

Infrastructure Projects

Northern Programmes



Transpennine Route Upgrade

Work Package 1 – Manchester Victoria to Stalybridge

Clayton Vale Park

ELR: MVL1 3miles 20 Chains (approx.)

Arboricultural Impact Assessment Report

Network Rail

Reference No: 151667-TSA-00-TRU-REP-W-LP-000054

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Approval and Authorisation

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All references made within this document were considered correct at time of approval.

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1. INTRODUCTION

- 1.1.1 This Arboricultural Impact Assessment (AIA) has been produced by Waterman Infrastructure & Environment Limited (Waterman) and pertains to a land parcel adjacent to the railway corridor in Clayton Vale Park, Clayton, Manchester (MVL1 3m 20 ch (approx.); central Ordnance Survey national grid reference (OSNGR) SJ 88949 99538). The area surveyed was approximately 1.5 ha and is hereafter referred to as the 'Site'.
- 1.1.2 Works (hereafter referred to as the 'proposed works') will include the creation of a new attenuation tank within the Network Rail boundary and a drain linking the attenuation tank with an existing watercourse within Clayton Vale Nature Reserve.
- 1.1.3 The purpose of this AIA is to evaluate the direct and indirect effects of the proposed works on the tree stock present both on and adjacent to the Site. In line with Annex B of BS5837, it also contains sufficient information to be submitted in support of any planning application pertinent to the Site and the design layout shown in **Figure 1** of this report.
- 1.1.4 Tree surveys in accordance with *British Standard BS5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations*¹ (BS5837) have been undertaken at the Site to identify constraints posed by existing trees where it is felt they may be impacted by proposed works. The above and below ground constraints posed by the canopy shape and subterranean rooting area of the surveyed trees are described within **Appendix E** of this report and are supplemented by Arboricultural Constraints Plans which are included in **Appendix A** of this report.

¹ BS5837:2012 Trees in relation to design, demolition and construction – Recommendations, 2012, British Standards Institution.

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2. TREE SURVEY METHODOLOGY

- 2.1.1 A tree survey of the Site was carried out by a qualified and experienced Arboriculturist on 10th November 2021. The tree survey methodology followed the recommendations set out in BS5837.
- 2.1.2 In the absence of a topographical survey, the tree survey is based upon the National Tree Map provided by Bluesky International Limited. The locations of individual trees and the start and end points of groups, woodlands and hedgerows were plotted using proprietary Geographical Information System (GIS) data capture software on Global Positioning System (GPS)-enabled hand-held mobile devices, with the National Tree Map, GIS locations and aerial imagery used to substantiate tree locations.
- 2.1.3 The survey involved collecting the following information on all trees with a stem diameter over 75mm in diameter located within the Site.

2.2 Tree numbers

- 2.2.1 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'. Woodlands have been recorded with the prefix 'W'. The term 'feature' is used within this report to collectively refer to trees and groups within the Site.

2.3 Species

- 2.3.1 Species are listed by both their common name and Latin name in the Schedule of existing trees in Appendix B and by their common name only in the body of the report.

2.4 Height

- 2.4.1 Tree heights are approximate and estimated in metres. For grouped features, the maximum height has been recorded.

2.5 Stem diameter

- 2.5.1 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 was made.
- 2.5.2 Where trees are recorded as groups, the average stem diameter has been recorded.

2.6 Crown spread

- 2.6.1 Radial crown spread of individual trees is given in metres to the nearest 0.5m (rounded up). Where average measurements are used for all four cardinal points, this has been taken from the cardinal point relevant to the direction of the Site and is deemed sufficient by the Arboriculturist to establish the extent of the crown spread in the direction of any future proposals. For significant trees or trees with unbalanced canopies, crown spread has been recorded for each of the four cardinal points. Where direct access was not available, the spread is a visual estimate.

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2.7 First significant branch height and canopy

- 2.7.1 The height and direction of growth of the first significant branch is recorded along with the average height above ground in metres of 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.

2.8 Age class

- 2.8.1 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 characteristics²

2.9 Physiological and structural condition

- 2.9.1 The physiological and structural condition of each tree and tree group is described, highlighting specific features. The survey involved ground level examination of the external features of the trees. The structural condition for each feature is described as being Good, Fair or Poor and the physiological condition is described as Good, Fair, Poor, Moribund or Dead.
- 2.9.2 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 feature was not possible, an estimation of physiological and structural condition has been made.

2.10 Estimated Remaining Contribution (ERC) in years

- 2.10.1 The Estimated Remaining Contribution (ERC) for each feature 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.

2.11 Category Grading

- 2.11.1 Each feature was given a Category Grading in accordance with BS5837 to reflect the overall arboricultural value. Further details of the tree categorisation method can be found in **Appendix D** and Section 4 of this report.

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

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2.12 Preliminary management recommendations

- 2.12.1 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). Any work undertaken by the contractor should be in accordance with best practice, such as the European Tree Pruning Guide³, or required by BS3998: 2010 'Tree work – recommendations'⁴.
- 2.12.2 Where management recommendations are made, they are accompanied by a recommended timeframe in which they should be undertaken.

³ European Tree Pruning Guide, 2001, Arboricultural Association

⁴ BS3998:2010 'Tree work - recommendations', 2010, BSI

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3. LIMITATIONS

- 3.1.1 Where access restrictions were encountered, trees were recorded from positions of safety or from available vantage points.
- 3.1.2 Trees were visually identified and inspected from ground level only with no climbing, boring or core sampling undertaken. All measurements are metric and approximate. Species identification and any comments made are based on observable factors present at the time of inspection and are subject to seasonal constraints.
- 3.1.3 The validity and accuracy of tree locations is directly related to the accuracy of the National Tree Map, available aerial imagery and GPS-enabled GIS data capture software used. As such, the accuracy of the tree locations shown in **Appendix A** and **B** may need verifying where reliance is to be placed on exact locations for construction purposes. Where tree groups have been illustrated as an outline, this covers the extents of the tree group and does not illustrate the locations of individual trees within.
- 3.1.4 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.
- 3.1.5 This report is not intended to confirm the safety (or otherwise) of surveyed trees or tree groups or be a tree risk management survey. 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 1984⁵.
- 3.1.6 This report does not comment on possible effects of trees on neighbouring properties, including in relation to subsidence or heave, with regard to the possible hazards presented by the trees surveyed. Furthermore, the design and construction of new foundations 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 Standards⁶.
- 3.1.7 Owing to the changing nature of trees as living organisms and other site circumstances, the results detailed in this report are reflective of the date of capture. Any alteration to the surveyed areas or development proposals could change the current circumstances and may invalidate this report and any recommendations made.

⁵ Occupiers' Liability Act 1957 and 1984. HMSO

⁶ <http://www.nhbc.co.uk/Builders/ProductsandServices/TechZone/NHBCStandards/>

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4. EXISTING TREE DATA

4.1 Quality Category Grading

4.1.1 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 C. Table 4-1 summarises the arboricultural features within the Site by category;

- **Category Grading A:** Trees of high quality and value (with an estimated remaining life expectancy of at least 40 years);
- **Category Grading B:** Trees of moderate quality and value (with an estimated remaining life expectancy of at least 20 years);
- **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); and
- **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.

4.2 Existing tree stock

- 4.2.1 The tree stock considered within this report predominantly forms a well-established area of woodland growing on an embankment face to the south of the railway. In general, that woodland comprises an area of early mature trees with the dominant species being common ash, although other species such as alder, grey poplar, English oak, silver birch and hybrid black poplar are also present. This woodland is referred to as woodland W22 in the tree survey schedule contained as **Appendix E**.
- 4.2.2 Within and adjacent to W22 a number of trees have been recorded as individual trees in **Appendices A, B and E**. These trees were recorded as individual trees as they were felt to be significantly different, in either size or species, to the general nature of the trees within the woodland.
- 4.2.3 To the south-west of the Site, the surveyed trees formed a woodland belt along the banks of the River Medlock and there were also a number of scattered trees within a more formal part of Clayton Vale Nature Reserve. These trees were recorded as this area was originally being considered for access to the Site, however this is no longer the case and the trees will therefore be unaffected.



Photograph 1: View looking east along railway boundary with W22 to the left and trees T9 to T12 in the background



Photograph 2: Trees T1 to T4

- 4.2.4 A summary of arboricultural features recorded within, or immediately adjacent to, the Site is provided in Table 4-1. Further details of each feature can be found in **Appendix E**.

Table 4-1 Summary of arboricultural features by category

Type of feature	Number of features by BS5837 category				
	Cat. A	Cat. B	Cat. C	Cat. U	Total
Trees	0	27	7	2	36
Groups	1	2	1	0	4
Woodlands	2	0	0	0	2
Total	3	29	8	2	42

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5. ARBORICULTURAL CONSTRAINTS

5.1 Root Protection Area

- 5.1.1 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:

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

- 5.1.2 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:

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

- 5.1.3 The RPA of existing tree stock is an important material consideration when considering site constraints and planning development activities.
- 5.1.4 The RPAs of all trees surveyed as individual features is shown in **Appendices A and B** as a yellow circle around each tree. For tree groups and woodlands, RPAs have been omitted. In practice, the RPAs of trees within grouped features are considered unlikely to extend further than the canopy spread recorded.
- 5.1.5 Unless there is overriding justification, 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 a forthcoming planning approval.

5.2 Ancient woodland

- 5.2.1 A search of the Multi-Agency Geographic Information for the Countryside (MAGIC) website⁷

⁷ <https://magic.defra.gov.uk/MagicMap.aspx>

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indicates no designated ancient woodland is present within the Site.

5.3 Statutory designations - Tree Preservation Orders and Conservation Areas

- 5.3.1 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 (LPA) are given the powers to protect trees, groups of trees and woodlands through the provisions of a Tree Preservation Order (TPO). TPOs make it an offence (with limited exceptions) to cut down, top, lop, uproot, wilfully damage or wilfully destruct a protected tree without the local planning authority's written consent.
- 5.3.2 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.
- 5.3.3 A check carried out in January 2022 with Manchester City Council has confirmed that none of the surveyed trees are afforded protection through the provisions of a TPO and no part of the site is located within a Conservation Area, though it is acknowledged that the area is designated as a country park by MCC.

5.4 Soil type

- 5.4.1 A detailed soil assessment was not undertaken as part of the tree survey exercise, however a desk-top study using the Cranfield University 'Soilscapes' mapping portal⁸ has indicated that the soil within the Site may have a significant clay content.
- 5.4.2 The combination of shrinkable soils and trees and shrubs can represent a hazard to structures that require special consideration. Depending on the findings of any soil investigations, and the juxtaposition between any proposed structures and the existing trees stock, it is recommended that guidance such as that contained within *Chapter 4.2 - 'Building Near Trees'* of the *National House Building Council's Standards 2019* is followed. This is particularly pertinent if the soil is found to have a significant clay content as foundation design of new buildings/structures (i.e. new access ramps) may need to be adapted to take account of existing trees and proposed tree planting.

6. ARBORICUTURAL IMPACT ASSESSMENT

- 6.1.1 This assessment has been undertaken based upon a sketched site layout provided by email on the 13th December 2021 and shown as **Figure 1** below.
- 6.1.2 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.
- 6.1.3 Table 6-1 identifies the impact of the Proposed Development on those trees under the following headings:
- **Trees unaffected by the Proposed Development:** These are trees which are unaffected by the works and can therefore safely be retained. These trees are still likely to require protection through the placement of Tree Protection Barriers;

⁸ <http://www.landis.org.uk/soilscapes/>

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- **Trees to be retained but requiring additional protection:** Trees fall into this category where the assessment has identified that they can be retained, but additional protection measures may be required to ensure their continued health and structural integrity. This is usually where works are proposed within their RPA or below their crowns; and
- **Trees to be removed:** Trees will need to be removed if they are so close to proposed works that the impact of the works on the roots or crowns of the tree will render the retention of the tree unviable; if they create an unacceptable constraint on occupants of the site post construction (shading, nuisance etc.); or for reasons of sound arboricultural management.

Figure 1 Proposed Site Layout.

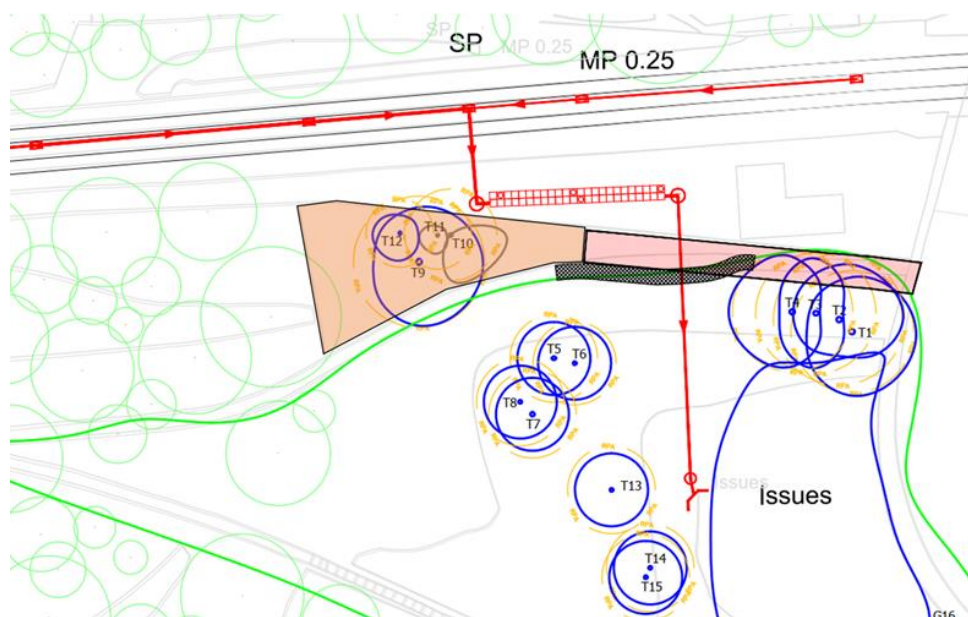


Table 6-1 Arboricultural impacts

	Tree numbers			
	Cat. A	Cat. B	Cat. C	Cat. U
Trees unaffected by the Proposed Development	G29, W36	T5, T6, T7, T8, T13, T14, T15, G16, T17, T18, T19, T20, T21, T23, T24, T26, T27, G31, T33, T37, T38	T30, T32, T34, T35,	T25, T28
Trees to be retained but requiring additional protection	N/A	T1, T2, T3, T4	N/A	N/A
Trees to be removed	W22 (in part)	T9, T12	T10, T11	N/A

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6.2 Proposed tree works

- 6.2.1 Table 6-1 and **Appendix B** provides details of all trees and tree groups which will be removed to facilitate the Proposed Development.
- 6.2.2 These tree works will not be undertaken until full planning permission has been granted for the Proposed Development and they will be undertaken by a suitably qualified, experienced and insured tree works contractor with the works compliant with best practice, such as the European Tree Pruning Guide⁹, or required by BS3998: 2010 'Tree Work – Recommendations'¹⁰.
- 6.2.3 Tree work will be timed to avoid the general bird nesting season where practicable and other potential ecological constraints with legally protected species, subject to consultation with an ecologist. In all events Network Rail's guidance on vegetation works and conducting bird nesting checks will be complied with. In the event nesting birds are identified, a suitable exclusion zone will be put in place that will allow nesting birds to fledge before de-vegetation can continue.
- 6.2.4 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 will be taken not to damage any surrounding vegetation to be retained.

6.3 Site Monitoring

- 6.3.1 A retained Arboricultural Consultant will be appointed prior to the commencement of any works on Site. Their purpose will be to ensure compliance with all agreed tree protection measures. As a minimum, a pre-commencement site meeting should be held with a representative of the appointed contractor(s), the retained Arboricultural Consultant and a representative of Manchester City Council (if required). The purpose of this meeting will be to agree the location and design of any tree protection barriers, as well as to agree the need for / frequency of any on-going arboricultural clerk-of-works visits. This is particularly important on this site due to the proposed design of the tree protection barriers (refer to paragraph 6.4.3 for details).

6.4 Tree protection measures

- 6.4.1 Arboricultural features T1 to T9, T13 to T20 and W22 (in part), are to be retained in proximity to construction work, and therefore tree protection will be required to mitigate for potential above and below ground impacts and ensure these trees are retained successfully. The factors which most commonly result in below ground damage affecting oxygen diffusion (and 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;
 - Changes in the water table level or ground saturation; and

⁹ European Tree Pruning Guide, 2001, Arboricultural Association

¹⁰ BS3998:2010 'Treework - Recommendations', 2010, BSI

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- Damage by the direct toxicity of phytotoxic materials, dust and runoff.

- 6.4.2 A Construction Exclusion Zone (CEZ) will be established around the retained trees, where no unauthorised access or construction operations (including Site compounds/facilities/storage of materials) are permitted to protect the ground from compaction or excavation and canopies from physical damage. This will be secured by means of temporary protective fencing with weatherproof signage.
- 6.4.3 Following the principles set out in section 6.2.2 of BS5837, these barriers should be “fit for the purpose of excluding construction activity and appropriate to the degree and proximity of the work taking place around the retained trees”. Due to the limited space available on site, and the topography, in this instance it is proposed that the CEZ will be secured using a combination of an immovable physical barrier along the top edge of the embankment with blue Netlon down the slope.
- 6.4.4 All weather notices should be secured to the barrier, examples of which are contained in **Appendix F**.
- 6.4.5 The location of these barriers is shown on the Tree Retention and Protection Plan contained as **Appendix B**.
- 6.4.6 The smallest plant possible should also be used in proximity to these retained trees to avoid damage to overhanging canopies. Access around the Site during any works will be carefully managed to protect the existing trees to be retained, requiring care when planning site operations to ensure that wide or tall loads or plant with booms, jibs, and counterweights, can operate without coming into contact with the trees.
- 6.4.7 Furthermore, vehicle, plant and pedestrian access will be required within the RPAs of trees T1 to T4, and therefore to facilitate this whilst still providing adequate protection to the trees, temporary ground protection will be installed. This will follow the principles set out in section 6.2.3 of BS5837 and as summarised below:
- for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane;
 - for pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane;
 - for wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.
- 6.4.8 The location where ground protection will be required is shown in **Appendix B**.
- 6.4.9 Other key precautions to be taken in proximity to the trees to be retained include:
- No materials shall be stored under the canopies of retained trees;

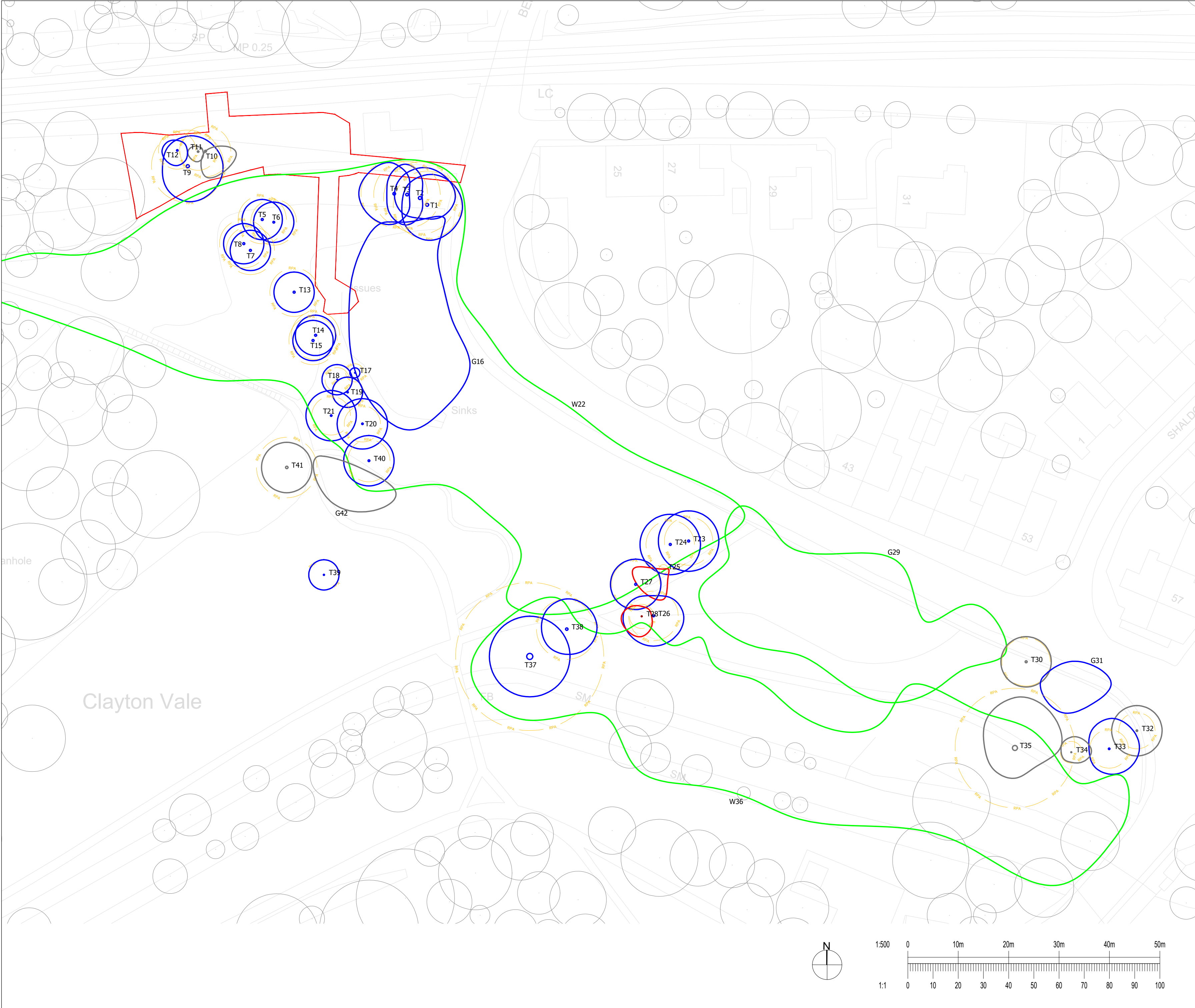
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- No oil, diesel, bitumen, cement, solvents or other material likely to be injurious to a tree shall be stored any closer than 5m from the edge of the canopy of any trees;
- Fires shall not be lit near the canopy of any tree;
- Trees to be retained shall not be used as anchorages for any equipment or construction activity;
- Notice boards, telephone cables or other services shall not be attached to any part of a tree;
- Care shall be exercised when using cranes or similar equipment near the spread of the canopy of a tree; and
- Allowance shall be made for any slope of the ground so that damaging materials do not run towards trees.

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APPENDIX A – ARBORICULTURAL CONSTRAINTS PLAN (DRAWING REF 15642-WIE-ZZ-XX-DR-V-77-007)



This drawing should not be scaled. Dimensions to be verified on site.
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GENERAL NOTES

SITE BOUNDARY

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)

NOTE:

- ALL TREE LOCATIONS ARE INDICATIVE ONLY
- RPAs ARE NOT SHOWN FOR TREE GROUPS AND WOODLANDS AS THE RPAs OF TREES WITHIN GROUPED FEATURES ARE CONSIDERED UNLIKELY TO EXTEND FURTHER THAN THE CANOPY SPREAD RECORDED

P01	01.12.21	PLANNING ISSUE	DC
Rev	Date	Description	By
Amendments			
Project CLAYTON VALE			
Title ARBORICULTURAL CONSTRAINTS PLAN			
Client NETWORK RAIL			
 Crown House 2-8 Gloucester Road Redhill Surrey RH1 1FH t 01738 449 801 mail@watermangroup.com www.watermangroup.com			
Status PLANNING			
Designed By RH		Checked By RH	Waterman Ref WIE15642-156
Drawn By DC		Date DECEMBER 2021	Scales @ A2 1:500
Project - Originator - Volume - Level - Type - Role - Number			Revision
15642-163-WIE-ZZ-XX-DR-V-77-007			P01

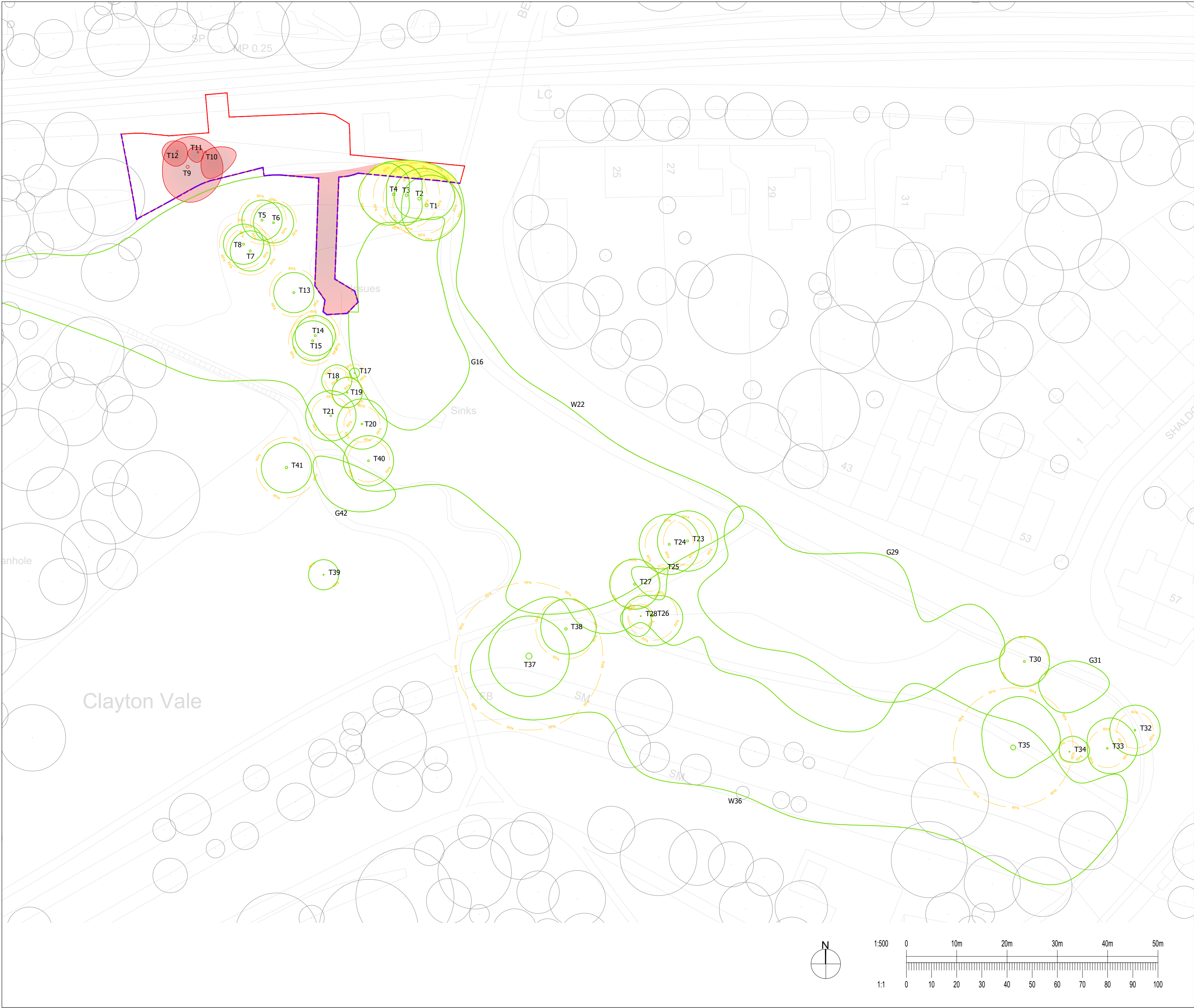
A2-Wat-BS-S, Basemap with Trees, Clayton Vale Arbevolve Export_DC

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Reference:	151667-TSA-00-TRU-REP-W-LP-000054
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Date:	18/02/2022

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APPENDIX B – TREE RETENTION AND PROTECTION PLAN (DRAWING REF DRAWING REF 15642-WIE-ZZ-XX-DR-V-77-008)



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GENERAL NOTES

SITE BOUNDARY

TREES TO BE RETAINED

TREES TO BE REMOVED

ROOT PROTECTION AREAS (RPA)

TREE PROTECTION BARRIERS

TEMPORARY GROUND PROTECTION

NOTE:

- ALL TREE LOCATIONS ARE INDICATIVE ONLY
- RPAs ARE NOT SHOWN FOR TREE GROUPS AND WOODLANDS AS THE RPAS OF TREES WITHIN GROUPED FEATURES ARE CONSIDERED UNLIKELY TO EXTEND FURTHER THAN THE CANOPY SPREAD RECORDED

P01	17.12.21	PLANNING ISSUE	DC
Rev	Date	Description	By
Amendments			
Project CLAYTON VALE			
Title TREE RETENTION AND PROTECTION PLAN			
Client NETWORK RAIL			
			
Crown House 2-8 Gloucester Road Redhill Surrey RH1 1FH t 01738 449 801 mail@watermangroup.com www.watermangroup.com			
Status PLANNING			
Designed By	RH	Checked By	RH
Drawn By	DC	Date	DECEMBER 2021
Waterman Ref			WIE15642-156
Scales @ A2			1:500
Project - Originator - Volume - Level - Type - Role - Number			Revision
15642-163-WIE-ZZ-XX-DR-V-77-008			P01

A2-Wat-BS-S, Basemap with Trees, Clayton Vale Arbevolve Export_DC

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Reference:	151667-TSA-00-TRU-REP-W-LP-000054
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APPENDIX C - RELEVANT POLICY AND LEGISLATION

Network Rail policies

The Network Rail Asset Management Policy (January 2018) states that ‘assets [including property and other items that have a distinct value to the organisation], systems and networks will be managed in accordance with sustainable development principles include due consideration of long-term financial, societal and environmental impacts.’

The Network Rail Environment Policy (September 2017) states that significant environmental impacts will be identified and managed appropriately, and that land will be managed sustainably including consideration of impacts on biodiversity.

Manchester City Council Core Strategy

Manchester City Council’s Core Strategy¹¹ includes the following policies relevant to trees;

Policy EN9 – Green Infrastructure which states *“new development will be expected to maintain existing green infrastructure in terms of its quantity, quality and multiple function. Where the opportunity arises and in accordance with current Green Infrastructure Strategies the Council will encourage developers to enhance the quality and quantity of green infrastructure, improve the performance of its functions and create and improve linkages to and between areas of green infrastructure. Where the benefits of a proposed development are considered to outweigh the loss of an existing element of green infrastructure, the developer will be required to demonstrate how this loss will be mitigated in terms of quantity, quality, function and future management.*

Key features of Manchester’s green infrastructure will include:

- *The continued development of a network of green spaces, water bodies, canals, paths and cycleways, with priority given to those parts of the City where there is an identified existing lack of open space. The Council will seek to protect existing street trees and promote new planting, particularly where this can enhance green links in the urban area.*
- *The continued maintenance and management of the Rivers Mersey and Irwell and their tributaries, for example the River Irk, River Medlock, Chorlton Platt Gore, Gatley Brook, Moston Brook and adjoining land, with regard to their multiple functions including recreation, flood management, and biodiversity.*
- *The provision of new, and improvements to the quality and accessibility of existing green infrastructure assets, to mitigate for any loss of green infrastructure as a result of development such as the Metrolink extension programme.*
- *The encouragement of green roofs, green walls, tree planting and other forms of green infrastructure to allow for the adaption to climate change in heavily urbanised areas.*

¹¹ https://secure.manchester.gov.uk/downloads/download/5672/core_strategy

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New green infrastructure provision should be an exemplar of best practice and innovation in terms of both its design and management.”

Policy EN15 – Biodiversity and Geological Conservation which states *“The Council will seek to maintain or enhance sites of biodiversity and geological value throughout the City. Particular consideration will be given to:*

- *sites with international or national designations for their biodiversity value. Manchester contains one Site of Special Scientific Interest (SSSI) (Cotteril Clough); there is a Special Area of Conservation (SAC) and an SSSI just over the border in Oldham (both on the Rochdale Canal within Oldham);*
- *other sites of biodiversity value, including Sites of Biological Importance (SBIs) and Local Nature Reserves (LNRs); Manchester currently has 35 SBIs (including the Rochdale and Ashton Canals) and 7 LNRs; priority habitats found within Manchester, as listed in the Manchester Biodiversity Strategy and included in the Greater Manchester Biodiversity Action Plan (GM BAP);*
- *protected and priority species, as listed in the Manchester Biodiversity Strategy and included in the Greater Manchester Biodiversity Action Plan (GM BAP); sites that are recognised for their geological importance;*
- *the Council’s objective to protect and conserve the City’s existing trees and woodlands and the aim for a net increase in trees across the City.”*

Tree Preservation Orders (TPOs)

TPOs are administered by Local Planning Authorities (LPA) and are made to protect trees which bring significant amenity benefit to the local area. All types of tree, tree species and sizes can be protected and a TPO can protect a single tree, tree groups, all trees within a defined area (Area TPO) or a woodland (Woodland TPO).

A TPO is a written order which makes it a criminal offence without the authority’s permission (liable to an unlimited fine) to:

- Cut down, top, lop, uproot, wilfully damage or wilfully destroy a tree protected by that order; or
- Cause or permit such actions.

In the Secretary of State’s view, cutting roots is also a prohibited activity which requires the authority’s consent. Applications to carry out works to trees covered by TPOs need to be submitted to the LPA for approval, via forms which can be found on the Planning Portal, however LPA consent is not required for carrying out work on trees subject to a TPO so far as such work is necessary to implement a Statutory Order. An exception to the TPO legislation exists where a Statutory Order (i.e. TWAO) has been granted showing the loss of (or work to) TPO trees is required to implement the permitted scheme.

Conservation Areas

Normal TPO procedures apply if a tree within a Conservation Area is protected by a TPO. If a tree within a Conservation Area is not protected by a TPO and is above 75mm in trunk diameter when measured at 1.5m height, written notice must be given to the LPA for any proposed work, describing what work is proposed, at least six weeks before the proposed work date. This is called a ‘Section 211 notice’ which gives the LPA an opportunity to consider whether the tree should be subject to a TPO.

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However, a Section 211 notice and LPA consent is not required for carrying out work on trees subject to a TPO so far as such work is necessary to implement a Statutory Order.

Felling licences

To fell trees, a felling licence from the Forestry Commission is required. It is an offence to fell trees, including in advance of a planning application, without a licence if an exemption does not apply. Exemptions include:

- Locations (gardens, orchards, churchyards or designated open spaces);
- Type of tree work (lopping, topping, pruning and pollarding);
- Volume and diameter of trees to be felled (less than 5 cubic meters in one calendar quarter, trees of a girth at 1.3m height of less than 80mm, 100mm if thinning and 150mm if coppicing);
- Other permissions (such as having planning permission granted); and
- Statutory/legal requirements (there is a real or immediate threat of danger or abatement of nuisance, to prevent the spread of a pest/disease, to comply with an Act of Parliament (including a TWAO) or undertake your duties as a statutory service provider (gas, water, electric).

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APPENDIX D – CASCADE CHART FOR TREE QUALITY ASSESSMENT (EXTRACT FROM BS5837)

Category and Definition	Criteria			Identification on Drawing
<u>Category U</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 trees (i.e. 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; and - 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. NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve.			DARK RED
Category and Definition	Criteria - Subcategories			
	1 - Mainly Arboricultural Values	2 - Mainly Landscape Values	3 - Mainly Cultural Values, including Conservation	
<u>Category A</u> Trees of high quality with an estimated remaining life expectancy minimum of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of 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
<u>Category B</u> 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 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
<u>Category C</u> Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm	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 E – SCHEDULE OF EXISTING TREES

No.	Species	Height	Trunk Dia.	Radial Crown Spread	Crown Clearance	Height to 1st Branch	Life Stage	Physiology	Structure	Landscape Value	Est. Years	Comments	Category	RPA Radius	RPA m2
T1	Hybrid black poplar (<i>Populus x euramericana</i>)	25m	560mm	N6m E7m S7m W5m	15m	15m SE	M	Good	Good	Moderate	40+	Part of group of 4 trees adjacent to entrance; highly visual.	B (1)	6.7m	141.9m ²
T2	Hybrid black poplar (<i>Populus x euramericana</i>)	25m	600mm est	N6m E7m S4m W5m	15m	15m SE	M	Good	Good	Moderate	40+	Part of group of 4 trees adjacent to entrance; highly visual.	B (1)	7.2m	162.9m ²
T3	Hybrid black poplar (<i>Populus x euramericana</i>)	25m	550mm est	N6m E3m S6m W4m	10m	11m W	M	Good	Good	Moderate	40+	Part of group of 4 trees adjacent to entrance; highly visual.	B (1)	6.6m	136.8m ²
T4	Hybrid black poplar (<i>Populus x euramericana</i>)	22m	550mm est	N6m E3m S6m W7m	10m	8m W	M	Good	Good	Moderate	40+	Part of group of 4 trees adjacent to entrance; highly visual.	B (1)	6.6m	136.8m ²
T5	Common Ash (<i>Fraxinus excelsior</i>)	20m	400mm est	4m	8m	6m	SM	Good	Good	Moderate	40+	One of larger trees in woodland.	B (2)	4.8m	72.4m ²
T6	Common Ash (<i>Fraxinus excelsior</i>)	20m	380mm est	4m	8m	6m	SM	Good	Good	Moderate	40+	One of larger trees in woodland.	B (2)	4.6m	65.3m ²
T7	Grey poplar (<i>Populus canescens</i>)	20m	400mm	4m	8m	6m	SM	Good	Good	Moderate	40+	One of larger trees in woodland; exposed and damaged roots.	B (2)	4.8m	72.4m ²
T8	Grey poplar (<i>Populus canescens</i>)	20m	400mm est	4m	8m	6m	SM	Good	Good	Moderate	40+	One of larger trees in woodland.	B (2)	4.8m	72.4m ²
T9	Hybrid black poplar (<i>Populus x euramericana</i>)	25m	600mm est	N6m E7m S7m W5m	15m	15m SE	M	Good	Good	Moderate	40+	One of larger trees in woodland.	B (1)	7.2m	162.9m ²
T10	Goat willow (<i>Salix caprea</i>)	11m	420mm	N0m E6m S5m W0m	5m	5m E	M	Good	Fair	Moderate	20+	Crown has been previously lopped.	C (2)	5.0m	79.8m ²
T11	Goat willow (<i>Salix caprea</i>)	8m	310mm	N1m E1m S2m W2m	5m	5m E	EM	Fair	Poor	Low	10+	Crown has been previously topped.	C (1)	3.7m	43.5m ²
T12	Goat willow (<i>Salix caprea</i>)	8m	310mm	N2mE2mS3mW3m	5m	6m E	EM	Fair	Fair	Moderate	10+	Woodland tree.	B(2)	3.7m	43.5m ²



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No.	Species	Height	Trunk Dia.	Radial Crown Spread	Crown Clear- ance	Height to 1st Branch	Life Stage	Physi- ology	Structure	Landscape Value	Est. Years	Comments	Cate- gory	RPA Radius	RPA m2
T13	Common Ash (<i>Fraxinus excelsior</i>)	20m	400mm est	4m	8m	6m	SM	Good	Good	Moderate	40+	One of larger trees in woodland.	B (2)	4.8m	72.4m ²
T14	Common Ash (<i>Fraxinus excelsior</i>)	20m	400mm est	4m	8m	6m	SM	Good	Good	Moderate	40+	One of larger trees in woodland.	B (2)	4.8m	72.4m ²
T15	Grey poplar (<i>Populus canescens</i>)	20m	400mm	4m	8m	6m	SM	Good	Good	Moderate	40+	One of larger trees in woodland.	B (2)	4.8m	72.4m ²
G16	Common Ash (<i>Fraxinus excelsior</i>)	20m	Avg 270mm est	N/A			EM	Good	Fair	Moderate	40+	Group of ash growing on bank within wider woodland.	B (3)	3.2m	33.0m ²
T17	Common alder (<i>Alnus glutinosa</i>)	11m	150mm est	1m	6m	5m	Y	Fair	Fair	Moderate	40+	Woodland tree.	B (2)	1.8m	10.2m ²
T18	Common alder (<i>Alnus glutinosa</i>)	11m	200mm	3m	6m	5m	SM	Fair	Fair	Moderate	40+	Woodland tree.	B (2)	2.4m	18.1m ²
T19	Common alder (<i>Alnus glutinosa</i>)	11m	260mm est	3m	6m	5m	SM	Fair	Fair	Moderate	40+	Woodland tree.	B (2)	3.1m	30.6m ²
T20	Common Oak (<i>Quercus robur</i>)	12m	300mm est	5m	6m	5m	SM	Good	Good	Moderate	40+	Woodland tree.	B (2)	3.6m	40.7m ²
T21	Common Oak (<i>Quercus robur</i>)	12m	320mm est	5m	6m	5m	SM	Good	Good	Moderate	40+	Woodland tree.	B (2)	3.8m	46.3m ²
W22	Silver birch (<i>Betula pendula</i>) , Common Ash (<i>Fraxinus excelsior</i>) , Grey poplar (<i>Populus canescens</i>) , Goat willow (<i>Salix caprea</i>) , Common alder (<i>Alnus glutinosa</i>) and Hazel (<i>Corylus avellana</i>)	20m	Avg 300mm	N/A			EM	Good	Good	High	40+	mixed broadleaf woodland growing around gully.	A(1)	3.6m	40.7m ²



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No.	Species	Height	Trunk Dia.	Radial Crown Spread	Crown Clearance	Height to 1st Branch	Life Stage	Physiology	Structure	Landscape Value	Est. Years	Comments	Category	RPA Radius	RPA m2
T23	Common Horse Chestnut (<i>Aesculus hippocastanum</i>)	18m	400mm est	6m	2m	2m	EM	Fair	Fair	High	20+	Woodland edge tree.	B (2)	4.8m	72.4m ²
T24	Common Horse Chestnut (<i>Aesculus hippocastanum</i>)	18m	400mm est	6m	2m	2m	EM	Fair	Fair	High	20+	Woodland edge tree.	B (2)	4.8m	72.4m ²
T25	Common Horse Chestnut (<i>Aesculus hippocastanum</i>)	4m	600mm	N0m E1m S6m W6m	2m	2m	EM	Poor	Fair	High	20+	Woodland edge tree; leader lost at 2m agl.	U	7.2m	162.9m ²
T26	Common Ash (<i>Fraxinus excelsior</i>)	18m	410mm	N4m E6m S6m W6m	5m	5m S	EM	Fair	Fair	Moderate	40+		B (1)	4.9m	76.0m ²
T27	Common Ash (<i>Fraxinus excelsior</i>)	18m	400mm	5m	5m	5m S	EM	Fair	Fair	Moderate	40+	Woodland edge tree.	B (1)	4.8m	72.4m ²
T28	Common Ash (<i>Fraxinus excelsior</i>)	12m	200mm est	N2mE2mS4mW4m	2m	2m S	SM	Poor	Fair	Low	<10	Significant dieback at branch ends; epicormic throughout crown.	U	2.4m	18.1m ²
G29	Sycamore (<i>Acer pseudoplatanus</i>) , Horse chestnut (<i>Aesculus hippocastanum</i>) and Common Ash (<i>Fraxinus excelsior</i>)	18m	Avg 400mm	N/A			EM	Good	Good	High	40+	Roadside group; canopies extend beyond RPA.	A (1)	4.8m	72.4m ²
T30	Common Ash (<i>Fraxinus excelsior</i>)	12m	400mm	5m	3m	2.5m NW	SM	Fair	Fair	Moderate	10+	roadside tree; dieback at branch ends.	C (1)	4.8m	72.4m ²



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No.	Species	Height	Trunk Dia.	Radial Crown Spread	Crown Clearance	Height to 1st Branch	Life Stage	Physiology	Structure	Landscape Value	Est. Years	Comments	Category	RPA Radius	RPA m2
G31	Sycamore (<i>Acer pseudoplatanus</i>) and Common alder (<i>Alnus glutinosa</i>)	10m	Avg 300mm est	N/A			SM	Good	Good	Moderate	40+	Roadside group.	B (1)	3.6m	40.7m²
T32	Common Ash (<i>Fraxinus excelsior</i>)	12m	300mm	5m	3m	2.5m NW	SM	Fair	Fair	Moderate	10+	Roadside tree; dieback at branch ends.	C (1)	3.6m	40.7m²
T33	Common Oak (<i>Quercus robur</i>)	12m	320mm	N6m E6m S5m W4m	1.5m	2m NE	SM	Good	Good	Moderate	40+	Slightly leaning trunk.	B (1)	3.8m	46.3m²
T34	Common alder (<i>Alnus glutinosa</i>)	8m	180mm	N3m E4m S2m W2m	2m	2.5m NE	Y	Fair	Fair	Low	40+		C (1)	2.2m	14.7m²
T35	Crack willow (<i>Salix fragilis</i>)	25m	990mm	N10m NE10m S6m W6m	2m	2m NE	OM	Fair	Poor	High	10+	Large tree; multi-stemmed from 2m; some stems collapsed; suspected stem decay.	C (1)	11.9m	443.4m²
W36	Common Ash (<i>Fraxinus excelsior</i>), Common alder (<i>Alnus glutinosa</i>) and Goat willow (<i>Salix caprea</i>)		Avg 350mm est	N/A			M	Good	Good	High	40+	Riverside woodland alongside footpath.	A(1)	4.2m	55.4m²
T37	Crack willow (<i>Salix fragilis</i>)	25m	6 stems @ 500mm est	N8m E8m S8m W8m	2m	2m NE	OM	Fair	Poor	High	10+	Multi-stemmed from base; unable to view lower trunk due to ivy.	B (2)	14.7m	678.6m²
T38	Crack willow (<i>Salix fragilis</i>)	20m	500mm	N6m E6m S5m W5m	10m	5m	M	Good	Good	Moderate	20+	Unbalanced crown biased to the N.	B (1)	6.0m	113.1m²
T39	Common alder (<i>Alnus glutinosa</i>)	6m	250mm	3m	2.5m	2m E	SM	Good	Good	Moderate	40+		B (1)	3.0m	28.3m²
T40	Sycamore (<i>Acer pseudoplatanus</i>)	10m	350mm	5m	3m	3m S	SM	Good	Good	Moderate	40+	Woodland tree.	B (2)	4.2m	55.4m²

Reference:	151667-TSA-00-TRU-REP-W-LP-000054
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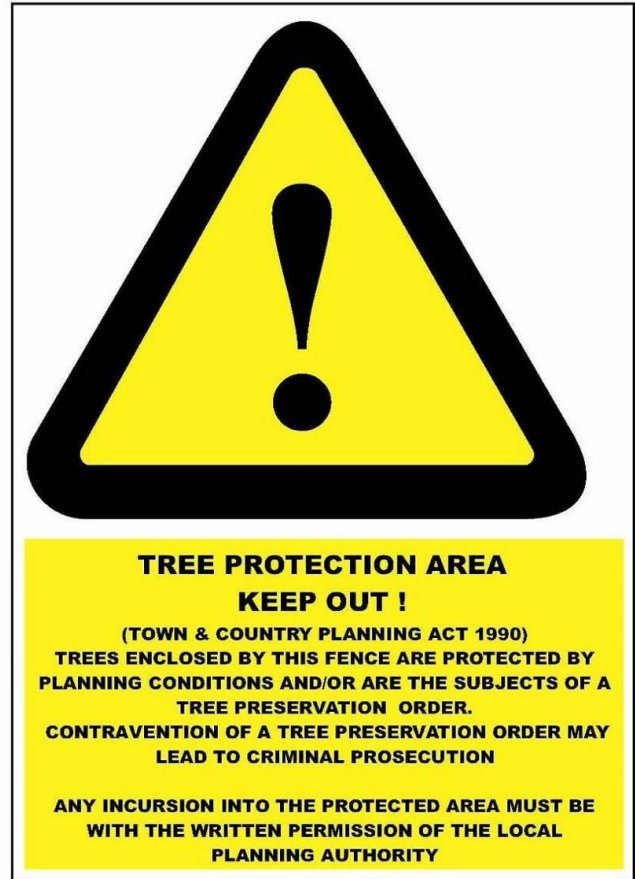
No.	Species	Height	Trunk Dia.	Radial Crown Spread	Crown Clear-ance	Height to 1st Branch	Life Stage	Physi-ology	Structure	Landscape Value	Est. Years	Comments	Cate-gory	RPA Radius	RPA m2
T41	Common alder (<i>Alnus glutinosa</i>)	10m	4 stems @ 250mm est	5m	3m	2m	EM	Fair	Fair	Low	40+	Multi-stemmed from base.	C (1)	6.0m	113.1m²
G42	Common Ash (<i>Fraxinus excelsior</i>) and Common Hazel (<i>Corylus avellana</i>)	5m	Avg 100mm	N/A			Y	Good	Good	Moderate	40+		C (2)	1.2m	4.5m²

Notes

- Trees have not been subject to a full arboricultural inspection for safety, with respect of both existing and proposed site uses/users (targets);
- Any management recommendations in this report are subject to presence of nesting birds or protected species (e.g. bats);
- Any tree surgery recommendations contained within this report are to be undertaken in accordance with BS3998(2010) Tree work – Recommendations (BS3998);
- Fieldwork survey information provided within this table is subject to seasonal/access constraints as listed within the Limitations section of this report;
- N/A - measurement not accessible/applicable;
- Positions of all trees and tree groups within the accompanying drawings are indicative based on the absence of a topographical survey;
- Unless otherwise stated, all group dimensions are an estimated average; and
- This schedule should be read in conjunction with the Arboricultural Constraints Plan in Appendix A.

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APPENDIX F – EXAMPLE OF TREE PROTECTION SIGNAGE





Network Rail
Infrastructure Projects – Northern Programmes

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