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Landscape Design and Ecology

ARBORICULTURAL IMPACT ASSESSMENT & METHOD STATEMENT

5 Birkdale Road, Worthing, West Sussex.

On Behalf of: Enhance Developments JD Ltd

Client:	Enhance Developments JD Ltd			
Project:	5 Birkdale Road, Worthing, West Sussex.			
Reference:	LLD3834-ARB-REP-100	Status: Planning		
Revision:	Date:	Author	Proof	Approved
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Contents

1.0	Introduction.....	1
2.0	Arboricultural Impact Assessment.....	3
3.0	Conclusion	7
4.0	Arboricultural Method Statement	8
5.0	Schedule of Supervision	22

APPENDICES:

Appendix A – Tree Survey Schedule

Appendix B – Demolition Phase Plan

Appendix C – Tree Retention and Protection Plan



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1.0 INTRODUCTION

- 1.1 Lizard Landscape Design and Ecology (LLDE) has been commissioned by Enhance Developments JD Ltd to undertake an Arboricultural Impact Assessment & Method Statement for the proposed development at 5 Birkdale Road, Worthing, West Sussex. (hereinafter referred to as the site).
- 1.2 The principal aim of this report is to detail construction control measures to protect retained trees and tree groups (including hedgerows) within, and adjacent to, the site in accordance with British Standard (BS) 5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations'.
- 1.3 This report has been produced based upon a BS 5837:2012 Arboricultural Survey undertaken by this company on the 5th of May 2026. This survey information is presented in Appendix A and summarised in section **1.12** below.
- 1.4 This report, and the accompanying Existing Tree Schedule, Tree Retention and Protection Plan, sets out the arboricultural impacts of the proposals using the following considerations as a framework:
- Trees to be removed and trees to be retained.
 - Remedial tree work to retained trees to allow development to take place.
 - Suitable measures to protect retained trees.
 - Special construction or engineering measures are required to enable trees to be integrated into the proposed development where impacts are unavoidable.

Limitations

- 1.5 The trees were inspected at ground level, and no decay detection equipment was used. Therefore, there is a small risk that any internal decay that may be present has gone undetected. Only preliminary recommendations for tree management are provided. A full hazard risk assessment, comprising a more comprehensive analysis of the condition and potential risks to target areas, is beyond the scope of this report.
- 1.6 Trees are living, dynamic organisms and as such, their health and condition will change with time. Therefore, this assessment remains valid for 18 months from the date of inspection, or until a weather event such as a severe storm (defined as a period of violent weather which is likely to cause damage to trees), after which time a new inspection is required.

Existing Site Information

- 1.7 The site is located on the southern side of Birkdale Road, Worthing, in West Sussex. The area is mainly residential with a few scattered light commercial buildings. To the immediate east of the site, there is a Guild Care building called The Ashdown Club, and other aspects around the site are residential dwellings. The surrounding landscape is quite dense residential.

Existing Site Vegetation

- 1.8 The existing site vegetation is generally low value, nonnative ornamental species of shrubs, large shrubs and one small tree. The only significant tree on the site is located in the rear garden, this is a Silk Tassel Bush- *Garrya elliptica*, which is considered to be in fair condition and offers screening value to the south. Also located in the rear garden are one *Cotoneaster Franchetii*, a clump of garden privet *Ligustrum ovalifolium*, and two small Cupressus sp. At the front of the site, there is a clump of *Syringa vulgaris* common lilac, and an overgrown hedge with the following species: *Forsythia × intermedia*, *Griselinia littoralis*, *elaagnus ebbingei*, and a small amount of sycamore and hazel. All species present on the site are considered to be of low arboricultural and ecological value.
- 1.9 A summary of the relative retentive worth of the trees on site, as recorded during the tree survey and expressed by their categories, is given in Table 1.

Table 01 – Summary of Existing Site Vegetation

BS Category	No of Trees	No of Groups	No of Hedges and Vegetation Groups	Total
B	1	0	0	1
C	2	0	4	6

Development Proposals

- 1.10 It is understood that the development proposals are as follows: The main house is to remain and be refitted, all other buildings, structures and areas of hard surfacing are to be demolished. The proposed plan is to construct a second dwelling, with both dwellings to have two carparking spaces and new soft landscaping to be installed in both rear gardens.

2.0 ARBORICULTURAL IMPACT ASSESSMENT

- 2.1 This impact assessment is intended to evaluate the direct and indirect impacts on the trees on the site in relation to the proposed development. Any potential tree impacts below have been identified as per BS5837:2012 section 5.4, and details are given of proposed mitigation.

Removal of Trees and Vegetation

- 2.2 The development has been designed to avoid tree and vegetation losses as far as possible. Table 3 below describes the tree losses required to facilitate the development. Trees to be retained and removed are shown on the Demolition Phase Plan in **Appendix B**, and the Tree Retention and Protection Plan in **Appendix C**.

Table No. 03 – Trees, Hedges and Areas of Scrub Proposed for Removal

BS Category	Tree/Group/Hedge Numbers	Total
C	H06, SH07.	2

- 2.3 All of the low-value shrubs and the one section of hedgerow listed above will need to be removed to accommodate the development proposals.

Tree Pruning, Canopy Reduction, or Lifting

- 2.4 Some minor canopy reduction shall be required to allow adequate clearance between one of the existing clumps of non-native shrubs. This work will be undertaken according to industry best practice BS3998:2010. *Table 4 below* details works required to retained trees to facilitate development, which fall within levels of good arboricultural practice:

Table No. 04 – Tree Surgery Works

Ref. Number	Category	Description of Works
SH01	C	Some minor pruning to the northern aspect will be required to allow space for the use of a proposed patio area.

Construction access and storage

- 2.5 In the absence of mitigation, vehicular access might compact soils, harming tree roots. To avoid these impacts, there shall be a defined access route to and from all construction areas and ground protection areas where access over RPAs is required.
- 2.6 Inappropriate storage of liquids such as fuel, paint or cleaning chemicals might result in spillages with a significant impact upon high-value and or TPO trees. All such liquids will be stored at least **5.0m** from any RPA, and outside of any RPAs. Bunded containers with spill kits will be required and used to minimise the risk of spillage. This must be present on site before any work starts, including ground preparations and tree works.

Tree Protection Fencing

- 2.7 All trees, tree groups, and areas of woodlands to be retained shall be protected with barriers at all times. It should be noted that there are several primary and secondary locations of the tree protection fencing. Close adherence to these specified locations is essential to achieve effective protection and allow the trees and associated habitats to remain viable in the long term.
- 2.8 All locations of where the tree protection fencing are to be installed are shown in the Demolition Phase Plan in **Appendix B**, and the Tree Retention and Protection Plan in **Appendix C**. All barriers shall be installed, protected and maintained during the main works by the appointed contractor.
- 2.9 All primary locations must be maintained till the vast majority of the build has been completed; the protection fence line can be moved back to the specified secondary locations to allow construction when appropriate. All Tree Protection and Tree Protection Barriers to be in accordance with BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'.

Compaction of Root Protection Areas

- 2.10 All trees and large shrubs to the rear of the site are being retained and will be protected using Tree Protective Barriers to prevent any incursion into the root protection areas (RPA). One large shrub, however, will require enabling works and/or an operation zone within the RPA.

- 2.11 The northern aspect of the RPA of **SH03(C)** will have the potential to receive minor compaction risks during the demolition of the old shed and the associated concrete base. As the shed has been there a very long time and **SH03(C)**, has matured around it, it is unlikely there will be significant roots under the old concrete slab.
- 2.12 In the absence of mitigation, negative impacts may occur in the form of significant root damage, which would facilitate pathogen colonisation and anchorage forces, loss of rooting area resulting in a reduction in water and nutrient availability, soil compaction resulting in a reduction of overall resources available to the tree and potential soil contamination. Collectively, these impacts can cause a significant loss in overall vitality, possibly causing the decline of this large shrub. To minimise impacts, ground protection measures, as detailed in the Arboricultural Method Statement below, shall be in place for the duration of the construction period in accordance with BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'. When construction work is complete, the ground protection can be removed. The location of the ground protection measures can be seen in the Demolition Phase Plan in **Appendix B**, and the Tree Retention and Protection Plan in **Appendix C**.

Demolition within Root Protection Areas

- 2.13 In the absence of mitigation, the northern aspect of the RPA of **SH03(C)** will have the potential to receive minor impacts during the demolition of the old shed and the associated concrete base. As the shed has been there a very long time and **SH03(C)**, has matured around it, it is unlikely there will be significant roots under the old concrete slab.
- 2.14 In the absence of mitigation, the RPA of **SH03(C)** could be disturbed by the movements of demolition machinery. The removal of existing hard surfaces may sever significant roots, leading to decline and ultimately the failure of these trees if mitigation is not implemented. Mitigation measures, including the manual removal of hard surfaces and the use of ground protection measures where required, shall minimise harm to this shrub and ensure its retention. It is proposed to carefully break up surfaces, whereupon any subbase or other such materials below will be manually dug out where necessary.

Building Construction within Root Protection Areas

- 2.15 With the current proposals, there is no requirement to construct new buildings within the RPAs of trees or tree groups which are scheduled to be retained.

Installation of services

- 2.16 There will be potentially significant negative impacts when it comes to the installation of services due. Trenching will not be possible without significant negative impacts and disturbance. All service installations will need to avoid RPAs, as this normally involves an amount of trenching. Should any service installation be required in the RPA, a specialist method statement would need to be provided.
- 2.17 Any such works within RPAs of trees which are scheduled to be retained shall only take place under arboricultural supervision, and must be in line with BS-5837:2012 - 'Trees in Relation to Design, Demolition and Construction- Recommendations '.

Future Pressures to Retained Trees and Hedges

- 2.18 The resulting proximity of the new structures to retained trees and hedgerows may result in the following pressures;
- the ongoing need to prune the canopy back to prevent damage to the building and facilitate maintenance of the building façade and glazing;
 - altered soil conditions, including access to water and gas exchange, resulting from the proposed surfacing and construction of foundations;
 - shading of the canopy of existing trees.
- 2.19 The majority of future pressures have been avoided through the layout of the scheme, which ensures adequate clearance between retained trees and the development. There are no undue tree shading or canopy encroachment issues anticipated from retained trees towards the proposed buildings and amenity spaces (such as gardens). This has been achieved by suitable development buffers from retained trees, which also allows for future canopy development.

Tree and Hedgerow Loss Mitigation Measures

- 2.20 It is recommended that a scheme of soft landscaping be submitted, which should include tree planting details which address any visual public amenity issues. The tree selection should be appropriate to the site conditions, and species should be selected in accordance with any recommendations provided in the PEA and any subsequent ecology reports. Ideally, the species selected should be native and of proven ecological value to the local environment.
- 2.21 The locations and positioning of mitigation planting in relation to new or existing buildings should take full account of the final canopy height and spread of all trees included within the scheme. All planting should be located a sufficient distance from the predicted canopy line and rooting zones to avoid future pressures to undertake remedial works.

3.0 CONCLUSION

- 3.1 Overall, the vast majority of trees and large shrubs on site and to the boundaries of the site are all to be retained and fully protected. Any losses of shrubs and vegetation are of lower value category C, lower value vegetation.
- 3.2 All of the vegetation and shrubs which have been specified for removal are none native species, which are considered to be of lower ecological value.
- 3.3 The close enforcement of the specified protection measures as detailed within this report shall minimise harm to all trees and shrubs which are scheduled to be retained, which will ensure their long-term viability for retention into the future.
- 3.4 The protection, compensation and enhancement detailed herein have been designed to ensure the ongoing favourable status of retained trees and vegetation, and the species which use these. Additionally, adherence to the methods detailed will ensure that all works accord with the relevant wildlife legislation and planning conditions.
- 3.5 Provided that mitigation planting is in line with current guidelines and all other protection measures are properly enacted, the loss of trees from the site would be adequately compensated, and the proposals would accord with the requirements of BS5837.

4.0 ARBORICULTURAL METHOD STATEMENT

Pre-Construction Meeting

- 4.1 A pre-construction meeting will take place between the Construction Manager and the Project Arboriculturalist to discuss the programme of works and the timing and implementation of control measures.

Phasing of Operations

- 4.2 Implementation of tree protection shall be carried out as follows:

- 1) Shrub and vegetation removals and any required pruning.
- 2) Tree protection fencing set out by the surveyor in accordance with approved plans.
- 3) Tree protective fencing is installed, and any ground protection is installed as required.
- 4) Fencing and ground protection are to be inspected by the project arboriculturist.
- 5) Site set up, including haulage routes and site compound.
- 6) Demolition / Site clearance followed by construction.
- 7) Inspection of any areas of construction within RPA's by the project arboriculturist.
- 8) Removal of tree protective fencing.
- 9) Remedial tree surgery works (if required).

Contractor Induction

- 4.3 The key requirements of this method statement will be explained during site inductions for contractors. Trees and tree groups that are to be retained and protected will be identified before work commences. A copy of the Tree Works and Demolition Plan in Appendix B, and the Tree Retention and Protection Plan C, will be retained in the site offices for reference.

Tree Removal

- 4.4 All trees designated for removal are to be removed in accordance with the Tree Retention and Protection Plan in **Appendix B**. All tree work and tree removal shall be carried out in accordance with BS 5837:2012 and BS 3998:2010. Prior to the removal and felling of trees, the positions of the trees shall be agreed with the Arboricultural Consultant, and trees designated for removal and felling shall be marked on-site. Trees shall be felled before the erection of the Tree Protective Fencing. Care should be taken during the tree removal process to avoid any damage to any trees which are designated to be retained.
- 4.5 Arisings should not be disposed of by burning on site unless:
- Other options are impracticable, or the material is affected or likely to become affected by a disease or pest for which sanitation is a necessary form of control.
 - NOTE: Attention is drawn to regulations made under: ***The Clean Air Act 1993, The Plant Health Act 1967, The Weeds Act 1959, and the Wildlife and Countryside Act 1981***, in respect of the prevention of the spread of plant and soil pests.

Tree Surgery

- 4.6 All tree work as detailed within the Tree Retention and Protection Plan in **Appendix B** shall be undertaken by an approved and qualified tree surgeon in accordance with BS 3998: 2010 '*Tree Work: Recommendations*'. Care should be taken to avoid damage to neighbouring trees that are to be retained. Branches in confined spaces shall be removed and taken down in sections.
- 4.7 Stumps to be removed should be cut away so that the top of the stump shall be at least 450 mm below the final topsoil level in order for the site to be reinstated in accordance with the existing site levels. Where the depth is greater than 450 mm, the areas shall be backfilled with topsoil to the required level.
- 4.8 Options for retention of and management of stumps, particularly those arising from dead trees, should be considered, as these subterranean deadwood habitats are of great ecological benefit. These stumps should not be treated with any form of pesticide or chemical application, as this can be detrimental to the remaining trees and local ecology.

- 4.9 The height of stumps for retention should be determined by management objectives and or site-specific conditions. Stumps should be left in a safe condition and or location that does not pose a hazard.
- 4.10 The removal of shrub or scrub material within the Root Protection Area of any tree to be retained shall employ a Manual Removal method; the use of hand tools shall be used in order to maintain the ground surface of the Root Protection Area and reduce any damage to existing tree roots within the protected root zone. Adjacent trees shall not be utilised as anchors or levers to facilitate the removal of adjacent vegetation.
- 4.11 Vegetation clearance should take place outside the **bird nesting season (*nesting season: March-September inclusive*)** or alternatively under a watching brief from an ecologist or suitably qualified professional.

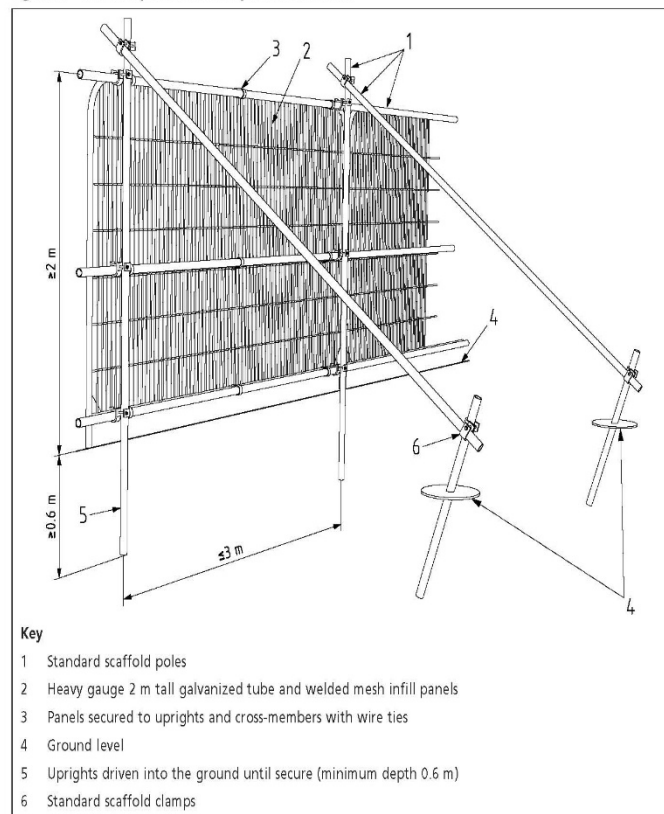
Tree Surgery and Removal Works– Arisings

- 4.12 The disposal, utilisation and retention of arisings must be in line with BS 3998: 2010 'Tree Work: Recommendations'. Retaining arisings on or near the site can have conservation benefits and allows the gradual recycling of the mineral nutrients and carbon that they contain. Effective financial gains can be achieved with efficient arisings management planning.
- 4.13 Before any work on a tree commences, it should be agreed on what is to happen to the arisings (such as retained or removed from the site). Any arisings remaining on the site should be stored safely in locations agreed with the client. The following should be taken into account when deciding what is eventually to be done with the arisings:
- Site usage: access, space, and safety;
 - Scope for utilisation (such as use of woodchip for mulch, weed suppressant, etc.)
 - Wildlife and habitat, particularly where veteran trees are present, and invertebrate colonisation is likely.
 - The disposal, utilisation and retention of arisings must be in line with BS 3998: 2010 'Tree Work: Recommendations'. Retaining arisings on or near the site can have conservation benefits and allows the gradual recycling of the mineral nutrients and carbon that they contain.

Tree Protection Fencing

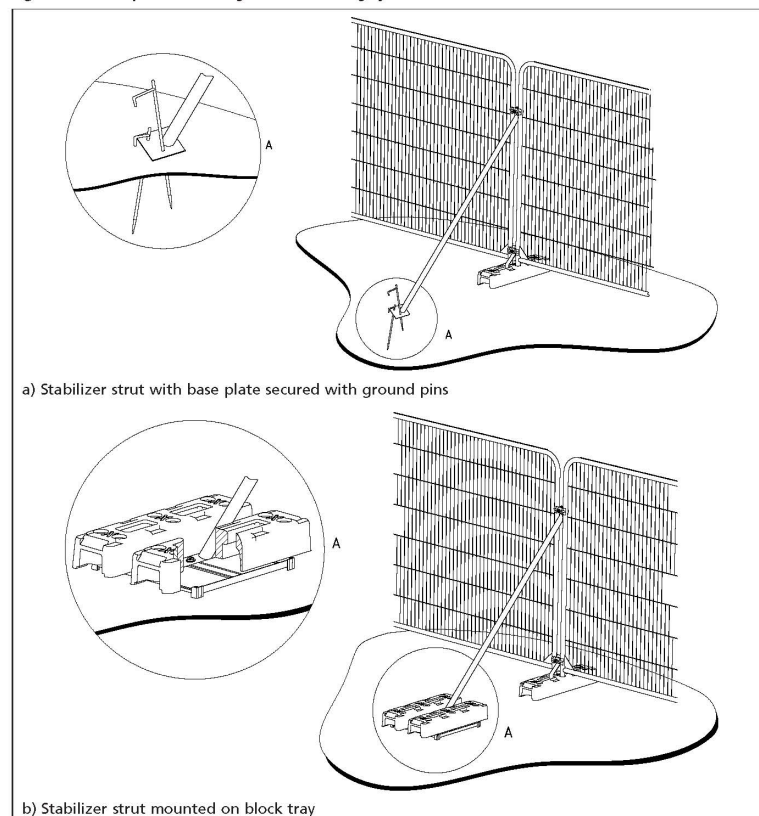
- 4.14 All trees to be retained on site shall be protected with barriers installed at the locations as shown in the Tree Retention and Protection Plan in **Appendix B**. All barriers shall be installed, protected and maintained during the main works by the appointed contractor.
- 4.15 The installed protective barrier shall be 2.0 metres minimum height 'Heras' Welded Wire Mesh Fencing secured to a scaffolding framework, set into the existing ground, and positioned to the outside edge of the existing Tree Root Protection Area. Where existing ground conditions do not allow for the above method, the Welded Wire Mesh Fencing Panels may be mounted on concrete or rubber feet, supported on the inner side with stabiliser struts fixed on a block tray or secured with ground pins, and positioned as specified. The barrier should be strained and fixed to fences, walls, and knee rails where possible to provide a completely protected area (*refer to Figure 2 and Figure 3 below; © British Standards Institute 2012*). All tree protection is to be in accordance with *BS 5837: 2012; 'Trees in Relation to Design, Demolition and Construction - Recommendations'*.
- 4.16 Any requirement for modifications to the prescribed protection fencing specification, for example, where installation space is restricted, will be discussed and agreed upon with the Project Arboriculturist before being implemented.

Figure 2 Default specification for protective barrier



© The British Standards Institution 2012

Figure 3 Examples of above-ground stabilizing systems



- 4.17 Day-Glo ribbons shall be maintained during the main works by the Main Contractor attached to the top of the barrier to ensure that the fencing is clearly visible during the works. The tree protection barrier shall display all-weather notices stating '*Construction Exclusion Zone-Tree Root Protection Zone – NO unauthorised access*' as a minimum.
- 4.18 Once installed, the protection fencing will be inspected by the Project Arboriculturalist before any construction works begin. Fencing locations will not be altered without prior approval of the supervising arboriculturist.
- 4.19 All such barriers shall be maintained for the full contract period. The Construction Manager will be directly responsible for ensuring the protection fencing remains rigid and complete during the entire works programme. Repairs will be acted upon immediately to ensure continued protection.
- 4.20 Within the protected areas, the following activities must not take place;
- Fencing locations will not be altered without prior approval of the supervising arboriculturist.
 - No unauthorised persons shall enter the protection area;
 - No vehicles, machines or plant are to be used;
 - No materials are to be stockpiled or stored;
 - No chemicals are to be stored;
 - No excavation or increase in the soil level shall occur;
 - No fires shall be lit.
 - No chemicals and fuels should be stored within **5m** of a Tree Root Protection Zone.

Site Compound, Haulage Routes and Car Parking

- 4.21 All site compounds, car parking, and haul routes will be located outside of the tree protection fencing. The compound area shall be located so as not to incur damage or injury to the root systems or canopy of any existing trees or vegetation within or adjacent to the site, in accordance with BS 5837:2012 – 'Trees in Relation to Design, Demolition and Construction – Recommendations'. All site operations associated with the usage of the compound area shall be undertaken with due care and attention to negate damage to the surrounding environment.

Pollution Control

4.22 Pollution control is intended to prevent pollutants from contaminating RPAs, and it will be necessary to control pollution risks wherever risk assessment identifies a significant risk of harm. Spilt solid or liquid chemicals which can reach RPAs can kill roots, prevent root growth, and cause harm which could result in the death of a tree or tree group. Suitable provisions must be made to minimise the risk of soil contamination within the normal risk management protocols for the site.

- All chemical stores and mixing areas must be located outside of RPAs.
- No chemicals and fuels should be stored within **5m** of a Tree Root Protection Zone.
- Precautionary measures such as bunded spill kits and additional bunding sufficient to prevent contamination must be present on-site to be used to contain accidental spillages and prevent damage to retained trees.

Protection and Retention of Existing Trees and Habitats

4.23 The Contractor shall exercise due care when performing operations beneath the canopy of existing mature trees and vegetation designated for protection and avoid at all times damage to the roots, trunk and branches.

4.24 The Contractor shall train all members of the construction workforce operating within the proximity of valued habitats and make such persons aware that there shall not be, without having sought prior notification, the following operations undertaken within the protected areas:

- Dumping of spoil or rubbish, excavation or disturbance of topsoil, parking of vehicles or plant, storing of materials or placing of temporary accommodation within an area which is the larger of the branch spread of the tree or an area with a radius of half the tree's height, measured from the trunk, and within the specified Root Protection Areas;
- Severance of roots exceeding 25 mm in diameter. If unintentionally severed, notice shall be given, and specialist arboricultural advice sought.

- Changes to the level of the ground within the specified Root Protection Areas;
- Vegetation clearance to site boundaries during the bird nesting season (nesting season: March-September inclusive). Any clearance must be undertaken outside nesting season or alternatively under a watching brief from a suitably qualified ecologist.

Ground Protection Measures

- 4.25 Where construction operations require activity within the exposed unmade ground of any existing tree Root Protection Area, temporary ground protection measures should be implemented as shown in the Tree Retention and Protection Plan in **Appendix B**. The ground protection measures should be accurately laid out and implemented before the demolition and/or construction works.
- 4.26 Ground protection must be fit for the purpose of supporting the level of traffic entering or using the site within RPAs without being distorted or causing compaction of the underlying soil. The appropriate solutions include:
- For pedestrian movements or the erection of scaffolding within the RPA – a single layer of scaffold boards either on top of a driven scaffold frame, to form a suspended walkway, or on top of a compression-resistant layer, e.g., 100 mm depth of woodchip laid onto a geotextile;
 - For pedestrian-operated plant (up to a gross weight of 2 t) – proprietary, inter-linked ground protection boards or panels laid on top of a compression-resistant layer, e.g., 150 mm depth of woodchip laid onto a geotextile membrane;
 - For vehicular access (exceeding a gross weight of 2 t) – an alternative system subject to the engineer's specification appropriate for expected loads, is designed in consultation with the project Arboriculturist.

4.27 The process for the installation of ground protection is as follows:

- 1) Discuss the procedure with the project arboriculturist.
- 2) Dismantle primary protection fencing and re-erect in the secondary location as shown on the Tree Retention and Protection Plan in **Appendix B**.
- 3) Any shrubs, saplings, or trees to be removed are to be cut or ground out to just below ground level rather than grubbed or winched out, which can damage the roots of retained trees.
- 4) Lay woven geotextile over the existing ground surface by hand.
- 5) Cover the area with a compressible layer, such as wood chips, for example, using hand tools only.
- 6) Cover the compressible layer with side butting scaffold boards or plywood boards.
- 7) Confirm the surface is acceptable for use with the project arboriculturist.
- 8) Area ready for construction access.

Manual Excavation

4.28 Where the development proposals necessitate the tying in and re-grading of existing and proposed levels for vehicular access or include the implementation of underground services such as services, cables, and pipe work, a '*Manual Excavation Method*' must be assumed using handheld tools to minimise the impact on existing trees. The excavation should be executed with due care and attention, not to disturb exposed unmade ground and any existing tree roots present within it.

4.29 Roots over 25mm in diameter or those occurring in clumps must not be severed without Arboricultural advice. Tree roots below such size should be cut cleanly using specialised hand tools only, and to the minimum extent to allow provision. All exposed roots should be immediately wrapped and tied in Hessian, which must be kept moist/damp to avoid drying. On completion of the excavation and at the earliest opportunity, the wrapping should be removed, and the roots surrounded and protected with a loose granular fill (clean washed sharp sand or topsoil free of contaminants or matter injurious to rooting systems) prior to backfilling the excavation to the desired levels.

Demolition in Proximity to Trees

- 4.30 Sensitive demolition of buildings and structures within RPAs will occur under supervision from the project arboriculturist. Any existing tree protection fencing shall be removed to allow access to the demolition area. Buildings shall be demolished in such a way that the building folds in on itself. Debris may be removed by plant machinery provided appropriate ground protection is in place, and no incursion into unprotected soft ground occurs.
- 4.31 The floor of the building / surrounding hard standing is to be broken up and carefully removed from the RPA. Underlying ground levels are to be retained, and any exposed roots and newly exposed areas of soft ground are to be covered with up to 100mm of topsoil (**to BS3882:2015**). Soil must be spread by hand to avoid compaction of the RPA. Tree protection fencing must be reinstalled at the agreed location on completion of demolition works.
- 4.32 Best practice must be adhered to at all times to avoid any contamination of the soil by fuel or other chemicals. If such a situation arises, the project arboriculturist must be notified to assess the situation and prescribe remedial measures.

New Hard surfacing within Root Protection Areas

- 4.33 Where new surfacing and means of access within Root Protection Areas have been proposed, the construction method should be implemented to avoid intrusion into or change of existing ground levels within the tree Root Protection Areas of existing trees.
- 4.34 A 'No Dig' Construction should allow for the paving of specified areas within or adjacent to tree Root Protection Areas to be constructed without disturbance to root systems.
- 4.35 Ground levels should not be raised or lowered within the existing tree Root Protection Areas. A permeable surface treatment should be laid over the existing ground, allowing water to permeate and allow for nutrient access and gaseous exchange.
- 4.36 The construction area / existing ground within the existing tree RPA is to be overlain with a geo-membrane and covered with a granular fill of no fines - open-graded aggregate incorporated within a 3-dimensional cellular confinement system. This should ensure a minimum supportive depth of 200mm for vehicular access/ 100mm

for pedestrian footpaths, above which a permeable surface treatment should be laid. The pH of the aggregate must be near neutral to avoid damage to pH-sensitive tree species.

- 4.37 Existing paving material overlying the RPA of existing trees should be left undisturbed during the construction period in order to protect the Root Protection Area of the tree to be retained. The existing paving/ hard standing can then be reused as a base for the proposed surfacing, subject to the Engineer's specification.
- 4.38 All retaining kerb restraints/edge supports are to be secured above ground, and no general excavation within existing tree RPAs should be permitted.
- 4.39 Where stepped or ramped access has been proposed within the RPAs of existing trees, this should be constructed with limited disturbance to the existing ground. A raised frame supported upon posts concreted in the ground is recommended. The holes for the footing to posts should be dug out using handheld tools. The sides of the holes should be lined with an impermeable membrane to prevent the caustic and toxic effects of wet cement in the concrete from damaging tree roots.

Services in Proximity to Existing Trees

- 4.40 The location and direction of new services should be designed to allow for services to be routed away from the RPAs of existing trees. Existing service runs should always be used wherever possible.
- 4.41 Where the proposed routing of services impinges upon the tree RPA of any existing tree to be retained, the routing should be undertaken as a minimum standard in accordance with ***NJUG Volume 4, issue 2: 'Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees'***.
- 4.42 A 'Manual Excavation Method' is to be followed to carefully hand-dug and route the apparatus most directly to and from the exterior of the RPA radius.
- 4.43 Services are to be routed together wherever possible to create the minimum impact upon the roots of the existing trees to be retained. Trench excavation across the tree Root Protection Area radius beside an existing tree should be avoided, whereby tree roots would become severed. Where services are to cross the edge of an existing RPA, they should be routed via a hand-dug ducting sleeve, avoiding damage to roots.

Installation of Fencing

- 4.44 Proposed new fencing to residential gardens shall be installed following the removal of tree-protective fencing and ground protection measures. Post holes within the RPAs shall be manually dug and shall not sever any major roots. Roots over 25mm in diameter or those occurring in clumps must not be severed without Arboricultural advice. Where absolutely necessary, tree roots below such size should be cut cleanly to the minimum extent to allow works to proceed.

Hard and Soft Landscaping

- 4.45 The Arboricultural Consultant should review any landscape operations that involve any work within the RPAs of retained trees and input additional site-specific methodology where necessary.
- 4.46 The existing ground levels within the RPA of the retained trees must be retained and incorporated into the finished landscaped development. Where changes in level occur, these are to be either graded into the finished levels starting outside the RPA or, alternatively, retaining wall structures are to be used to differentiate between the different levels.
- 4.47 All soft and hard landscaping within the RPAs must be carried out manually, and the soil levels must not be lowered or raised, resulting in root damage to the trees. All finished surfaces are to be porous to allow the free movement of water and gaseous exchange to the roots.

Future Tree Surgery Works - Dead branches

- 4.48 All deadwood features should be managed in accordance with BS 3998-2010: Tree work Recommendations.
- Safety needs should be balanced against wildlife habitat protection.
 - Dead branches should be shortened or, if necessary, removed if they pose an unacceptable risk to people or property and if other options (e.g. diverting a footpath) are not practicable.

4.49 When deciding whether dead branches or dead trees should be retained and, if so, to what extent they might need to be pruned, a balance should be made between the mitigation of risk and the maintenance of wildlife habitats. The unnecessary loss of deadwood habitats should be avoided when specifying pruning or other works, particularly if legally protected species are using the tree. The following risk factors should be taken into account:

- the location (e.g., whether the deadwood overhangs a target that cannot be readily moved, such as a highway);
- the wood properties and decay characteristics of the species concerned.
- the size of the deadwood.

Future Tree Surgery Works - Standing Dead Trees

4.50 Where standing dead trees are retained, their height should be reduced if this is required for mitigation of present or future risks. They should be inspected periodically, and further work should be undertaken (either felling or progressive reduction, depending on practicability) if necessary to keep risks within acceptable limits.

Further Ecological Enhancement Methods

4.51 Further enhancement can be/will be achieved with the utilisation of arisings resulting from vegetation removal or clearance works within the site.

4.52 Arisings will be retained for use as deadwood habitat log piles at the base of the existing trees and woodland foliage. Piles shall be made from arisings of native vegetation taken from the site or surrounding areas where possible. Piles should contain both larger logs (with gaps between), brash and branches and smaller leaf litter and cuttings/ grass clippings, to create varied conditions.

4.53 All branches and stems larger than 75mm in diameter can/will be retained for use as deadwood habitat log piles at the base of the existing foliage. These are best left in lengths of a metre or more, but smaller sections will also be suitable. In suitable areas, these can also be pushed under the bottom of the hedgerows and areas of scrub where they will provide suitable habitat for a plethora of invertebrates and in turn, a suitable refuge and forage for small mammals, birds, reptiles, and amphibians.

- 4.54 Retaining arisings on or near the site can have conservation benefits and allows for the gradual recycling of the mineral nutrients and carbon that they contain, which will further enrich the trees on site.

Ongoing Management of Trees, Hedges and Native Shrubs

- 4.55 To ensure the trees and/ or hedges continue to be a useful ecological feature, they shall not be cut overly frequently and shall be allowed to become relatively dense and tall. Any hedges on site shall be cut outside of the bird nesting season (which generally runs March-August inclusive) and not more than once every three years. Minor trimming of stray branches over paths, etc., can be carried out more regularly if required.
- 4.56 Any sections of new planting or failed newly planted trees will need to be replaced, and species and sizes will have to be matched with what has been lost.

5.0 SCHEDULE OF SUPERVISION

5.1- To ensure works accord with the recommendations and the British Standard, as works proceed, the following schedule of supervision will be completed. **The schedule below must be provided to the main contractor at the start of works – it is the responsibility of the landowner/developer to ensure compliance with the current arboricultural package. Failure to comply is likely to result in a breach of planning conditions and/or environmental legislation.** Photographic evidence shall be taken at each stage such that a final completion report can be provided to the local planning authority to confirm works have been undertaken in accordance with this impact assessment and method statement.

Table No. 05 – Schedule of Supervision

Works	Responsibility	Notes	Sign off & Date
Pre-commencement Meeting	Construction Manager and Project Arboriculturist	To discuss the programme of works, the timing and implementation of the tree works and the tree protection measures.	
Tree/ Hedge and Vegetation removal works	Construction Manager and Project Arboriculturist	Project Arboriculturist to mark trees for removal and/or surgery works.	
Installation of tree-protective fencing and ground protection	Construction Manager and Project Arboriculturist	Set out as per TRPP. Fencing and ground protection measures are to be inspected by the project arboriculturalist.	
Monthly inspection of protective fencing	Construction Manager	Construction manager to inspect fencing. Any issues are to be reported to the project arboriculturalist.	
Demolition within RPA's	Construction Manager	All works are conducted as per the method statement. Photographic record to be sent to the project arboriculturalist to evidence works.	

Trial Pits	Construction Manager and Project Arboriculturist	Trail pits are to be dug at an agreed location under arboricultural supervision.	
Manual excavation within RPA's	Construction Manager	Works undertaken in accordance with the method statement. The project arboriculturalist should be contacted if roots larger than 25mm in diameter are encountered.	
Installation of hard surfaces within RPA's.	Construction Manager, Engineer and Project Arboriculturist	All works are conducted as per the method statement. Specification of no-dig construction is to be agreed upon with the engineer and arboriculturalist. Photographic record to be sent to the project arboriculturalist to evidence works.	
Building Construction within RPA's	Construction Manager, Engineer and Project Arboriculturist	All works are conducted as per the method statement. Specification of foundation design to be agreed with the engineer and arboriculturalist. Photographic record to be sent to the project arboriculturalist to evidence works.	
Removal of tree protective fencing	Construction Manager and Project Arboriculturist	Only to be removed at the end of the construction period and following authorisation from the Project Arboriculturalist.	

Appendix A – Tree Survey Schedule



L I Z A R D

Landscape Design and Ecology

EXISTING TREE SCHEDULE

5 Birkdale Road, Worthing
Worthing, West Sussex.

Enhance Developments JD Ltd

Reference	LLD3834-ARB-SCH-100
Prepared	GO
Approved	KM
Date	08.05.2026
Revision	1
Status	PLANNING

Tree No.	Species	Diameter @1.5m	Height (approx.)	Spread (approx.)	Age	Condition/Preliminary Recommendations	Category	Status
SH 01	Ornamental Shrubs; (1.8m Radius of nominal circle; RPA 10m²)	146 mm CSD	2.4 m Clear Stem Height 0.2 m	N: 1.8 m E: 1.8 m S: 1.8 m W: 1.8 m	Mature Estimated Remaining Contribution 10 + Years	Cotoneaster Franchetii. With x4 main stems and a relatively even crown. Overall, with a rather untidy appearance. Low value.	C 1	Retain
T 02	<i>Garrya elliptica</i> (Silk Tassel Bush); (2.4m Radius of nominal circle; RPA 18m²)	178 mm CSD	3.7 m Clear Stem Height 0.5 m	N: 2.7 m E: 2.5 m S: 2.5 m W: 2.5 m	Mature Estimated Remaining Contribution 20 + Years	with x4 main stems and 4 smaller stems. Overall with an even crown and an upright form. Small amounts of deadwood are present low in the crown.	B 1	Retain
SH03	<i>Ligustrum ovalifolium</i> (Garden Privet); (1.5m Radius of nominal circle; RPA 7m²)	120 mm CSD	2.3 m Clear Stem Height 0.3 m	N: 1.3 m E: 1.3 m S: 1.3 m W: 1.3 m	Early Mature Estimated Remaining Contribution 10 + Years	one main stem at 30cm and various smaller stems recorded. With a relatively even crown. Overall, with a rather untidy appearance. Low value.	C 1	Retain
T 04	<i>Cupressus sp.</i> (Cypress sp.); (1.8m Radius of nominal circle; RPA 10m²)	135 mm CSD	2.4 m Clear Stem Height 0.3 m	N: 1.4 m E: 1.4 m S: 1.4 m W: 1.4 m	Early Mature Estimated Remaining Contribution 10 + Years	A compact form of the species. Generally with an upright form and a even crown. X2 main stems recorded.	C 1	Retain

Tree No.	Species	Diameter @1.5m	Height (approx.)	Spread (approx.)	Age	Condition/Preliminary Recommendations	Category	Status
T 05	<i>Cupressus sp.</i> (Cypress sp.) (1.8m Radius of nominal circle; RPA 10m²)	150 mm	2.8 m Clear Stem Height 0.4 m	N: 1.3 m E: 1.3 m S: 1.3 m W: 1.3 m	Early Mature Estimated Remaining Contribution 10 + Years	A compact form of the species. Generally with an upright form and a even crown.	C 1	Retain
H 06	Mixed Species Hedgerow; (1.2m Radius of nominal circle; RPA 5m²)	80 mm	2.8 m Clear Stem Height 0.0 m	N: 0.6 m E: 0.6 m S: 0.6 m W: 0.6 m	Early Mature Estimated Remaining Contribution 10 + Years	A over grown hedge with the following species, Forsythia × intermedia, Griselinia littoralis, elaeagnus ebbingei, and a small amounts of sycamore and hazel.	C 1	Remove
SH 07	Ornamental Shrubs; (1.8m Radius of nominal circle; RPA 10m²)	134 mm	1.9 m Clear Stem Height 0.0 m	N: 0.9 m E: 0.9 m S: 0.9 m W: 0.9 m	Mature Estimated Remaining Contribution 10 + Years	Syringa vulgaris common lilac. Upright and even, with normal vitality.	C 1	Remove

CATEGORY DIVISION - BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'

Trees to be considered for retention Category A - Trees whose retention is most desirable to include; trees of high quality having an estimated longevity of over 40 years;	1. Mainly Arboricultural Qualities - Trees that are particularly good examples of their species, especially if rare or unusual	2. Mainly Landscape Qualities - Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	3. Mainly cultural values, including conservation - Trees of significant historical, commemorative or other value, or good specimens of rare or unusual species
Category B - Trees where retention is desirable to include; trees of moderate quality having an estimated longevity of over 20 years;	- Trees that might be included in the higher category, but because of significant impaired but remediable condition are downgraded	- Trees present in numbers offering a higher collective categorisation than as individually rated; trees occurring in groups but due to situation, offering little contribution in the context of the wider locality	- Trees having some material conservation or cultural value
Category C - Trees of low quality having an estimated longevity of over 10 year, or young trees with a stem diameter below 150mm;	- Trees in adequate or impaired condition, or those which can be retained with minimal tree surgery, but not worthy for inclusion in the high or moderate category	- Trees present in numbers without having significant landscape value	- Trees having no material conservation or other cultural value
Trees unsuitable for retention Category U - Trees not for retention within the context of existing land use;	- Trees that are unviable due to serious, irremediable structural defect; early loss is expected due to collapse; - Trees that are dead or showing signs of significant, immediate, irreversible decline; - Trees infected with pathogens of significance to health and subsequent safety, and threat thereof to trees nearby; - Trees of very low quality suppressing the development of those of greater quality; - Trees that will become unviable after the removal of other trees for reasons above.		

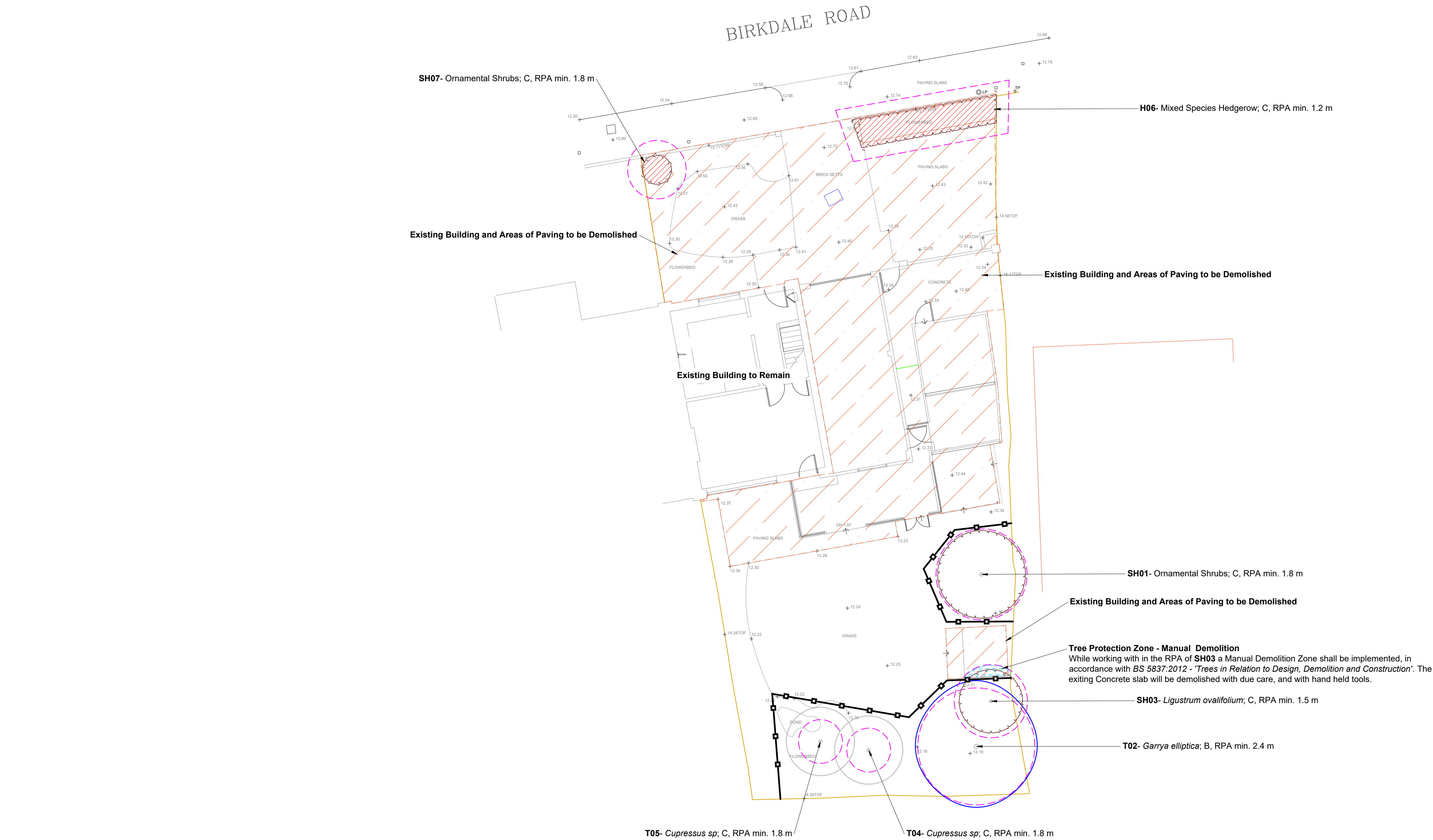
CSD – Combined Stem Diameter;

- Root Protection Areas calculated for multiple stemmed trees based upon a combined stem diameter in accordance with BS 5837:2012.

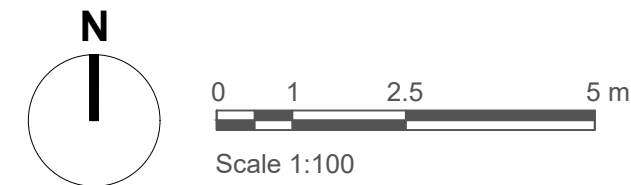


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Appendix B – Demolition Phase Plan



The majority of the existing trees shown on this plan have been plotted in line with the information provided with the topographical survey.
All other tree locations are indicative and have been plotted using Geo-locating.



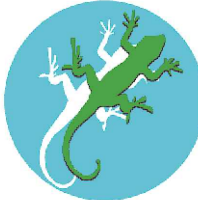
Tree Retention and Protection Plan- Demolition Phase 5 Birkdale Road

- Legend**
- T02** **Tree, Hedgerow and Shrub Numbers**
(T - Single Tree, TG - Tree Group, H - Hedgerow, SC - Scrub)
 - Tree Root Protection Areas (RPA)**
Specified in accordance with BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'.
 - Category B Trees**
Trees of Moderate Quality and Value.
 - Category C Trees**
Trees of Low Quality and Value.
 - Existing Vegetation and Hedgerows**
 - Existing Shrubs and Hedges to be Removed**
In accordance with BS3998:2010- 'Tree Works- Recommendations'
 - Existing Building and Areas of Paving to be Demolished**
 - Protection Zone - Manual Demolition**
A Manual Demolition Zone shall be implemented, in accordance with BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'. All works shall be undertaken with due care and with hand held tools.
 - Tree Protection Barrier**
In accordance with BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'.
2.0 m height 'Heras' Welded Wire Mesh Fencing secured and positioned as specified.

- Notes:**
- Drawing to be read in colour.
 - To be read in conjunction with all accompanying Arboricultural documents produced by LLD.

PLANNING ISSUE

Rev	Description	Date	Drawn	Appr
00	Planning Issue	08.05.26	GO	KM



LIZARD
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Client Enhance Developments JD Ltd Project Title and Location 5 Birkdale Road Worthing, West Sussex.			
Drawing Title Demolition Phase Plan			
Scale 1:100@A1	Drawn GO	Approved KM	Date 08.05.26
Drawing No LLD3834-ARB-DWG-200			Revision 00

Appendix C – Tree Retention and Protection Plan

AINSDALE ROAD

BIRKDALE ROAD

Existing Building to Remain

Hall

Proposed Tree Surgery Works
SH01, some minor pruning to the
northern aspect will be required.

SH01- Ornamental Shrubs; C, RPA min. 1.8 m

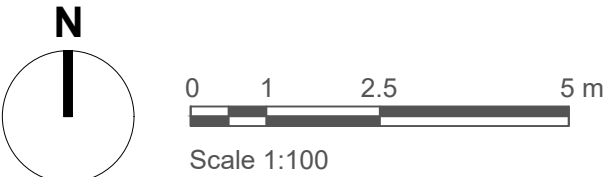
SH03- *Ligustrum ovalifolium*; C, RPA min. 1.5 m

T02- *Garrya elliptica*; B, RPA min. 2.4 m

T05- *Cupressus* sp; C, RPA min. 1.8 m

T04- *Cupressus* sp; C, RPA min. 1.8 m

The majority of the existing trees shown on this plan have been plotted in line with the information provided with the topographical survey.
All other tree locations are indicative and have been plotted using Geo-locating.



Tree Retention and Protection Plan
5 Birkdale Road

- Legend**
- T02** **Tree, Hedgerow and Shrub Numbers**
(T - Single Tree, TG - Tree Group, H - Hedgerow, SC - Scrub)
- Tree Root Protection Areas (RPA)**
Specified in accordance with BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'.
- Category B Trees**
Trees of Moderate Quality and Value.
- Category C Trees**
Trees of Low Quality and Value.
- Existing Vegetation and Hedgerows**
- Existing Shrubs and Hedges to be Removed**
In accordance with BS3998:2010- 'Tree Works- Recommendations'
- Protection Zone - Manual Demolition**
A Manual Demolition Zone shall be implemented, in accordance with BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'. All works shall be undertaken with due care and with hand held tools.
- Proposed Tree Surgery Works**
Operations to be in accordance with BS 3998:2010 - 'Tree Works - Recommendations'.
- Tree Protection Barrier**
In accordance with BS 5837:2012 - 'Trees in Relation to Design, Demolition and Construction - Recommendations'.
2.0 m height 'Heras' Welded Wire Mesh Fencing secured and positioned as specified.

- Notes:**
- Drawing to be read in colour.
 - To be read in conjunction with all accompanying Arboricultural documents produced by LLD.

PLANNING ISSUE

Rev	Description	Date	Drawn	Appr
00	Planning Issue	08.05.26	GO	KM

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Client Enhance Developments JD Ltd			
Project Title and Location 5 Birkdale Road Worthing, West Sussex.			
Drawing Title Tree Retention and Protection Plan			
Scale 1:100@A1	Drawn GO	Approved KM	Date 08.05.26
Drawing No LLD3834-ARB-DWG-201	Revision 00		



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