



Arboricultural Impact Assessment & Method Statement

Old Laundry, Epping

For and behalf of

Troy Homes

CA Ref: CA18/013

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Corsican Associates

Landscape Architecture and Arboriculture services.

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Introduction

Corsican Associates have been commissioned by Troy Homes to undertake a detailed tree survey and an Arboricultural Implications Assessment for the site at The Old Laundry, Bower Hill, Epping.

It is proposed to develop the site through the demolition of derelict structures and construction of a residential development including basement level parking provisions required to serve a development of this scale.

A site survey of the existing vegetation on and adjacent to the site was undertaken by Daniel Gospel on 23.03.2018.

This report should be read in conjunction with the following plans and schedules as provided within the appendices of this document:

Tree survey Schedule – Appendix 1

Arboricultural Impact Assessment Plan – Appendix 2

Tree Protection Plan – Appendix 3

Aims and Objectives of the Report

The purpose of this report is to:

- Clearly identify and evaluate the significant vegetation on and adjacent to the subject site
- Identify and report on any Legal restrictions to tree works which might affect the site e.g. TPO or Conservation Areas
- Identify and report on any initial tree works which may be required to make safe the existing tree stock in the period preceding development
- Inform the design of the development by quantifying the constraints or opportunities provided by the trees
- Provide an objective assessment of the likely effect that the stages of the development could have on existing vegetation
- Determine the significance of such impact in landscape terms
- Make recommendation for appropriate methods to be adopted to reduce or mitigate for any potentially negative impacts
- Make recommendation for appropriate tree planting to provide a long-term sustainable tree population within the developed context of the site

Survey Methodology

The survey is concerned with the Arboricultural aspects of the site only.

The trees on site have been surveyed and classified in accordance with British Standard 5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations'. Tree survey data has been collated in the survey schedule at Appendix 1.

The baseline survey was undertaken using the Visual Tree Assessment methodology to conduct a preliminary assessment of the above ground portion of the tree.

Trees are large dynamic organisms whose health and condition can change rapidly, therefore due to the changing nature of trees and other site considerations, this report and any recommendations made within only remain valid for the 12-month period following the site survey (23.03.2018); after which time the survey may require updating.

The survey was undertaken from ground level with the aid of binoculars, no excavations were carried out nor soil or root samples taken. Where a more detailed assessment/inspection of a particular feature/defect is deemed necessary it has been recommended in the survey schedule.

No aerial inspection nor invasive probing or drilling has been undertaken as part of this assessment.

Where trees are inaccessible for close inspection either due to physical or legal restrictions or for the purpose of surveyor safety, they have been inspected from a distance with all dimensions estimated; in these instances, the survey may only relate to those parts of the tree which were visible from available vantage points.

Legal Constraints to Tree Works/ Removals

Tree Preservation Orders or Conservation Areas

At the time of writing this report it has not been possible from basic desktop searches to determine the presence of any Tree Preservation Orders or Conservation Area designation affording legal protection to trees on or adjacent to this site.

Until permission for development has been granted for a scheme which shows the trees to be removed, the status of legal protection should be verified with the Local Planning Authority prior to undertaking any tree works on the site.

Felling licence

To help protect Britain's forests, a felling licence from the Forestry Commission is required to fell trees. It is an offence to fell trees without a licence if an exemption does not apply.

Provided that no tree removals are undertaken on the site prior to obtaining detailed planning permission for a scheme showing removal of the trees a felling licence should not be required.

The Site and Existing Trees

Site Description

The site is land to the west of Bower Hill, Epping and consists of a derelict arrangement of old burnt down laundry buildings as well as domestic garages and two residential buildings at the road frontage. Topography is uneven and complex with a range of level changes throughout the site relating to past periods of construction on the site. The site is bounded to the north by the rear gardens of residential properties on Bower Vale, east by the road frontage of Bower Hill, south by and industrial/commercial site and west by a tree covered embankment along the edge of a railway line.

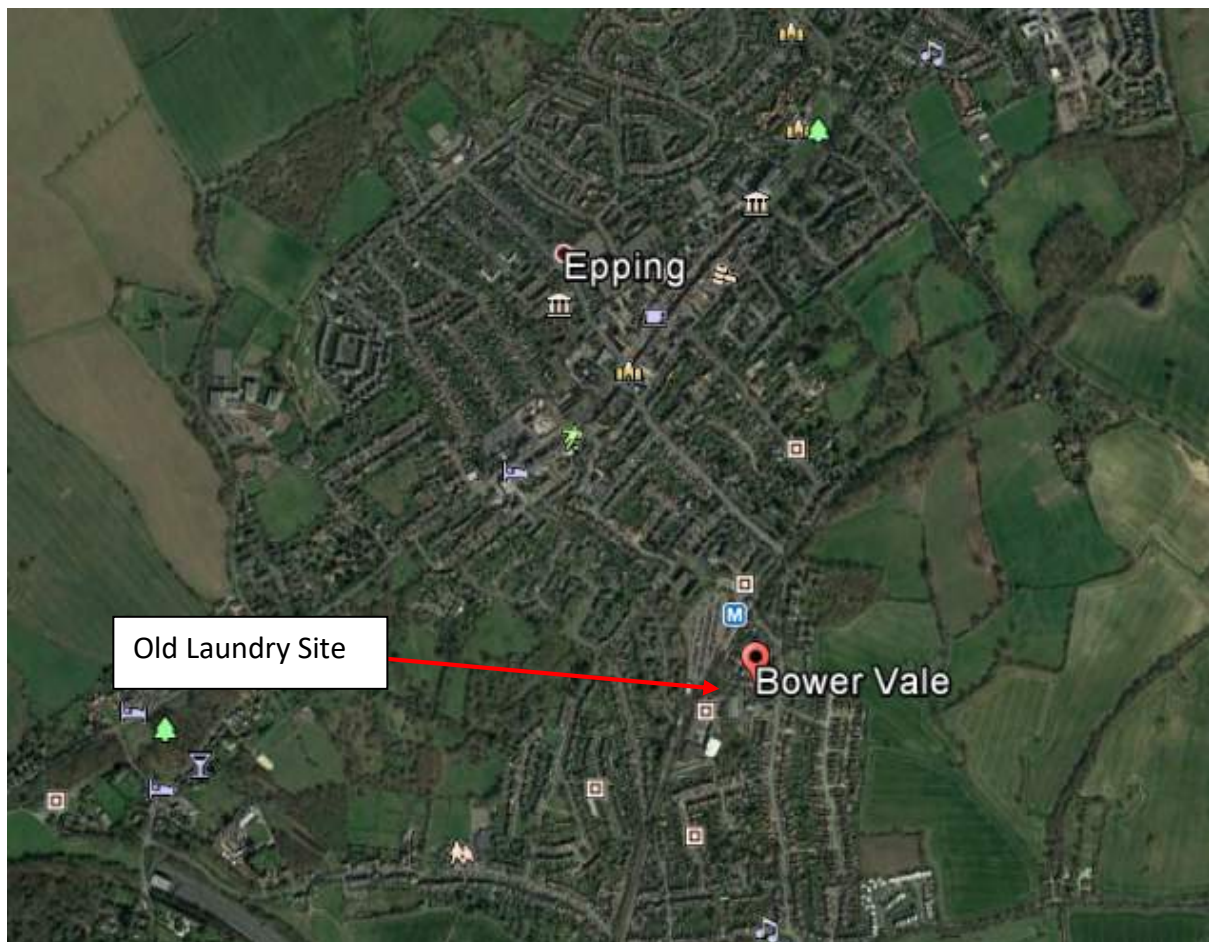
Address of site

Old Laundry
Bower Hill
Epping

Grid reference

TL462014

Figure 1: site location map



Overview of Existing trees on site

General description of tree population – The sites trees are predominantly Ash, Sycamore and Willow specimens self-sown from the offsite trees along the railway embankment (G2). A small number of trees (T8, T9, T10, T11) appear to have been deliberately planted at the southern boundary of the site to create some screening from the adjacent commercial area. The remaining trees are small ornamental varieties associated with the gardens of the residences to the east of the site. None of the onsite trees is of sufficient quality to achieve Category B rating by the BS5837:2012 survey method. Offsite trees to the south of the site add to boundary screening/softening but are individually of low quality.

Landscape significance - With the exception of trees along the railway embankment the sites trees have very little significance in the wider landscape.

Amenity Value - Some amenity value is afforded by trees in G2 along the railway embankment but as none of the specimens are of particular quality this value is limited.

Trees of particular note – GOOD – no trees included within this site survey are of sufficient quality to achieve either category A or B rating according to the BS5837:2012 survey method.

Trees of particular note – BAD – Seven individual trees and one group of trees included within the survey either feature severe defects of structure, are diseased or dead. These trees have been designated Category U in accordance with the BS5837:2012 survey method.

Root Distribution – In order to establish the significance of the development on off site trees to be retained (G2) trial trenches were dug at the site boundary as illustrated in figure 1 and figure 2 below. The trenches revealed significant ground disturbance and remnants of retaining wall structures which preclude any concern for significant root development into the site from these trees. The RPA for G2 trees has therefore been amended to reflect the likely root distribution as shown on AIA and TPP plans.

Figure 1 - trench between boundary fence and derelict building structure



Figure 2 – Trench along boundary fence showing old retaining wall footing



Remedial Tree works

As part of the initial survey works several trees were identified which require management irrespective of the outcomes of any planning application for the development of the site; but may still require permission in order to avoid potential breach of legislation as identified above in the section entitled Statutory Tree Protection.

These works have been identified due to potential risks posed by the trees to users of the site or surrounding areas within the existing site context and are fully detailed within the works section of the tree survey schedule along with the recommended timeframe for their completion at Appendix 1.

All proposed works will be completed in accordance with best practice guidance 'BS3998:2010 Tree Work Recommendations' unless otherwise stated.

Failure to complete the recommended tree works within the recommended timeframes may render the landowner (or other responsible party) liable to prosecution in the event of any incident whereby harm is caused to any person where the incident was foreseeable and appropriate management action had not been taken.

Summary of Proposed Development Impact on Vegetation

The following tables provide a brief overview of the survey and development impacts:

| Tree Survey Summary | A | B | C | U | Total |
|---------------------|---|---|----|---|-------|
| Trees | 0 | 0 | 18 | 7 | 25 |
| Groups | 0 | 0 | 6 | 1 | 7 |
| Hedges | 0 | 0 | 3 | 0 | 3 |
| Woodlands | 0 | 0 | 0 | 0 | 0 |

| Tree Removals Summary | A | B | C | U | Total |
|-----------------------|---|---|----|---|-------|
| Trees | 0 | 0 | 14 | 6 | 21 |
| Groups | 0 | 0 | 4 | 1 | 5 |
| Hedges | 0 | 0 | 2 | 0 | 2 |
| Woodlands | 0 | 0 | 0 | 0 | 0 |

| Summary of Trees requiring pruning/surgery or partial removal (groups) due to development impact | A | B | C | U | Total |
|--|---|---|---|---|-------|
| Trees | 0 | 0 | 2 | 0 | 2 |
| Groups | 0 | 0 | 1 | 0 | 1 |
| Hedges | 0 | 0 | 1 | 0 | 1 |
| Woodlands | 0 | 0 | 0 | 0 | 0 |

| Summary of Trees which necessitate specialist construction methods e.g. piled foundations or Reduced-dig surfacing in RPA | A | B | C | U | Total |
|---|---|---|---|---|-------|
| Trees | 0 | 0 | 0 | 0 | 0 |
| Groups | 0 | 0 | 0 | 0 | 0 |
| Hedges | 0 | 0 | 0 | 0 | 0 |
| Woodlands | 0 | 0 | 0 | 0 | 0 |

Impacts of The Proposed Development on Existing Trees

Trees differ in their tolerance of pruning, surgery, disturbance to roots and root loss according to their species, condition, individual physiology and their age. Each tree is assessed according to its own merits or limitations against the likely impacts during the high intensity period of development activity, as well as for its potential value within the finished development.

A significant part of the assessment of potential development impact on trees relates to underground parts of the tree (roots). Whilst root growth, is typically concentrated in the top metre of soil, distribution can be affected by existing site features or activities, including existing natural and man-made topography, structures that can restrict tree root growth, hard surfacing which can encourage or discourage root development or regular ploughing which may cause deeper root development. As actual root development is widely variable and difficult to predict consideration is given to all relevant factors wherever possible when ascertaining the viability of tree retention.

Tree Removals

In order to achieve the successful construction of the proposed development twenty-two trees, five groups of trees and 2 hedges are required to be removed as illustrated on the Arboricultural Impact Assessment Plan at Appendix 2 and detailed in the following summary table:

| Tree Number | BS Category | Reason for Removal |
|-------------|-------------|---|
| G1 | C | Conflicts with proposed structures. |
| G3 | C | Conflicts with proposed structures. |
| G5 | C | Conflicts with proposed structures. |
| G6 | C | Conflicts with proposed structures. |
| G7 | U | Unsuitable for retention due to defects and/or disease. |
| H1 | C | Conflicts with proposed structures. |
| H3 | C | Conflicts with proposed structures. |
| T1 | U | Unsuitable for retention due to defects and/or disease. |
| T2 | U | Unsuitable for retention due to defects and/or disease. |
| T3 | C | Conflicts with proposed structures. |
| T5 | U | Unsuitable for retention due to defects and/or disease. |
| T7 | U | Unsuitable for retention due to defects and/or disease. |
| T8 | C | Conflicts with proposed structures. |
| T9 | C | Conflicts with proposed structures. |
| T10 | C | Conflicts with proposed structures. |
| T11 | C | Conflicts with proposed structures. |
| T12 | C | Conflicts with proposed structures. |
| T13 | C | Conflicts with proposed structures. |
| T16 | U | Unsuitable for retention due to defects and/or disease. |
| T17 | C | Conflicts with proposed structures. |
| T18 | C | Conflicts with proposed structures. |
| T19 | C | Conflicts with proposed structures. |
| T20 | C | Conflicts with proposed structures. |
| T21 | U | Unsuitable for retention due to defects and/or disease. |
| T22 | C | Conflicts with proposed structures. |

| Tree Number | BS Category | Reason for Removal |
|-------------|-------------|-------------------------------------|
| T23 | C | Conflicts with proposed structures. |
| T24 | C | Conflicts with proposed structures. |
| T25 | C | Conflicts with proposed structures. |

The tree removals required to achieve the proposed development as listed in the summary table above will have a moderate impact on the immediate locality and little impact on the wider landscape.

Tree Surgery and Pruning

In order to achieve the successful construction of the proposed development two trees, one group of trees and one hedge require to be subject to surgery or pruning either above or below ground as illustrated on the Arboricultural Impact Assessment Plan at Appendix 2 and detailed in the following summary table:

| Tree Number | BS Category | Surgery/Pruning Specification |
|-------------|-------------|---|
| G2 | C | Reduce overhanging crown back to boundary. |
| H2 | C | Trim face back to boundary and root prune to back edge of proposed hard surface. |
| T4 | C | Prune overhanging branches back to boundary. Root prune to the outer edge of construction within RPA. |
| T6 | C | Prune overhanging branches back to boundary. Root prune to the outer edge of construction within RPA. |

N.B. All tree surgery and pruning works will be specified and completed in accordance with BS 3998:2010 'Tree Works – Recommendations'.

Tree Planting

In order to mitigate for the tree removals which are necessary to achieve the proposed development a scheme of replacement tree planting should be included within the site landscape proposals where appropriate to do so.

Tree protection

Tree Protection Fencing

Following completion of site vegetation clearance, the existing boundary fencing will be sufficient to provide the function of Tree protection fencing on this site.

The provision of tree protection fencing will create a Construction Exclusion Zone (CEZ) where no site activity will be permitted.

For full details of tree protection systems please refer to Arboricultural Method Statement and BS5837:2012 GUIDELINES.

Temporary Access to Construction exclusion zone

If an unforeseen requirement for access to the CEZ should arise this will be notified to the project arboriculturalist who will devise a suitable system of tree protection and provide suitable supervision for the duration of works prior to entering the exclusion zone. The nature, duration and outcomes of activities within the CEZ will be recorded by the project arboriculturalist.

Access to site

Access for development related traffic is proposed to the east of the site from Bower Hill road. No trees are required to be removed or otherwise subject to impact to enable this access route.

Site Office, Welfare Facilities and Parking

At the time of writing insufficient information is available to determine what site facilities will be required. On this site, there is ample available space to accommodate these facilities outside of the CEZ defined by the tree protection barriers as illustrated on the Tree Protection Plan at Appendix 3 therefore it is anticipated that no conflict need arise.

Spoil, Waste and Materials Handling/Storage/Mixing

Inert and/or Bulk Materials

At the time of writing insufficient information is available to determine what site facilities will be required. On this site, there is ample available space to accommodate the stockpiling of chemically inert materials (soil, aggregates, bricks, blocks, timber, tiles, plastics, metals, ceramics) outside of the CEZ defined by the tree protection barriers as illustrated on the Tree Protection Plan at Appendix 3 therefore it is anticipated that no conflict need arise.

Cement/Silos/Mixing/Wash Out Areas/Marine Aggregates

All facilities for the storage, mixing or cleaning down of any cement based product or marine aggregates will be located outside of the CEZ defined by the tree protection barriers as illustrated on the Tree Protection Plan at Appendix 3. Care will be taken to locate these facilities in a location where there is no danger of runoff entering the CEZ or where such a location is unavailable due to site topography a suitable system of measures will be installed to prevent the occurrence of such incidents (ditches, bunds, membranes).

Chemicals/Lubricants/Fuels/Admixtures – any phytotoxic materials

All facilities for the storage, mixing, filling or disposal of any potentially phytotoxic materials (harmful to plants) will be located outside of the CEZ defined by the tree protection barriers as illustrated on the Tree Protection Plan at Appendix 3. All chemicals will be stored in an appropriate container (bunded tanks where necessary) as defined by best practice for chemical storage. Care will be taken to locate these facilities in a location where in the event of a spillage there is no danger of runoff entering the CEZ or where such a location is unavailable due to site topography a suitable system of measures will be installed to prevent the occurrence of such incidents (ditches, bunds, membranes).

Demolition

Structures

Demolition of structures is required in close proximity to retained trees. In this instance the trees are outside of site ownership and therefore care will be required to prevent damage to the trees during demolition works.

Provided that demolition is completed by machinery operating from within the site using a “top down, pull back” method away from retained trees there should be no significant risk to trees therefore supervision of demolition should not be required.

Services

Removal of underground services is not anticipated to affect any trees to be retained therefore no arboricultural impacts are envisaged.

Site Preparation, Civilising and Soil Stripping

Following completion of demolition works and site set up it is common practice to prepare the site for construction stages by levelling out the site and/or stripping and stockpiling of topsoil. Provided that these works are not undertaken until after the CEZ is correctly established with all tree protection measure correctly installed there will be no encroachment into these areas and therefore no arboricultural impact can occur.

It is imperative that all construction areas located within RPA's (specialist foundations, reduced-dig surfacing) area clearly marked and protected from excavation or compaction until such time as their construction is undertaken.

Construction

Structures Close to Retained Trees

The proposed structures are located in close proximity to trees to be retained (G2, H2, T4, T6). In order to enable proper construction access, including provision for the placement of scaffolding and space to operate site machinery it will be necessary to prune these specimens above and/or below ground to enable safe and practical construction.

Foundation design

In order to achieve the basement level construction and implementation of load bearing foundations it is understood that a system of sheet piling will be used along the eastern boundary; this will prevent any requirement for excavation into the RPA of retained off site trees.

Where the proposed basement construction extends within the RPA of T4 and T6 it will be necessary to undertake root pruning to relieve the root constraint. The root pruning in combination with crown reduction works proposed will be moderate but that the impact should be sustainable in balance with the remaining crown mass. The low quality and short remaining life expectancy dictate that this specimen is not considered a significant constraint to the successful development of the site.

All proposed foundations should account for the existing trees and vegetation (retained or otherwise) and their influence on the surrounding soil moisture and changes in seasonal demand. All foundations should be designed by chartered structural engineer.

Hard surfaces in Root Protection Area of trees

Following completion of the recommended root pruning there are no new hard surfaces proposed within the root protection areas of trees to be retained therefore no Arboricultural implications are anticipated.

Services in Root Protection Area of trees

At the time of writing no details are available on the services installations required to support the proposed development. It is anticipated that full detailed service designs will be produced at a later stage. Unless there is an overriding reason all service installations will be designed in such a way as to allow for their installation and connection without compromising the above or below ground constraints posed by the sites trees to be retained.

Where it is not possible to avoid these areas previously unforeseen impact on trees may be unavoidable therefore further assessment of the impact of services will be required; where if possible suitable working methods will be devised to sufficiently reduce the impact to enable retention of the trees. If further tree removals are required because of service installation replacement tree planting will be recommended as appropriate.

Level Changes in Root Protection Areas

Tree roots are generally concentrated in the upper metre of soil where there is the greatest availability of water from rainfall, nutrients from topsoil and oxygen from the atmosphere. Typically, there are high numbers of fine feeder roots within the top 300mm of soil which perform the bulk of water and nutrient uptake for the tree. Excavation in the root

environment however shallow has the potential to significantly damage the trees root system and building up or covering the ground above has the potential to asphyxiate and significantly reduce the performance of normal root function. In many cases either of these events occurring during development results in prolonged decline of the tree and eventual death caused by secondary pathogens or nutrient starvation.

On this site, the topography is uneven and potential level changes, grading and remodelling may be required to achieve the proposed development. At the time of writing no details are available on the proposed finished levels. It is anticipated that full details of finished levels will be produced at a later stage. Unless there is an overriding reason all ground levels within the root protection areas of trees to be retained will be maintained as existing. Where it is not possible to avoid these areas previously unforeseen impact on trees may be unavoidable therefore further assessment of the impact of services will be required; where if possible suitable working methods or engineering will be devised to sufficiently reduce the impact to enable retention of the trees in a healthy state. If further tree removals are required because of necessary, level changes additional replacement tree planting will be recommended as appropriate.

Soft Landscaping in Root Protection Areas

A landscape scheme can be successfully achieved without significant impact to retained trees provided that the working principles set out within the AMS are complied with in full.

Post Development Implications of Tree Retention and Mitigation Planting

Tree Planting Methodology

Tree planting included within the soft landscape proposals should mitigate the tree losses proposed above and will improve the general landscape around the development bringing a new age class of trees into the site; which further helps to ensure trees exist on site for many years to come.

Existing Trees to new development

The trees included for retention within the development proposals have been selected for their long term viability within the developed setting and should provide considerable benefit to the site in the future if afforded appropriate maintenance and care.

Conclusions

The proposed development offers a substantial, well designed addition to Epping and has been conceived so as to have little impact on the arboricultural amenity value of the site.

It is necessary to remove 21 trees, two hedges and five groups of trees in order to achieve the proposed development. None of the trees required to be removed is of sufficient quality to achieve higher than a C rating in accordance with the BS5837:2012 survey method. Six individual trees and one group of trees are of very low quality, are rated category U and are recommended for removal irrespective of the development proposals.

The tree removals required in order to achieve the successful construction of the proposed development will be mitigated through the inclusion of more suitable and sustainable species choice; to be detailed in the site landscape proposals.

Two trees, one group of trees and one hedge require remedial surgery or pruning either above or below ground to accommodate the proposed development.

Appropriate provision of tree protection measures as set out on Tree Protection Plan CA18/013-03 will ensure that the trees are retained in safe and healthy condition for the benefit of future residents, other site users and neighbouring landowners.

Recommendations

It is recommended that the advice contained within this report is adhered to in full throughout the development process in order to ensure the best possible outcome for the arboricultural values of the site.

Report written by

Daniel Gospel ND Arb
Arboricultural Consultant
Corsican Associates

Arboricultural Method Statement

Introduction

This method statement is written, taking guidance from BS5837:2012 and BS3998:2010. These set out guidance to the protection of existing trees through demolition to completion.

BS 5837: 2012 'Trees in relation to design, demolition and construction – Recommendations'

BS3998:2010 'Tree work. Recommendations'

Purpose

The purpose of this report is to aid the preservation of trees shown to be retained on the Tree protection plan in appendix 3 during the proposed construction works by setting out the tree protection methods, construction techniques and working practices that are to be adopted in their vicinity with supervision where required. The success of the document is dependent upon development adhering to the principles set out within, which are to be approved and enforced by the local planning authority.

Methodology

With reference to relevant published guidance BS5837:2012 and BS3998:2010, the methodology of this statement follows a logical sequence essential to the efficacy of the protection measures.

Sequenced Methods of Construction and Tree Protection

Phase 1: Execute Agreed Tree Works

Phase 2: Tree Protection Barriers

Phase 3: Ground protection

Phase 4: Demolition

Phase 5: Ground works

Phase 6: Construction

Phase 7: Dismantling Protection Barriers and Landscaping Works

Phase 1 - Execute Agreed Tree Works

All tree works are to conform to BS 3998:2010 'Tree Work' (with amendments) and to the current Arboricultural best practice. Tree works are to be undertaken by a professional and specialist Arboricultural contractor, who carries the appropriate experience, qualifications and insurance cover.

The following trees are to be removed or pruned to facilitate the development and remedial works.

| Tree Number | BS Category | Reason for Removal |
|-------------|-------------|---|
| G1 | C | Conflicts with proposed structures. |
| G3 | C | Conflicts with proposed structures. |
| G5 | C | Conflicts with proposed structures. |
| G6 | C | Conflicts with proposed structures. |
| G7 | U | Unsuitable for retention due to defects and/or disease. |
| H1 | C | Conflicts with proposed structures. |
| H3 | C | Conflicts with proposed structures. |
| T1 | U | Unsuitable for retention due to defects and/or disease. |
| T2 | U | Unsuitable for retention due to defects and/or disease. |
| T3 | C | Conflicts with proposed structures. |
| T5 | U | Unsuitable for retention due to defects and/or disease. |
| T7 | U | Unsuitable for retention due to defects and/or disease. |
| T8 | C | Conflicts with proposed structures. |
| T9 | C | Conflicts with proposed structures. |
| T10 | C | Conflicts with proposed structures. |
| T11 | C | Conflicts with proposed structures. |
| T12 | C | Conflicts with proposed structures. |
| T13 | C | Conflicts with proposed structures. |
| T16 | U | Unsuitable for retention due to defects and/or disease. |
| T17 | C | Conflicts with proposed structures. |
| T18 | C | Conflicts with proposed structures. |
| T19 | C | Conflicts with proposed structures. |
| T20 | C | Conflicts with proposed structures. |
| T21 | U | Unsuitable for retention due to defects and/or disease. |
| T22 | C | Conflicts with proposed structures. |
| T23 | C | Conflicts with proposed structures. |
| T24 | C | Conflicts with proposed structures. |
| T25 | C | Conflicts with proposed structures. |

| Tree Number | BS Category | Surgery/Pruning Specification |
|-------------|-------------|---|
| G2 | C | Undertake precautionary root pruning during supervised demolition and excavation for foundations within RPA. Reduce overhanging crown back to boundary. |
| H2 | C | Trim face back to boundary and root prune to back edge of proposed hard surface. |
| T4 | C | Prune overhanging branches back to boundary. Root prune to the outer edge of construction within RPA. |
| T6 | C | Prune overhanging branches back to boundary. Root prune to the outer edge of construction within RPA. |

Remedial tree works:

Where remedial tree works required to trees to be retained have been identified as part of the preliminary survey, these are set out in tree survey schedule data in appendix 1 and should be actioned in accordance with the specified timescales irrespective of development proposals or planning approval. Where applicable these works may be subject to legal restrictions as detailed in the AIA report.

Phase 2 - Tree Protection Barriers

In order to protect retained trees from root damage caused by storage of materials, vehicular movement or construction parking, protection barriers will be erected to exclude trees from the construction site. Once installed the Barriers will form a construction exclusion zone (CEZ) to be maintained and observed until completion of the development.

On this site there are no trees to be retained within the main site area. Sufficient protection is afforded to offsite trees by existing boundary fencing therefore no additional tree protection fencing will be required.

In the unforeseen event that access is required within the CEZ for any purpose the contractor (or any other person requiring entry) will contact the project arboriculturalist who will determine the proper means of access and tree protection. Any unforeseen or unapproved works within the CEZ must not be commenced without the prior written permission of an appropriate LPA representative.

Phase 3 – Ground protection

Where sufficient tree protection cannot be achieved through the erection of protective fencing due to site constraints or required access space in proximity to retained trees a ground protection system will be installed as shown on the Tree Protection Plan.

Ground protection will be laid prior to any construction activity within the RPA of any retained tree.

Pedestrian and light traffic: Where ground protection is required for pedestrian access or if machinery weight causes less pressure than 55 kPa (this is the average ground pressure caused by a human) the specification for ground protection is for a geotextile membrane to be laid across the unaltered ground (50mm turf layer scraping is acceptable) and covered with a compressible inert aggregate or mulch layer (e.g. sharp sand or woodchip) not less than 75mm depth topped with a wearing surface such as 10mm plywood or proprietary ground plate system (e.g. groundtrax etc). The surface will be pinned down to the ground through the lower layers to provide a secure surface for the duration of works.

N.B. The final surface options should be suitable to last the duration of the systems requirement and should consider the required use with regard to safe use (e.g. non-slip).

Vehicular and traffic: Where ground protection is required to carry vehicular loads up to those of normal highway traffic the specification will be a layer of geotextile e.g. Terram 4000 with excess width to either edge of minimum 500mm upon which will be layed ground-guards GG48 (or similar approved) laid a minimum of 3 wide or more depending upon vehicle tracking requirements to cover all areas of accessible RPA, these should be centred in the middle of the geotextile, so there is 500mm either side of the track way of geotextile, then a minimum of 150mm woodchip which will cover the width of geotextile, with a final layer of ground-guards GG48 laid to the width and length of required ground protection.

Heavy Site Traffic: Where large construction related vehicles or machinery is required to cross the RPA of any retained tree a bespoke system of ground protection will be required to be designed by an engineer in conjunction with the project arboriculturalist and approved by the LPA.

Phase 4 - Demolition

No demolition works will commence until tree protection barriers are installed as described at Phase 2. Where necessary to enable safe working an alternative temporary system of tree protection may be designed by the project arboriculturalist in conjunction with the demolition contractors and implemented in line with the principles set out at phases 2 and 3.

Lightweight Structures and Hard Surfaces

Lightweight structures and hard surfacing be removed within the RPA can be broken up using a vehicle mounted pneumatic drill operating from ground outside the RPA, on temporary ground protection or working on the hard-standing moving backwards as the surface is broken up. At no point will the vehicle enter soft ground within the RPA. Material can then be removed by hand without supervision, but if a vehicle is to be used supervision by the project arboriculturalist will be required.

All operatives, vehicles or machinery will remain outside of any unsurfaced RPA or will follow ground protection specifications as detailed at phase 3.

Larger Structures – Buildings or other

Demolition of large structures in proximity to trees to be retained will be completed under the supervision of the project arboriculturalist. Wherever possible machinery will operate entirely outside of the RPA and Crown spread of the tree and the structure will be pulled down and away from the tree “top down, pull back”. If necessary temporary barriers may be installed to protect the tree from falling/uncontrolled debris.

Where the demolition cannot be safely completed without adversely affecting the tree the project arboriculturalist will determine what course of action is required to minimise the impact on the tree and inform the LPA.

Phase 5 - Ground works

All machinery, vehicles and personnel involved in groundworks will operate entirely outside the CEZ as described at Phase 2. Where any access is required within the RPA of any retained tree the specifications for ground protection will be observed as set out at phase 3.

Spoil, including soil and rubble will be removed from site and not stored against any protection barriers or over any ground protection. Only predetermined access routes away from RPAs will be used to during this process.

Where approved excavation/re-grading is required within the RPA of any retained tree this will be completed under the supervision of the project arboriculturalist. Where it is safe to do so the excavation will be completed by hand digging or airspade to the required depth of excavation. If for safety reasons, mechanical excavation is required, this will be completed using a banksman to monitor careful excavation and identify any roots that are encountered. Any roots encountered which have diameter below 25mm will be cleanly trimmed back using sharp, sterile cutting tools (secateurs, pruning saw etc.) to remove any torn or ragged ends. Any root greater than 25mm diameter will be assessed for significance by the supervising arboriculturalist who will determine the appropriate course of action.

Where roots greater than 25mm diameter are encountered during normal excavation outside of the RPA defined on the Tree Protection Plan these will be cleanly pruned back to the excavated surface.

No excavation within any RPA other than those previously identified within the Arboricultural Impact Assessment will be made without prior consultation with the project arboriculturalist and where appropriate written permission from an appropriate LPA representative.

During re-grading or landscaping works all ground levels within RPA's will be maintained at existing ground level unless otherwise described above. Minor vegetation removal scrape of up to 50mm depth will be acceptable. Minor level increases of up to 150mm will be acceptable provided that only clean topsoil or organic mulch/materials are used.

No ground level increases greater than 150mm will be acceptable within any RPA without prior consultation with the project arboriculturalist who will determine by what means the infill material can be ameliorated to ensure no loss of root function beneath. Where necessary if not otherwise approved it may be necessary to gain the prior written consent of the LPA to any level changes greater than those described above within the RPA of any retained tree.

Phase 6 - Construction

Foundations

Where approved, construction of standard strip foundations within RPA's will follow the principles set out for excavation within RPA's as set out at Phase 5.

Where special foundation designs have been produced for structures within RPA's the construction will comply to the engineer's specifications.

Where structural load bearing roots are encountered which cannot be worked around and retained, the project arboriculturalist will determine what remedial options are available to compensate for the associated impact on stability of the tree.

If the tree cannot be safely retained without compromising the proper function of the foundation the tree will be removed and an appropriate replacement planting will be made.

Construction of Hard Standing, Drives and Parking Bays

On this site there are no hard surfaces proposed within the RPA of retained trees therefore no specialised construction measures are required from an arboricultural perspective.

Phase 7 - Dismantling Protection Barriers and Landscaping Works

Following completion of construction activity landscaping within the CEZ may commence.

A minimum of seven days' notice will be given to the local authority tree officer prior to the dismantling of the protection barriers.

Any landscaping once the barriers have been removed will avoid soil re-grading where possible and disturbance within the RPA and no soil levels be altered after the protection barriers have been removed.

No vehicles or machinery utilised for landscaping purposes will enter the RPA of any retained tree at any time.

There will be no mechanical excavation or cultivation of ground within RPA's at any time, and such cultivation will be completed either by hand or airspade to avoid unnecessary damage to tree roots.

Paving – Within RPA's any paving should be layed on the existing ground levels and be of permeable design in line with the principles set out for hard standing at phase 6. Where it is not possible to achieve the required levels by this means an alternative shallower specification may be utilised or otherwise excavation will be carried out under supervision of the project arboriculturalist and efforts made to retain as many roots as possible.

Planting – digging of planting holes will be completed by hand and any roots larger than 20mm retained undamaged. Planting holes may be relocated as required to enable the minimal impact on retained trees.

Fencing and Decking – post holes for fencing or decking within RPA's will be dug by hand or airspade and where flexibility of location allows will be placed to minimise impact on tree roots. Post holes will be lined with an impermeable membrane prior to setting of posts to prevent concrete chemical leaching into the root environment surrounding.

General Principles for Tree Protection

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 principals within.

If 360-degree excavators are to be used during construction, at no time is the excavating arm to encroach over the position of the protection barriers.

No fires are to be lit on site at any stage during the construction process. Unless prior agreed location is set.

Designated storage areas will 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. No materials will be stored or left stacked in positions around the site other than within the storage compound area.

Communication Details and Supervision

In order to ensure that the principals of tree protection set out in this statement and appended plans are adhered to, it is important to set out communication details for key individuals. All relevant parties should retain these details and they should be available on site at all times. Relevant parties will be advised of any changes in personnel or contractor during the development process.

Whilst any works are being carried out near the retained existing trees, these works will be supervised by the project arboriculturalist and a tool box talk will be given to each site operative to ensure there is no damage caused by their work. This will be followed up by a report will be sent to the council development management department. The report will show works undertaken and if any remedial works are required to the tree or its root zone of the retained trees.

Compliance

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.

Report written by

Daniel Gospel ND Arb
Arboricultural Consultant
Corsican Associates

Appendix 1: Tree survey schedule

BS5837:2012 Tree Survey

Corsican Associates

Client: Troy Homes
 Project: CA18/013 Old Laundry Epping
 Survey Date: 23/03/2018 - 24/03/2018
 Surveyor: Daniel Gospel



The Chestnuts
 Mill Road
 Buxhall
 Suffolk
 IP14 3DS
 Phone: 01449 737499

| Tree and Tag No Species | Hght (m) | Stems | | Crown | | Age | RP A (m ²) R (m) | Phys Condition | Structural Condition | Preliminary Recommendations Survey Comment | Cat ERC | | |
|-------------------------------|-------------|---------------|-----------|---------------|-------------------|-----|------------------------------------|-------------------|-------------------------|---|--|--------------|---|
| | | No | Ø (mm) | Spread (m) | Clear (m) | | | | | | | | |
| Estimated Measurements | | | | | | | | | | | | | |
| G1 | | | | | | | | | | | | | |
| A Group | 5 | 1 | 100 | N | 1.5 | 1 | Y | A: 4.5 | Fair | C: Fair | No action :: Unspecified | C.1 | |
| -- | | | | E | 1.5 | 1 | | R: 1.19 | | S: Fair | Group of young self set sycamore and ash scattered along unmanaged ground to western boundary. | 10 to 20 yrs | |
| | | | | S | 1.5 | 1 | | | | B: Fair | | | |
| | | | | W | 1.5 | 1 | | | | | | | |
| Estimated Measurements | | | | | | | | | | | | | |
| G2 | | | | | | | | | | | | | |
| A Group | 15 | 2 | 566 (Eq) | N | 4 | 3 | M | A: 144.8 | Fair | C: | No action :: Unspecified | C.2 | |
| -- | | | | E | 4 | 3 | | R: 6.78 | | S: | Mixed group of off site trees on railway embankment. No close access to make detailed assessment. Predominantly sycamore ash and oak. Mostly multi stemmed. Moderate screening value but no high quality individuals. | 10 to 20 yrs | |
| | | | | S | 4 | 3 | | | | B: | | | |
| | | | | W | 4 | 3 | | | | | | | |
| Estimated Measurements | | | | | | | | | | | | | |
| G3 | | | | | | | | | | | | | |
| A Group | 12 | 1 | 180 | N | 2.5 | 2.5 | SM | A: 14.7 | Fair | C: Poor | No action :: Unspecified | C.2 | |
| -- | | | | E | 2.5 | 2.5 | | R: 2.16 | | S: Poor | Poor group of etiolated semi mature ash goat willow and sycamore. No specimens of notable value. Several very poorly formed and many feature damage from abrasion against water tower and derelict structures. Provides very limited collective value in landscape due to low visibility location. | 10 to 20 yrs | |
| | | | | S | 2.5 | 2.5 | | | | B: Fair | | | |
| | | | | W | 2.5 | 2.5 | | | | | | | |
| Estimated Measurements | | | | | | | | | | | | | |
| G4 | | | | | | | | | | | | | |
| A Group | 11 | 1 | 250 | N | 2 | 4 | M | A: 28.3 | Fair | C: Fair | No action :: Unspecified | C.2 | |
| -- | | | | E | 3 | 3 | | R: 3 | | S: Poor | Off site group of goat willow growing close to chain link fence. No close access to survey. | 10 to 20 yrs | |
| | | | | S | 2 | 3 | | | | B: | | | |
| | | | | W | 3 | 3 | | | | | | | |
| Age Classifications: | N | Newly planted | EM | Early Mature | Condition: | | | C | Crown | Stems: | | Ø | Diameter |
| | Y | Young | M | Mature | | | | S | Stem | | | (Eq) | Equivalent stem diameter using BS5837:2012 definition |
| | SM | Semi-mature | OM | Over Mature | | | | B | Basal area | | | | |

| Tree and Tag No Species | Hght (m) | Stems | | Crown | | Age | RP A (m ²) R (m) | Phys Condition | Structural Condition | Preliminary Recommendations | | Cat ERC | |
|---|-------------|---------------|-----------|---------------|-------------------|-----|------------------------------------|-------------------|-------------------------|-----------------------------|------------------------------|---|---|
| | | No | Ø (mm) | Spread (m) | Clear (m) | | | | | Survey Comment | | | |
| Estimated Measurements | | | | | | | | | | | | | |
| G5 | | | | | | | | | | | | | |
| A Group | 8 | 1 | 140 | N | 2 | 1 | SM | A: 8.9 | Fair | C: Fair | No action :: Unspecified | C.2 | |
| -- | | | | E | 2 | 1 | | R: 1.68 | | S: Poor | | ----- Low quality group of buddleia sycamore ash and birch of poor form and/or ingrown onto chain link fence. Creates weak boundary screen. | 10 to 20 yrs |
| | | | | S | 2 | 1 | | | | B: Fair | | | |
| | | | | W | 2 | 1 | | | | | | | |
| Estimated Measurements | | | | | | | | | | | | | |
| G6 | | | | | | | | | | | | | |
| A Group | 8 | 1 | 300 | N | 3 | 2 | SM | A: 40.7 | Fair | C: Fair | No action :: Unspecified | C.2 | |
| -- | | | | E | 3 | 2 | | R: 3.59 | | S: Poor | | ----- Group of self down ash growing in in accessible space between garages and derelict building. No close access safely possible. Very unlikely to survive demolition without substantial damage. Very localised landscape value otherwise insignificant. Stem diameter estimated to vary between 200 and 300mm. | 10 to 20 yrs |
| | | | | S | 3 | 2 | | | | B: Poor | | | |
| | | | | W | 3 | 2 | | | | | | | |
| Estimated Measurements | | | | | | | | | | | | | |
| G7 | | | | | | | | | | | | | |
| Leyland Cypress <i>X Cupressocyparis leylandii</i> | 9 | 1 | 400 | N | 0.5 | 6 | M | A: 72.4 | Poor | C: Poor | Fell :: Fell to ground level | U.1 | |
| | | | | E | 1 | 5 | | R: 4.8 | | S: Poor | | ----- See Comment :: Unspecified | <10 yrs |
| | | | | S | 3 | 4 | | | | B: Poor | | | |
| | | | | W | 1 | 5 | | | | | | | |
| Estimated Measurements | | | | | | | | | | | | | |
| H1 | | | | | | | | | | | | | |
| A Hedgerow - <i>Unknown</i> | 2 | 1 | 80 | N | 1 | 0 | SM | A: 2.9 | Fair | C: Fair | No action :: Unspecified | C.1 | |
| | | | | E | 1 | 0 | | R: 0.96 | | S: Poor | | ----- Mixed hedge of buddleia loniscera ash and ivy intertwined with chain link fence. Sprawling and unmanaged to northern face. | 10 to 20 yrs |
| | | | | S | 1 | 0 | | | | B: Fair | | | |
| | | | | W | 1 | 0 | | | | | | | |
| Estimated Measurements | | | | | | | | | | | | | |
| H2 | | | | | | | | | | | | | |
| A Hedgerow - <i>Unknown</i> | 2 | 1 | 90 | N | 1 | 0 | SM | A: 3.7 | Fair | C: Fair | No action :: Unspecified | C.1 | |
| | | | | E | 0.5 | 0 | | R: 1.08 | | S: Poor | | ----- Scruffy hedge of hawthorn hazel and ivy. Provides screen but otherwise poor. | 10 to 20 yrs |
| | | | | S | 0.5 | 0 | | | | B: Fair | | | |
| | | | | W | 0.5 | 0 | | | | | | | |
| Estimated Measurements | | | | | | | | | | | | | |
| Age Classifications: | N | Newly planted | EM | Early Mature | Condition: | | | C | Crown | Stems: | | Ø | Diameter |
| | Y | Young | M | Mature | | | | S | Stem | | | (Eq) | Equivalent stem diameter using BS5837:2012 definition |
| | SM | Semi-mature | OM | Over Mature | | | | B | Basal area | | | | |

| Tree and Tag No Species | Hght (m) | Stems | | Crown | | Age | RP A (m ²) R (m) | Phys Condition | Structural Condition | Preliminary Recommendations | | Cat ERC | |
|---|-------------|---------------|-----------|---------------|-------------------|-----|------------------------------------|---------------------|-------------------------|-------------------------------|--|--|--|
| | | No | Ø (mm) | Spread (m) | Clear (m) | | | | | Survey Comment | | | |
| H3 | | | | | | | | | | | | | |
| A Hedgerow - <i>Unknown</i> | 1.5 | 1 | 75 | N | 0.3 | 0 | SM | A: 2.5 R: 0.89 | Fair | C: Fair S: Fair B: Fair | No action :: Unspecified ----- Close clipped privet hedge. | C.2 10 to 20 yrs | |
| T1 | | | | | | | | | | | | | |
| Sycamore <i>Acer pseudoplatanus</i> | 10 | 1 | 300 | N | 1 | 4 | SM | A: 40.7 R: 3.59 | Poor | C: Poor S: B: | ----- Fell :: Fell and treat stump(s) ----- Recently stripped pole of tree located at in accessible point between boundary fence and derelict building. Young shoots developing but unsustainable at this location. | Estimated Measurements U.1 <10 yrs | |
| T2 | | | | | | | | | | | | | |
| Sycamore <i>Acer pseudoplatanus</i> | 1.5 | 2 | 743 (Eq) | N | 0 | 0 | M | A: 250 R: 8.92 | Poor | C: S: B: Poor | ----- Large stump of twin stem tree located hard up against large cylinder/ storage tank. Major buttress roots to north are extensively decayed by kretzschmaria fungi. Felled recently - included for potential influence on foundation design. | Estimated Measurements U.1 <10 yrs | |
| T3 | | | | | | | | | | | | | |
| Common Ash <i>Fraxinus excelsior</i> | 14 | 2 | 552 (Eq) | N | 6 | 2.5 | M | A: 137.7 R: 6.62 | Fair | C: S: Ivy B: Poor | Ivy :: Sever/remove ivy ----- Ivy covered leaning twin stem with tight basal Union. Stem and crown structure impossible to assess due to heavy ivy cover. | Estimated Measurements C.2 10 to 20 yrs | |
| T4 | | | | | | | | | | | | | |
| Common Oak <i>Quercus robur</i> | 3 | 1 | 650 | N | 0 | 0 | M | A: 191.2 R: 7.8 | Poor | C: S: B: | ----- Large off site tree stump leans towards site. No access to assess stem base. Dead ivy clinging limits inspection. Felled recently and included in survey due to potential influence on foundation design. | Estimated Measurements U.1 <10 yrs | |
| T5 | | | | | | | | | | | | | |
| Common Ash <i>Fraxinus excelsior</i> | 7 | 2 | 566 (Eq) | N | 5 | 0 | Dead | A: 144.8 R: 6.78 | Dead | C: S: B: | Fell :: Fell to ground level ----- Dead fallen tree heavily covered in ivy resting on shed and water tower. | Estimated Measurements U.1 n/a | |
| | | | | E | 8 | 0 | | | | | | | |
| | | | | S | 1 | 0 | | | | | | | |
| | | | | W | 1 | 0 | | | | | | | |
| Age Classifications: | N | Newly planted | EM | Early Mature | Condition: | | | C | Crown | Stems: | Ø | Diameter | |
| | Y | Young | M | Mature | | | | S | Stem | | (Eq) | Equivalent stem diameter using BS5837:2012 definition | |
| | SM | Semi-mature | OM | Over Mature | | | | B | Basal area | | | | |

| Tree and Tag No Species | Hght (m) | Stems | | Crown | | Age | RP A (m ²) R (m) | Phys Condition | Structural Condition | Preliminary Recommendations | | Cat ERC |
|--|-------------|---------------|-----------|---------------|-------------------|-----|------------------------------------|---------------------|-------------------------|-------------------------------|--|---|
| | | No | Ø (mm) | Spread (m) | Clear (m) | | | | | Survey Comment | | |
| Estimated Measurements | | | | | | | | | | | | |
| T6 | | | | | | | | | | | | |
| Goat Willow <i>Salix caprea</i> | 11 | 6 | 588 (Eq) | N | 4 | 2.5 | M | A: 156.4 R: 7.05 | Fair | C: Fair S: Fair B: | No action :: Unspecified Off site multi stem goat willow. Broad spread to south and west. Ivy covers stems and restricted access prevents full inspection. Crown form suitable for reduction to boundary with little impact on value or health. | C.2 10 to 20 yrs |
| T7 | | | | | | | | | | | | |
| Goat Willow <i>Salix caprea</i> | 7 | 3 | 182 (Eq) | N | 3.5 | 2.5 | M | A: 15 R: 2.18 | Poor | C: Poor S: Poor B: Poor | Fell :: Fell to ground level Poor goat willow with basal decay. Ingrown into wire fencing. | U.1 <10 yrs |
| T8 | | | | | | | | | | | | |
| Sycamore <i>Acer pseudoplatanus</i> | 9 | 1 | 220 | N | 3 | 2.5 | SM | A: 21.9 R: 2.64 | Fair | C: Fair S: Poor B: Fair | No action :: Unspecified Poorly formed tree bifurcated at 1.5m. Contributes to boundary vegetation mass of low quality. | C.2 10 to 20 yrs |
| T9 | | | | | | | | | | | | |
| Sycamore <i>Acer pseudoplatanus</i> | 10 | 1 | 250 | N | 3.5 | 2 | SM | A: 28.3 R: 3 | Fair | C: Poor S: Poor B: Fair | No action :: Unspecified Stem bifurcated with compression fork at 1.5m. Crown form poor due to past topping. Contributes to low quality boundary vegetation. | C.1 10 to 20 yrs |
| T10 | | | | | | | | | | | | |
| Silver Birch <i>Betula pendula</i> | 10 | 1 | 240 | N | 4.5 | 2.5 | SM | A: 26.1 R: 2.88 | Fair | C: Fair S: Fair B: Fair | No action :: Unspecified Young birch located close to chain link fence. Off site crown lifting works leave wounds on main stem. | C.1.2 10 to 20 yrs |
| T11 | | | | | | | | | | | | |
| Sycamore <i>Acer pseudoplatanus</i> | 11 | 2 | 375 (Eq) | N | 4.5 | 3 | SM | A: 63.7 R: 4.5 | Fair | C: Fair S: Poor B: Fair | No action :: Unspecified Stem bifurcates with included bark in compression fork at 1.3m. | C.1.2 10 to 20 yrs |
| Age Classifications: | N | Newly planted | EM | Early Mature | | | | | | | | |
| | Y | Young | M | Mature | | | | | | | | |
| | SM | Semi-mature | OM | Over Mature | | | | | | | | |
| | | | | | Condition: | C | Crown | | | Stems: | Ø | Diameter |
| | | | | | | S | Stem | | | | (Eq) | Equivalent stem diameter using BS5837:2012 definition |
| | | | | | | B | Basal area | | | | | |

| Tree and Tag No Species | Hght (m) | Stems | | Crown | | Age | RP A (m ²) R (m) | Phys Condition | Structural Condition | Preliminary Recommendations | | Cat ERC |
|---|-------------|---------------|-----------|------------------|--------------------------|-----|------------------------------------|-------------------|-------------------------------|---|------------------------|---|
| | | No | Ø (mm) | Spread (m) | Clear (m) | | | | | Survey Comment | | |
| T12 | | | | | | | | | | | | |
| Common or Black Elder <i>Sambucas nigra</i> | 7 | 1 | 300 | N E S W | 3 2.5 3 2.5 | 3 | M A: 40.7 R: 3.59 | Fair | C: Poor S: Ivy B: | Ivy :: Sever only Large elder heavily covered in ivy and clematis. Sever ivy to assist in future assessment. | C.2 10 to 20 yrs | |
| T13 | | | | | | | | | | | | |
| Common or Black Elder <i>Sambucas nigra</i> | 4 | 1 | 150 | N E S W | 1.5 1 1.5 2.5 | 2 | M A: 10.2 R: 1.8 | Fair | C: Fair S: Poor B: Fair | No action :: Unspecified Small leaning elder. | C.1.2 10 to 20 yrs | |
| T14 | | | | | | | | | | | Estimated Measurements | |
| Cherry Laurel <i>Prunus laurocerasus</i> | 4 | 1 | 140 | N E S W | 1.5 1 1 1.5 | 1 | SM A: 8.9 R: 1.68 | Fair | C: Fair S: B: | No action :: Unspecified Off site cherry laurel overhanging boundary. | C.2 10 to 20 yrs | |
| T15 | | | | | | | | | | | Estimated Measurements | |
| Lawson Cypress <i>Chamaecyparis lawsoniana</i> | 8 | 1 | 150 | N E S W | 1.5 1.5 1.5 1.5 | | SM A: 10.2 R: 1.8 | Fair | C: S: B: | No action :: Unspecified Small lawsons cypress observed over roof of derelict building. No safe access possible. Presumed in rear garden of adjacent garden. | C.2 10 to 20 yrs | |
| T16 | | | | | | | | | | | Estimated Measurements | |
| Common Ash <i>Fraxinus excelsior</i> | 6 | 1 | 85 | N E S W | 1.2 0.5 1.2 1.5 | 0 | SM A: 3.3 R: 1.02 | Fair | C: Fair S: Poor B: Poor | No action :: Unspecified Small self sown tree growing out of gap between boundary retaining wall and hard surface. Ingrown into chain link. | U.1 <10 yrs | |
| T17 | | | | | | | | | | | | |
| Common Ash <i>Fraxinus excelsior</i> | 5.5 | 1 | 90 | N E S W | 1.2 1.5 1.3 1.2 | 2.5 | SM A: 3.7 R: 1.08 | Fair | C: Fair S: Fair B: Fair | Small ash. Typical form and condition. | C.2 10 to 20 yrs | |
| Age Classifications: | N | Newly planted | EM | Early Mature | Condition: | | | C | Crown | Stems: | Ø | Diameter |
| | Y | Young | M | Mature | | | | S | Stem | | (Eq) | Equivalent stem diameter using BS5837:2012 definition |
| | SM | Semi-mature | OM | Over Mature | | | | B | Basal area | | | |

| Tree and Tag No Species | Hght (m) | Stems | | Crown | | Age | RP A (m ²) R (m) | Phys Condition | Structural Condition | Preliminary Recommendations | | Cat ERC | |
|---|-------------|---------------|-----------|---------------|-------------------|-----|------------------------------------|--------------------|-------------------------|-------------------------------|---|---|---|
| | | No | Ø (mm) | Spread (m) | Clear (m) | | | | | Survey Comment | | | |
| T18 | | | | | | | | | | | | | |
| Common Hawthorn <i>Crataegus monogyna</i> | 4 | 1 | 75 | N | 0.5 | 1.5 | Y | A: 2.5 R: 0.89 | Fair | C: Fair S: Fair B: Fair | No action :: Unspecified ----- Young self set hawthorn. | C.2 20 to 40 yrs | |
| T19 | | | | | | | | | | | | | |
| Common Hawthorn <i>Crataegus monogyna</i> | 5 | 1 | 140 | N | 2.3 | 1 | SM | A: 8.9 R: 1.68 | Fair | C: Fair S: Ivy B: Fair | No action :: Unspecified ----- Small ivy covered hawthorn | C.2 20 to 40 yrs | |
| T20 | | | | | | | | | | | | | |
| Myrobalan Plum <i>Prunus cerasifera</i> | 5.5 | 1 | 140 | N | 2 | 1.3 | SM | A: 8.9 R: 1.68 | Fair | C: Fair S: Ivy B: | No action :: Unspecified ----- Small ivy covered wild plum. | C.2 10 to 20 yrs | |
| T21 | | | | | | | | | | | | | |
| Unknown -- | 5 | 1 | 250 | N | 2 | 2 | Dead | A: 28.3 R: 3 | Dead | C: Poor S: Poor B: Poor | Fell :: Fell to ground level ----- Dead tree. | Estimated Measurements U.1 <10 yrs | |
| T22 | | | | | | | | | | | | | |
| Leyland Cypress <i>X Cupressocyparis leylandii</i> | 5 | 1 | 130 | N | 1 | 0 | | SM | A: 7.6 R: 1.55 | Fair | C: Fair S: Fair B: Fair | ----- Small leylandii. | Estimated Measurements C.1 10 to 20 yrs |
| T23 | | | | | | | | | | | | | |
| Common Laburnum <i>Laburnum anagyroides</i> | 4 | 8 | 156 (Eq) | N | 1.5 | 1.5 | SM | A: 10.9 R: 1.86 | Fair | C: Fair S: B: | ----- Typical laburnum. Insignificant to wider landscape. | Estimated Measurements C.1 10 to 20 yrs | |
| Age Classifications: | N | Newly planted | EM | Early Mature | Condition: | | | C | Crown | Stems: | | Ø | Diameter |
| | Y | Young | M | Mature | | | | S | Stem | | | (Eq) | Equivalent stem diameter using BS5837:2012 definition |
| | SM | Semi-mature | OM | Over Mature | | | | B | Basal area | | | | |

| Tree and Tag No Species | Hght (m) | Stems | | Crown | | Age | RP A (m ²) R (m) | Phys Condition | Structural Condition | Preliminary Recommendations | | Cat ERC |
|--|-------------|---|-----------|---------------|--------------|-----|------------------------------------|-------------------|-------------------------|-------------------------------|--|----------------------------|
| | | No | Ø (mm) | Spread (m) | Clear (m) | | | | | Survey Comment | | |
| Estimated Measurements | | | | | | | | | | | | |
| T24 | | | | | | | | | | | | |
| Prunus <i>Prunus Unknown</i> | 4.5 | 7 | 119 (Eq) | N | 1.2 | 1.5 | SM | A: 6.4 R: 1.42 | Fair | C: Poor S: Poor B: Fair | No action :: Unspecified ----- Small ornamental cherry severely pruned in past. | C.1 10 to 20 yrs |
| Estimated Measurements | | | | | | | | | | | | |
| T25 | | | | | | | | | | | | |
| Common Holly <i>Ilex aquifolium</i> | 4 | 1 | 130 | N | 1 | 1 | SM | A: 7.6 R: 1.55 | Fair | C: Fair S: Fair B: Fair | No action :: Unspecified ----- Small holly of little significance beyond immediate garden setting. | C.1 10 to 20 yrs |
| Age Classifications: | N | Newly planted | EM | Early Mature | | | | | | | | |
| | Y | Young | M | Mature | | | | | | | | |
| | SM | Semi-mature | OM | Over Mature | | | | | | | | |
| Condition: | C | Crown | | | | | | | | | | |
| | S | Stem | | | | | | | | | | |
| | B | Basal area | | | | | | | | | | |
| Stems: | Ø | Diameter | | | | | | | | | | |
| | (Eq) | Equivalent stem diameter using BS5837:2012 definition | | | | | | | | | | |

Report selection criteria.

Projects.

CA18/013 Old Laundry Epping

Date Range.

Any Date

Work types.

----> Fell :: Fell and treat stump(s)
 ----> Fell :: Fell to ground level
 ----> Ivy :: Sever only
 ----> Ivy :: Sever/remove ivy
 ----> No action :: Unspecified
 ----> -No Selection made-
 ----> See Comment :: Unspecified

Latest Survey.

All surveys for the selected trees.
 ---> Last survey for each selected tree.

Work Completed.

---> Work Completed
 ---> Work Not Completed

Number of trees in selected Project(s) 35

Number of trees in Report selection 35

Age Classifications: N Newly planted EM Early Mature
 Y Young M Mature
 SM Semi-mature OM Over Mature

Condition: C Crown
 S Stem
 B Basal area

Stems: Ø Diameter
 (Eq) Equivalent stem diameter using BS5837:2012 definition

Appendix 2: Arboricultural Impact Assessment Plan



Car Park
Houses
Apartments
Total = 1000
Parking

KEY

- Tree Constraints**
- Category C Existing Tree of Low Quality and Value.
 - Category C Existing Group of Low Quality and Value Trees.
 - Category C Existing Hedge of Low Quality and Value.
 - Category U Existing tree in irreversible decline and/or dead - to be felled
 - Category U Group of trees in irreversible decline, dead and/or dangerous - to be felled.
 - Existing Shrubs or Vegetation Not to BS5837 survey standard - to be cleared.
 - Root Protection Area as calculated in accordance with BS5837.

- Tree Works**
- Category C Tree to be felled
 - Root pruning trench works to be completed under arboricultural supervision using hand dig or airspade methods. The trench will be excavated to the required depth of construction and any roots encountered will be clearly pruned to the outer face of the trench.
 - Crown Reduction Works as specified in AIA report.

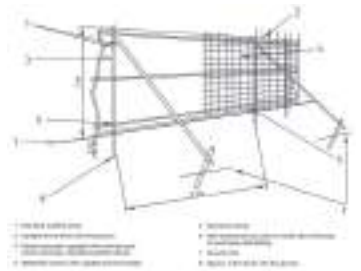


Figure 2 - Proposed Rooting for RPA



GENERAL NOTES
 -ALL DIMENSIONS IN MILLIMETRES
 -DO NOT SCALE OFF THIS DRAWING
 -ALL DIMENSIONS TO BE CHECKED ON SITE
 (C) Corsican Associates 2020

| | |
|---|----------------------------|
| Drawing Title: Arboricultural Impact Assessment | |
| Client: Troy Homes | CA Ref: 18/013-02 |
| Scale: 1:250 @A1 | Date: Apr 2020 Revision: 4 |
| Purpose of drawing: Planning | |

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 Landscape Architects & Arboriculturalists
 Tel: 01449 737499 - Email: info@corsican-a.com

Appendix 3: Tree Protection Plan



KEY

Tree Constraints

- Category C Existing Tree of Low Quality and Value.
- Category C Existing Group of Low Quality and Value Trees.
- Category C Existing Hedge of Low Quality and Value.
- Red Protection Area as calculated in accordance with BS5837.

Tree Protection

- Existing site boundary fencing provides subsequent protection for trees.

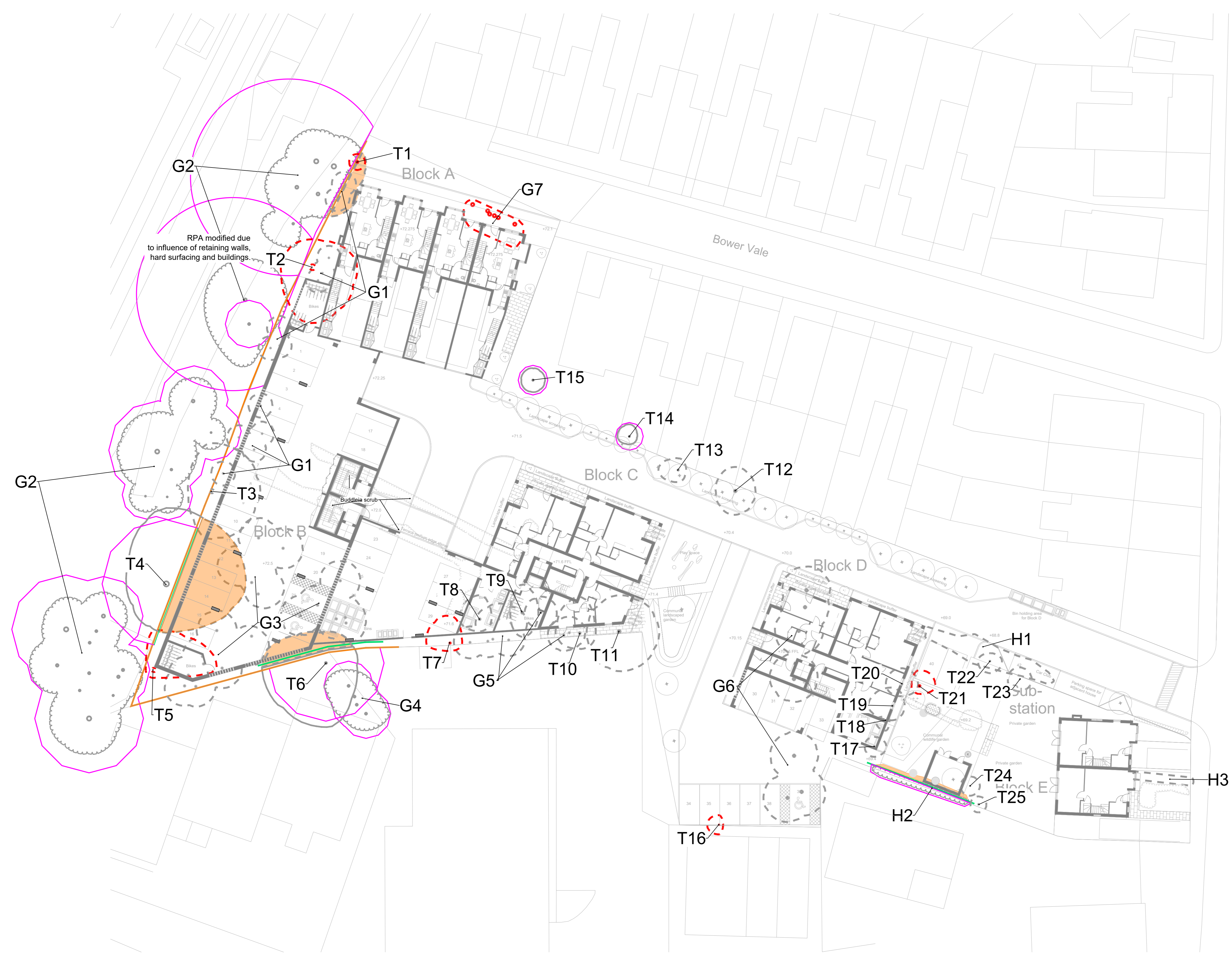


GENERAL NOTES

- ALL DIMENSIONS IN MILLIMETRES
- DO NOT SCALE OFF THIS DRAWING
- ALL DIMENSIONS TO BE CHECKED ON SITE
- (C) Corsican Associates 2020

| |
|---|
| Drawing Title: Tree Protection Plan |
| Client: Troy Homes CA Ref: 18/013/03 |
| Scale: 1:250 @A1 Date: Apr 2020 Revision: 4 |
| Purpose of drawing: Planning |

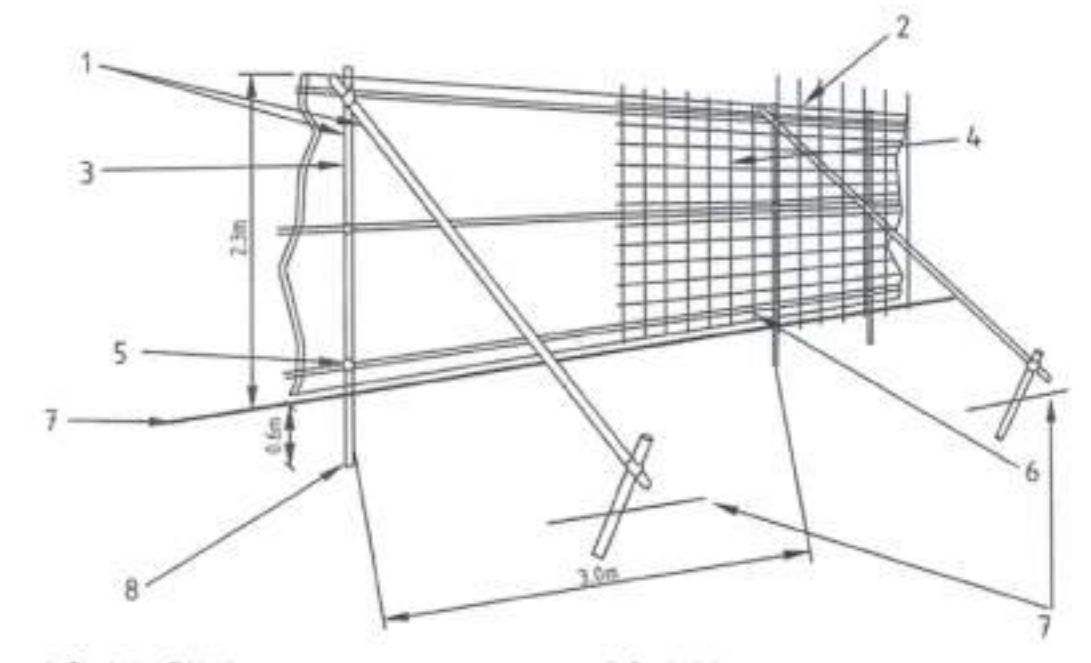
Corsican Associates
 Landscape Architects & Arboriculturalists
 Tel: 01449737499 Email: info@corsican.co.uk



KEY

- Tree Constraints**
- Category C Existing Tree of Low Quality and Value.
 - Category C Existing Group of Low Quality and Value Trees.
 - Category C Existing Hedge of Low Quality and Value.
 - Category U Existing tree in irreversible decline and/or dead - to be felled.
 - Category U Group of trees in irreversible decline, dead and/or dangerous - to be felled.
 - Existing Shrubs or Vegetation Not to BS:5837 survey standard - to be cleared.
 - Root Protection Area as calculated in accordance with BS5837.
- Tree Works**
- Category C Tree to be felled.
 - Root pruning trench works to be completed under arboricultural supervision using hand dig or airspade methods. The trench will be excavated to the required depth of construction and any roots encountered will be cleanly pruned to the outer face of the trench.
 - Crown Reduction Works as specified in AIA report.

Car Park
Houses
Apartm
Total =
(include
Parking



- 1 Standard scaffold poles
- 2 Uprights to be driven into the ground
- 3 Panels secured to uprights with wire tie and, where necessary, standard scaffold clamps
- 4 Weldmesh wired to the uprights and horizontals
- 5 Standard clamps
- 6 Wire twisted and secured on inside face of fencing to avoid easy dismantling
- 7 Ground level
- 8 Approx. 0.6m driven into the ground

Figure 2. - Protective fencing for RPA



GENERAL NOTES
 -ALL DIMENSIONS IN MILLIMETRES
 -DO NOT SCALE OFF THIS DRAWING
 -ALL DIMENSIONS TO BE CHECKED ON SITE
 (C) Corsican Associates 2020

| | |
|---|----------------------------|
| Drawing Title: Arboricultural Impact Assessment | |
| Client: Troy Homes | CA Ref: 18/013-02 |
| Scale: 1:250 @A1 | Date: Apr 2020 Revision: 4 |
| Purpose of drawing: Planning | |




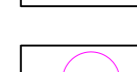


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KEY

Tree Constraints

-  Category C Existing Tree of Low Quality and Value.
-  Category C Existing Group of Low Quality and Value Trees.
-  Category C Existing Hedge of Low Quality and Value.
-  Root Protection Area as calculated in accordance with BS5837.

Tree Protection

-  Existing site boundary fencing provides sufficient protection for trees.

GENERAL NOTES
 -ALL DIMENSIONS IN MILLIMETRES
 -DO NOT SCALE OFF THIS DRAWING
 -ALL DIMENSIONS TO BE CHECKED ON SITE
 (C) Corsican Associates 2020



| | |
|--------------------------------------|----------------------------|
| Drawing Title: Tree Protection Plan | |
| Client: Troy Homes CA Ref: 18/013-03 | |
| Scale: 1:250 @A1 | Date: Apr 2020 Revision: 4 |
| Purpose of drawing: Planning | |



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