



**Arboricultural Impact Assessment and Method
Statement**

CAS/2023/190

**For
Architek Design/Planning Ltd**

**Proposed Development Site
Cherry Dene, Norwood Lane, Meopham,
Gravesend, DA13 0YE.**

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1.0 Introduction

1.1 Instruction

- 1.1.1 Cantia Arboricultural Services were instructed to undertake a tree survey and provide arboricultural advice on the site known as Cherry Dene, Norwood Lane, Meopham, Gravesend, DA13 0HX. to accompany a planning application.
- 1.1.2 The site visit was carried out on Thursday 24th August 2023, between the hours of 1030-1500hrs (270 minutes) and weather conditions were noted as clear with visibility conducive of surveying.

1.2 Aim of Report

- 1.2.1 To survey in accordance with BS 5837: 2012 ‘Trees in Relation to Design, Demolition and Construction – Recommendations’ to plot and assess the quality of the existing trees located on site and within 15m of proposed development operations.
- 1.2.2 To assess the impact of the proposed development upon trees located on site and within the immediate vicinity. To provide advice on trees requiring removal and outline protective measures for trees marked for retention.
- 1.2.3 To provide a work specification as required by retained trees to accommodate the proposed development.
- 1.2.4 To provide recommendations and guidance on how trees and other vegetation may be successfully retained within the proposed development

1.3 Documentation & Disclosure

- 1.3.1 The following documentation has been made available
- Existing and Proposed Site Plans - 02 Site Layout.pdf & 02G Proposed Site Layout.pdf

2.0 Site & Tree Discussion

2.1 Site Description

- 2.1.1 The site consists of a two-story detached house set in a plot of approx. 2,785 square metres (0.6 Acre). The property faces Northwards and is located approx. 9.5 metres from the highway.



- 2.1.2 The Northern boundary consists of a row of trees of predominantly coniferous species with the property accessed via a gravel driveway. Throughout the front and rear garden the majority of the land is laid to lawn, with planter beds and trees located sporadically throughout the plot.



- 2.1.3 Apart from the Northern boundary the site is bordered on all sides by neighbouring properties. The gradient of the land throughout the plot is generally level.

2.2 Access

- 2.2.1 Vehicle and plant access to the site is unencumbered via Norwood Lane. Access to the rear garden and area of development will be achieved by the creation of a new access road.

2.3 Proposal

- 2.3.1 The proposal is the construction of 2 x detached houses with associated utility and amenity infrastructure.

2.4 Scope of Report / Limitations

- 2.4.1 This is a preliminary assessment from ground level and observations have been made solely from a visual perspective for the purposes of assessment in terms relevant to planning and development. No invasive or other detailed internal decay detection devices have been used in assessing internal conditions.
- 2.4.2 All individual trees within a 15m radius of the development that have a stem diameter over 75mm at 1.5m above ground level have been surveyed. Each tree is surveyed and allocated an identifying number. Then data is collected and individual trees measured with regards to their height, stem size, canopy size and potential to pose a material constraint to development. Subject trees are each allocated one of four grade categories (A, B, C or U) indicating their quality. Trees, groups and hedges have been graded upon individual merit in the context of their existing surroundings regardless of any proposed development of the site.
- 2.4.3 Any conclusions relate to conditions found at the time of inspection. Any alteration to the site that may affect the trees that are present or have a bearing on planning implications (including level changes, hydrological changes, extreme climatic events or other site works) will necessitate a re-assessment of the trees and the site and render any previous advice/ findings invalid.
- 2.4.4 Trees are living organisms and even apparently healthy trees cannot be considered completely safe due to forces of nature and environmental fluctuations which dictate a natural failure rate of intact and healthy trees.

2.4.5 Where there are access restrictions data has been estimated. This is reflected in the survey schedule with a (#) symbol before measurement.

2.4.6 The survey was carried out with the assistance (where required) of the following inspection equipment-

- Binoculars – Inspection of upper sections of the tree
- Sounding Mallet – Assessment of wood quality, decay extent
- Steel Probe – To test resistance of wood and depth of cavities
- Secateurs – Removal of basal growth & ivy to allow inspection
- DBH (diameter) Tape – Measurement of stem diameter
- Clinometer- To measure height of tree
- Laser measure – Measurement of canopy dimensions & tree location

2.5 Tree Discussion

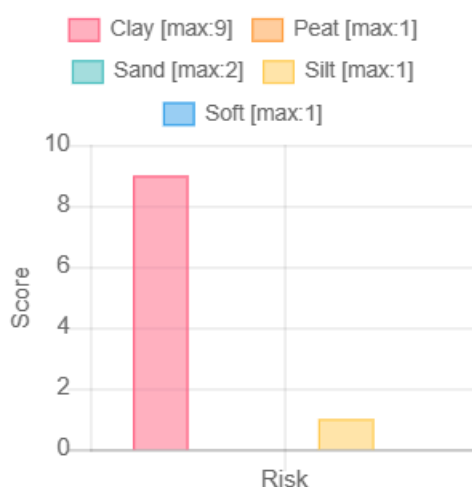
2.5.1 A total of thirty-six individual trees and six groups of trees have been assessed in detail from ground level by visual means only. The Tree Survey Schedule, at Appendix 2, details the trees in respect of dimension and quality in accordance with the methodology set out in the British Standard 5837:2012. The following categories were recorded-

Category	Quantity	Identification Numbers
A	3	T06, T10 & T12
B	9	G01, G03, G05, G06, T01-T03, T05 & T31
C	26	G02, G04, T04, T07-T09, T11, T13-T16, T18-T25, T27-T29 & T32-T35
U	4	T17, T26, T30 & T36

2.5.2 Trees categorised as A or B are viewed as a constraint to development. Should any proposed development require the removal of trees/groups (or parts of groups) within these categories then it is likely that local authorities would require mitigation in the form of a robust soft landscaping/planting plan. Trees classed as category C are generally not viewed as a constraint although plans to remove large numbers of these would likely still require mitigation. Trees classed as category U are trees in irreversible decline unlikely to be in situ for more than 10 years. These trees are therefore not considered a constraint and also have no RPA (Root Protection Area) plotted.

2.5.3 Where trees have been surveyed and plotted in groups, they typically contain specimens of varying age class and size. Please take note of survey schedule for indication of average height/size and maximum height/size within group. Where groups of trees have been surveyed and plotted, the largest DBHs' of the trees located along the groups edge have been noted and used to indicate the maximum RPA potential.

- 2.5.4 Also noted on site were numerous small trees / woody shrubs too small to warrant inspection in accordance with BS5837 Trees in Relation to Design, Demolition and Construction 2012:Recommendations.
- 2.5.5 Correspondence with Faye Hobbs from Gavesham Council indicated that the property does not fall within a Conservation Area. Nor are there any Tree Preservation Orders (TPOs') affecting the site.
- 2.5.6 Soil analysis provided by Terrasure/Airbus indicated a soil with high clay content (9/9). Therefore, there is a potential risk of indirect damage caused by soil shrinkage in periods of hot/dry weather. This information must be considered when designing foundations with a recommendation for either pile type foundations or a traditional foundation design with a depth in accordance with NHBC guidelines.



3.0 Arboricultural Impact Assessment on Retained Trees

3.1 Demolition

- 3.1.1 The demolition of outbuildings will take place within the measured RPAs' of trees numbered T08 Cherry, marked for retention. Therefore, demolition operations in these areas must be carried out as outlined in section P5.0 of the Arboricultural Method Statement.

3.2 Construction

- 3.2.1 Construction of the new access road required to service the proposed units will create the following conflicts with the measured RPAs' of trees marked for retention –

Tree Number / Species	Category	Conflict / Square Metres	Conflict % of Total RPA
T04	C	0.8 sqm	1.25%
T06	A	5.6 sqm	3%
T10	A	0.7 sqm	0.2%
G06	B	1.8 sqm	1.6%

Therefore, in these areas pre-emptive root pruning trenches will be excavated. These must be implemented as outlined in section P4.2 of the Arboricultural Method Statement and where shown on the Tree Protection Plan CAS/2023/190.

- 3.2.2 The parking bays scheduled for Unit 1 will create the following conflicts with the measured RPAs' of trees marked for retention –

Tree Number / Species	Category	Conflict / Square Metres	Conflict % of Total RPA
T10	A	16.2 sqm	4.9%

Therefore, in this area construction must be of a no-dig design. Typically, this could involve the use of a 3d cellular system to avoid the risk of soil compaction with a

permeable final surface. These must be installed as outlined in section P6.0 of the Arboricultural Method Statement.

- 3.2.3 The access road scheduled for Unit 2 will create the following conflicts with the measured RPAs' of trees marked for retention –

Tree Number / Species	Category	Conflict / Square Metres	Conflict % of Total RPA
G05	B	13.2 sqm	9.6%

Therefore, in this area construction must be of a no-dig design. Typically, this could involve the use of a 3d cellular system to avoid the risk of soil compaction with a permeable final surface. These must be installed as outlined in section P6.0 of the Arboricultural Method Statement.

- 3.2.4 No service run plans have been provided. Adequate space exists on site so that any requirement for fresh runs can be located outside of the measured RPAs' of trees marked for retention.

3.3 Trees Requiring Removal

- 3.3.1 The proposal seeks /requires the removal of the following trees –

Tree Number	Category	Total
T12	A	1
T05 & T31	B	2
T09, T11, T16, T19 - T25, T27, T28, T29, T32. T33 & T35	C	16
T17, T26, T30 & T36	U	4

The loss of tree numbered T05 will be clearly visible within the public realm. The remaining trees marked for removal have limited visibility within the public realm. However, considering the scope to mitigate these losses with new tree planting, there

is an opportunity to consider how future tree planting could match and in time improve upon the existing visual character of the site in relation to the local area. This proposal is supported by a planting plan (document CAS/2023/197) which seeks to enhance the site in the following ways -

- Increasing species diversity within the site boundaries
- Increasing habitat provision by planting predominantly native species including a mix of hedging and specimen trees
- Providing an abundant food source for pollinators including early flowering species
- Providing diverse seasonal change / colour
- Providing adequate screening for privacy

3.4 Implications for Retained Trees

- 3.4.1 Trees marked for retention will require no additional pruning or intervention due to the proposed development.

4.0 Conclusions

- 4.1.1 The proposal requires the removal of a number of trees, some of which are clearly visible within the public realm. However, considering the scope to mitigate these losses with new tree planting (which is provided in document CAS/2023/197) then there is an opportunity to consider how future tree planting could surpass and improve upon the habitat provision and existing visual character of the site in relation to the local area.
- 4.1.2 Specialised demolition techniques will be employed where structures are scheduled for removal within the measured RPAs' of trees marked for retention.
- 4.1.3 Root pruning will be employed where small conflicts exist between the proposed development and the measured RPAs' of trees marked for retention.
- 4.1.4 No-dig techniques will be implemented where there are conflicts between the proposed new access roads and the measured RPAs' of trees marked for retention.
- 4.1.5 So long as the precautionary and protective measures outlined within this report are strictly observed and adhered to, and the supporting planting plan is implemented in full, then the proposed development will have a neutral impact upon trees marked for retention and a positive impact upon the broader landscape / habitat contribution of the site to the local area.

Arboricultural Method Statement

1.0 Summary

- 1.1 This document outlines the principles that are approved and enforced by the local planning authority, including site specific instructions on the methods required to protect the existing tree stock agreed for retention. These methods are set out in a logical sequence of operations with location of protective measures shown on the accompanying Tree Protection plan CAS/2023/190.

2.0 Important Tree Information

- 2.1 As the majority of tree roots are found in the upper metre of soil, development works, including for example even shallow excavation, soil compaction and soil contamination, can be harmful to trees in close proximity. Trees differ in their tolerance of root loss or disturbance, according to their age, species and/or condition. All protection works within this document will be in accordance with BS 5837: 2012 ‘Trees in Relation to Design, Demolition and Construction – Recommendations’
- 2.2 An assessment of the site’s tree stock has been undertaken and those trees to be retained are clearly shown on the Tree Protection Plan (TPP). A calculation has been made of the volume of soil required to ensure the survival of these and this is represented by the Root Protection Area (RPA) indicated by the magenta circles or squares around the retained tree on the plan.
- 2.3 The RPA has been used to inform the Construction Exclusion Zone (CEZ), the area to be protected during development by the use of barriers, ground protection and specialised construction techniques - outlined below:-

3.0 Sequenced Methods of Construction and Tree Protection

P1.0 Phase 1 - Pre-Contract Meeting

- P1.1 If stipulated by the local authority an onsite meeting will be held with all relevant parties including the developer, appointed arboricultural supervisor and Local Planning Authority (LPA) representative.

P2.0 Phase 2 - Execute Agreed Tree Works

Tree Number	Proposed Works	Reason
T05, T09, T11, T12, T16, T17, T19 -T33, T35 & T36	Removal	Removal required to accommodate proposal

- P2.1 All tree work is to conform to BS 3998:2010 and to current arboricultural best practice. Tree works are to be undertaken by a professional and specialist arboricultural contractor, who carries the appropriate experience and insurance cover and following formal approval from the LPA.

P3.0 Phase 3 - Tree Protection Barriers and ground protection

- P3.1 In order to protect the tree stems from significant construction activity, protection barriers will be erected. See Plan for fencing location. Fencing should be of a reasonable standard and suitable for the purpose of preventing machinery entering the protected zones see example given below in appendix 1.
- P3.2 BS5837 Trees in Relation to Design, Demolition and Construction (2012) requires that the root protection area be calculated for each tree marked for retention on the development. The root protection area is the minimum area in m² which should be left undisturbed around each retained tree, including the delivery of machinery, materials, plant or equipment to the site or any adjacent land. The protective measures will remain in situ until final completion or a time agreed by the LPA and Contractor.

- P3.3 Tree protection fencing will be required to be installed as shown on the Tree Protection Plan CAS/2023/190. Fit for its purpose fencing must be installed after any required tree works and prior to any construction operations on site. Once the barriers have been properly erected in position, they are to be considered as sacrosanct and are not to be removed or altered in any way without prior approval from the LPA.
- P3.4 Clear notices as shown below are to be fixed to the outside of the fencing with words such as ‘Tree Protection Zone – Do not remove this fencing’. All operatives and other relevant personnel are to be informed of the role of the exclusion barriers and their importance. Protective fencing should remain in situ throughout the entire construction process. The site manager should be aware that it is his responsibility to maintain protective measures adequately and these should be casually inspected at regular intervals with written records of inspection.



- P3.5 Where stipulated on the Tree Protection Plan ground protection should be laid. The gross weight of predicted traffic in the area should be calculated and ground protection laid as stipulated below –
- *For pedestrian access, a single thickness of scaffold boards placed on a driven scaffold frame, so as to form a suspended walkway or on a compressive- resistant*

layer such as, e.g. woodchip 100mm min, laid onto a geotextile membrane will be sufficient.

- *For pedestrian operated machinery up to a gross weight of 2t inter linked ground protection boards places on top of a compression- resistant layer, as above, will be required.*
- *For machinery greater than 2t and engineered specification will be required.*

P3.6 If there is a requirement to move or carry out operations inside the area of protective fencing then ground protection should be laid over any exposed ground prior to movement or works commencing. This should be laid in accordance with section P3.5 of the Arboricultural Method Statement.

P3.7 When there is a requirement to carry out work in an area covered with ground protection then only the immediate area of work should have the protection rolled/scraped back. Once the task in hand is completed then ground protection should be instantly re-instated.

P3.8 Adequate room is available for the locating of compounds and material storage within the site boundaries and outside of any measured RPA.

P4.0 Phase 4 - Ground works

P4.1 Spoil, including soil and rubble surplus to requirements will be removed from site and not stored against any protective fencing.

P4.2 Where foundations require pre-emptive root pruning this should be excavated outside the line of foundation closest to the tree by hand or with the use of an air pick to a depth of 600mm. Roots discovered less than 25mm in diameter may be cut, roots greater than 25mm in diameter must only be cut after consultation with the project arboriculturalist and or the LPA. Once roots have been cut conventional excavation can be carried out.

P4.3 Service runs to be located outside any indicated RPA.

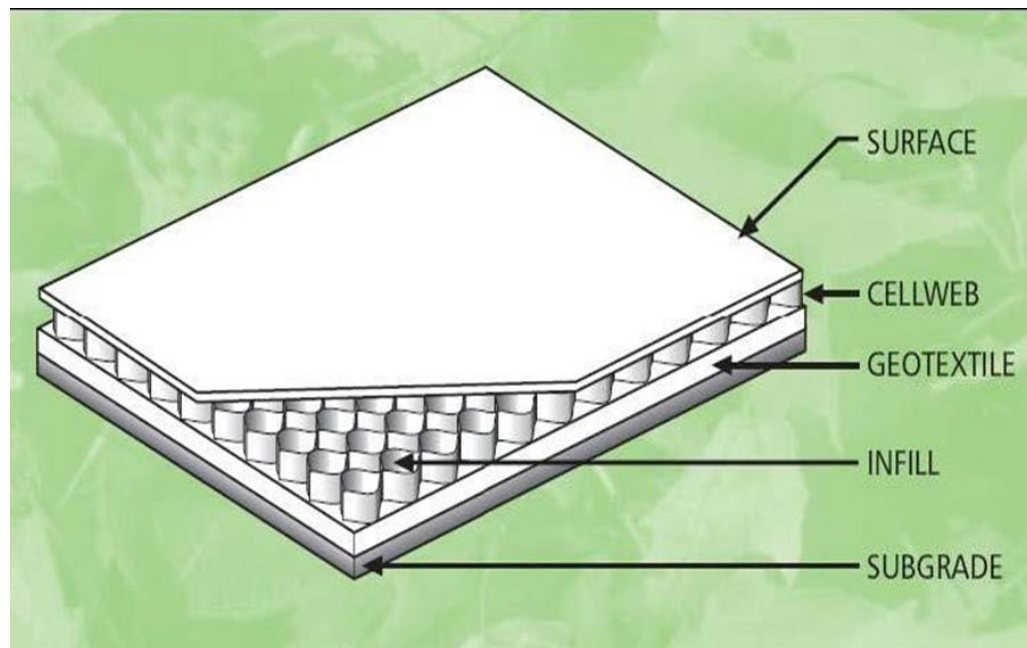
P5.0 Phase 5 – Demolition of Structures within the RPA

- P5.1 When demolishing a structure (including underground structures) within what would otherwise be the RPA, barriers should be erected, and ground protection installed, to protect the underlying soil to the edge of the existing structure prior to the commencement of operations.
- P5.2 Where trees stand adjacent to structures to be removed, the demolition must be undertaken inwards within the footprint of the existing building (often referred to as “top down, pull back”).

P6.0 Phase 6 – Installation of No-Dig Surfacing

- P6.1 The design should not require excavation into the soil, including through lowering of levels and/or scraping, other than the removal, using hand tools, of any turf layer or other surface vegetation. If it is intended to use the new surface for construction access, it is essential that the extra loading and wear arising from this are taken into account during the design process.
- P6.2 The gross weight of proposed traffic for each area must be calculated and the design include a suitable three dimensional cellular confinement system to alleviate risk of future soil compaction.
- P6.3 The sections below offer generic installation techniques relating to the construction of hard surfaces, for example, roads and paths, parking areas and bases for bicycle or bin stores not required to be to an adoptable standard and within the CEZ of retained trees. Manufacturers installation guidelines should be referenced and where required supersede the instructions below.
- P6.4 The construction area is to be levelled by filling hollows and removing protrusions and hard landscaping. No soil excavation, other than the removal of a ‘turf or vegetation layer’ is to be carried out during this process and filling material should be of a porous nature to allow water and oxygen to reach the soil below. In the unlikely event that roots are required to be pruned, sharp cutting tools are to be used to ensure that minimum damage is caused. No roots, greater than a diameter of 25mm, are to

be pruned without prior agreement with the appointed arboricultural supervisor or LPA representative.



- P6.5 A geo-textile membrane (Terram or similar) is then to be laid over the whole surface, including any retained hard surfaces. This is to be fixed firmly into position with ground pegs.
- P6.6 Where edging blocks or stone are to be used to retain the drive surface within the CEZ, the mix into which they are set will be laid directly onto the geo-textile membrane over the supporting base. No deeper excavations are to be made to accommodate the footing of the edging detail.
- P6.7 A geoweb material is then placed over the membrane and also fixed into position. An aggregate sub-base material is then introduced in to the geoweb. The depth of the sub-base aggregate should be the same depth as the geoweb and no less than 100mm. The aggregate should be a granular no fines material (typically 40-20mm). Not only will this material dissipate load and reduce soil compaction, it will permit easy passage of air (oxygen) to the rooting area of the tree below the surface.
- P6.8 The sub-base material is to be compressed into position ready for the final surface treatment. This surface can also be used as a temporary works access route prior to the laying of the final surface.

- P6.9 Final surface details for residential purposes will be of a porous nature such as gravel, block paviors or small paving slabs and should be approved by the LPA. In the usual way these should be bedded into a lean mix that is also highly porous. Final surface treatment can be installed as part of the landscaping works.

P7.0 Phase 7 - Dismantling Protection Barriers and Landscaping Works

- P7.1 A minimum notice period of seven days will be given to the LPA prior to the dismantling of the protection barriers.
- P7.2 All landscaping once the barriers have been removed will avoid soil re-grading and disturbance within the CEZ and no soil levels be altered after the protection barriers have been removed. All vehicles are strictly prohibited from entering any RPA once barriers are removed.

4.0 General Principles for Tree Protection

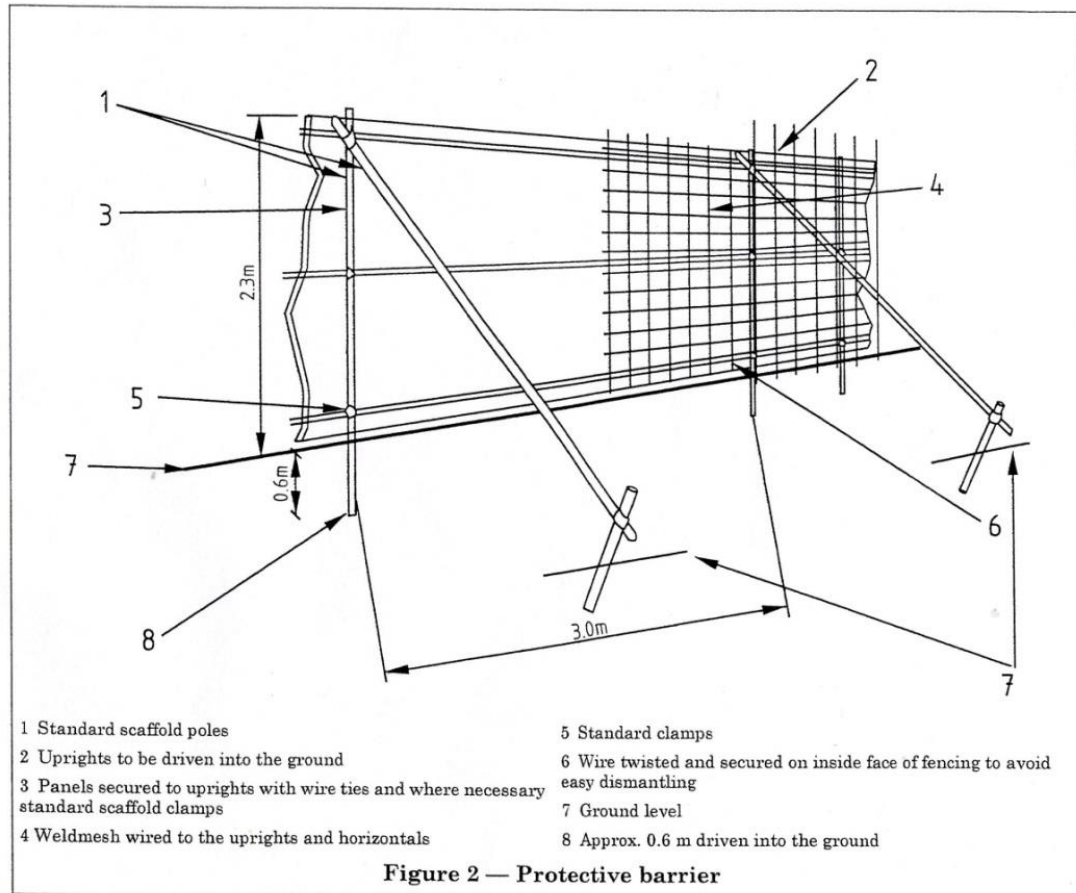
- 4.1 A copy of this AMS and the attached TPP is to be retained on site at all times and all personnel associated with the construction process will be made familiar with the principles within.
- 4.2 No fires are to be lit on site at any stage during the construction process.
- 4.3 A designated storage area is to be created away from retained trees. All materials for construction purposes are to be stored in this compound. Care must be taken to avoid the leakage or leaching of noxious materials into the soil.
- 4.4 No materials will be stored or left stacked in positions around the site other than within the storage compound area.

5.0 Communication Details, Monitoring and Compliance

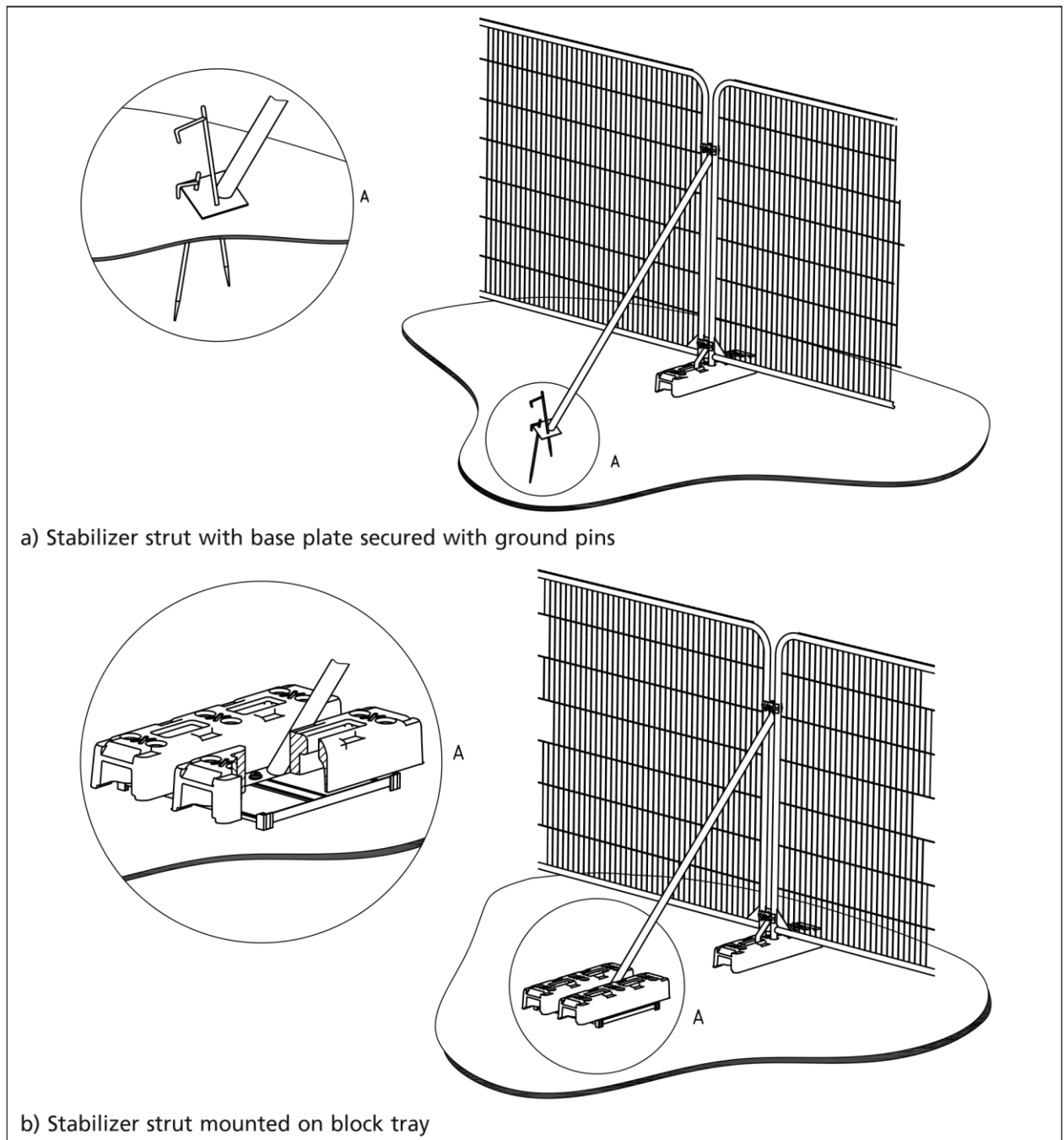
- 5.1 In order to ensure that the principles of tree protection set out in the statement are adhered to, it is important to set out communication details for key individuals and tasks that require monitoring. These details should be retained by all relevant parties and available on site at all times. Relevant parties will be advised of any changes in personnel or contractor during the development process.
- 5.2 Before construction begins written confirmation that the developer/contractor or its agents agree to comply in full with the principles set out within this Method Statement will be lodged with the LPA.

Appendix 1: Tree Protection Fencing

High Traffic Areas



Low Traffic Areas



Appendix 2 - Tree Schedule Explanatory Notes

Ref.no	Identifies trees, groups and hedges on the accompanying plan.
Species	Common names are provided to aid wider comprehension.
Height	Describes the approximate height of the tree measured in metres from ground level
Canopy Spread	Indicates the crown radius from the base of the tree in four compass directions, recorded to the nearest metre.
Ground Clearance	Height of crown clearance above adjacent ground in metres.
DBH (mm)	DBH is the diameter of the stem measured in cm at 1.5m from ground level for single stemmed trees or just above root flare for multi-stemmed trees. Stem Diameter may be estimated where access is restricted.
RPR (cm)	Root Protection Radius (RPR) is area required to be protected measured radially from the trunk centre.
RPA (m2)	Root Protection Area (RPA) is the minimum rooting area in m2 which should remain undisturbed around each tree.
Age Class	Age of the tree expressed as Y- Young, MA- Middle-Aged, EM- Early Mature, M- Mature or OM- Over-Mature
General Condition	Overall condition of tree expressed as :Good, Fair, Poor, Dead
Physiological and structural condition	May include general comments about growth characteristics, how it is affected by other trees and any previous surgery works. Also specific problems such as dead wood, pests, diseases, broken limbs. Etc
Estimated Remaining Years	Categorised in year bands of less than 10, 10+, 20+, 40+
BS Category	B.S. Cat refers to (BS 5837:2005 Table 1) and refers to tree/overall group quality and value; 'A' - High; 'B' - Moderate; 'C' - Low; 'U' - Remove.
Sub Category	Sub Cat refers to the retention criteria values where 1 is arboricultural, 2 is landscape and 3 is cultural including conservational, historic and commemorative

Appendix 3 – Tree Retention Category (as per cascade chart, Table 1, B.S. 5837:2012)

Tree Category	Description
A	Category A - Trees of high quality with an estimated remaining life expectancy of at least 40 years. 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).
B	Category B – Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. 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.
C	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. 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.
U	Category U – Trees 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 are dead or are showing signs of significant, immediate, and irreversible overall decline.

BS5837 Survey Data



Ref.	Species	Measurements	General Observations	Category	Recommendations
G01	Elder (Sambucus nigra) Holly (Ilex sp.) Hawthorn (Crataegus sp.) Ash (Fraxinus sp.)	Height (m): 9.5 Stem Diam(mm): 300 Life Stage: Mature Rem. Contrib.: 30+ Years	Largest dbh noted approx 300mm (holly by gate). Average dbh range 150mm	B2 RPA Area: 39 sq m.	
G02	Lawson Cypress (Chamaecyparis lawsoniana) Yew (Taxus sp.)	Height (m): 14 Stem Diam(mm): 360 Life Stage: Mature Rem. Contrib.: 30+ Years	One dead lawson cypress noted within group. Apart from one large specimen average dbh 100-120mm	C2 RPA Area: 45 sq m.	
G03	Laurel Cherry (Prunus laurocerasus) Elder (Sambucus nigra) Monterey Cypress (Cupressus macrocarpa) Holly (Ilex sp.)	Height (m): 16 Stem Diam(mm): 400# Life Stage: Mature Rem. Contrib.: 20+ Years	Group located in neighbouring garden	B2 RPA Area: 58 sq m.	
G04	Cherry Plum x3 (Prunus cerasifera)	Height (m): 7 3 stems, avg.(mm): 80 Life Stage: Early Mature Rem. Contrib.: 20+ Years		C2 RPA Area: 9 sq m.	

Ref.	Species	Measurements	General Observations	Category	Recommendations
G05	Sycamore (Acer pseudoplatanus) Scots Pine (Pinus sylvestris) Ash (Fraxinus sp.)	Height (m): 25 Stem Diam(mm): 550 Life Stage: Mature Rem. Contrib.: 40+ Years	Group of large mature trees with dbh up to 550mm	B2 RPA Area: 44 sq m.	
G06	Californian Redwood (Sequoia sempervirens) Laburnum (Laburnum sp.) Apple (Malus sp.) Silver Birch x2 (Betula pendula) Beech (Fagus sp.) Oak (Quercus sp.)	Height (m): 17 7 stems, avg.(mm): 510 Life Stage: Mature Rem. Contrib.: 40+ Years	Group of mixed trees Largest dbh 500mm (Oak in sw corner 7m from rear boundary)	B1,2 RPA Area: 355 sq m.	
T01	Lawson Cypress (Chamaecyparis lawsoniana)	Height (m): 11.5 2 stems (mm): 230,120 Spread (m): 2N, 1.5E, 2.5S, 2W Crown Clearance (m): 0.5 Lowest Branch (m): 0 Life Stage: Mature Rem. Contrib.: 30+ Years		B2 RPA Radius: 3.1m. Area: 30 sq m.	
T02	Lawson Cypress (Chamaecyparis lawsoniana)	Height (m): 15 Stem Diam(mm): 260 Spread (m): 1.5N, 1.5E, 3S, 1W Crown Clearance (m): 1 Life Stage: Mature Rem. Contrib.: 30+ Years		B2 RPA Radius: 3.1m. Area: 30 sq m.	
T03	Lawson Cypress (Chamaecyparis lawsoniana)	Height (m): 16 Stem Diam(mm): 360 Spread (m): 3N, 2E, 2.5S, 3W Life Stage: Mature Rem. Contrib.: 30+ Years		B2 RPA Radius: 4.3m. Area: 58 sq m.	

Ref.	Species	Measurements	General Observations	Category	Recommendations
T04	Lawson Cypress (Chamaecyparis lawsoniana)	Height (m): 9 3 stems (mm): 300,200,100 Spread (m): 2N, 1E, 2S, 2.5W Life Stage: Mature Rem. Contrib.: 30+ Years	Union at base appears occluded	C2 RPA Radius: 4.5m. Area: 64 sq m.	
T05	Yew (Taxus sp.)	Height (m): 8.5 Stem Diam(mm): 500 Spread (m): 5.5N, 8E, 3S, 5.5W Crown Clearance (m): 0 Life Stage: Mature Rem. Contrib.: 40+ Years	Tree in physical contact with adjacent utility lines	B1,2 RPA Radius: 6.0m. Area: 113 sq m.	
T06	Scots Pine (Pinus sylvestris)	Height (m): 18 2 stems (mm): 450,450 Spread (m): 5.5N, 5E, 5.5S, 5.5W Crown Clearance (m): 2 Lowest Branch (m): 5(S) Life Stage: Mature Rem. Contrib.: 40+ Years		A1,2 RPA Radius: 7.6m. Area: 181 sq m.	
T07	Field Maple (Acer campestre)	Height (m): 8.5 2 stems (mm): 400#,400 Spread (m): 7N, 7E, 4.5S, 7W Life Stage: Over Mature Rem. Contrib.: 30+ Years	Tree has been heavily pruned with stems heavily laden with ivy cover.	C2 RPA Radius: 6.8m. Area: 145 sq m.	
T08	Cherry (Prunus spp)	Height (m): 6 Stem Diam(mm): 110 Spread (m): 2.5N, 2.5E, 2.5S, 2.5W Life Stage: Early Mature Rem. Contrib.: 30+ Years		C1 RPA Radius: 1.3m. Area: 5 sq m.	
T09	Holly (Ilex sp.)	Height (m): 8.5 2 stems (mm): 350#,300 Spread (m): 3N, 3E, 3S, 3W Crown Clearance (m): 0 Life Stage: Mature Rem. Contrib.: 30+ Years		C2 RPA Radius: 5.5m. Area: 95 sq m.	

Ref.	Species	Measurements	General Observations	Category	Recommendations
T10	Deodar Cedar (Cedrus deodara)	Height (m): 19 Stem Diam(mm): 850 Spread (m): 8.5N, 9E, 8.5S, 7W Crown Clearance (m): 0 Lowest Branch (m): 3.5(N) Life Stage: Mature Rem. Contrib.: 40+ Years		A1,2 RPA Radius: 10.2m. Area: 327 sq m.	
T11	Lawson Cypress (Chamaecyparis lawsoniana)	Height (m): 12 3 stems (mm): 420,100,100 Spread (m): 3.5N, 2E, 1S, 3.5W Crown Clearance (m): 0 Life Stage: Mature Rem. Contrib.: 30+ Years		C2 RPA Radius: 5.3m. Area: 88 sq m.	
T12	Californian Redwood (Sequoia sempervirens)	Height (m): 20 Stem Diam(mm): 980 Spread (m): 4.5N, 4.5E, 4.5S, 4.5W Crown Clearance (m): 0 Lowest Branch (m): 3 Life Stage: Mature Rem. Contrib.: 40+ Years		A1,2 RPA Radius: 11.8m. Area: 437 sq m.	
T13	Pedunculate Oak (Quercus robur)	Height (m): 8 Stem Diam(mm): 260 Spread (m): 3.5N, 4.5E, 4.5S, 4.5W Crown Clearance (m): 1.5 Life Stage: Early Mature Rem. Contrib.: 40+ Years		C1 RPA Radius: 3.1m. Area: 30 sq m.	
T14	Laburnum (Laburnum sp.)	Height (m): 4 2 stems (mm): 80,80 Spread (m): 3.5N, 2E, 1S, 2W Crown Clearance (m): 1.5 Life Stage: Mature Rem. Contrib.: 20+ Years		C1 RPA Radius: 1.4m. Area: 6 sq m.	

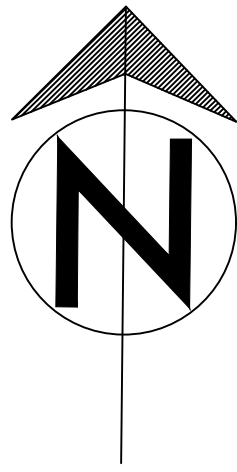
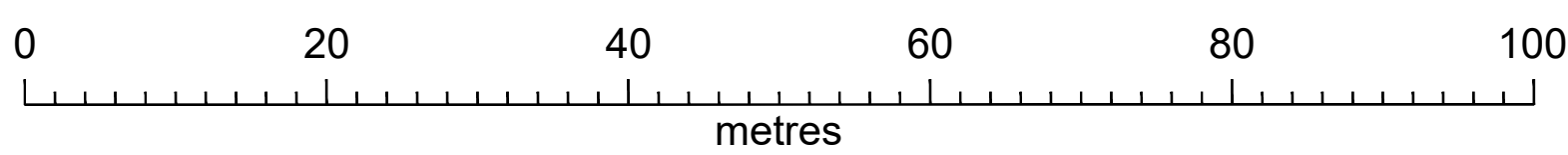
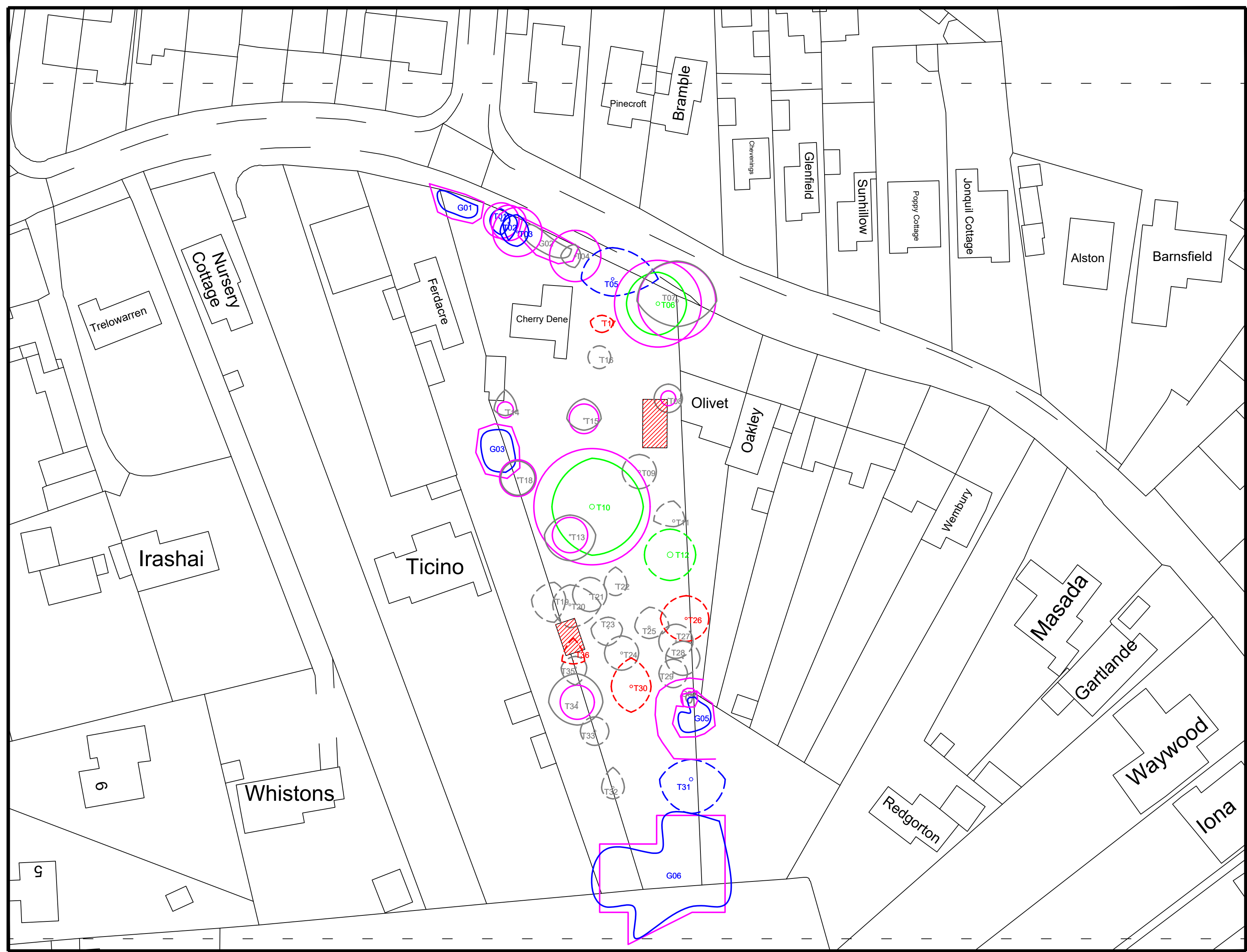
Ref.	Species	Measurements	General Observations	Category	Recommendations
T15	Cherry (Prunus spp)	Height (m): 5.5 3 stems (mm): 130,120,120 Spread (m): 3.5N, 3E, 2S, 3W Crown Clearance (m): 1 Lowest Branch (m): 1.5(W) Life Stage: Mature Rem. Contrib.: 20+ Years		C1 RPA Radius: 2.6m. Area: 21 sq m.	
T16	Weeping Willow (Salix babylonica)	Height (m): 4 Stem Diam(mm): 100 Spread (m): 2N, 2E, 2S, 2W Crown Clearance (m): 0 Life Stage: Mature Rem. Contrib.: 20+ Years		C1 RPA Radius: 1.2m. Area: 5 sq m.	
T17	Holly (Ilex sp.)	Height (m): 4 Stem Diam(mm): 110 Spread (m): 1N, 2E, 2S, 2W Life Stage: Over Mature Rem. Contrib.: <10 years	Irreversible decline	U RPA No RPA due to Retention Category of U.	
T18	Lawson Cypress (Chamaecyparis lawsoniana)	Height (m): 9 Stem Diam(mm): 270 Spread (m): 3N, 3E, 3S, 3W Crown Clearance (m): 2 Life Stage: Over Mature Rem. Contrib.: 10+ Years	Sparse foliage cover for species in high Summer	C1 RPA Radius: 3.2m. Area: 32 sq m.	
T19	Holly (Ilex sp.)	Height (m): 8.5 2 stems (mm): 190,120 Spread (m): 3N, 2E, 4S, 4W Crown Clearance (m): 1.5 Lowest Branch (m): 2 Life Stage: Mature Rem. Contrib.: 20+ Years		C1 RPA Radius: 2.7m. Area: 23 sq m.	
T20	Hazel (Corylus avellana)	Height (m): 9 8 stems (mm): 150,150,150,120,100,100,100,100 Spread (m): 3.5N, 5.5E, 4S, 3W Life Stage: Mature Rem. Contrib.: 20+ Years		C1 RPA Radius: 4.2m. Area: 55 sq m.	

Ref.	Species	Measurements	General Observations	Category	Recommendations
T21	Silver Birch (Betula pendula)	Height (m): 15 Stem Diam(mm): 160 Spread (m): 3N, 3E, 3S, 3W Life Stage: Early Mature Rem. Contrib.: 20+ Years		C1 RPA Radius: 1.9m. Area: 11 sq m.	
T22	Silver Birch (Betula pendula)	Height (m): 9 Stem Diam(mm): 80 Spread (m): 3N, 2E, 2S, 2W Life Stage: Early Mature Rem. Contrib.: 20+ Years		C1 RPA Radius: 1.0m. Area: 3 sq m.	
T23	Silver Birch (Betula pendula)	Height (m): 11 Stem Diam(mm): 160 Spread (m): 2N, 2.5E, 3S, 3W Crown Clearance (m): 1.5 Life Stage: Early Mature Rem. Contrib.: 20+ Years		C1 RPA Radius: 1.9m. Area: 11 sq m.	
T24	Lawson Cypress (Chamaecyparis lawsoniana)	Height (m): 17 Stem Diam(mm): 400 Spread (m): 3N, 3E, 3S, 3W Life Stage: Mature Rem. Contrib.: 20+ Years		C1,2 RPA Radius: 4.8m. Area: 72 sq m.	
T25	Lawson Cypress (Chamaecyparis lawsoniana)	Height (m): 14 Stem Diam(mm): 400 Spread (m): 3.5N, 3.5E, 2S, 2.5W Life Stage: Mature Rem. Contrib.: 20+ Years		C1 RPA Radius: 4.8m. Area: 72 sq m.	
T26	Cherry (Prunus spp)	Height (m): 17 Stem Diam(mm): 400 Spread (m): 4N, 4#E, 4S, 4.5W Life Stage: Over Mature Rem. Contrib.: <10 years	Tree in irreversible decline	U RPA No RPA due to Retention Category of U.	
T27	Larch (Larix sp.)	Height (m): 20 Stem Diam(mm): 280 Spread (m): 3N, 3E, 3S, 3W Life Stage: Mature Rem. Contrib.: 20+ Years	Dieback noted in canopy (upper)	C1 RPA Radius: 3.4m. Area: 36 sq m.	

Ref.	Species	Measurements	General Observations	Category	Recommendations
T28	Larch (Larix sp.)	Height (m): 9 Stem Diam(mm): 190 Spread (m): 3N, 3E, 3S, 3W Life Stage: Early Mature Rem. Contrib.: 20+ Years		C1 RPA Radius: 2.3m. Area: 17 sq m.	
T29	Larch (Larix sp.)	Height (m): 16 Stem Diam(mm): 230 Spread (m): 2.5N, 2.5E, 2.5S, 2.5W Life Stage: Mature Rem. Contrib.: 20+ Years		C1 RPA Radius: 2.8m. Area: 25 sq m.	
T30	Larch (Larix sp.)	Height (m): 20 Stem Diam(mm): 500 Spread (m): 5N, 3.5E, 4.5S, 3.5W Life Stage: Over Mature Rem. Contrib.: <10 years	Dieback noted throughout canopy	U RPA No RPA due to Retention Category of U.	
T31	Sweet Chestnut (Castanea sativa)	Height (m): 20 Stem Diam(mm): 600 Spread (m): 3.5N, 6#E, 6S, 5.5W Crown Clearance (m): 2 Lowest Branch (m): 4(W) Life Stage: Mature Rem. Contrib.: 30+ Years	Deadwood noted throughout canopy	B1,2 RPA Radius: 7.2m. Area: 163 sq m.	
T32	Lawson Cypress (Chamaecyparis lawsoniana)	Height (m): 13 2 stems (mm): 300,170 Spread (m): 3.5N, 2E, 2S, 2W Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 20+ Years		C1 RPA Radius: 4.1m. Area: 53 sq m.	
T33	Lawson Cypress (Chamaecyparis lawsoniana)	Height (m): 17 Stem Diam(mm): 400 Spread (m): 2.5N, 2.5E, 2.5S, 2.5W Life Stage: Mature Rem. Contrib.: 20+ Years		C1 RPA Radius: 4.8m. Area: 72 sq m.	

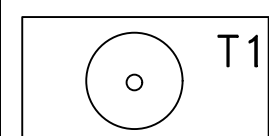
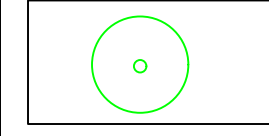
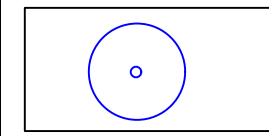
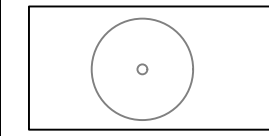
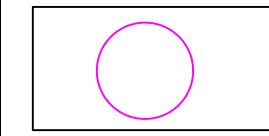
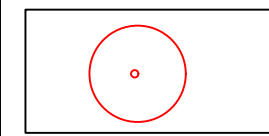
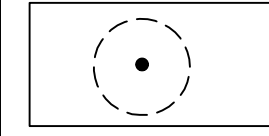
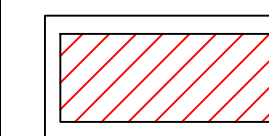
Ref.	Species	Measurements	General Observations	Category	Recommendations
T34	Ash (Fraxinus sp.)	Height (m): 10 Stem Diam(mm): 250# Spread (m): 5N, 4.5E, 4S, 5#W Life Stage: Early Mature Rem. Contrib.: 20+ Years		C2 RPA Radius: 3.0m. Area: 28 sq m.	
T35	Lawson Cypress (Chamaecyparis lawsoniana)	Height (m): 19 Stem Diam(mm): 380 Spread (m): 2N, 2E, 3S, 2.5#W Life Stage: Mature Rem. Contrib.: 20+ Years		C1 RPA Radius: 4.6m. Area: 66 sq m.	
T36	Lawson Cypress (Chamaecyparis lawsoniana)	Height (m): 6 Stem Diam(mm): 120 Spread (m): 4N, 2E, 0.5S, 2W Life Stage: Mature Rem. Contrib.: <10 years	Tree leans heavily towards NW Poor overall Physiological and Structural condition.	U RPA No RPA due to Retention Category of U.	

Arb Constraints Plan



Arboricultural Constraints Plan

KEY

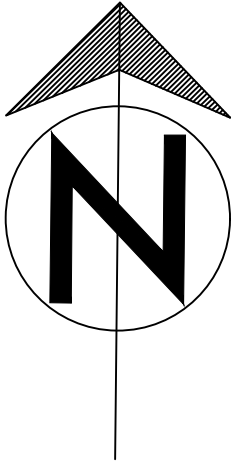
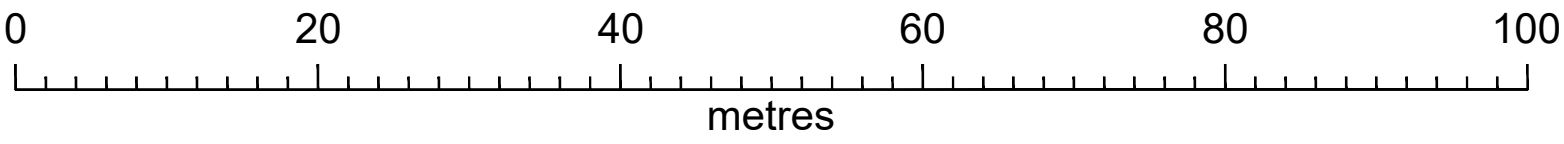
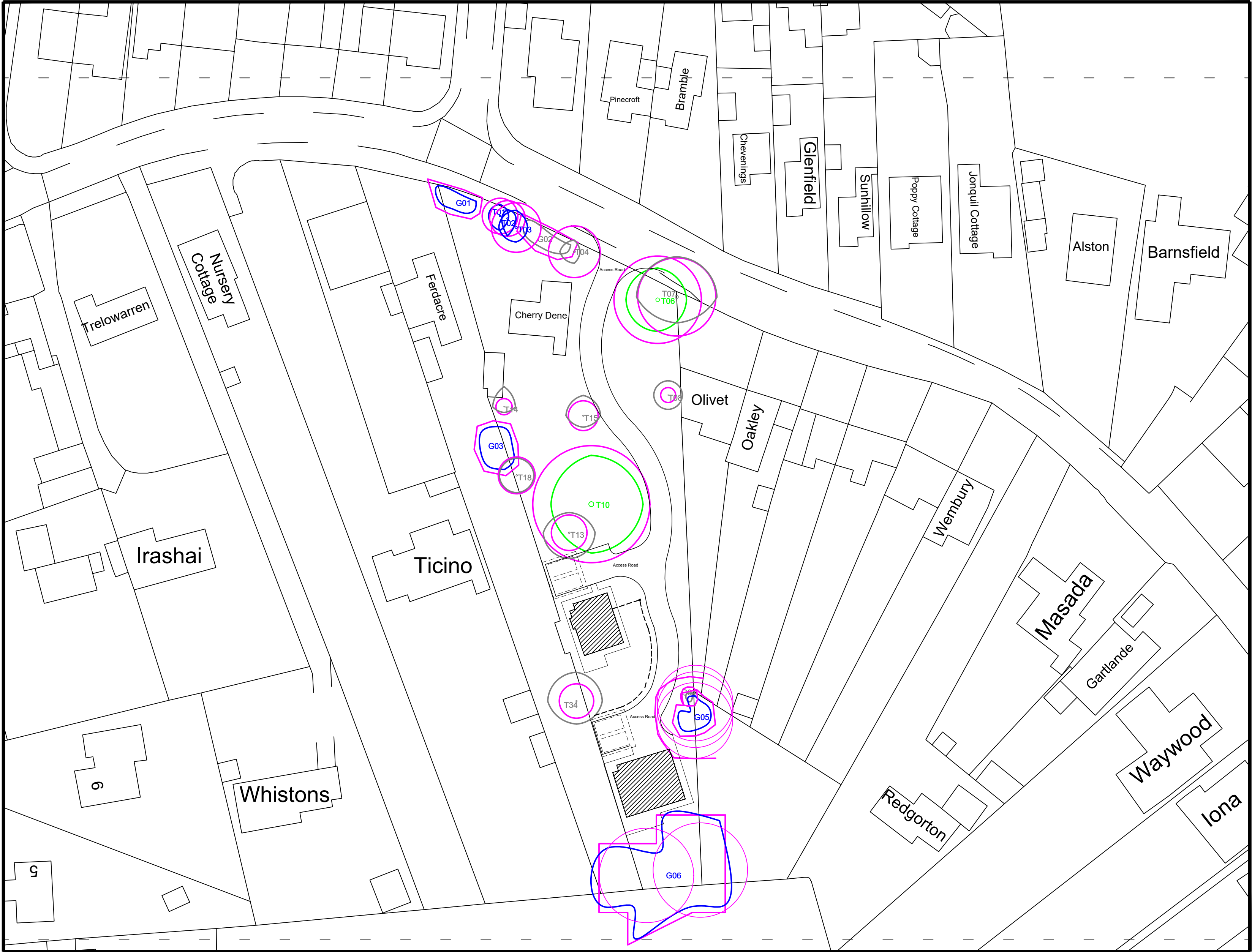
-  T1 Existing Tree colour referenced in accordance with BS 5837 2012 as shown below
-  Green - Cat A Trees of high quality and value
-  Blue - Cat B Trees of moderate quality and value
-  Grey - Cat C Trees of low quality and value
-  Root Protection Area as calculated in accordance with BS 5837 2012
-  Red - Cat U Trees that are dead or showing signs of irreversible decline
-  Existing tree to be removed colour in accordance with BS 5837 as shown below.
-  Existing Structure to be Demolished.

REV.	DATE	INITIALS	DETAILS

CLIENT Architek Design/Planning Ltd		DWG. TITLE Arb Constraints Plan			
SITE Land at Cherry Dene, Norwood Lane, Meopham, Gravesend, DA13 0HX					
DRAWN BY BJS	CHECKED BY BJS	SCALE 1:500 @ A1	DATE Sep 2023	DWG NO. CAS/2023/190	REV.

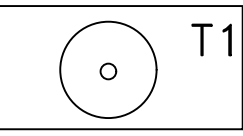
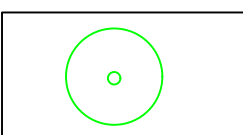
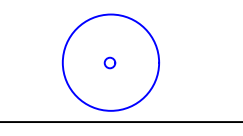
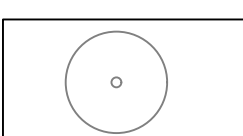
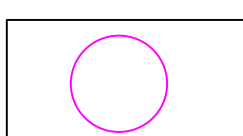
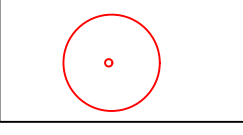
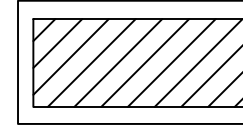
Please do not scale off this drawing. Tree locations not plotted to a topographical survey so locations cannot be confirmed, Dwg is to scale as indicated above.

Proposed Development Plan



Proposed Development Plan

KEY

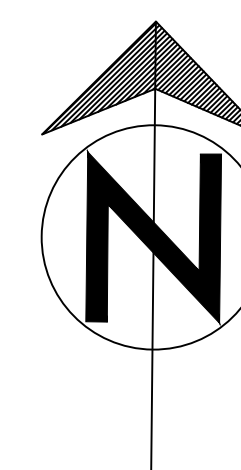
-  Existing Tree colour referenced in accordance with BS 5837 2012 as shown below
-  Green – Cat A Trees of high quality and value
-  Blue – Cat B Trees of moderate quality and value
-  Grey – Cat C Trees of low quality and value
-  Root Protection Area as calculated in accordance with BS 5837 2012
-  Red – Cat U Trees that are dead or showing signs of irreversible decline
-  Location of New Constructions.

REV.	DATE	INITIALS	DETAILS

CLIENT Architek Design/Planning Ltd		DWG. TITLE Proposed Development Plan			
SITE Land at Cherry Dene, Norwood Lane, Meopham, Gravesend, DA13 0HX					
DRAWN BY BJS	CHECKED BY BJS	SCALE 1:500 @ A1	DATE Sep 2023	DWG NO. CAS/2023/190	REV.

Please do not scale off this drawing. Tree locations not plotted to a topographical survey so locations cannot be confirmed, Dwg is to scale as indicated above.

KEY



REV. DATE INITIALS DETAILS			
CLIENT Architek Design/Planning Ltd		DWG. TITLE Tree Protection Plan	
SITE Land at Cherry Dene, Norwood Lane, Meopham, Gravesend, DA13 0HX			
DRAWN BY BJS	CHECKED BY BJS	SCALE 1:500 @ A1	DATE Sep 2023
		DWG NO. CAS/2023/190	REV.

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