billin
Tree Solutions

Arboricultural Consultant's Site Supervision & Monitoring Record

1. Development Site Address:

11 Clare Lawn Avenue
East Sheen
Richmond Upon Thames
SW14 8BE

Job No. 22.5999

2. Local Planning Authority (LPA):

Environment Directorate / Development Management
London Borough of Richmond upon Thames

2.1. LPA Case Officer: Sukhdeep Jhooti

2.2. LPA Tree Officer: tbc

2.3. Application ref.: 23/1848/HOT

2.4. Applicant: Mr A. Hinds

2.5. Agent: c/o John Rich Architects
6a Royal Parade, Kew Gardens, Richmond, TW9 3QD
F.A.O:Clare Salter
Email: clare@johnricharchitects.com

3. Proposal:

Demolition of existing ground floor rear conservatory extension. Erection of part two storey, part single storey side and rear extension with a hipped pitched roof to the front, side and rear of the first floor. Roof extension to the main roof of dwellinghouse. Insertion of rooflights. Extended patio to the rear to replace existing. Rear dormer roof extensions

4. Project Arboricultural Consultant's Details:

Company Name/Address:	**Billin Tree Solutions** **14 Cotton End** **Lace Hill** **Buckingham** **MK18 7RJ**
Consultant's Name:	**Paul Billin BSc MICFor**
Mob:	**07505 431590**
Email:	**paul@billintreesolutions.co.uk**

5. Project Schedule of Works and Supervision

Planning Decision Notice ref: DC/SJH/23/1848/HOT/HOT includes the following conditions regarding arboricultural matters:

Condition U0172951: Arboricultural Method Statement (AMS)

1. *Prior to the commencement of development, an Arboricultural Method Statement (AMS), shall be submitted to and approved in writing by the Local Planning Authority.*

Condition U0172952 Site Monitoring Procedures and recording

1. *Prior to the commencement of development, a scheme for Site Monitoring and Recording shall be submitted to and approved in writing by the Local Planning Authority.*

Condition U0172953 Pre-Start Meeting

A. Following the implementation of the Tree Protection, and no later than 14 days prior to the commencement of development (or any materials or machinery being brought onto the site), the Local Planning Authority Arboricultural Officer shall be invited to attend a 'pre-start meeting'. Key stakeholders (including site manager, project Arboriculturalist and other key site personnel) shall attend the pre-start meeting.

1. Minutes from the meeting must be prepared and submitted to and approved by the Local Authority Arboricultural Officer prior to the commencement of development.

U0087672 Arboricultural Conditions

For the avoidance of doubt, where a condition requires the submission and approval of details to the Local Planning Authority a formal application for approval of details reserved by condition should be made. Where a condition requires the submission of details to the Arboriculture Officer, details should be forwarded to: trees@richmondandwandsworth.gov.uk or in writing to: Trees, 44 York Street, Twickenham, TW1 3BZ

Supervision is therefore required for key stages during development where these have greatest potential to result in tree damage if carried out incorrectly. This supervision should be provided by the designated Arboricultural Consultant (AC).

Tree protection is addressed within the Arboricultural Method Statement ref. *PB/5837&AIA-23/11.13/Rev B & AMS* which includes the tree protection plan Drg. No. *PB/TPP-23/11.13/Rev B.*

An arboricultural consultant (AC) should be appointed to advise on the tree management for the site, and to participate via a 'Teams' Meeting in a **Pre-commencement Meeting** that must be held between the Arboricultural Consultant (AC) and the site works manager to consider tree protection measures, their implementation and sequencing.

A written record is to be prepared, following the **Site Supervisory Visit & Monitoring Form** template below In Section 6, of site findings and conditions with a photographic record; identification of individual responsibilities and key personnel; induction and personnel awareness of arboricultural matters, and procedures for dealing with variations and incidents.

All subsequent monitoring could be achieved by a photographic record sent from the site works manager to the AC, recording: site findings and observations with a photographic record; objective opinions concerning the tree protection, and whether it is being provided in accordance with the approved scheme; details of any observed damage to the trees or their roots, root protection or other breaches of tree protection measures, and to recommend mitigation or amelioration measures required.

The proposed schedule detailing the scope of arboricultural supervision visits and timetable of events is detailed below in **Appendix Table 1: Schedule of works and supervision**. This schedule is intended to minimise the potential for development to result in damage to the retained tree, providing a logical sequence of works.

6. Pre Commencement Meeting; 21 November 2024

6.1. Identification of individual responsibilities and key personnel:

Site Contractor's Details:

- Company Name/Address: DCD All Build, 4 Rochester Avenue, Feltham, TW13 4EA
- Site Foreman and Site Works Manager: Daniel Boca
- Email: daniel.boca@dcdallbuild.co.uk
- Phone: 07900 084107

6.2. Other attendees:

Name:	Representing:
1) Paul Billin (PB) (remotely)	Billin Tree Solutions
2) Clare Salter (CS)	John Rich Associates

6.3. Introduction:

Specific tree protection mitigation shall be put in place according to the Arboricultural Method Statement (AMS) ref. *PB/5837&AIA-23/11.13/Rev B & AMS*, Section 3.5 Site Specific Mitigation copied in Appendix 2 below. The full AMS includes the tree protection plan, Drg. No. *PB/TPP-23/11.13/Rev B.*

The pre-commencement site meeting was held on 21 November 2024 at 11.00hrs, with photos sent by CS to PB, and by telephone to allow the AC to remotely inspect the installation of the of the temporary protection barriers and temporary ground protection.

6.4. Findings:

6.4.1 Tree protection barrier, box construction, had been put in place around the Acer sapling on the public highway; see photo 1 opposite.

Photo 1. Tree protection box around Acer sapling *[photo CS 22.11.24*

6.4.2 Tree protection box and barrier had been put in place around T2; see photo 2 below.

Photo 2. Tree protection around T2 *[photo CS 22.11.24]*

6.4.2.1 **Further action required:** The tree protection barrier between the driveway and the garden area should be extended across to the building; to prohibit access over the RPA of protected tree T2 and prevent contamination and compaction during the works (see AMS section 3.2.3)

6.4.2.2 NB: tree protection measures are included in the AMS; specifically:

- Section 3.5.3.
  Should the existing hard surfaced drive be removed, the RPA must be protected by temporary ground protection laid over the exposed surface, which must be installed before work continues and remain in situ for the duration of the demolition and construction works.

6.4.3 Temporary ground protection and tree protection fence had been put in place over the RPA of T1; see photos 3, 4 and 5 below:

Photo 3. Temporary ground protection over the RPA of T1 *[photo CS 22.11.24]*

Photo 4. Temporary ground protection over the RPA of T1 *[photo CS 22.11.24]*

Photo 5. Tree protection fence adjacent to the RPA of T1 *[photo CS 22.11.24]*

6.4.3.1 NB: Tree protection measures are included in the AMS; specifically: Section 3.5.3.

The following mitigation must be followed

- The RPA of retained tree T1 must be protected by temporary ground protection laid over the exposed surface, which must be installed before work continues and remain in situ for the duration of the demolition and construction works.
- Examples of temporary ground protection to be used include:
  - DuraDeck® ground protection mats (moulded HDPE composite mats, 2.4m x 1.2m x 1.3cm), or MegaDeck®HD mats, or similar, laid on a 150 millimetre (mm) deep layer of woodchip or sharp sand, over a permeable, non-woven geotextile membrane (300 grams per square metre (g/m2) minimum), on top of the existing surface to minimise compaction from any additional, extraordinary vehicular access, including excavators or powered wheelbarrows.
  - Where protection of the RPA is only required from constant pedestrian access or wheelbarrow use; side-butting scaffold boards placed on a compression-resistant layer such as 100-millimetre depth of woodchip, laid on top of the geotextile membrane.

6.4.4 The existing concrete hard surface over the RPA of T1 as shown in Photo 5 is acceptable ground protection during demolition and construction works when wheelbarrows / motorised wheelbarrows are used, but additional ground protection should be used if mini excavators or heavier machinery is used.

6.4.4.1 NB: Tree protection measures during the excavation and construction of the foundations for the extension, which is anticipated to have an incursion within the RPA of tree T1, are included in the AMS; specifically Section 3.5.5; copied below:

Disturbance to tree roots can be significantly reduced by appropriate mitigation work; in this case supporting the above ground part of the structure on piles and an on-site cast, reinforced concrete floor slab set above ground level, to the engineer's design. The excavation and construction of the foundations over the RPA incursion of the retained tree is shown on the tree protection plan PB/TPP-23/11.13/Rev B as 'Foundation – No-dig' ('pile and slab')' showing the minimum area.

The mitigation must include the following measures:

Mitigation:

- To ensure the RPA of the retained trees remains undamaged, and to prevent contamination and compaction during access, excavation and construction of the piles and slab, the RPA must be protected with appropriate temporary ground protection, as outlined in AMS section 3.5.3, as the works progress and as soon as the existing concrete hard surface is removed.
- The initial excavation for the piles within tree RPAs shall be by hand for the first 750 millimetre depth to ensure that any major tree roots are not disturbed.
- Any roots found with a diameter of less than 25mm shall be cleanly severed with either a hand saw or secateurs leaving a clean cut.
- Any roots of 25mm and above must be excavated around without damaging them; the arboricultural consultant shall decide if it's feasible or necessary to retain the root, if not it shall be severed.
- Should this excavation reveal the presence of significant tree roots the proposed pile can be repositioned to avoid any potential damage; the foundation design will incorporate sufficient flexibility such that the pile can be repositioned to an alternative unobstructed position.
- If the pile cannot be repositioned and roots are encountered during works they must be cut cleanly with a sharp hand saw under the supervision of the AC.
- The piles shall be bored piles formed with a 200mm diameter continuous flight auger; or other diameter as required by the engineer's specification. Once bored to the designed depth the augers are extracted, a plastic-coated cardboard sleeve inserted to debond the pile shaft from volumetric ground movement, and to avoid root damage caused by leaching of cementitious materials into the ground.
- The pile is then reinforced with the specified prefabricated reinforcement cage and the bore filled with self-compacting high slump, high strength concrete.

- Once the piles have been installed the temporary ground protection will be removed.
- The proposed superstructure will be supported on the piles via an engineer designed reinforced concrete slab, with edge upstands to support perimeter walls, constructed on top of a 60 millimetre thick biodegradable, honeycomb void-former sub-base such as “Clayboard”, or similar approved, with an impermeable membrane fitted on top of this to prevent the leaching of cementitious materials into the ground.
- The honeycomb void-former will act as shuttering for the slab and temporarily support the weight of the liquid concrete until it sets.
- The void-former can then be wetted and washed away, or left to degrade naturally, to leave a clear, breathable void to allow movement of air and moisture beneath the slab.

6.4.5 The main contractor will ensure the build sequence is appropriate to ensure that no damage occurs to the trees during the construction processes. Temporary protection barriers and temporary ground protection will remain in position until the completion of ALL construction works on the site.

6.4.6 The temporary protection barrier and signs must be maintained in position at all times and checked on a regular basis by an on-site person designated with that responsibility.

Date of this record : **22 November 2024**	Date of next site record: **As required**

Signed by AC:

Paul Billin BSc (Hons) For, MICFor
Chartered Arboriculturist
Arboricultural Consultant

billin Tree Solutions
14 Cotton End
Lace Hill
Buckingham
MK18 7RJ

Telephone: 07505 431590
Email: paul@billintreesolutions.co.uk

APPENDIX 1 - Table 1: Schedule of works and supervision

RESPONSIBILITIES

A qualified arboriculturist will be retained as Arboricultural Consultant (AC) for supervision and monitoring of tree protection during demolition and construction activity.

It is the responsibility of the main contractor (Contractor Site Works Manager) to ensure that the planning conditions attached to the planning consent are adhered to at all times and that a monitoring regime, with regard to tree protection, is adopted on site.

The main contractor will be responsible for contacting the Local Planning Authority at any time issues are raised related to the trees on site.

If at any time additional pruning works are required, permission must be sought from the Local Planning Authority first and then carried out in accordance with BS3998:2010 *Tree Works – Recommendations* and industry best practice.

The main contractor will ensure the build sequence is appropriate to ensure that no damage occurs to the trees during the construction processes. Temporary protection barriers and temporary ground protection will remain in position until the completion of ALL construction works on the site.

The barrier and signs must be maintained in position at all times and checked on a regular basis by an on-site person designated with that responsibility.

Sequence	Events	Supervision responsibility
1	Protection of retained trees T1, T2 and T3. [AMS[1] *section 3.5.3]*	Contractor Site Works Manager with advice from Project AC
2	Demolition of the existing conservatory *[AMS[1] section 3.5.4]*	Contractor Site Works Manager with advice from Project AC
3	The excavation and construction of the foundations for the extension [AMS1 section 3.5.5]	Contractor Site Works Manager with advice from Project AC
4	Landscaping, including patio, walls and footways. [AMS[1] 3.5.6]	Contractor Site Works Manager with advice from AC
5	General construction including: Spoil movements, site storage of materials, skips, parking and welfare facilities. Cement Mixing and Washing Points *[AMS[1] section 3.6]*	Contractor Site Works Manager with advice from Project AC
6	Removal of temporary protection barriers following completion of all development.	Contractor Site Works Manager with advice from Project AC
7	Assessment of tree condition post-development.	Project AC

[1] AMS = ref. PB/5837&AIA-23/11.13/Rev B & AMS

APPENDIX 2: Site Specific tree protection mitigation
(Copied from Arboricultural Report ref. PB/5837&AIA-23/11.13/Rev B & AMS)

3.5.2 **Access Pruning.**

It is not anticipated there will be a requirement for any necessary facilitation pruning to the retained trees. Should any pruning works subsequently be required, the following mitigation must be followed.

Mitigation:

- Pruning must be undertaken by suitably qualified and insured arboricultural contractors following guidance from the AC and must be undertaken in accordance with *BS 3998:2010 Tree Work - Recommendations* and current arboricultural practices.
- At no time must the trees be pruned by the construction contractors.

3.5.3 **Protection of retained trees T1, T2 and T3.**

To ensure the RPAs of retained trees remains undamaged and to prevent contamination and compaction during access and construction the tree protection barrier (TPB) must be installed prior to any site activity as shown on Tree Protection Plan drawing ref PB/TPP-22/11.13/Rev A and remain in situ for the duration of the scheme. The following mitigation must be followed.

Mitigation:

- The existing boundary fencing is to act as the TPB to protect the RPA of the retained tree T1.
- The main contractor's Method Statement must make provision for protecting the retained trees, T2 and T3, and the Acer sapling on the Highway verge. Specifically this should include:
  - An on-site operative must be appointed to act as a Banksman to ensure that loading and unloading operations are kept clear of the trees, and that road users and pedestrian movements are controlled safely.
  - Local authority licensing procedures should be followed as appropriate, including compliance with deadlines, fee requirements and notice of dates of work.
  - Thorough risk assessment and action plan to address additional risk factors.
  - Insurance and indemnity cover, including additional cover which relates to the likely use of the road at the time of the works
- The TPB around the Acer sapling on the Highway verge will be effected by constructing a wooden box consisting of exterior grade plywood on a wooden framework to a minimum width of 0.5 metres and minimum height of 1.5 metres above ground level which must remain in place for the duration of the works.
- The RPA of retained tree T1 must be protected by temporary ground protection laid over the exposed surface, which must be installed before work continues and remain in situ for the duration of the demolition and construction works.
- Examples of temporary ground protection to be used include:
  - DuraDeck® ground protection mats (moulded HDPE composite mats, 2.4m x 1.2m x 1.3cm), or MegaDeck®HD mats, or similar, laid on a 150 millimetre (mm) deep layer of woodchip or sharp sand, over a permeable, non-woven geotextile membrane (300 grams per square metre (g/m2) minimum), on top of the

existing surface to minimise compaction from any additional, extraordinary vehicular access, including excavators or powered wheelbarrows.
    - Where protection of the RPA is only required from constant pedestrian access or wheelbarrow use; side-butting scaffold boards placed on a compression-resistant layer such as 100-millimetre depth of woodchip, laid on top of the geotextile membrane.
- Within the RPAs of retained trees there must be no disturbance of the existing base soil layer or additional compaction during the construction works.
- Any surface vegetation requiring removal within the RPAs must be agreed with the AC; furthermore it must be removed by hand tools in accordance with BS 5837:2012, 7.4.2.1.
- Under no circumstances must mini diggers or similar machinery be used to remove the surface vegetation in RPAs.

3.5.4 **Demolition of the existing conservatory** is adjacent to the RPA of retained tree T1.

The potential RPA incursion on the retained tree during demolition and removal of material will have little impact on the tree providing the mitigation set out below is followed.

Mitigation:

- In order to ensure the RPA of the retained tree remains undamaged, and to prevent contamination and compaction during the demolition works, the RPA must be protected.
- The tree protection fence and temporary ground protection must be installed as shown on tree protection plan ref PB/TPP-23/11.13/Rev B and detailed in section 3.5.3 above and remain in situ until all works activity is completed.
- Where the barrier has to be temporarily moved to allow works access additional ground protection must be applied.
- Demolition using a mechanical excavator should be carried out with the excavator positioned outside the RPA of any retained tree, using a toothless bucket, working in a direction away from the edge of the RPA.
- Immediately upon excavation and removal of the existing hard surfaces, any voids shall immediately be loosely filled with new topsoil, firming the soil.
- Any additional soil required to restore ground levels will be with new topsoil imported on to site for the same purpose; supplied to BS 3882:2007 *Specification for topsoil and requirements for use*.
- To avoid root desiccation, any roots over 25mm and clumps of fibrous roots below 25mm encountered during this removal process must be immediately covered with topsoil taken from outside the RPAs of retained tree or new topsoil imported on to site.
- It is essential not to dig into the sub-base when removing existing concrete and hard surfaces over the RPAs of retained trees.

3.5.5 **The excavation and construction of the foundations for the extension** is anticipated to have an incursion within the RPA of tree T1.

Disturbance to tree roots can be significantly reduced by appropriate mitigation work; in this case supporting the above ground part of the structure on piles and an on-site cast, reinforced concrete floor slab set above ground level, to the engineer's design. The excavation and construction of the foundations over the RPA incursion of the retained tree

is shown on the tree protection plan PB/TPP-23/11.13/Rev B as 'Ground protection – "No-dig" construction', showing the minimum area. The mitigation must include the following measures:

Mitigation:

- To ensure the RPA of the retained trees remains undamaged, and to prevent contamination and compaction during access, excavation and construction of the piles and slab, the RPA must be protected with appropriate temporary ground protection, as outlined in 3.5.3 above, as the works progress.
- The initial excavation for the piles within tree RPAs shall be by hand for the first 750 millimetre depth to ensure that any major tree roots are not disturbed.
- Any roots found with a diameter of less than 25mm shall be cleanly severed with either a hand saw or secateurs leaving a clean cut.
- Any roots of 25mm and above must be excavated around without damaging them; the arboricultural consultant shall decide if it's feasible or necessary to retain the root, if not it shall be severed.
- Should this excavation reveal the presence of significant tree roots the proposed pile can be repositioned to avoid any potential damage; the foundation design will incorporate sufficient flexibility such that the pile can be repositioned to an alternative unobstructed position.
- If the pile cannot be repositioned and roots are encountered during works they must be cut cleanly with a sharp hand saw under the supervision of the AC.
- The piles shall be bored piles formed with a 200mm diameter continuous flight auger; or other diameter as required by the engineer's specification. Once bored to the designed depth the augers are extracted, a plastic coated cardboard sleeve inserted to debond the pile shaft from volumetric ground movement, and to avoid root damage caused by leaching of cementitious materials into the ground.
- The pile is then reinforced with the specified prefabricated reinforcement cage and the bore filled with self-compacting high slump, high strength concrete.
- Once the piles have been installed the temporary ground protection will be removed.
- The proposed superstructure will be supported on the piles via an engineer designed reinforced concrete slab, with edge upstands to support perimeter walls, constructed on top of a 60 millimetre thick biodegradable, honeycomb void-former sub-base such as "Clayboard", or similar approved, with an impermeable membrane fitted on top of this to prevent the leaching of cementitious materials into the ground.
- The honeycomb void-former will act as shuttering for the slab and temporarily support the weight of the liquid concrete until it sets.
- The void-former can then be wetted and washed away, or left to degrade naturally, to leave a clear, breathable void to allow movement of air and moisture beneath the slab.

3.5.6 **Landscaping, including patio, walls and footways.** We have not received any detailed landscaping construction plans at this stage however the following mitigation must apply within, and adjacent to, the RPA of retained tree T1.

Mitigation:

- The tree protection barriers must be installed prior to any site activity as shown on Tree Protection Plan drawing ref PB/TPP-23/11.13/Rev B and remain in situ for the

duration of the scheme; this will also include any landscape operations unless this is otherwise agreed with the AC.

- There shall be no lowering or change of existing surface levels unless agreed in writing with the LPA and AC, except for the removal of grass sward using hand tools in accordance with BS 5837:2012 (section 7.4.2.1) or the replacement of existing hard surfaces.
- Under no circumstances must mini excavators or similar machinery be used to remove the surface vegetation or hard surfaces in RPAs, this includes landscaping operations; all works within tree RPAs must be undertaken by hand working and tools.
- All excavations within RPA must be undertaken by hand and lined with impermeable 1000-gauge polythene sheeting before filling with concrete to avoid root damage caused by leachate.
- If roots less than 25 millimetres in diameter are encountered during works they must be cut cleanly with a sharp hand saw and covered with damp hessian to prevent them from drying out. Roots greater than 25 millimetres in diameter must remain in place and the AC contacted.
- Construction of any new or replacement patios, footways and sealed areas in the RPAs must be undertaken using a “no dig” cellular confinement system designed to support the anticipated footfall or traffic such as Geoweb®, Cellweb®, or similar product, over a non-woven geotextile membrane, infilled with granular, no fines, PH neutral infill.
- The stone should be spread and lightly pushed into the cellular matting to minimise future rutting but avoid soil compaction.
- The minimum depth of the cellular confinement system will need to consider the access requirements. The manufacturers recommend 75mm Cellweb® TRP confinement system for foot and cycle traffic.
- The finished surface should be a permeable surface or wearing course.