

17 CROSS ROAD TADWORTH SURREY KT20 5ST

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# ARBORICULTURAL METHOD STATEMENT

# For Protection of Trees at Russell Mansions 144 Southampton Row London



**April 2019** 

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## 1. Statement of purpose

- 1.1. The purpose of this method statement is to detail what actions need to be taken to ensure the proposed demolition of the existing retaining wall and removal of a section of the contiguous soil bank to allow for the extension of a garden terrace area at Russell Mansions, No. 144 Southampton Row, does not cause any unacceptable damage to the trees to be retained within this site and in the adjacent properties.
- 1.2. This method statement has been drawn up to comply with Condition no. 4 of the planning permission granted by Camden Council, which states: "Prior to the commencement of any works on site, details demonstrating how trees to be retained shall be protected during construction work shall be submitted to and approved by the council in writing. Such details shall follow guidelines and standards set out in BS5837:2012 "Trees in Relation to Construction". All trees on the site, or parts of trees growing from adjoining sites, unless shown on the permitted drawings as being removed, shall be retained and protected from damage in accordance with the approved protection details".
- 1.3. This method statement has been drawn up to comply with the recommendations of British Standard BS 5837:2012, *Trees in relation to design, demolition and construction Recommendations*.
- 1.4. Details of the trees can be found in the tree survey schedule at **Appendix 1**. Their locations are shown on the tree protection plan (SJA TPP 01) at **Appendix 2**. This plan is based on the proposed site layout drawing, no. SRPL06A.
- 1.5. This statement is designed to reflect the principles of the proposed layout only insofar as these relate to the protection of trees to be retained, and should **not** be read as a definitive engineering or construction method statement for this development.<sup>1</sup>
- 1.6. The key words and phrases used in this statement are defined in *Table 1* below.

<sup>&</sup>lt;sup>1</sup> Reference should be made to the architect or structural engineer over any matters of construction detail, specification, engineering performance standards or regulatory requirements, relating to structures, surfaces or underground services to be constructed. As arboricultural consultants, Simon Jones Associates Ltd. can accept no liability for any matters relating to the structural integrity or engineering performance of structures, surfaces or underground services described, proposed or eventually constructed. The responsibility for satisfying any Health & Safety requirements relating to any operations described in this method statement remains with those commissioning or undertaking the operations concerned.

Arboricultural consultant	Arboricultural expert instructed by the developer to oversee the retention and protection of trees adjacent to the development site.
Arboricultural monitoring	Regular inspections of retained trees by the arboricultural consultant, in order to monitor their health and condition; and to inspect the effectiveness of the tree protection measures implemented.
Arboricultural supervision	Pre-arranged attendance on site of appointed arboricultural consultant for the duration of specific construction activities that could otherwise result in unacceptable damage to retained trees. Whilst on site the consultant will control, supervise and where appropriate assist in the undertaking of these activities.
Construction Exclusion Zone ('CEZ')	Area based on the root protection area (RPA), normally surrounded with protective fencing, from which access is prohibited during development works.
Ground boarding	Temporary ground covering, designed to prevent compaction of soil in which significant roots of retained trees are growing.
Protective fencing	Temporary fencing, erected for the duration of demolition and construction activities; designed to prevent access and disturbance to the trunks and root protection areas of trees.
Pruning	The removal of living or dead parts of a tree, especially branches, to reduce size, to maintain shape, health, safety, or to regulate growth.
Root Protection Area ('RPA')	The minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.
Tree Protection Plan ('TPP')	Drawing based upon the finalised proposals; showing trees for retention, and illustrating the tree and landscape protection measures.

Table 1 Key words & Phrases 1

# 2. Planning and communication

- 2.1. Unless otherwise agreed with the Local Planning Authority (LPA), the following actions are to be taken, in the order specified in the Sequence of Works at *Table 2*.
- 2.2. The developer will appoint an arboricultural consultant to oversee all aspects of tree care and protection for the duration of demolition and construction works.
- 2.3. Prior to the commencement of works, the project manager will send copies of any demolition or construction method statements that might have implications for existing trees to the arboricultural consultant for his comments. The arboricultural consultant will liaise with the project manager to ensure that there are no conflicts between the demolition or construction method statements and this arboricultural method statement.
- 2.4. Prior to the start of any site clearance, demolition or construction works the developer will convene a pre-commencement site meeting. This shall be attended by the developer's contract manager or site manager, the demolition contractor, the groundwork contractor(s) and the arboricultural consultant. The LPA tree officer will be invited to attend. At that meeting contact numbers will be exchanged, and the methods of tree protection outlined in this statement shall be fully discussed, so that

all aspects of their implementation and sequencing are made clear to all parties. Any clarifications or modifications to this statement required as a result of the meeting shall be circulated to all parties in writing.

- 2.5. The developer will immediately inform the arboricultural consultant if at any time during site clearance, demolition or construction the site manager or agent is replaced or transferred. The arboricultural consultant will convene a site meeting with the incoming/replacement site manager, to be held within five working days, to explain all outstanding tree protection measures detailed in this method statement.
- 2.6. A copy of this method statement shall be supplied to all site personnel who have control over works of any nature within the Root Protection Areas (RPAs) of trees to be retained, or within the footprints of their canopies. The contractor will provide adequate instruction on its implementation for all relevant staff. This instruction will be carried out by, or to the approval of, the arboricultural consultant.

Order	Works	Details at Section:	Arb. supervision required:
1	Pre-commencement site meeting	2	Yes
2	Demolition of existing retaining wall and foundations	4	Yes
3	Hand excavation of section of the soil bank	4	Yes
4	Clearance of machinery/materials from site, reinstatement and landscaping.	6	-

Table 2 Sequence of works (relevant to protection)

# 3. Protective fencing and trunk wrapping

- 3.1. No protective fencing or trunk wrapping will be required to safeguard the roots, trunks or canopies of the two trees (nos. 1 and 2) to be retained, outside of the construction zone.
- 3.2. As both individuals are growing on a bank, the significantly uneven ground greatly reduces the possibility of incursions into the RPAs of these trees by the storage of materials or by the incursion of machinery. In this context, therefore, the erection of protective fencing or trunk wrapping is not necessary.
- 3.3. However, within the areas of the RPAs outside of the proposed demolition and excavation, a Construction Exclusion Zone ("CEZ") shall still be observed regardless

of the absence of protective fencing or trunk wrapping in order to safeguard against the unlikely event that incursions do take place within their RPAs.

- 3.4. No activity will take place within the Construction Exclusion Zones ("CEZs"): no equipment or materials will be stored, and no vehicles, plant or personnel shall enter these areas. Ground levels will not be changed within them, and existing vegetation and topsoil will be left undisturbed.
- 3.5. Areas for the storage of materials shall be outside the CEZs. Oil, bitumen, diesel, and cement shall not be stored, mixed or discharged onto the ground within 10m of the trunks of any trees. Areas for the storage or mixing of such materials shall be agreed at the pre-commencement meeting.
- 3.6. No notice boards, or power or telephone cables, shall be attached to any of the trees. No fires shall be lit where their flames could extend to within 5m of any parts of trees.

#### 4. Demolition and excavation

- 4.1. An existing retaining wall and a section of the contiguous soil bank are to be demolished and excavated. These abut and overlay the RPAs of the two trees (Tree of heaven, nos. 1 and 2) to be retained.
- 4.2. The base and foundations of the existing retaining wall to be demolished that are within the RPAs of the two trees shall be either, left in place or shall be excavated and removed with care, under the control and supervision of the arboricultural consultant.
- 4.3. All plant and vehicles engaged in demolition of the existing retaining wall should either operate from outside the RPAs or should run on a temporary surface installed prior to commencement of operations and designed to protect the underlying soil structure.
- 4.4. Where the section of soil bank is to be excavated within RPAs, all excavation shall be undertaken by hand under arboricultural supervision. The soil will be loosened with a pick or fork, and then will be cleared from roots with a compressed air soil pick. All roots will be cut cleanly with a hand saw or secateurs. The edge of the excavation closest to the trees will be covered with hessian sacking to prevent drying out, and if

necessary be shuttered with an appropriate material to prevent soil collapse. Where appropriate, the soil beneath this depth may be sheet piled; and deeper excavation may be undertaken by a machine provided it works from outside the root protection areas.

- 4.5. If any roots of less than 25mm diameter are encountered they shall be cut cleanly by the arboricultural consultant. If roots of 25mm diameter and above are found, they shall be covered with clean dry Hessian sacking to prevent desiccation. This will be removed only directly prior to backfilling, and this will be done by surrounding roots with a minimum depth of 50mm of topsoil and sharp sand (builders' sand will not be used as it has a high salt content which is toxic to tree roots).
- 4.6. Where underground structures that are or will become redundant are present within RPAs, these will be sealed off where possible so that the need for excavation is avoided.

# 5. Installation of underground services

- 5.1. All underground service and drainage routes shall be located so that no excavation is required within RPAs.
- 5.2. In the event that their location within RPAs is unavoidable, underground services shall be installed in one of the following two ways, in accordance with NJUG guidelines<sup>2</sup>.
- 5.3. **Trenchless technique**. This involves thrust boring or directional drilling of service routes to avoid all excavation and disturbance of soil in which roots are likely to be growing. The pits for starting and receiving the boring machinery shall be located outside the RPAs of any retained trees. The bore shall be made at a minimum depth of 600mm below ground level. Lubrication of the 'mole' shall be with water, rather than with oil or other lubricants which could contaminate the soil.
- 5.4. **Manual excavation**. This involves hand digging of a continuous trench to a depth of at least 750mm, under arboricultural supervision; with the careful retention and protection of all roots of a diameter greater than 25mm, as detailed elsewhere in

<sup>&</sup>lt;sup>2</sup> National Joint Utilities Group. Volume 4, GUIDELINES FOR THE PLANNING, INSTALLATION AND MAINTENANCE OF UTILITY APPARATUS IN PROXIMITY TO TREES", Issue 2: 16<sup>th</sup> November 2007.

this method statement. If soil conditions and/or root distribution render it appropriate, the arboricultural consultant may require hand excavation to extend to a greater depth than this.

- 5.5. Such an excavation will be undertaken using a pick or a hand fork to loosen the soil, which will then be cleared from roots using a compressed air soil pick, and removed using shovels or trowels. All roots encountered of less than 25mm diameter will be cut cleanly with secateurs or a sharp pruning saw.
- 5.6. The faces of all excavations that contain exposed roots will be covered with hessian sacking and be kept moist at all times; they will not be left exposed to frost, wind or direct sunlight.
- 5.7. Protection of retained roots shall be carried out in the following way. A 50:50 mix of sharp sand and composted organic matter shall be prepared, and packed around the root within a wrapping of Hessian (builders' sand will not be used as it has a high salt content and may be toxic to trees). The layer of sharp sand and compost shall be not less than 50mm in thickness around the full circumference of the root section. If concrete is to be poured or placed around these roots, they shall also be wrapped with an impermeable polythene membrane. Both the hessian wrapping and the polythene membrane shall be secured by degradable ties, in a manner that will not constrict future growth of the root.
- 5.8. Excavation beneath 750mm depth (or greater if the arboricultural consultant has deemed it appropriate) may be undertaken by an excavator working from outside the RPAs, provided that this is supervised to prevent any retained roots being damaged.

# 6. Landscaping and reinstatement

6.1. Care will be taken to ensure that landscaping and reinstatement do not cause any damage to the existing trees. Prior to the commencement of any landscaping works within RPAs the developer will convene a site meeting to be attended by the site manager or agent, the landscape contractor and the arboricultural consultant. The methods of tree protection outlined in this section of the arboricultural method statement shall be fully discussed, so that all aspects of their implementation and

sequencing are made clear to all parties. Any clarifications or modifications to this statement shall be recorded and circulated to all parties in writing.

- 6.2. Within RPAs the following points shall be observed:
- Ground levels will not be changed.
- Only lightweight plant or vehicles shall enter the RPAs.
- No fuels or chemicals shall be brought into or stored within these areas.
- Digging (for fence posts etc.) shall be done by hand. Any roots of 25mm diameter and above that are encountered shall not be cut: if such sized roots are found the position of the proposed post will be re-located. Any smaller roots shall be cut cleanly. All roots exposed should be back-filled with sharp sand on the same day they are uncovered.
- No parts of any fencing shall be nailed or otherwise attached to any parts of the retained trees.
- Unwanted vegetation shall be removed manually or by using chemicals that cannot damage the roots of the trees.
- No irrigation or drainage pipes shall be installed within RPAs.

# 7. Supervision and monitoring

- 7.1. Throughout the construction process the arboricultural consultant will monitor the condition of the trees. He will visit the site at appropriate intervals, as agreed with the LPA Tree Officer at the pre-commencement meeting, to ensure that the protection measures outlined in this document are adhered to; and will contact the site manager or agent on a weekly basis whilst ground works are being undertaken, and on a fortnightly basis thereafter, to ascertain what works are planned for the coming week and whether any of these require arboricultural input or supervision. Records of all monitoring and supervisory visits will be made, and will be forwarded to the client and copied to the LPA.
- 7.2. The arboricultural consultant shall directly supervise all works that have to be undertaken within RPAs. These include:
- demolition of existing retaining wall and foundations

- Excavation of soil bank section
- (if necessary) installation of underground services
- 7.3. The project or site manager will give the arboricultural consultant at least 48 hours written notice of the date of intended construction of any proposed structures, underground service runs, or areas of hard surfacing that are within the RPAs of any of the trees, so that he/she can attend.
- 7.1. All drawings or revised drawings issued to the site agent or to sub-contractors, that show details of any works within or abutting RPAs or beneath the crowns of trees are to be referred in advance to the arboricultural consultant to enable him to advise on any changes to the impact on trees that these drawings may cause, and to be able to provide solutions to avoid or minimise any further tree damage. All such drawings will be approved in writing by the arboricultural consultant before works within or abutting RPAs are proceeded with.
- 7.2. The arboricultural consultant will issue variation orders to the client in the case of any agreed changes to this method statement, and non-compliance notices in any cases of substantial deviation from the statement. These will be recorded in a final completion statement suitable for submission to the LPA if required.

**SJAtrees** 

**April 2019** 

# APPENDIX 1 Tree Survey Schedule



17 CROSS ROAD TADWORTH SURREY KT20 5ST

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# **Tree Survey Schedule**

Russell Mansions, 144 Southhampton Row, WC1B

# **Tree Survey Schedule: Explanatory Notes**

#### Russell Mansions, 144 Southhampton Row, WC1B

This schedule is based on a tree inspection undertaken by Anthony Harte of SJAtrees (the trading name of Simon Jones Associates Ltd.), on Tuesday the 2nd April 2019. Weather conditions at the time were overcast but dry. Deciduous trees were in partial leaf.

The information contained in this schedule covers only those trees that were examined, and reflects the condition of these specimens at the time of inspection. We did not have access to the trees from any adjacent properties; observations are thus confined to what was visible from within the site and from surrounding public areas.

The trees were inspected from the ground only and were not climbed, and no samples of wood, roots or fungi were taken. A full hazard or risk assessment of the trees was not undertaken, and therefore no guarantee, either expressed or implied, of their safety or stability can be given.

Trees are dynamic organisms and are subject to continual growth and change; therefore the dimensions and assessments presented in this schedule should not be relied upon in relation to any development of the site for more than twelve months from the survey date.

#### 1. Tree no.

Given in sequential order, commencing at "1".

#### 2. Species.

'Common names' are given, taken from MITCHELL, A. (1978) A Field Guide to the Trees of Britain and Northern Europe.

#### Height.

Estimated with the aid of a hypsometer, given in metres.

#### 4. Trunk diameter.

Trunk diameter measured at approx. 1.5m above ground level; or where the trunk forks into separate stems between ground level and 1.5m, measured at the narrowest point beneath the fork. Given in millimetres.

#### 5. Radial crown spread.

The linear extent of branches from the base of the trunk to the main cardinal points, rounded up to the closest half metre, unless shown otherwise. For small trees with reasonably symmetrical crowns, a single averaged figure is quoted.

#### 6. Crown break.

Height above ground and direction of growth of first significant live branch.

#### 7. Crown clearance.

Distance from adjacent ground level to lowest part of lowest branch, in metres.

#### 8. Age class.

Young: Age less than 1/3 life expectancy Semi-mature: 1/3 to 2/3 life expectancy Mature: Over 2/3 life expectancy

Over-mature: Mature, and in a state of decline

Veteran: Mature, with a large trunk diameter for the species; but showing signs of ancientness, irrespective of actual age, with decay or hollowing, and a crown that has undergone some retrenchment and has a structure characteristic of the latter stages of life.

Ancient: Beyond the typical age range and with a very large trunk diameter for species; with extensive decay or hollowing; and a crown that has undergone retrenchment and has a structure characteristic of the latter stages of life.

#### 9. Physiology.

Health, condition and function of the tree, in comparison to a normal specimen of its species and age.

#### 10. Structure.

Structural condition of the tree – based on both the structure of its roots, trunk and major stems and branches, and on the presence of any structural defects or decay.

Very good: No significant physiological or structural defects, an upright and reasonably symmetrical structure; a particularly good example of its species.

Good: No significant physiological or structural defects, and an upright and reasonably symmetrical structure.

Moderate: No significant pathological defects, but a slightly impaired physiological structure; however, not to the extent that the tree is at immediate or early risk of collapse.

Indifferent: Significant physiological or pathological defects; but these are either remediable or do not put the tree at immediate or early risk of collapse.

Poor: Significant and irremediable physiological or pathological defects, such that there may be a risk of collapse. Hazardous: Significant and irremediable physiological or pathological defects, with a risk of imminent collapse.

#### 11. Comments.

Where appropriate comments have been made relating to:

- -Health and condition
- -Safety, particularly close to areas of public access
- -Structure and form
- -Estimated life expectancy or potential
- -Visibility and impact in the local landscape

#### 12. Category.

Based on the British Standard "Trees in relation to design, demolition and construction - Recommendations", BS 5837: 2012, Table 1, adjusted to give a greater weighting to trees that contribute to the character and appearance of the local landscape, to amenity, or to biodiversity.

**Category U:** Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.

- Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category 'U' trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning).
- Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline.
- Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality.

**Category A**: Trees of high quality with an estimated remaining life expectancy of at least 40 years.

- (1) Trees that are particularly good examples of their species, especially if rare or unusual.
- (2) Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features.
- (3) Trees, groups or woodlands of significant conservation, historical, commemorative or other value.

**Category B**: Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

- (1) Trees that might be included in category 'A', but are downgraded because of impaired condition (e.g. presence of significant though remediable defects including unsympathetic past management and minor storm damage) such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category 'A' designation.
- (2) Trees present in numbers, usually growing as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals; or trees present in numbers but situated so as to make little visual contribution to the wider locality.
- (3) Trees with material conservation or other cultural value.

**Category C**: Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.

- (1) Unremarkable trees of very limited merit or of such impaired condition that they do not qualify in higher categories.
- (2) Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value, and/or trees offering low or only temporary landscape benefits.
- (3) Trees with no material limited conservation or other cultural value.



# TREE SURVEY SCHEDULE

# Russell Mansions, 144 Southhampton Row, WC1B

No.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clear-ance	Age class	Physio - logy	Structure	Comments	Cate gory
1	Tree of Heaven	17m	555mm	N 5.5m E 5.5m S 4m SW 3.2m W 4.2m NW 5.3m	NE 3m	SW 3m	Mature	Average	Indifferent	Sounded lower trunk and base with acoustic mallet-no differences in tone; several non-occluded pruning wounds (up to 60mm diameter) on trunk and lower limbs, consistent with crown lifting; all pruning wounds with thick rings of wound wood and almost fully occluded; exposed wood appearing sound with exception of one wound to NW with exposed wood black and showing signs of degradation; main unions appear tensile and structurally sound; pollarded at 14m, crown comprised of drawn-up epicormic regrowth up to 8 years old; one dead pollard point to S in upper crown 120mm diameter; pollard points unobservable from ground level but considering species is weak compartementaliser of decay, cavities possibly developing at these points; obscured from direct public views by surrounding buildings, but visible in views from upper floors of surrounding dwellings.	C (12)
2	Tree of Heaven	16.5m	465mm	N 5.5m E 5.5m SE 5.6m S 5.3m SW 5.1m W 5.1m NW 3.7m	N 6m	SW 6m	Mature	Average	Indifferent	Moderately pronounced root flare with astroturf tight to trunk base; diamond shaped wounds in bark of lower trunk, consistent with spiking, however, wounds do not extend above 3m of trunk; sounded lower trunk and base with acoustic mallet-no differences in tone; main unions appear tensile and structurally sound; pollarded at 12m, crown comprised of drawn-up epicormic regrowth, up to 8 years old; dead pollard point in upper crown to S, 100mm diameter; pollard points unobservable from ground level but considering species is weak compartementaliser of decay, cavities possibly developing at these points; evidence of bird nesting material in pollard point in centre of crown; obscured from direct public views by surrounding buildings, but visible in views from upper floors of surrounding dwellings.	C (13)



# **Root Protection Areas (RPAs)**

Root Protection Areas have been calculated in accordance with paragraph 4.6.1 of the British Standard 'Trees in relation to design, demolition and construction – Recommendations', BS 5837:2012. This is the minimum area which should be left undisturbed around each retained tree. RPAs are portrayed initially as a circle of a fixed radius from the centre of the trunk; but where there appear to be restrictions to root growth the circle is modified to reflect more accurately the likely distribution of roots.

Tree No.	Species	RPA	RPA Radius
1	Tree of Heaven	139.3m <sup>2</sup>	6.7m
2	Tree of Heaven	97.8m²	5.6m



# APPENDIX 2 Tree Protection Plan



Arboricultural Impacts: Summary Trees to be removed Groups of trees to be removed TPO trees to be removed Trees to be pruned Trees where above soil surfacing needed within RPAs Trees with proposed underground services within RPAs Trees that require manual excavation within RPAs

Manual Excavation

Within root protection areas the excavation of the trench in the location of the new retaining wall shall be undertaken by hand under arboricultural supervision. The soil will be loosened with a pick or fork, and then will be cleared from roots will be cut cleanly with a hand saw or secateurs. The edge of the excavation closest to the trees will be covered with hessian sacking to prevent drying out, and if necessary be shuttered with an appropriate material to prevent soil collapse. Where appropriate, the soil beneath this depth may be sheet piled; and deeper excavation may be undertaken by a machine provided it works from outside the root protection areas.

#### Arboricultural Supervision

The arboricultural consultant will directly supervise all construction works that have to be undertaken within root protection areas. These include:

- Lifting/excavation of existing hard surfaces.
   Excavation/demolition of existing retaining wall, foundations and soil bank.

Presence of bank greatly reduces possibility of incursions into RPAs by SJA machinery or materials, thereby obviating need to safeguard the trees with protective measures outside of construction zone.

SJA Site boundary

Demolition of retaining wall and excavation of soil bank for the extended garden terrace soil bank for the extended gardon to area to be undertaken manually, under on-site supervision of arboricultural consultant.

> PORTCULTURAL PLANNING CONSULTANTS Russell Mansions, 144 Southampton Row, London Client: Sands 39 Investments Ltd Drawing: TREE PROTECTION PLAN SJA TPP 19122-041 Drawing no: Drawn by: APH sja@sjatrees.co.uk Tree nos.: Category 'C' RPA:

