree protection measures shall take place without the prior approval of the Site Manager and Arboricultural Consultant.

6.3 Planning Conditions

- 6.3.1 The Local Planning Authority may impose planning conditions relating to the retention and protection of trees on the site. The presence of any tree-related planning conditions will be drawn to the attention of all contractors working on the site where relevant to their task.

6.4 Supervision & Monitoring

- 6.4.1 The developer shall appoint an Arboricultural Consultant to monitor tree protection on the site. The Arboricultural Consultant shall visit the site at the following stages:
- Following the erection of the protective fencing,
 - Every three months during the demolition period, and
 - Following completion of demolition and removal of protective fencing.
- 6.4.2 During each visit, the Arboricultural Consultant will ensure compliance with this method statement and provide a written monitoring report to the Site Manager. All reports will be made available to the LPA.
- 6.4.3 The Site Manager will notify the Arboricultural Consultant of all deviations from this method statement. In such cases, the consultant will visit the site and provide a written report.

6.5 Key Personnel & Contacts

6.5.1 Details on key personnel related to tree protection shall be entered below. This information shall be made available to the LPA prior to the commencement of works on the site.

	Name	Company/ Authority	Contact Details
Project Manager			
Site Manager			
Arboricultural Consultant			
LPA Planning Officer			
LPA Arboricultural Officer			

6.6 Arboricultural Works - Felling & Pruning

6.6.1 Works to the trees are limited to those specified in the arboricultural works schedule (Appendix A). No other work shall take place without the approval of the appointed Arboricultural Consultant.

6.6.2 All arboricultural felling and pruning works will take place in advance of demolition works commencing.

6.6.3 All pruning will only be carried out in accordance with BS3998:2010 'Tree Work – Recommendations'⁸. All arboricultural works will only be carried out by suitably experienced and competent arboricultural contractors.

6.7 Works Compound & Construction Access

6.7.1 Details on the site of the works compound and contractor parking are not currently available. The Arboricultural Consultant will be consulted once this information is available and the Arboricultural Method Statement will be amended.

6.8 Protective Fencing

6.8.1 Protective fencing is required to protect the retained trees during the proposed works on site. Trees are easily damaged, or even killed, on a construction site and the protective fencing will be considered an important and integral part of the development. Protective fencing will be erected before any works take place on site.

6.8.2 Protective fencing will be erected in accordance with the Tree Protection Plan (Appendix E). The area formed contained by the protective fencing will be referred to as the construction exclusion zone.

⁸ BS 3998:2010 *Tree Work – Recommendations*. British Standards Institute, 2010

6.8.3 The Tree Protection Plan includes a detail of the protective fencing to be used. The fence is to comply with BS582012 and is composed of 2.0m weld-mesh panels attached securely by wire or scaffold clamps to a scaffold framework. The scaffold framework shall comprise a vertical and horizontal framework, well-braced against impact. Vertical tubes will be placed at a maximum spacing of 3.0m and driven at least 600mm into the ground.

6.8.4 Within the construction exclusion zone, all damaging operation will be excluded. In particular, the following activities must not take place within the construction exclusion zone:

- changes in levels,
- excavation,
- storage of materials (including soil and rubble),
- movement or parking of plant and vehicles,
- siting of site cabins or other temporary buildings,
- mixing of materials and chemicals, and
- disposal of liquids.

6.8.5 In addition to the above, no herbicides shall be applied within the construction exclusion zone without the consent of the arboricultural consultant and no fires will be lit on the site.

6.8.6 Protective fencing shall remain intact for the full duration of the construction works on each path section. It shall be inspected daily and any damage shall be made good immediately. If it is necessary to make any changes to its position or construction, then prior approval must be sought from the arboricultural consultant, who will inform the LPA.

6.9 Utilities & Drainage

6.9.1 Details on the proposed routing of drains and utility services are not currently available. The Arboricultural Consultant will be consulted once this information is available and the Arboricultural Method Statement will be amended.

6.10 Further Inspection

6.10.1 Trees on and immediately adjacent to the site will be inspected following the completion of construction to identify any further works required.

APPENDICES

APPENDIX A – TREE SURVEY & WORKS SCHEDULE

Tree ID	Common Name	Latin Name	Maturity	Measurement Estimated	Height (m)	Crown Height (m)	Stem Diameter (mm)	Crown Spread N (m)	Crown Spread E (m)	Crown Spread S (m)	Crown Spread W (m)	Crown	Stem	Basal Area	Life Expectancy	Category	Phys Condition	Comments	Work Proposals	RPA Radius (m)	RPA Area (m ²)
T1-168																		Trees beyond the extent of the proposed development and not considered in this report.			
T169	Grey Alder	<i>Alnus incana</i>	Early-mature	No	13.0	3.0	500	3.0	4.0	5.0	5.0	Good	Good	Good	20-40	B2	Good		Fell tree to implement scheme.	6.00	113
T170	Wild Cherry	<i>Prunus avium</i>	Early-mature	No	11.5	3.0	360	7.0	6.0	2.5	6.5	Fair	Good	Good	20-40	B2	Good		Fell tree to implement scheme.	4.32	59
T171	Wild Cherry	<i>Prunus avium</i>	Mature	No	8.0	1.5	540	5.0	4.0	6.0	6.0	Good	Fair	Fair	20-40	B2	Fair			6.48	132
T172	Lawson Cypress cv	<i>Chamaecyparis lawsoniana</i>	Early-mature	Yes	1.0	0.0	50	0.5	0.5	0.5	0.5	Good	Good	Good	10-20	C2	Good	Dwarfing cv.	Fell tree to implement scheme.	0.60	1
T173	Bay	<i>Laurus nobilis</i>	Semi-mature	No	5.0	1.0	120 110	1.5	1.5	1.5	1.5	Good	Good	Good	20-40	C2	Good		Fell tree to implement scheme.	1.95	12
T174	Japanese Cherry	<i>Prunus sp.</i>	Mature	No	6.5	1.5	490	5.0	5.0	4.0	5.0	Fair	Poor	Poor	<10	U	Fair	Extensive decay in lower stem. Brackets of the decay fungus Ganoderma.	Fell tree to implement scheme.	5.88	109
T175	Rowan	<i>Sorbus aucuparia</i>	Semi-mature	No	7.5	1.5	230	3.5	3.0	3.0	3.0	Good	Good	Fair	20-40	C2	Good			2.76	24
T176	Rowan	<i>Sorbus aucuparia</i>	Semi-mature	No	8.0	1.5	290	4.0	4.0	3.5	3.5	Good	Fair	Poor	10-20	C2	Fair	Mower damage at base. Reduced crown density and vigour.		3.48	38
T177	Japanese Cherry	<i>Prunus sp.</i>	Mature	No	6.0	2.5	390	4.0	2.5	4.5	4.5	Poor	Fair	Poor	<10	U	Poor	Dieback in crown. Low crown density and vigour. Decayed buttress roots.	Fell tree in poor condition.	4.68	69
T178	Bastard Service Tree 'Fastigiata'	<i>Sorbus thuringiaca</i> 'Fastigiata'	Early-mature	No	7.0	2.5	300	3.0	3.0	3.0	3.0	Good	Fair	Poor	20-40	B2	Fair			3.60	41
T179	Bastard Service Tree 'Fastigiata'	<i>Sorbus thuringiaca</i> 'Fastigiata'	Early-mature	No	7.5	2.5	290	3.0				Good	Fair	Fair	20-40	B2	Fair			3.48	38

Tree ID	Common Name	Latin Name	Maturity	Measurement Estimated	Height (m)	Crown Height (m)	Stem Diameter (mm)	Crown Spread N (m)	Crown Spread E (m)	Crown Spread S (m)	Crown Spread W (m)	Crown	Stem	Basal Area	Life Expectancy	Category	Phys Condition	Comments	Work Proposals	RPA Radius (m)	RPA Area (m ²)
T180	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	No	4.5	2.5	120	1.0	2.0	2.0	1.0	Poor	Fair	Fair	20-40	C2	Poor	Crown dieback. Recommend removal of dead branches and monitor. Works not proposed to offsite tree.		1.44	7
T181	Bastard Service Tree 'Fastigiata'	<i>Sorbus thuringiaca</i> 'Fastigiata'	Early-mature	No	7.0	2.5	280	2.5	3.0	3.0	3.0	Poor	Fair	Poor	20-40	C2	Poor	Crown dieback. Recommend removal of dead branches and monitor. Works not proposed to offsite tree.		3.36	35
T182	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	No	5.5	2.5	140	2.0	2.5	2.0	2.5	Poor	Fair	Fair	20-40	C2	Poor	Crown dieback. Recommend removal of dead branches and monitor. Works not proposed to offsite tree.		1.68	9
T183	Bastard Service Tree 'Fastigiata'	<i>Sorbus thuringiaca</i> 'Fastigiata'	Early-mature	No	6.5	2.5	250	2.5	3.0	2.5	2.5	Good	Fair	Fair	20-40	B2	Fair			3.00	28
T184	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	No	6.0	3.0	150	1.5	2.5	2.0	1.5	Poor	Fair	Fair	20-40	C2	Poor	Crown dieback. Recommend removal of dead branches and monitor. Works not proposed to offsite tree.		1.80	10
T185	Bastard Service Tree 'Fastigiata'	<i>Sorbus thuringiaca</i> 'Fastigiata'	Early-mature	No	7.0	2.5	310	2.5	3.0	3.0	3.0	Fair	Fair	Poor	20-40	C2	Poor	Recent mower damage. Crown dieback.		3.72	43
T186	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	No	6.5	3.0	210	2.0	3.0	1.5	2.0	Good	Fair	Fair	>40	B2	Fair			2.52	20
T187	Bastard Service Tree 'Fastigiata'	<i>Sorbus thuringiaca</i> 'Fastigiata'	Early-mature	No	7.0	2.5	290	2.5	3.0	3.0	3.0	Good	Fair	Fair	20-40	B2	Fair			3.48	38

Tree ID	Common Name	Latin Name	Maturity	Measurement Estimated	Height (m)	Crown Height (m)	Stem Diameter (mm)	Crown Spread N (m)	Crown Spread E (m)	Crown Spread S (m)	Crown Spread W (m)	Crown	Stem	Basal Area	Life Expectancy	Category	Phys Condition	Comments	Work Proposals	RPA Radius (m)	RPA Area (m ²)
T188	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	No	5.5	2.5	170	2.0	2.5	2.0	2.0	Good	Poor	Fair	20-40	C2	Fair	Recent stem impact wound		2.04	13
T189	Bastard Service Tree 'Fastigiata'	<i>Sorbus thuringiaca 'Fastigiata'</i>	Early-mature	No	6.5	2.5	280	2.0	3.0	3.0	2.5	Good	Poor	Fair	10-20	C2	Fair	Stem impact wound		3.36	35
T190	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	No	8.5	3.0	250	2.0	3.0	2.0	2.5	Good	Fair	Fair	>40	B2	Fair			3.00	28
T191	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	No	8.5	3.0	300	3.0	3.5	4.0	4.0	Good	Fair	Fair	>40	B2	Fair			3.60	41
T192	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	No	8.5	3.0	240	3.0	3.0	3.0	3.0	Good	Fair	Fair	>40	B2	Fair			2.88	26
T193	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	No	7.5	3.0	240	2.0	3.0	3.0	3.0	Good	Fair	Poor	>40	B2	Fair	Mower damage at base		2.88	26
T194	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	No	8.5	3.0	300	3.5	3.5	4.0	3.5	Good	Fair	Fair	>40	C2	Fair			3.60	41
T195	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	No	8.5	3.0	250	3.0	3.0	3.0	3.0	Good	Poor	Fair	>40	B2	Fair			3.00	28
T196	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	No	8.5	3.0	310	3.0	3.5	4.0	3.5	Good	Fair	Fair	>40	B2	Good			3.72	43
T197	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	No	11.0	3.0	330	3.5	4.0	4.0	3.5	Good	Fair	Fair	>40	B2	Good			3.96	49
T198	Sycamore	<i>Acer pseudoplatanus</i>	Early-mature	No	10.0	3.0	350	3.0	4.5	4.5	4.5	Good	Fair	Fair	>40	B2	Good			4.20	55
T199	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	No	10.0	3.0	380	4.0	5.0	4.0	4.5	Good	Fair	Fair	>40	B2	Good			4.56	65
T200	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	No	9.0	2.5	290	2.5	3.5	3.5	3.5	Good	Fair	Fair	>40	C2	Good			3.48	38
T201	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	No	9.5	3.5	280	2.5	3.5	3.5	3.0	Good	Fair	Fair	>40	B2	Fair			3.36	35

Tree ID	Common Name	Latin Name	Maturity	Measurement Estimated	Height (m)	Crown Height (m)	Stem Diameter (mm)	Crown Spread N (m)	Crown Spread E (m)	Crown Spread S (m)	Crown Spread W (m)	Crown	Stem	Basal Area	Life Expectancy	Category	Phys Condition	Comments	Work Proposals	RPA Radius (m)	RPA Area (m ²)
T202	Bastard Service Tree 'Fastigiata'	<i>Sorbus thuringiaca</i> 'Fastigiata'	Mature	No	7.5	3.0	370	3.5	4.0	3.0	3.5	Good	Fair	Poor	10-20	C2	Fair	Mower damage at base		4.44	62
T203	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	No	7.0	3.0	150	1.5	3.0	1.5	3.5	Good	Fair	Fair	>40	C2	Fair			1.80	10
T204	Bastard Service Tree 'Fastigiata'	<i>Sorbus thuringiaca</i> 'Fastigiata'	Mature	No	7.5	7.0	390	3.0	3.5	3.5	3.5	Good	Fair	Fair	20-40	B2	Fair			4.68	69
T205	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	No	7.5	2.5	220	2.0	4.0	2.0	3.0	Good	Poor	Fair	<10	U	Fair	Significant stem decay at 1m. Mower damage at base. Recommended that highway tree is felled but work not proposed at is located off-site.		2.64	22
T206	Bastard Service Tree 'Fastigiata'	<i>Sorbus thuringiaca</i> 'Fastigiata'	Mature	No	7.0	3.0	420	2.0	4.0	4.0	4.0	Poor	Fair	Fair	<10	U	Poor	Significant crown dieback. In decline. Recommended that highway tree is felled but work not proposed at is located off-site.		5.04	80
T207	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	No	7.5	3.0	210	2.0	3.5	2.0	3.5	Good	Poor	Fair	>40	B2	Fair			2.52	20
T208	Bastard Service Tree 'Fastigiata'	<i>Sorbus thuringiaca</i> 'Fastigiata'	Mature	No	7.5	3.0	370	3.5	4.0	4.0	3.5	Fair	Fair	Fair	10-20	C2	Poor	Dieback of inner crown.		4.44	62
T209	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	No	7.0	3.0	190	2.0	3.0	2.5	2.5	Good	Fair	Fair	>40	B2	Fair			2.28	16
T210	Bastard Service Tree 'Fastigiata'	<i>Sorbus thuringiaca</i> 'Fastigiata'	Mature	No	7.0	3.0	320	2.0	4.0	3.0	3.0	Poor	Fair	Fair	10-20	C2	Fair	Crown dieback. Recommend removal of dead branches and monitor. Works not proposed to offsite tree.		3.84	46

Tree ID	Common Name	Latin Name	Maturity	Measurment Estimated	Height (m)	Crown Height (m)	Stem Diameter (mm)	Crown Spread N (m)	Crown Spread E (m)	Crown Spread S (m)	Crown Spread W (m)	Crown	Stem	Basal Area	Life Expectancy	Çategory	Phys Condition	Comments	Work Proposals	RPA Radius (m)	RPA Area (m ²)
T211	Sycamore	<i>Acer pseudoplatanus</i>	Semi-mature	No	4.5	2.5	110	2.0	2.0	2.0	2.0	Fair	Fair	Fair	>40	C2	Fair			1.32	5

Tree ID	Common Name (* - dominant species)	Maturity	Measurement Estimated	Height (m)	Crown Height (m)	Stem Diameter (mm)	Crown Spread (m)	Crown	Stem	Basal Area	Life Expectancy	Category	Phys Condition	Comments	Work Proposals	Root Protection Area
G1-12														Groups of trees and shrubs beyond the extent of the proposed development and not considered in this report.		
G13	Goat Willow*, Ash, Elder, Hawthorn	Mature	Yes	4-7	>0	<10 MS	2-4	Good	Good	Good	20-40	C2	Good	Scattered scrub. No access. Viewed at distance.	Remove trees to implement scheme.	Crown spread +1m
G14	Goat Willow*	Mature	Yes	4-7	>0	<100 MS	2-4	Good	Good	Good	20-40	C2	Good	Scattered scrub. No access. Viewed at distance.	Remove trees to implement scheme.	Crown spread +1m
G15	Goat Willow*	Mature	Yes	4-7	>0	<100 MS	2-4	Good	Good	Good	20-40	C2	Good	Scattered scrub. No access. Viewed at distance. Dead wych elm located off-site nearby requires felling	Remove trees to implement scheme.	Crown spread +1m
G16	Leyland Cypress*	Early-mature	No	8-10	>0	200-300	1.5	Fair	Fair	Good	20-40	C2	Good	Leyland cypress forming a screen on boundary. Previously topped and further attempts to cut back by neighbours. Consider removal with redevelopment.		Crown spread +1m
G17-18														Groups of trees and shrubs beyond the extent of the proposed development and not considered in this report.		

APPENDIX B – SPECIES LIST & POTENTIAL TREE HEIGHTS

Species List & Potential Tree Heights

Species	Common name	Potential height (m)
<i>Acer pseudoplatanus</i>	Sycamore	22*
<i>Betula pendula</i>	Silver birch	18
<i>Buddleja davidii</i>	Buddleia	5
<i>Castanea sativa</i>	Sweet chestnut	24*
<i>Prunus avium</i>	Wild cherry	17*
<i>Quercus petraea</i>	Sessile oak	20*
<i>Quercus robur</i>	English oak	20*
<i>Sorbus aria</i>	Whitebeam	12*
<i>Sorbus aucuparia</i>	Rowan	11*
<i>Sorbus x intermedia</i>	Swedish whitebeam	12
<i>Salix caprea</i>	Goat willow	14
<i>Sambucus nigra</i>	Elder	10*
<i>Ulmus glabra</i>	Wych elm	12

* - Typical mature height given by NHBC Chapter 4.2⁹

⁹ www.nhbc.co.uk/Builders/ProductsandServices/Standardsplus2019/#44

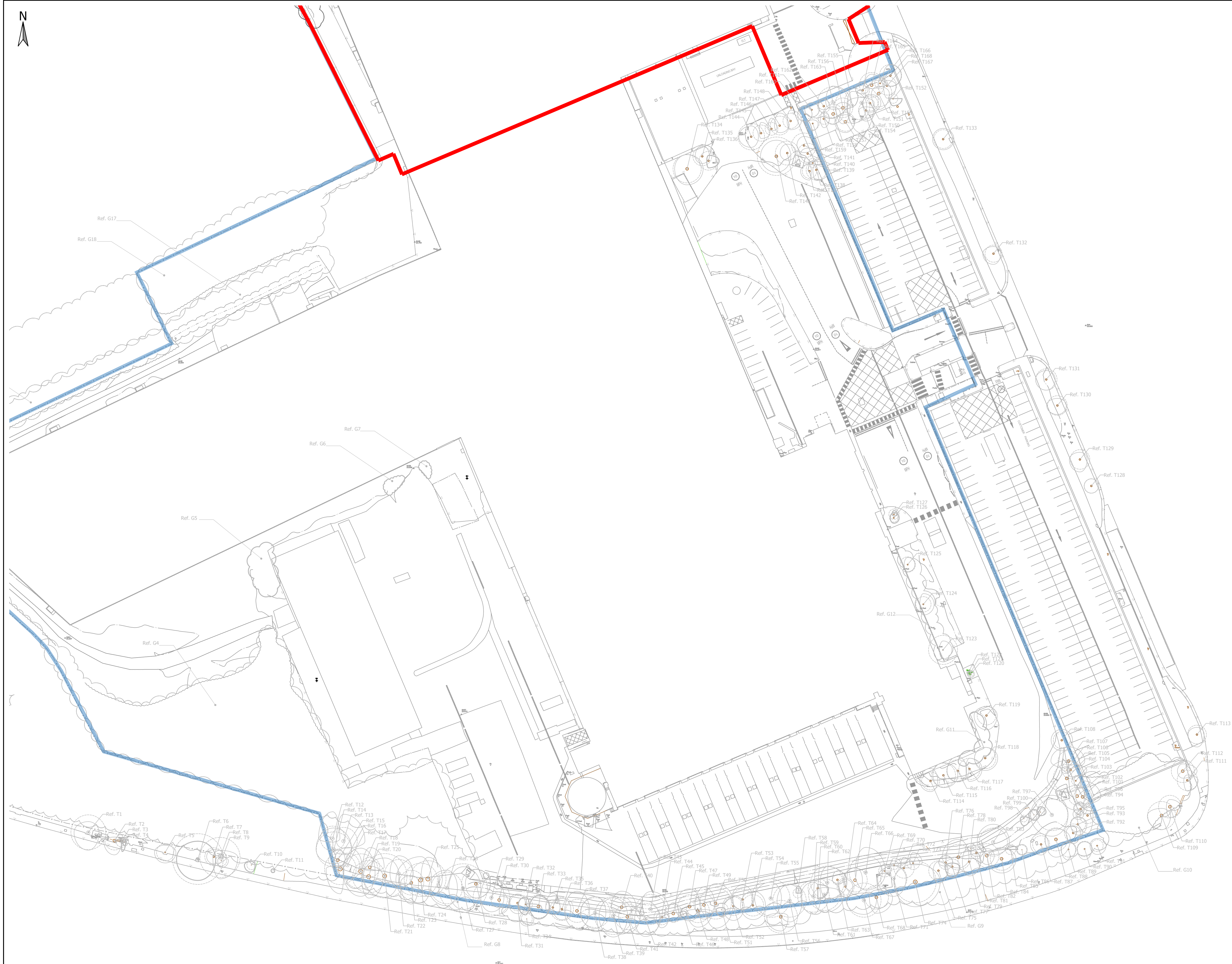
APPENDIX C – TREE QUALITY & VALUE ASSESSMENT CATEGORIES

Tree Quality & Value Categories

(from BS5837:2012, Table 1 – ‘Cascade chart for tree quality assessment’)

Category and definition	Criteria (including subcategories where appropriate)			Plan colour
Trees unsuitable for retention				
Category U 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	- Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) - Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline - Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve</i>			Dark red
TREES TO BE CONSIDERED FOR RETENTION				
	1. Mainly arboricultural values	2. Mainly landscape values	3. Mainly cultural values, including conservation	
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; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	Light green
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	Mid blue
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young 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	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	Grey

APPENDIX D – TREE CONSTRAINTS PLAN



KEY

Ref. 3 TREE REFERENCE

Ref. G1 GROUP REFERENCE

Ref. H1 HEDGE REFERENCE

CATEGORY A (GREEN) TREES
Trees of high quality with an estimated remaining life expectancy of at least 40 years

CATEGORY B (BLUE) TREES
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years

CATEGORY C (GREY) TREES
Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm

CATEGORY U (RED) TREES
Trees in such a condition that they cannot be realistically be retained as living trees in the context of the current land use for longer than 10 years

ROOT PROTECTION AREA (RPA)
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

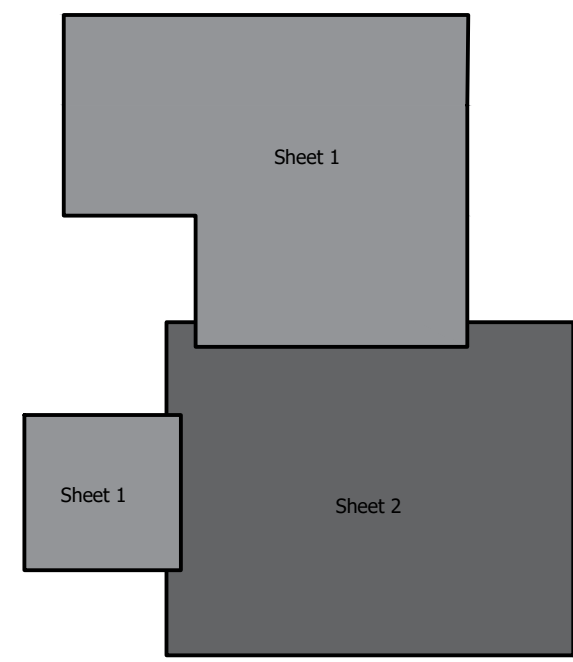
CATEGORY A TREE GROUP OR HEDGE

CATEGORY B TREE GROUP OR HEDGE

CATEGORY C TREE GROUP OR HEDGE

CATEGORY U TREE GROUP OR HEDGE

- Notes:
- Tree constraints plan based on topographical survey by Greenhatch Group, drawing no. 40493_T Rev0 dated 10.06.21
 - Tree position uses topographical survey data and is scaled to best fit the proposed site plan which is based on Ordnance Survey background mapping to determine arboricultural impact. Tree position should be verified on site before works are undertaken



PRELIMINARY ISSUE

Rev	Description	Date	Drawn	Checked	Approved
P01	FIRST ISSUE	01.03.22	DV	SS	EJ
D01	DRAFT ISSUE	19.08.21	DV	SS	EJ

Issuing Office

Tetra Tech Cardiff
5th Floor, Longcross Court,
47 Newport Road, Cardiff,
United Kingdom, CF24 0AD
Tel: +44 (0)29 2082 9200
www.tetrateteurope.com

TETRA TECH

Client

NETWORK SPACE LTD

Project Name

SOVEREIGN DISTILLERY

Sheet Title

TREE CONSTRAINTS PLAN

TTE Project Number	Drawn By	Date	Checked By	Date	Approved By	Date	Scale @ A1	Subsidiary
B029681	DV	Feb 2022	SS	Feb 2022	EJ	Feb 2022	1:500	S3

Client Project Number	Originator	Volume/System	Level/Location	Type/Code	Role	Number	Revision
PRJ01	- TTE	- 00	- ZZ	- DR	- L	- TCP1	D01

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APPENDIX E – TREE PROTECTION PLAN

APPENDIX F – REPORT CONDITIONS

Arboricultural Report – Sovereign Distillery

This report is produced solely for the benefit of Network Space Ltd, and no liability is accepted for any reliance placed on it by any other party unless specifically agreed by us in writing.

This report is prepared for the proposed uses stated in the report and should not be relied upon for other purposes unless specifically agreed by us in writing. In time technological advances, improved practices, fresh information or amended legislation may necessitate a re-assessment. Opinions and information provided in this report are on the basis of Tetra Tech using reasonable skill and care in the preparation of the report.

This report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times.

This report is limited to those aspects reported on, within the scope and limits agreed with the client under our appointment. It is necessarily restricted and no liability is accepted for any other aspect. It is based on the information sources indicated in the report. Some of the opinions are based on unconfirmed data and information and are presented accordingly within the scope for this report.

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Although care is taken to select monitoring and survey periods that are typical of the environmental conditions being measured, within the overall reporting programme constraints, measured conditions may not be fully representative of the actual conditions. Any predictive or modelling work, undertaken as part of the commission will be subject to limitations including the representativeness of data used by the model and the assumptions inherent within the approach used. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions.

The potential influence of our assessment and report on other aspects of any development or future planning requires evaluation by other involved parties.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. Tetra Tech accept no liability for issues with performance arising from such factors.

October 2021

Tetra Tech Limited