

BOKLOK

LAND TO THE SOUTH OF LITTLEHAMPTON ACADEMY

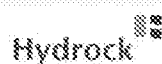
Arboricultural Implications Report

DOC: (20462-01)

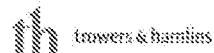
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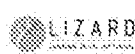
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Arboricultural Implications Report
Proposed re-development at
Land south of Littlehampton Academy
Littlehampton
Sussex



January 2021

Ref. SJA air 20463-01

SUMMARY

S1. On the basis of our assessment, we conclude that the arboricultural impact of this scheme is of negligible magnitude, as defined according to the categories set out in **Table 1** of this

S2. Our assessment of the impacts of the proposals on the existing trees concludes that no mature trees, no category 'A' or 'B' trees, and no trees of high landscape or biodiversity value are to be removed. None of the main arboricultural features of the site are to be removed. The proposed removal of individuals and groups of trees will represent no alteration to the main arboricultural features of the site, only a very minor alteration to the overall arboricultural character of the site and will not have an adverse impact on the arboricultural character and appearance of the local landscape.

S3. As no trees are to be pruned, and none of the proposed dwellings will be within 10m of the extents of the canopies of trees to be retained, there will be adequate working space for construction close to trees, and a reasonable margin of clearance for future growth.

S4. The incursions into the Root Protection Areas of trees to be retained are minor, and subject to implementation of the measures recommended on the Tree Protection Plan and set out at **Appendix 1**, no significant or long-term damage to their root systems or rooting environments will occur.

S5. As none of the proposed dwellings and associated private gardens or amenity space lie within the shadow patterns of any retained trees, they will not be shaded by retained trees to the extent that this will interfere with their reasonable use or enjoyment by incoming occupiers; which might otherwise lead to pressure to permit felling or severe pruning that the LPA could not reasonably resist.

S6. As the proposed development will retain all trees subject to TPO, and all trees that contribute to local amenity, and the retained off-site trees are afforded adequate protection through the development process and appropriate management for the future, it complies with Policy ENV DM4 of the adopted Arun Local Plan 2011-2031 (July 2018).



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1. INTRODUCTION AND BACKGROUND INFORMATION

1.1. Instructions

1.1.1. SJAtrees has been instructed by BoKlok Housing Ltd. to visit the land south of Littlehampton Academy and to survey the trees growing on or immediately adjacent to this site.

1.1.2. We are further asked to identify which trees are worthy of retention within a proposed re-development of the site; to assess the implications of the development proposals on these specimens, and to advise how they should be protected from unacceptable damage during construction.

1.2. Scope of report

1.2.1. This report and its appendices reflect the scope of our instructions, as set out above. It is intended to accompany a planning application to be submitted to Arun District Council (the LPA), and complies with local validation requirements, and with the recommendations of British Standard BS 5837:2012, *Trees in relation to design, demolition and construction – Recommendations* ('BS 5837').

1.2.2. The proposed development comprises the erection of 112 residential units with access from Fitzalan Road, associated open space, hard and soft landscaping works, internal roads/footways, car and cycle parking, substation, bin store and engineering works.

1.2.3. This report summarises and sets out the main conclusions of the baseline data collected during the tree survey and identifies those trees or groups of trees whose removal could result in a significant adverse impact on the character or appearance of the local area (Section 3). It then details and assesses the impacts of the proposed development on individual trees and groups of trees, including those to be removed (Section 4), those to be pruned (Section 5), those which might incur root damage that might threaten their viability (Section 6) and those that might become under pressure for removal after occupation as a result of shading (Section 7). A summary and conclusions, with regard to local planning policy, are presented in Section 8.

1.3. Site inspection

1.3.1. A site visit and tree inspection were undertaken by Finn Cullerne of SJAtrees on Tuesday 22nd December 2020. Weather conditions at the time were overcast but dry. Deciduous trees were not in leaf/

1.4. Site description

1.4.1. The site is approximately 2.36ha in size and is located onto the south of Littlehampton Academy, as shown at **Figure 1** below. The school grounds abut the north site boundary. Fitzalan street adjoins the west site boundary with residential housing beyond. The public footpath no. 3104 runs east to west adjacent to the south boundary with Rosemead Park and residential properties beyond. The east boundary adjoins Littlehampton Day Care and the residential street, Elm Grove.



Figure 1: Site location shown on Google Earth image

1.4.2. It is on relatively flat ground, but there are artificial earth mounds in the west section of the site. The site currently comprises a derelict field with remnants of demolished buildings.

1.5. Soil type

1.5.1. The British Geological Survey Solid and Drift Geology map of the area indicates the site lies on superficial deposits of River Terrace Deposits (undifferentiated) - Sand, Silt and Clay, above a bedrock of chalk.

1.5.2. Whilst no site investigation or soil analysis has been undertaken, the British Geological Survey map suggests that the soil is unlikely to be particularly susceptible to compaction.

1.6. Statutory controls

1.6.1. Several off-site trees are covered by two tree preservation orders (TPOs). These are TPO no. LU/1/93 and LU/1/95 made by Arun District Council, the specific details are not available on the Arun Council website so all trees within the TPO boundaries shown on the GIS map are assumed to be covered. The trees protected by this TPO are identified within our tree survey schedule at **Appendix 2** and on the accompanying tree locations and tree protection plans.

1.6.2. The site is not within a conservation area, and therefore there are no constraints relating to existing trees in this regard.

1.7. Non-statutory designations

1.7.1. There are no woodlands within or abutting the site that are classified as 'Ancient'. Ancient woodland is defined as "any area that's been wooded continuously since at least 1600 AD" and is considered an important and irreplaceable habitat.

1.7.2. There are no trees within or abutting the site that can be classified as 'Ancient' or 'Veteran'. Ancient and veteran trees are also considered to be irreplaceable habitats, and contribute to a site's biodiversity, cultural and heritage value, and the National Planning Policy Framework (see below) states that development resulting in the loss or deterioration of ancient or veteran trees should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists.

2. METHODOLOGY

2.1. National policy context

2.1.1. Under Section 197 of the Town and Country Planning Act 1990, local authorities have a statutory duty to consider the protection and planting of trees when considering planning applications. The effects of proposed development on trees are therefore a material consideration, and this is normally reflected in local planning policies.

2.1.2. The National Planning Policy Framework (NPPF) (June 2019), sets out the Government's planning policies for England and how these should be applied in both plan and decision-making. Paragraph 2 makes it clear that the NPPF is itself a material consideration in the determination of planning application. Paragraph 11 states that **"Plans and decisions should apply a presumption in favour of sustainable development."**

2.1.3. In paragraph 127, within Section 12 "Achieving well-designed places" the NPPF states: **"Planning policies and decisions should ensure that developments:**

- a) will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;**
- b) are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;**
- c) are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);**
- d) establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit;**
- e) optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and**

f) create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience.”

2.1.4. In paragraph 170, within Section 15 “Conserving and enhancing the natural environment” the NPPF states: **“Planning policies and decisions should contribute to and enhance the natural and local environment by:**

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland...”

2.1.5. In paragraph 175 the NPPF states: **“When determining planning applications, local planning authorities should apply the following principles:**

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists....”

2.1.6. Local planning policies are contained in the adopted Arun Local Plan 2011-2031 (July 2018).

2.1.7. Policy DM4 of the core strategy states:

“ Development will be permitted where it can be demonstrated that trees protected by a Tree Preservation Order(s), (TPO) identified as Ancient Woodland, in a Conservation Area or contributing to local amenity, will not be damaged or destroyed now and as they reach maturity, unless development:

a. Would result in the removal of one or more trees in the interests of good arboricultural practice. This shall be demonstrated by the developer following the advice of a suitably qualified person which shall be guided by BS 5837 (2012). Details of any advice received having regard to BS 5837 (2012) shall be submitted, in writing, as part of a planning application; or

- b. Would enhance the survival and growth prospects of other protected trees;**
- c. The benefits of the proposed development in a particular location outweigh the loss of trees or woodland, especially ancient woodland.**

Where planning permission is granted in any of the above instances, conditions shall be used to ensure that, for any trees which are removed as part of a development, at least an equivalent number of a similar species and age (where practical) are planted on the proposed development site. Sufficient space for replacement trees to mature without causing future nuisance or damage shall be provided. The planting of new trees shall form an integral part of the design of any development scheme.

Proper provision must be made for the protection and management of trees or areas of woodland on-site when undertaking development. A management plan shall be provided as part of a planning application in accordance with BS 5837 (2012) in order to ensure that trees are adequately protected during development and appropriately maintained in the future. Conditions for the continued protection of trees on sites shall be included in any planning permission given.

Where there are existing trees on or adjacent to a development site, developers shall be required to provide:

- d. Land and tree surveys**
- e. A tree constraints plan**
- f. An arboricultural impact assessment to include a tree protection plan and arboricultural method statement These will ensure that development is planned to take a comprehensive view of tree issues at an early stage in the design process and that development works do not have a negative impact on existing trees.”**

2.2. Neighbourhood policy context

2.2.1. The proposed site is located within the Littlehampton Neighbourhood Plan 2014-2029 (November 2014) however, none of the listed policies relate to the site, trees, biodiversity, or amenity.

2.3. Tree survey and baseline information

2.3.1. We surveyed individual trees with trunk diameters of 75mm and above¹, trees with trunk diameters of 150mm and above growing in groups or woodlands, and shrub masses, hedges and hedgerows² growing within or immediately adjacent to the site; and recorded their locations, species, dimensions, ages, condition, and visual importance in accordance with BS 5837 recommendations.

2.3.2. The baseline information collected during the site survey was recorded on site using a hand-held digital device. This information was then imported into an Excel spreadsheet and used to produce the tree survey schedule at **Appendix 2**. The numbers assigned to the trees in the tree survey schedule correspond with those shown on the appended tree protection plan.

2.3.3. We surveyed trees as groups where they have grown together to form cohesive arboricultural features, either aerodynamically (trees that provide companion shelter), visually (e.g. avenues or screens) or culturally³. However, where it might be necessary to differentiate between specific trees within these groups, we also surveyed these individually.

2.3.4. We inspected the trees from the ground only, aided by binoculars as appropriate, but did not climb them. We took no samples of wood, roots or fungi. We did not undertake a full hazard or risk assessment of the trees, and therefore can give no guarantee, either expressed or implied, of their safety or stability.

2.3.5. We have categorised the trees in accordance with BS 5837, and details of the criteria used for this process can be found in the notes that accompany the tree survey schedule.

2.3.6. We have applied this methodology in line with the NPPF's presumption in favour of sustainable development, giving greater weighting to the contribution of a tree to the character and appearance of the local landscape, to amenity, or to

¹ BS 5837, paragraph 4.2.4 b), recommends that all trees over 75mm stem diameter should be included in a pre-planning land and tree survey.

² Ibid, 4.4.2.7

³ Ibid, 4.4.2.3

biodiversity, where its removal might have a significant adverse impact on these factors.

2.4. Tree constraints

2.4.1. In line with the NPPF's presumption in favour of sustainable development, we have assessed whether any trees should be retained in the context of a proposed re-development. To do this, we identified the main arboricultural features within or immediately adjacent to the site, whose removal we considered could have an adverse impact on the character and appearance of the local landscape, on amenity or on biodiversity.

2.4.2. Whilst BS 5837 states that trees in categories 'A', 'B' and 'C' are all a material consideration in the development process, the retention of category 'C' trees, being of low quality or of only limited or short-term potential, will not normally be considered necessary should they impose a significant constraint on development.

2.4.3. Furthermore, BS 5837 makes it clear that young trees, even those of good form and vitality, which have the potential to develop into quality specimens when mature **"need not necessarily be a significant constraint on the site's potential"**⁴.

2.4.4. Moreover, BS 5837 states that **".... care should be taken to avoid misplaced tree retention; attempts to retain too many or unsuitable trees on a site can result in excessive pressure on the trees during demolition or construction work, or post-completion demands for their removal"**⁵.

2.4.5. The 'Root Protection Areas' (RPAs)⁶ of the trees identified for retention were calculated in accordance with Section 4.6 of BS 5837; and were assessed taking account of factors such as the likely tolerance of a tree to root disturbance or damage, the morphology and disposition of roots as influenced by existing site conditions

⁴ Ibid. 4.5.10.

⁵ Ibid. 5.1.1.

⁶ The minimum area around a retained 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." BS 5837, paragraph 3.7.

(including the presence of existing roads or structures), as well as soil type, topography and drainage.

2.4.6. To assess whether the trees identified for retention would be in a sustainable relationship with the proposed development (without casting excessive shade or otherwise unreasonably interfering with incoming residents' prospects of enjoying their properties, and thereby leading inevitably to requests for consents to fell), we plotted a segment or "shading arc" from each trunk, with a radius equal to the current height of the tree concerned, from due north-west to due east. This gave an indication of potential direct obstruction of sunlight and the shadow pattern cast through the main part of the day⁷.

2.4.7. Based on these principles and recommendations, the tree survey and assessment of suitability for retention informed the production of a tree constraints plan (TCP) which indicates the most suitable trees for retention, and their associated below-ground and above-ground constraints.

2.4.8. As a design tool, the TCP also indicates how close to those trees selected for retention the proposed development could be positioned, in terms of three key criteria:

- a). avoidance of unacceptable root damage;
- b). avoidance of the necessity for unacceptable pruning works; and
- c). avoidance of future felling or pruning works to prevent unacceptable shading or apprehension on behalf of the occupants.

2.5. Arboricultural impact assessment and tree protection plan

2.5.1. Once finalised, we assessed the arboricultural impacts of the proposed layout, by overlaying it onto the TCP, and produced the tree protection plan (TPP) presented at **Appendix 3**. This is based on the proposed site layout by ECE Architecture, drawing no. LTH-ECE-XX-XX-DR-A-SL-5012.

⁷ BS 5837, paragraph 5.2.2 Note 1.

2.5.2. The TPP identifies the trees which will be removed to accommodate the proposed development, either because they are situated within the footprints of proposed structures or surfaces, or because in our judgment they are too close to these structures or surfaces to enable them to be retained. These are shown by means of **red crosses** on the TPP.

2.5.3. The TPP also shows how trees to be retained will be protected from damage during construction, and the measures identified are set out and described at **Appendix 1** to this report. The implementation of, and adherence to, these measures can readily be secured by the imposition of appropriate planning conditions.

2.5.4. For the trees shown to be retained, all measurements for pruning specifications, percentage estimates of RPA incursions and shading issues have been calculated using AutoCAD software.

2.5.5. Details of the impacts identified within these categories, and our assessment of their respective significance, are analysed in Sections 4 to 7 below.

2.5.6. Based on these findings, we have assessed the magnitude of the overall arboricultural impact of the proposals according to the categories defined in Table 1 below.

Category	Description
High	Total loss of or major alteration to main elements/ features/ characteristics of the baseline, post-development situation fundamentally different
Medium	Partial loss of or alteration to main elements/ features/ characteristics of the baseline, post-development situation will be partially changed
Low	Minor loss of or alteration to main elements/ features/ characteristics of the baseline, post-development changes will be discernible but the underlying situation will remain similar to the baseline
Negligible	Very minor loss of or alteration to main elements/ features/ characteristics of the baseline, post-development changes will be barely discernible, approximating to the 'no change' situation

Table 1: Magnitude of impacts⁸

⁸ Determination of magnitude based on DETR (2000) Guidance on the Methodology for Multi-Modal Studies, as modified and extended.

3. THE TREES

3.1. Survey findings

3.1.1. We surveyed a total of 16 individual trees, six groups of trees, and one hedgerow growing within or adjacent to the site. Their details can be found in the tree survey schedule at **Appendix 2**.

3.1.2. The trees within the site boundaries are all small and are classed as young to semi-mature. These trees are either part of the previous soft landscape design or self-seeded scrub trees grown up post demolition. These specimens are a mix of native and exotic species and are generally inconsistent with the surrounding arboricultural character.

3.1.3. The trees adjacent to the site boundaries comprise a mix of broadleaves and conifers, with a larger proportion being broad leaved trees. The species composition is a mix of native and exotic and their age class is more diverse comparative to the on-site trees with young to mature specimens being present. The trees are larger and more established than those on site.

3.2. Assessment of suitability for retention

3.2.1. As noted above in Section 2.3, local planning policies require the retention of trees that are “**of amenity, landscape or cultural value**.” The individuals and groups of trees within or adjacent to the site, whose attributes we consider meet these criteria, are as follows:

- The off-site row of nine Lombardy poplars (nos. 6 to 14) growing within the rear gardens backing onto the public footpath (no. 3104) adjacent to the south site boundary;
- the off-site group of trees (G4) growing within Rosemead Park, adjacent to the footpath; and
- the off-site row of Leyland cypress (G5) growing within Rosemead Park, adjacent to Fitzalan Road.

3.2.2. There are no category 'A' trees, but there are ten category 'B' specimens. The remaining six trees are assessed as category 'C' trees, being either of low quality, very limited merit, only low landscape benefits, no material cultural or conservation value, or only limited or short-term potential; or young trees with trunk diameters below 150mm; or a combination of these.

3.2.3. Of the groups of trees and hedgerows, none have been assessed as category 'A', two as category 'B', and the remaining five as category 'C'.

4. TREES TO BE REMOVED

4.1. Details

4.1.1. To accommodate the proposed development, as shown on the proposed layout plan, five individual trees (nos. 1, 2, 3, 4 and 5), three groups of trees and one hedgerow are to be removed, either because they are situated within the footprints of proposed structures or surfaces, or because they are too close to these to enable them to be retained.

4.1.2. All trees to be removed are assessed as category 'C'. None of the Category 'B' trees are to be removed. The trees to be removed are shown and listed on the TPP and at **Table2** below.

Tree no.	TPO No.	Species	Height	Trunk diameter	Age class	BS category
1		Norway maple	4m	4 stems @ 90mm	Young	C (3)
2-3		Goat willow	3m	#T2 7 stems @ 75mm #T3 15 stems @ 50mm	Young	C (3)
4		Himalayan birch	4.5m	95mm	Young	C (1)
5		Sycamore	5m	105mm 50mm 95mm	Young	C (3)
G2		Various	2m	Min 50mm Max 100mm	Young	C (3)
G6		Various	8m	Min 60mm Max 310mm Avg 180mm	Semi-mature	C (123)
H4		Various	3m	Min 60mm Max 110mm	Young	C (3)

Table 2: Trees to be removed

4.1.3. Two groups of trees (G2 and G6) and one hedgerow (H4) are to be removed as part of the proposals.

4.2. Assessment

4.2.1. All those trees or groups of trees that constitute the main arboricultural features of the site and which make the greatest contribution to the character and appearance of the local landscape, to amenity or to biodiversity (see paragraph 3.2.1), will be retained.

4.2.2. None of the trees to be removed are mature. The five individual trees, the group of trees (G2) and the hedgerow (H4) are all young specimens, which BS 5837 states “**need not necessarily be a significant constraint on the site’s potential**”.

4.2.3. The group of semi-mature trees (G6) is comprised of predominantly semi-mature elm, with a maximum trunk diameter of 310mm and height of 8m. The group is visible from Fitzalan Road and Rosemead Park, however, the group has a ‘scrubby’ appearance and their contribution to the street scene of the road or the character of the park is very limited. The removal of these specimens is readily mitigated through the replacement tree planting outlined in paragraph 4.2.6 below.

4.2.4. None of the individual trees to be removed are covered by a TPO (see 1.6.1 above).

4.2.5. All the trees to be removed (individuals, groups and hedgerows) are assessed as category ‘C’ trees: these are either of low quality or low value. They do not have an overly positive visual impact and only contribute to the dilapidated, scrubby character of the site. For these reasons, their removal will have no significant impact on the character or appearance of the local area.

4.2.6. The proposals incorporate considerable replacement tree planting; this is shown on the Neil Tully landscape soft works plan (ref: LTH-NTA-XX-00-DR-L-505-PO2) to be updated with soft landscape details. This will mitigate the proposed removals, improve the age class balance of the trees on site, enhance the local landscape, and re-establish a framework for the ongoing and long-term character of the site.

4.2.7. In the light of these considerations, and taking account of the numbers, sizes and locations of the trees to be retained, including those that are off-site, the felling of the trees and groups identified for removal will represent no alteration to the main arboricultural features of the site.

5. TREES TO BE PRUNED

5.1. Details

5.1.1. None of the trees to be retained are to be pruned to facilitate implementation of the proposals.

5.2. Assessment

5.2.1. As no trees are to be pruned, and none of the proposed dwellings will be within 10m of the extents of the canopies of trees to be retained, there will be adequate working space for construction close to trees, and a reasonable margin of clearance for future growth.

6. ROOT PROTECTION AREA INCURSIONS

6.1. Details

6.1.1. Parts of the proposed parking bays, internal roads and footpaths will encroach within the RPAs of six of the trees to be retained. These are shown in **Table 2** below.

Tree no.	Species	Incursion	Extent of incursion	% of RPA	Incursion - currently unsurfaced ground	% of RPA
6	Lombardy poplar	Proposed internal road haunching	1.2m ²	0.7%	n/a	n/a
7	Lombardy poplar	Proposed internal road haunching	0.2m ²	0.15%	n/a	n/a
9	Lombardy poplar	Proposed internal road haunching	0.2m ²	0.15%	n/a	n/a
12	Lombardy poplar	Proposed footpath	2.8m ²	1.7%	2.8m ²	1.7%
13	Lombardy poplar	Proposed footpath	13.3m ²	5.2%	12.3m ²	4.8%
		Proposed parking bay	6.3m ²	2.5%	0	0%
16	Beech	Proposed parking bay	2.4m ²	1.1%	2.4m ²	1.1%

Table 2: Proposed incursions within RPAs

6.2. Assessment

6.2.1. The incursions into the RPAs of the six trees listed at **Table 2** can be separated into three types: internal road, footpath and parking bays. They extend no closer than 6m to the trunks, and equate to no more than 4.8% of individual RPAs. Any potential adverse impacts can be satisfactorily mitigated as set out below.

Internal Road

6.2.2. The proposed internal road itself does not encroach into the RPAs of retained trees, however, we have included a 500mm offset to allow for the construction of the kerb and road haunching, which encroaches into the RPAs of trees nos. 6, 7 and 9 by no more than 0.7% of individual RPAs. To install these features, some degree of excavation will be required and to minimise impacts on these specimens, excavation within these RPAs will be undertaken carefully, under the direct control and

supervision of an appointed arboricultural consultant, so that any over dig into the RPAs is avoided, and any roots encountered can be treated appropriately.

Footpath

6.2.3. The proposed footpath running parallel with the south boundary encroaches into the RPAs of poplars nos. 12 and 13, the incursions equate to no more than 5.2% of individual RPAs. As the extent of surfacing within the RPAs is small, an above soil solution is unlikely to be cost effective relative to the benefits it would bring.

6.2.4. A small section of the path (1m²) is within the existing concrete road and as such, the footpath can be constructed no deeper than the sub-base of the existing road in this section, and therefore no excavation will be necessary in this section. This reduces the maximum extent of ground within RPAs to be excavated to 12.3m² or 4.8%.

6.2.5. As the footpath is intended for purely pedestrian traffic, the construction will be light weight design, which is unlikely to require significant excavation, a reasonable assumed excavation depth would be between 250 to 300mm in depth. Studies have shown that typically as much as 90% of tree root length occurs in the upper metre of the soil⁹ and so it is highly unlikely that these incursions into the RPAs will result in all the roots in these areas being severed. For example, as only the upper 300mm of the upper metre of soil will be removed, the 4.8% incursion into the RPA of the poplar no. 13 may result in a reduction of only 1.4% of roots within the RPA.

6.2.6. To minimise impacts on these specimens, excavation within these RPAs will be undertaken manually, under the direct control and supervision of an appointed arboricultural consultant, so that any over dig into the RPAs is avoided, and any roots encountered can be treated appropriately.

Parking bays

6.2.7. The incursion into the RPA of the beech no. 16 is by a parking bay, which equates to 2.4m² or 1.1% of the tree's RPA. To meet the proposed finished levels of

⁹ Roberts J., Jackson N., & Smith M. (2006). Tree Roots in the Built Environment. TSO.

the adjacent parking bays, its clear that some degree of excavation is necessary. To minimise impacts on this specimen, excavation within its RPA will be undertaken manually, under the direct control and supervision of an appointed arboricultural consultant, so that any over dig into the RPA is avoided, and any roots encountered can be treated appropriately.

6.2.8. The incursion into the RPA of poplar no. 13 extends to no more than 2.5% of the tree's RPA. The proposed parking bay surface will replace the existing concrete road and will not encroach into currently unsurfaced ground. As such the proposed incursion does not exceed the 20% maximum incursion into currently unsurfaced ground recommended in BS 5837¹⁰.

6.2.9. Taking account of existing ground levels and likely proposed levels of this area, this will allow for design and construction of the replacement surface to be constructed no deeper than the sub-base of the existing hard surface, and accordingly no excavation will be required into the existing soil.

6.2.10. The tree species impacted by incursions into their RPAs have been identified as good to poor at tolerating root pruning and disturbance¹¹, as shown in **Table 3**. As the poplars are of average physiological condition, there is no reason to suggest that they will not be able to tolerate the cutting of roots within these small sections of their RPAs. Beech respond poorly to root disturbance, however, based on the trees physiological condition, the small extent of incursion (detailed in 6.2.7 above), there is no reason to suggest that the tree will not be able to tolerate the proposed cutting of roots over such a small area.

Species	Tolerance
Lombardy poplar	Moderate to good
Beech	Poor

Table 3: Species tolerance to root pruning and disturbance

¹⁰ BS 5837, paragraph 7.4.2.3.

¹¹ MATHENY, N. P. and CLARK, J. R. (1998). Trees and Development. International Society of Arboriculture.

6.2.11. The areas lost to encroachment within the RPAs of the tree listed in **Table 2** can be compensated for in the areas to the south, west and east of the trees, where there are areas of soft landscaping suitable for root growth, contiguous to the RPAs. There is likely to already be significant rooting within this area, and as it is to remain as soft landscape, there is little of this being built on in the future. Therefore, there will be no net loss of suitable rooting area, and no risk of cumulative impacts in the future, so there is no reason to suggest that they will not be able to tolerate the cutting of roots within these small sections of their RPAs or that they will not remain viable.

6.2.12. Implementation of measures to prevent other incursions into the RPAs of retained trees and to protect them during construction can be assured by the erection of appropriate protective fencing, as shown on the TPP at **Appendix 3**.

6.2.13. Accordingly, subject to implementation of the above measures, and considering the ages, current physiological condition and tolerance of disturbance of these retained trees, no significant or long-term damage to their root systems or environments will occur as a result of the proposed development.

7. RELATIONSHIP OF RETAINED TREES TO NEW DWELLINGS

7.1. Details

7.1.1. In none of the proposed new dwellings or apartments does the fenestration of their main habitable rooms (living rooms, kitchens) exclusively and directly face trees within the shadow patterns¹² of which they are situated.

7.2. Assessment

7.2.1. As none of the proposed dwellings and associated private gardens or amenity space lie within the shadow patterns of any retained trees, they will not be shaded by retained trees to the extent that this will interfere with their reasonable use or enjoyment by incoming occupiers; which might otherwise lead to pressure to permit felling or severe pruning that the LPA could not reasonably resist.

¹² BS 5837, 5.2.2, Note 1: "An indication of potential direct obstruction of sunlight can be illustrated by plotting a segment, with a radius from the centre of the stem equal to the height of the tree, drawn from due north-west to due east, indicating the shadow pattern through the main part of the day."

8. CONCLUSIONS

8.1. Summary

8.1.1. Our assessment of the impacts of the proposals on the existing trees concludes that no mature trees, no category 'A' or 'B' trees, and no trees of high landscape or biodiversity value are to be removed. None of the main arboricultural features of the site are to be removed. The proposed removal of individuals and groups of trees will represent no alteration to the main arboricultural features of the site, only a very minor alteration to the overall arboricultural character of the site and will not have an adverse impact on the arboricultural character and appearance of the local landscape.

8.1.2. As no trees are to be pruned, and none of the proposed dwellings will be within 10m of the extents of the canopies of trees to be retained, there will be adequate working space for construction close to trees, and a reasonable margin of clearance for future growth.

8.1.3. The incursions into the Root Protection Areas of trees to be retained are minor, and subject to implementation of the measures recommended on the Tree Protection Plan and set out at **Appendix 1**, no significant or long-term damage to their root systems or rooting environments will occur.

8.1.4. As none of the proposed dwellings and associated private gardens or amenity space lie within the shadow patterns of any retained trees, they will not be shaded by retained trees to the extent that this will interfere with their reasonable use or enjoyment by incoming occupiers; which might otherwise lead to pressure to permit felling or severe pruning that the LPA could not reasonably resist.

8.2. Compliance with national planning policy

8.2.1. As the proposals will retain all the main arboricultural features of the site, its arboricultural attractiveness, history and landscape character and setting will be maintained, thereby complying with Paragraph 127 of the National Planning Policy Framework.

8.2.2. As the proposals will not result in the loss or deterioration of any ancient woodland or any ancient or veteran trees, they comply with paragraph 175 of the NPPF.

8.3. Compliance with local planning policy

8.3.1. As the proposed development will retain all trees subject to TPO, and all trees that contribute to local amenity, and the retained off-site trees are afforded adequate protection through the development process and appropriate management for the future, it complies with Policy ENV DM4 of the adopted Arun Local Plan 2011-2031 (July 2018).

8.4. Conclusion

On the basis of our assessment, we conclude that the arboricultural impact of this scheme is of negligible magnitude, as defined according to the categories set out in **Table 1** of this report.

APPENDIX 1

Outline Arboricultural Method Statement



ARBORICULTURAL PLANNING CONSULTANTS

17 CROSS ROAD
TADWORTH
SURREY KT20 5ST



ARBORICULTURAL METHOD STATEMENT

For Protection of Trees

at

Land south of Littlehampton Academy

Littlehampton

Sussex



March 2021

SJA ams 20463-01

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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 Erection of 112 residential units with access from Fitzalan Road, associated open space, hard and soft landscaping works, internal roads/footways, car and cycle parking, substation, bin store and engineering works at the land south of Littlehampton Academy 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 the recommendations of British Standard BS 5837:2012, *Trees in relation to design, demolition and construction – Recommendations*.

1.3. Details of the trees can be found in the tree survey schedule at **Appendix 2** of the report to which this method statement is also appended. Their locations are shown on the tree protection plan (SJA TPP 041) at **Appendix 3** of the same report. The tree protection plan (and therefore this method statement) is based on the following drawings:

- ECE Architecture site plan (ref: LTH-ECE-ZZ-ZZ-SK-A-SL-5000 P09)
- AKS Ward drainage plan (ref: LLA-AKSW-XX-XX-DR-C-9201-P01)
- AKS Ward surface model plan (ref: LLA-AKSW-XX-XX-DR-C-9220-P02)
- Neil Tully Associates hard landscape plan (ref: LTH-NTA-XX-00-DR-L-0502/0503)

1.4. The key words and phrases used in this statement are defined in **Table 1** below.

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

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.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 construction works.

2.3. Prior to the commencement of works, the project manager will send copies of any construction method statements that might have implications for existing trees to

¹ 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.

the arboricultural consultant for his comments. The arboricultural consultant will liaise with the project manager to ensure that there are no conflicts between the construction method statements and this arboricultural method statement.

2.4. Prior to the start of any site clearance, ground preparation, 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 fencing/boarding contractor, the groundwork contractor(s) and the arboricultural consultant. The LPA tree officer will be invited to attend. If appropriate, the tree felling/surgery contractor should also 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 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	Removal of trees nos. 1, 2, 3, 4, 5, G2, G6 and H1	3	-
3	Erection of protective fencing	5	Yes
4	Construction of permanent hard surface within RPAs of trees nos. 5, 7, 9, 12, 13, 14 and 16	7	Yes
5	Clearance of machinery/materials from site, reinstatement and landscaping.	8	-
6	Removal of protective fencing.	8	-

Table 2: Sequence of works (relevant to tree protection)



3. Site clearance

3.1. No clearance of trees or other vegetation shall be undertaken until after the pre-start meeting and after the erection of the tree protection fencing (see below).

3.2. If any vegetation clearance is required behind the line of the protection fencing this will be made clear at the pre-start meeting and arrangements will be made to undertake this prior to the fencing's erection, under the supervision of the arboricultural consultant, who will ensure it doesn't cause any soil compaction or damage to the roots of trees to be retained.

3.3. The five individual trees (nos. 1, 2, 3, 4 and 5), three groups of trees and one hedgerow are to be removed shall be felled and disposed of.

3.4. Stumps of those trees that are within the RPAs of trees to be retained shall either be left in place or shall be ground out.

3.5. Except within the RPAs of trees to be retained, all other vegetation to be removed may be cut down or grubbed out as appropriate. Within the RPAs of trees to be retained, vegetation will be cut by hand to ground level and stumps will be either left in place or ground out with a lightweight self-powered stump grinding machine. No excavators, tractors or other vehicles will enter the RPAs.

4. Ground preparation

4.1. No ground preparation or excavation of any kind, including topsoil stripping and levelling or re-profiling of soil, shall be undertaken prior to the pre-start meeting and after the erection of the tree protection fencing (see below). Thereafter there shall be no unsupervised excavation within the RPAs of trees to be retained.

5. Protective fencing

5.1. No site clearance, ground preparation, or construction shall commence on site, and no demolition or construction vehicles or plant will enter the site until the RPAs of the trees to be retained have been safeguarded by the erection of protective fencing



to the specification recommended in BS 5837: 2012, Section 6.2.2, as shown in Figure 2 of that document (see **Figure 1** below).

5.2. The protective fencing will be located in the positions shown by the **continuous bold blue lines** on the TPP.

5.3. The fencing shall be at least 2.1m in height, comprising a scaffolding or a timber post and rail framework supporting either a minimum of 20mm exterior grade ply or other robust man-made boards, or standard anti-climb 'Heras' welded mesh fence panels, fixed to each other with at least two clamps, and secured with anti-lift devices to concrete or plastic bases (footings) that are pinned at least 450mm into the ground with lengths of scaffold tube.

5.4. Scaffolding construction shall be to BS EN 12811-1:2003; uprights shall be at minimum 3.5m centres and every other one shall be supported on the side closest to the trees by struts braced to the ground at an angle of 45°. If used, 'Heras' panels shall be secured to two cross members between the uprights with heavy-duty cable ties. Notices stating "Tree Protection Zone, Keep Out!" will be attached to every third panel with cable ties.



Figure 2 Default specification for protective barrier

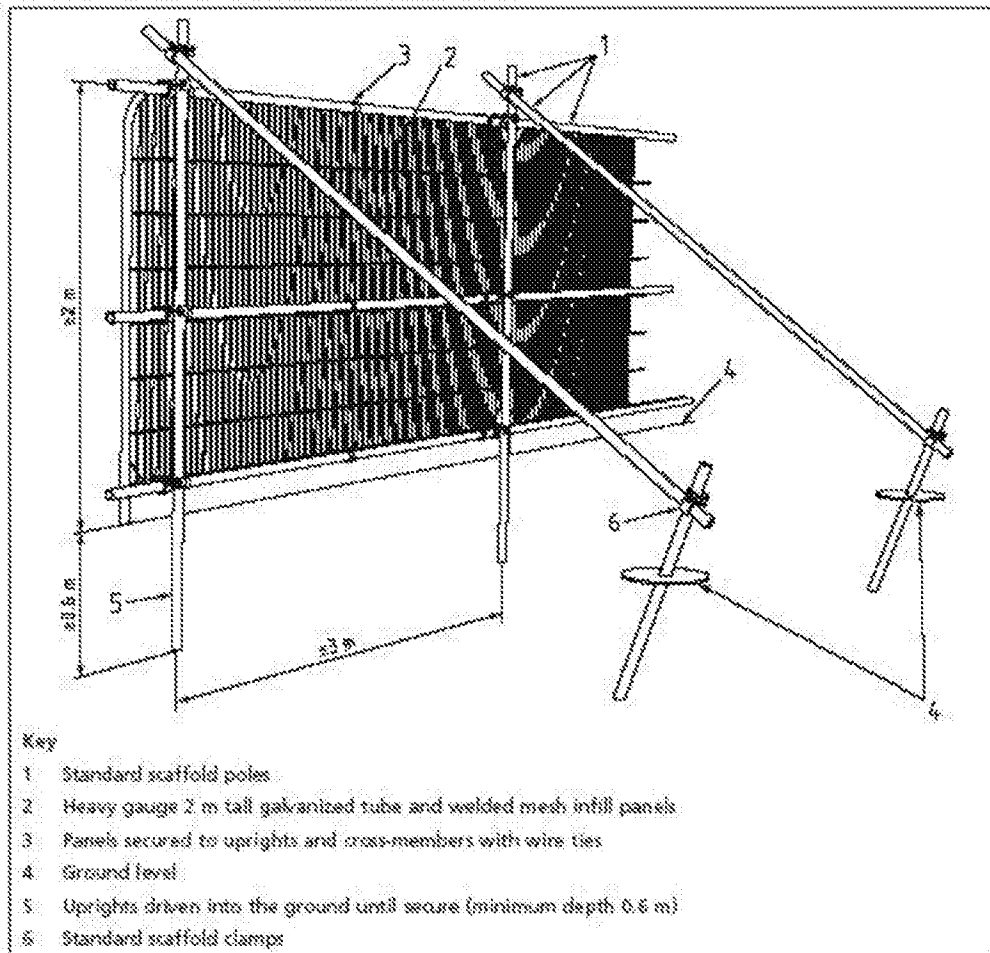


Figure 1 Protective fencing.
(Based on Figure 2, BS 5837: 2012)

5.5. Exclusion Zones (“CEZs”) behind the fencing: 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.

5.6. 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.

5.7. 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.

5.8. In the event that the protective fencing or ground boarding is accidentally damaged or knocked over, those sections will immediately be cordoned off with high visibility plastic mesh fencing. The damaged sections then will be repaired or replaced within 48 hours (2 working days). All instances of damage and re-instatement shall be recorded and immediately reported to the arboricultural consultant.

5.9. Once the protective fencing has been erected, the arboricultural consultant will visit the site and inspect it. He will record the position of the fencing and the condition of the retained trees. If it complies with this statement, the arboricultural consultant will 'sign off' the fencing to the contractor and copy this (in writing) to the developer. (See also 'Supervision and Monitoring' below.)

5.10. The protective fencing will not be moved or re-located without the prior approval of the arboricultural consultant. It will only be removed once all construction works are completed: the arboricultural consultant will be informed in advance of when it is intended to remove the fencing.

6. Installation of underground services

6.1. A review of the AKS Ward drainage plan demonstrates that no drainage routes are to be located so that no excavation is required within RPAs. All underground service routes shall also be located so that no excavation is required within RPAs.

6.2. In the unlikely event that the service routes cannot be located outside of the RPAs of retained trees, underground services shall be installed in one of the following two ways, in accordance with NJUG guidelines².

6.3. **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.

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



6.4. **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 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.

6.5. 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.

6.6. 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.

6.7. 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.

6.8. 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.

7. Construction of permanent hard surfaces

7.1. A review of the AKS Ward surface model and Neil Tully hard landscape plans indicates that hard surfaces are proposed within the RPAs seven trees to be retained. The encroachments can be separated into three types: the parking bays within the



RPA's of trees nos. 13 and 16, the footpath within the RPA's of poplars nos. 12 to 14, and the kerb haunching within the RPA's of trees nos. 6, 7 and 9.

Proposed parking bays

7.2. A review of the existing and proposed levels within the RPA of poplar no. 13 show that the proposed levels are 30mm above the existing levels. The proposed permeable concrete block paving and sub-base will be located entirely within the footprint of the existing hard surface, as such, the new surface can be founded no deeper than the sub-base of the existing hard surface, consequently no root severance will occur.

7.3. The parking bay within the RPA of beech no. 16 covers 2.4m² or 1.1% of its RPA, a review of the existing and proposed levels shows that the proposed surface will be 240mm below the existing levels, as such, excavation will be necessary.

7.4. To minimise the potential impacts, the excavation shall be undertaken manually under the direct supervision by an arboricultural consultant. If roots larger than 25mm diameter are encountered they shall be retained and protected, and the pile or pad will be relocated. Any smaller roots shall be cut cleanly by the arboricultural consultant. If roots larger than 25mm diameter are accidentally damaged, the arboricultural consultant will assess the damage and carry out any necessary remedial works. He will report to the client the extent of the damage and any long-term effect to the tree's stability or health.

7.5. Exposed roots will be covered with sand or hessian sacking and be kept moist at all times; they will not be left exposed to frost, wind or direct sunlight.

7.6. A review of the existing levels and the proposed level of the proposed footpath within RPA's show that the proposed levels are above the existing levels in the east section by 130mm, however, the proposed levels drop to 30mm below existing levels in the western sections, however, the hard landscape plan states that within RPA's the surface will be founded above the existing levels.

Proposed footpath

7.7. The footpath is to be self-bound gravel with timber edging, there is insufficient evidence to suggest that the footpath design can be above the existing soil level, however, the degree of potential excavation is likely to be very limited (no greater than



250mm) and given the small size of encroachment and the physiological health of the trees, there is no reason to suggest that tree will not tolerate the proposed works.

Proposed road haunching

7.8. The proposed site access from Elmgrove Road is located outside of the RPAs of the off-site trees nos. 6, 7 and 9, however, to accommodate the kerb and road haunching there is likely to be some excavation within the RPAs of these trees. The incursions are minor (no greater than 1.2m² or 0.7% of the tree RPAs) and subject to the excavation being undertaken manually under the direct supervision of an arboricultural consultant, there is no reason to suggest these specimens will not tolerate the small extent of root severance.

7.9. Construction should be undertaken in dry weather; ideally this should be between May and October when the soil is at its driest and least prone to compaction.

8. Fencing, landscaping and reinstatement

8.1. Care will be taken to ensure that fencing, 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, the fencing 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.

8.2. 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 backfilled 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.

9. Supervision and monitoring

9.1. Once the protective fencing has been erected, the arboricultural consultant will visit the site and inspect these tree protection measures. In the event that the specification or location of these items does not comply with this method statement, the arboricultural consultant will inform the fencing contractor, and adjustments will be made. Once compliance is achieved, the arboricultural consultant will 'sign off' the tree protection measures to the contractor and copy this (in writing) to the client.

9.2. Throughout the construction process the arboricultural consultant will monitor the condition of the trees, and the integrity and effectiveness of the protective fencing. 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.

9.3. The arboricultural consultant shall directly supervise all works that have to be undertaken within RPAs. These include:

- location of protective fencing
- construction of hard surfacing
- (if necessary) installation of underground services



9.4. 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 buildings or 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.

9.5. 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.

9.6. 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.

SJA trees

March 2021



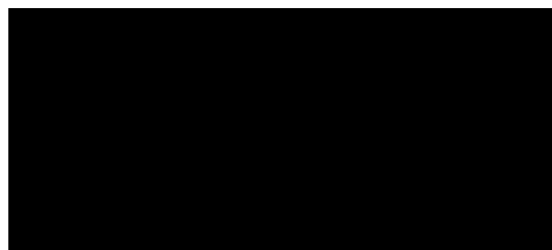
APPENDIX 2

Tree survey schedule



ARBORICULTURAL PLANNING CONSULTANTS

17 CROSS ROAD
TADWORTH
SURREY KT20 5ST



Tree Survey Schedule

**Land South of Littlehampton Academy,
Littlehampton**

December 2020

Tree Survey Schedule: Explanatory Notes

Land South of Littlehampton Academy, Littlehampton

This schedule is based on a tree inspection undertaken by Finn Cullerne of SJAtrees (the trading name of Simon Jones Associates Ltd.), on Tuesday 22nd December 2020. Weather conditions at the time were overcast but dry. Deciduous trees were not in 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. TPO no.

Number assigned to tree in the Arun District Council Tree Preservation Order no. TPO/LU/1/93 and LU/1/95, as shown in the TPO schedule and plan.

3. Species.

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

4. Height.

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

5. 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.

6. 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.

7. Crown break.

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

8. Crown clearance.

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

9. Age class.

Young: Seedling, sapling or recently planted tree; not yet producing flowers or seeds; strong apical dominance.

Semi-mature: Trunk often still smooth-barked; producing flowers and/or seeds; strong apical dominance, not yet achieved ultimate height.

Mature: Apical dominance lost, tree close to ultimate height.

Over-mature: Mature, but in decline, no crown retrenchment

Veteran: Mature, with a large trunk diameter for species; but showing signs of veteranisation, irrespective of actual age, with decay or hollowing, and a crown showing retrenchment and 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.

10. Physiology.

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

11. 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.

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

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

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

Poor: Significant and irreparable morphological or pathological defects, such that there may be a risk of failure or collapse.

Hazardous: Significant and irreparable morphological or pathological defects, with a risk of imminent collapse.

12. 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

13. Category.

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

- (1) Trees that have a serious, irreparable, 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).
- (2) Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline.
- (3) 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
Land South of Littlehampton Academy, Littlehampton

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio -logy	Structure	Comments	Category
1		Norway maple	4m	4 stems @ 90mm	2.5m	0m	1m	Young	Average	Indifferent	Young multi-stemmed maple growing through dilapidated fence; of low quality and value; readily replaced.	C (3)
2-3		Goat willow	3m	#T2 7 stems @ 75mm #T3 15 stems @ 50mm	3m	0m	0m	Young	Average	Indifferent	Two young multi-stemmed goat willows; scrub trees lacking any particular merit.	C (3)
4		Himalayan birch	4.5m	95mm	2.3m	0m	0m	Young	Average	Moderate	Young tree with stem diameter below 150mm; readily replaceable.	C (1)
5		Sycamore	5m	105mm 50mm 95mm	2.5m	0m	0m	Young	Average	Indifferent	Unremarkable tree of very limited merit.	C (3)

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio -logy	Structure	Comments	Category
6-14	LU/1/93 or 95	Lombardy poplar	14m	#T6 600mm #T7 550mm ivy #T8 450mm #T9 550mm #T10 500mm #T11 450mm ivy #T12 600mm ivy #T13 750mm #T14 500mm all est.	3m	1.5m	3.5m	Mature	Average	Indifferent	Row of nine off-site poplars growing in private gardens to the south of the PRow; no access so all measurements estimated; all topped at 8m with 6m regrowth; of low quality but the most significant arboricultural feature in the local area; readily visible from PRow (no. 3104), Elm Grove and the public open space, Rosemead Park.	B (2)
15	LU/1/93 or 95	Norway maple	11m	350mm est.	N3.2m E4m S4m W4m	2m	2m	Semi-mature	Average	Moderate	Off-site tree located in private garden, no access so all measurements estimated; of no more than moderate quality visible from path but limited impact due to short crown height.	C (12)
16	LU/1/93 or 95	Beech	12m	680mm	N8.2m E6m S7m W6m	1.5m	2m	Mature	Average	Indifferent	Off-site tree; significant tree within G4; many tight unions with evidence of branch bark unions; congested crown with crossing branches; readily visible across fields of Rosemead Park to S and from PRow (no. 3104).	B (2)
G1		Various	3m	Min 20mm Max 120mm	1.5m	0.5m	0m	Young	Average	Moderate	Young group of trees growing in dry attenuation basin and banks; comprised of 4 alder, 2 goat willow, 2 poplar and several 1m tall elder; of no more than moderate quality; of limited value due to small size; readily replaceable.	C (1)
G2		Various	2m	Min 50mm Max 100mm	2m	0m	0m	Young	Average	Indifferent	Collection of shrubs and small young trees; comprised of English oak, laurel, contorted willow, pyracantha, elder and hawthorn; unremarkable trees of very limited quality; readily replaceable.	C (3)
G3		Various	3m	Avg 80mm est.	1.5m	1m	1m	Young	Average	Moderate	Row of off-site recent plantings in school grounds, no access so measurements estimated; comprised of rowan and whitebeam; of moderate quality, but currently of low value due to small size.	C (1)

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio -logy	Structure	Comments	Category
G4	LU/1/93 or 95	Various	7m	Min 200mm Max 330mm	4m	1.5m	2.5m	Semi-mature	Average	Moderate	Row of off-site ornamental trees planted within the open space of Rosemead Park, adjacent to the PRow (no. 3104) ; comprised of rowan, sweet gum, cherry, holly and beech; of variable individual quality but contribute to local arboricultural character.	B (2)
G5	LU/1/93 or 95	Leyland cypress	18m	Min 280mm Max 620mm Avg 500mm	7m	1.5m	2.5m	Mature	Average	Moderate	Row of off-site closely planted cypress designed to form a screen; individuals of no more than moderate quality; readily visible from Fitzalan Road, the PRow (no. 3104), and Rosemead Park to the east.	B (2)
G6		Various	8m	Min 60mm Max 310mm Avg 180mm	2.8m	0.5m	0.5m	Semi-mature	Average	Indifferent	Group of trees comprised of predominantly elm (x20) with elder and rowan understorey; scrubby appearance; individuals of variable quality; of screening value, visible from PRow (no. 3104) and Fitzalan Road.	C (123)
H4		Various	3m	Min 60mm Max 110mm	2m	0m	0m	Young	Average	Indifferent	Scrubby overgrown hedgerow comprised of hawthorn with elder, sycamore, poplar and willow self seeded young trees; heavy ivy and bramble cover; high levels of inorganic debris; of very low quality and value.	C (3)

Root Protection Areas (RPAs)

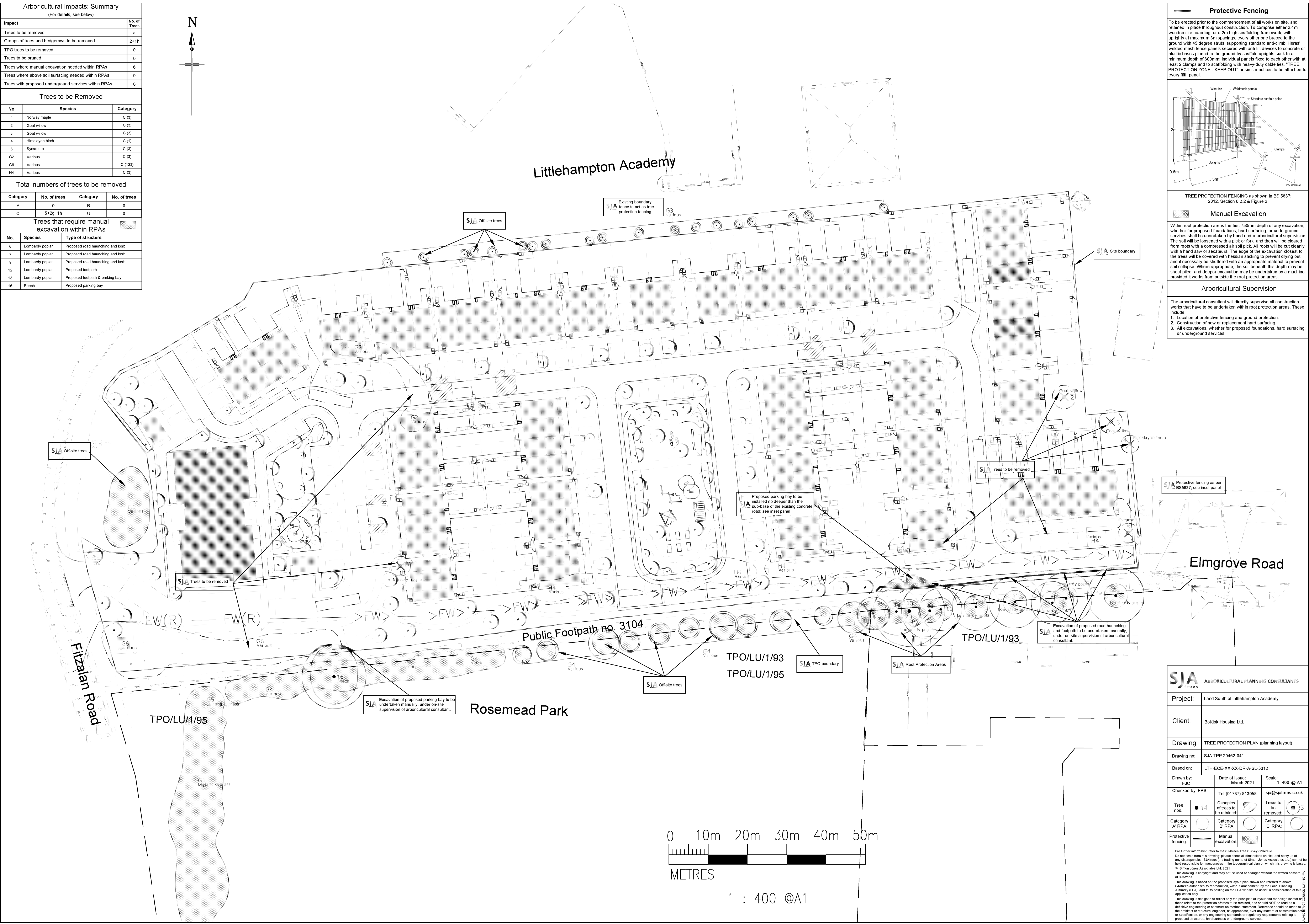
Root Protection Areas have been calculated in accordance with paragraph 4.6.1 of the British Standard 'Trees in relation to design, demolition and construction – Recommendations', BS 5837:2012. This is the minimum area which should be left undisturbed around each retained tree. RPAs are portrayed initially 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	Norway maple	14.7m ²	2.2m
2-3	Goat willow	17.8m ² 17.0m ²	2.4m 2.3m
4	Himalayan birch	4.1m ²	1.1m
5	Sycamore	10.2m ²	1.8m
6-14	Lombardy poplar	162.9m ² 136.8m ² 91.6m ² 136.8m ² 113.1m ² 91.6m ² 162.9m ² 254.5m ² 113.1m ²	7.2m 6.6m 5.4m 6.6m 6.0m 5.4m 7.2m 9.0m 6.0m
15	Norway maple	55.4m ²	4.2m
16	Beech	209.2m ²	8.2m
G1	Various	6.5m ²	1.4m
G2	Various	4.5m ²	1.2m
G3	Various	2.9m ²	1.0m
G4	Various	49.3m ²	4.0m
G5	Leyland cypress	173.9m ²	7.4m
G6	Various	43.5m ²	3.7m
H4	Various	5.5m ²	1.3m

APPENDIX 3

Tree Protection Plans

Arboricultural Impacts: Summary			
(For details, see below)			
Impact		No. of Trees	
Trees to be removed		5	
Groups of trees and hedgerows to be removed		2+1h	
TPO trees to be removed		0	
Trees to be pruned		0	
Trees where manual excavation needed within RPAs		6	
Trees where above soil surfacing needed within RPAs		0	
Trees with proposed underground services within RPAs		0	
Trees to be Removed			
No	Species	Category	
1	Norway maple	C (3)	
2	Goat willow	C (3)	
3	Goat willow	C (3)	
4	Himalayan birch	C (1)	
5	Sycamore	C (3)	
G2	Various	C (3)	
G6	Various	C (123)	
H4	Various	C (3)	
Total numbers of trees to be removed			
Category	No. of trees	Category	No. of trees
A	0	B	0
C	5+2g+1h	U	0
Trees that require manual excavation within RPAs			
No.	Species	Type of structure	
6	Lombardy poplar	Proposed road haunching and kerb	
7	Lombardy poplar	Proposed road haunching and kerb	
9	Lombardy poplar	Proposed road haunching and kerb	
12	Lombardy poplar	Proposed footpath	
13	Lombardy poplar	Proposed footpath & parking bay	
16	Beech	Proposed parking bay	



Protective Fencing

To be erected prior to the commencement of all works on site, and retained in place throughout construction. To comprise either 2.4m wooden site hoarding, or a 2m high scaffolding framework, with uprights at maximum 3m spacings, every other one braced to the ground with 45 degree struts; supporting standard anti-climb 'Heras' welded mesh fence panels secured with anti-lift devices to concrete or plastic bases pinned to the ground by scaffold uprights sunk to a minimum depth of 600mm; individual panels fixed to each other with at least 2 clamps and to scaffolding with heavy-duty cable ties. *TREE PROTECTION ZONE - KEEP OUT* or similar notices to be attached to every fifth panel.

Manual Excavation

Within root protection areas the first 750mm depth of any excavation, whether for proposed foundations, hard surfacing, or underground services 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.

Arboricultural Supervision

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

1. Location of protective fencing and ground protection.
2. Construction of new or replacement hard surfacing.
3. All excavations, whether for proposed foundations, hard surfacing, or underground services.

SJA

ARBORICULTURAL PLANNING CONSULTANTS

Project: Land South of Littlehampton Academy

Client: BoKlok Housing Ltd.

Drawing: TREE PROTECTION PLAN (planning layout)

Drawing no: SJA TPP 20462-041

Based on: LTH-ECE-XX-XX-DR-A-SL-5012

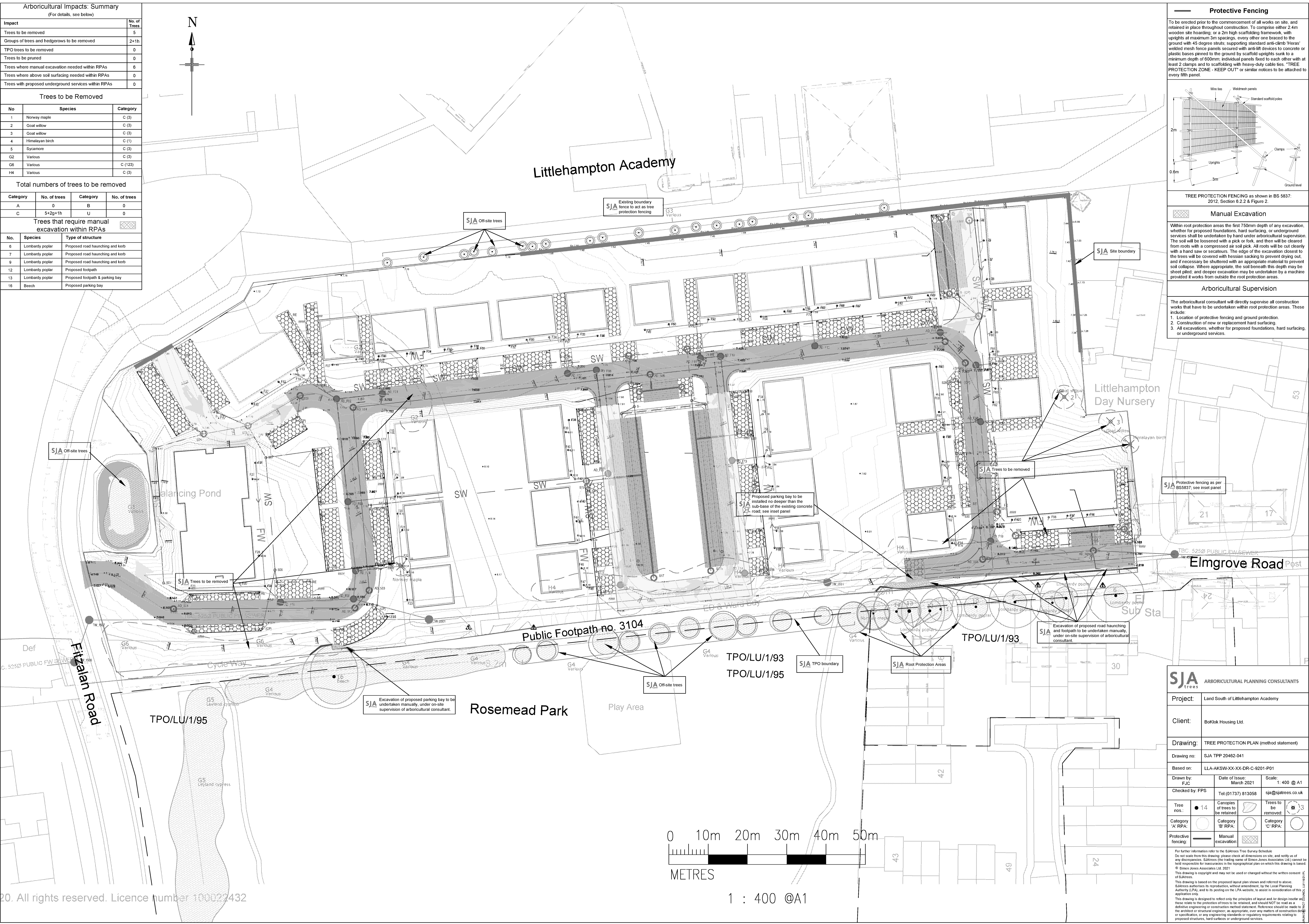
Drawn by: FJC	Date of Issue: March 2021	Scale: 1: 400 @ A1
Checked by: FPS	Tel: (01737) 813058	sja@sjatrees.co.uk
Tree nos.: 1-4	Canopies of trees to be retained:	Trees to be removed: 5-3
Category 'A' RPA:	Category 'B' RPA:	Category 'C' RPA:
Protective fencing:	Manual excavation:	

For further information refer to the SJAtrees Tree Survey Schedule. Do not scale from this drawing; please check all dimensions on site, and notify us of any discrepancies. SJAtrees (the trading name of Simon Jones Associates Ltd.) cannot be held responsible for inaccuracies in the topographical plan on which this drawing is based. © Simon Jones Associates Ltd. 2021. This drawing is copyright and may not be used or changed without the written consent of SJAtrees.

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Arboricultural Impacts: Summary			
(For details, see below)			
Impact			No. of Trees
Trees to be removed			5
Groups of trees and hedgerows to be removed			2+1h
TPO trees to be removed			0
Trees to be pruned			0
Trees where manual excavation needed within RPAs			6
Trees where above soil surfacing needed within RPAs			0
Trees with proposed underground services within RPAs			0
Trees to be Removed			
No	Species	Category	
1	Norway maple	C (3)	
2	Goat willow	C (3)	
3	Goat willow	C (3)	
4	Himalayan birch	C (1)	
5	Sycamore	C (3)	
G2	Various	C (3)	
G6	Various	C (123)	
H4	Various	C (3)	
Total numbers of trees to be removed			
Category	No. of trees	Category	No. of trees
A	0	B	0
C	5+2g+1h	U	0
Trees that require manual excavation within RPAs			
No.	Species	Type of structure	
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7	Lombardy poplar	Proposed road haunching and kerb	
9	Lombardy poplar	Proposed road haunching and kerb	
12	Lombardy poplar	Proposed footpath	
13	Lombardy poplar	Proposed footpath & parking bay	
16	Beech	Proposed parking bay	



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2. Construction of new or replacement hard surfacing.
3. All excavations, whether for proposed foundations, hard surfacing, or underground services.

SJA

ARBORICULTURAL PLANNING CONSULTANTS

Project: Land South of Littlehampton Academy

Client: BoKlok Housing Ltd.

Drawing: TREE PROTECTION PLAN (method statement)

Drawing no: SJA TPP 20462-041

Based on: LLA-AKSW-XX-XX-DR-C-9201-P01

Drawn by: FJC	Date of Issue: March 2021	Scale: 1: 400 @ A1
Checked by: FPS	Tel: (01737) 813058	sja@sjatrees.co.uk
Tree nos.: 14	Canopies of trees to be retained:	Trees to be removed: 3
Category 'A' RPA:	Category 'B' RPA:	Category 'C' RPA:
Protective fencing:	Manual excavation:	

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