

Arboricultural impact assessment, method statement and tree protection plan

Wilmington
Arundel Road
Angmering
BN16 4ET

1st October 2021



PJC ref: 5811/21-02 Rev 01

This report has been prepared by
PJC Consultancy Ltd
on behalf of
Mr Brian Parsons

Prepared by	Peter Davies FdSc Arboriculture M.Arbor.A Peter has a Foundation Degree in Arboriculture from the University of Brighton and is a professional member of the Arboricultural Association. He has twelve years experience in the arboricultural industry, originally working as a groundsman and feller, and progressing into consultancy. He is a Lantra accredited professional tree inspector.
Checked by	Abi St. Aubyn DipARB(RFS) MEng(Hons) M.Arbor.A MICFor Abi is a Chartered Arboriculturist with over 15 years' experience in the arboricultural industry, originally working as a tree officer and following this as a consultant across the south-east. She has the professional Diploma in Arboriculture and is a professional member of the Arboricultural Association. She is a LANTRA accredited professional tree inspector and ISA tree risk assessment qualified (TRAQ).

Sussex office:

Rocks Yard, Victoria Road,
Herstmonceux, Hailsham,

Kent office:

Unit 1, Hanover Mill,
Mershams, Ashford,



CONTENTS

EXECUTIVE SUMMARY	5
1 INTRODUCTION	6
1.1 Instruction	6
1.2 Objectives of report	6
1.3 Documents and information provided	6
1.4 Limitations of report.....	6
2 ARBORICULTURAL IMPACT ASSESSMENT	7
2.1 Site visit	7
2.2 The proposals	7
2.3 Tree removals	7
2.4 Access facilitation pruning	9
2.5 Building footings in proximity to trees.....	9
2.6 Hard standing in proximity to trees	9
2.7 Services	11
2.8 Landscaping in proximity to trees	11
3 ARBORICULTURAL METHOD STATEMENT	12
3.1 General requirements	12
3.2 Phasing of works	12
3.3 Initial tree works.....	12
3.4 Tree protection barriers.....	13
3.5 Storage and handling of harmful chemicals	15
3.6 Contractor facilities.....	15
3.7 Demolition of existing sheds adjacent to trees T45–T53	15
3.8 Removing existing hard standing from root protection areas.....	16
3.9 Installing surface water drainage feature within root protection area of T8	16
3.10 Constructing surfaces within root protection areas of T2, T8 and G28.....	16
3.11 Constructing new surface within root protection area of T45.....	17
3.12 Installing new permanent fencing within root protection areas	17
3.13 Soft landscaping within root protection areas	18
3.14 Pre-commencement arboricultural consultancy input	18
3.15 Pre-commencement meeting	19

3.16	Arboricultural supervision	19
3.17	Arboricultural monitoring	19
3.18	Process if an unforeseen issue relating to trees arises	19
Appendix 1: Tree Constraints Plan.....		22
Appendix 2: Tree Survey Schedule.....		23
Appendix 3: Tree Retention Plan		24
Appendix 4: Root Protection Area Incursions Plan.....		25
Appendix 5: Tree Protection Plan		26
Appendix 6: Example No-dig Surface Specification		27
Appendix 7: Tree Protection Fencing Specification.....		28
Appendix 8: Example Protective Fencing Sign		29

EXECUTIVE SUMMARY

PJC Consultancy has been instructed by Mr Brian Parsons to provide an arboricultural impact assessment and arboricultural method statement to support a planning application at Wilmington, Arundel Road, Angmering, to construct seven residential dwellings with a new access road onto Arundel Road.

This report complies with the planning policies of Arun District Council and complies with the recommendations of British Standard BS5837: 2012 Trees in relation to design, demolition and construction – Recommendations.

The survey was carried out on 20th April 2021. The tree constraints plan and tree survey schedule can be found at Appendix 1 and Appendix 2 respectively.

The proposed layout has been overlaid with the tree constraints plan in order to identify the impacts to the trees to inform this impact assessment and this information has formed the basis of the tree retention plan at Appendix 3, the root protection area incursions plan at Appendix 4 and the tree protection plan at Appendix 5.

Nine individual trees, three groups and sections of two further groups of trees/shrubs require removal to facilitate the proposals. Of these two trees and one group are assessed to be category B, six trees, two groups and sections of two further groups are assessed to be category C and one tree is assessed to be category U. The loss of these trees will not have a notable detrimental impact on the character of the surrounding landscape subject to implementation of a high-quality landscaping scheme that could readily be secured by a planning condition.

The proposals include the construction of hard standing and surface water drainage features within the root protection areas of T2, T8, G28 and T45. Existing sheds and concrete hard standing may also be removed from within the root protection areas of retained trees T45–T53. The above works must occur sensitively as described in this report to ensure roots and the viability of the rooting medium are not significantly impacted.

Subject to the generic and specific tree protection measures recommended within the arboricultural method statement at section 3 of this report being adhered to, I consider that the proposals represent a minor impact on the amenity of the locality in so far as it is contributed to by trees.

1 INTRODUCTION

1.1 Instruction

- 1.1.1 PJC Consultancy has been instructed by Mr Brian Parsons to provide an arboricultural impact assessment and arboricultural method statement to support a planning application to construct seven residential dwellings with a new access road onto Arundel Road.
- 1.1.2 This report complies with the planning policies of Arun District Council and complies with the recommendations of British Standard BS5837: 2012 Trees in relation to design, demolition and construction – Recommendations (the British Standard).

1.2 Objectives of report

- 1.2.1 This report has been undertaken with the following objectives:
- To identify the tree removals and pruning works that will be required as a result of the proposed development and to assess the impact of the tree works.
 - To assess the potential impact the proposed construction works will have on retained trees and provide recommendations for mitigation measures to reduce the impact on the trees.
 - To provide a protection methodology for retained trees throughout the demolition and construction period, including the above ground and below ground parts of the trees as well as their rooting medium.
- 1.2.2 This report includes :
- A tree constraints plan and tree survey schedule at Appendices 1 & 2 respectively
 - An arboricultural impact assessment at section 2, a tree retention plan at Appendix 3 and a root protection area incursions plan at Appendix 4.
 - An arboricultural method statement at section 3 and a tree protection plan at Appendix 5.

1.3 Documents and information provided

- 1.3.1 The following documents were used to aid the preparation of this report:
- PJC Initial Arboricultural Report Ref: 5811/21-01
 - Bright Plan Civils Proposed Drainage Strategy Ref: D1991-PL301 Rev B

1.4 Limitations of report

- 1.4.1 The following arboricultural impact assessment and method statement have been prepared for the proposal stated in section 1.1 and using the plans and information listed in section 1.3. The report should not be relied upon if the stated proposal or proposed design changes unless the author confirms the changes do not have a bearing on the arboricultural impacts or recommended mitigation measures.

2 ARBORICULTURAL IMPACT ASSESSMENT

2.1 Site visit

- 2.1.1 The survey was carried out on 20th April 2021. The tree constraints plan and tree survey schedule can be found at Appendix 1 and Appendix 2 respectively.
- 2.1.2 No tree preservation order (TPO) protects the trees surveyed for this report and the site is not located within a Conservation Area. Furthermore, the site is also not located within an area of outstanding natural beauty (AONB) and there are no areas designated ancient woodland within or immediately adjacent to the site.
- 2.1.3 A total of 45 trees, 12 tree groups and two hedgerows were surveyed and recorded in the tree survey schedule.

Table 1: Tree categorisation summary

Tree category	Individual tree	Tree group	Hedgerow
A	9	–	–
B	22	5	–
C	13	7	2
U	1	–	–
Total	45	12	2

2.2 The proposals

- 2.2.1 The proposed layout has been overlaid with the tree constraints plan in order to identify the impacts to the trees to inform this impact assessment and this information has formed the basis of the tree retention plan at Appendix 3, the root protection area incursions plan at Appendix 4 and the tree protection plan at Appendix 5.

2.3 Tree removals

- 2.3.1 Trees to be removed for the proposed development are shown with dashed outlines on the tree retention plan at Appendix 3 and are shaded to indicate their BS5837 tree category. A summary is listed at Table 2 below.

Table 2: Tree removals summary

Tree number	Species	Category	Justification for tree removal
T9	Oak	U	T9 does not conflict with the proposals. It is proposed to be removed due to its poor condition and the increased frequency of land use resulting from the development. Rather than felling, T9 could be reduced to a monolith.
G20	Crack willow	C1	G20 directly conflicts with plots 3 and 4.
T21	Leyland cypress	C1	T21 is located too close to the dwelling in plot 4 and the existing ditch in which T21 is located will be grubbed up.
T22	Leyland cypress	C1+2	T22 is located too close to the dwelling in plot 4.
G30	Mixed	C1	A small section of G30 will be removed due to conflict with the new foul water pumping station.

Tree number	Species	Category	Justification for tree removal
T31	Leyland cypress	B2	The size and form of T31 would have an overbearing presence on the garden of plot 4 and would pose a significant shading constraint. There will be space to replace it with appropriate native planting.
T32	Goat willow	B2	The size and form of T32 would have an overbearing presence on the garden of plot 4 and would pose a significant shading constraint. There will be space to replace it with appropriate native planting.
G35	Eucalyptus	B2	The size and form of G35 would have an overbearing presence on the garden of plots 1–3 and would pose a significant shading constraint. There will be space to replace it with appropriate native planting.
T36	Oak	C1	T36 will be removed to create open space within the garden of plot 1.
T37	Sweetgum	C1	T37 will be removed to create open space within the garden of plot 1.
T41	Ash	C1	T41 directly conflicts with the new access road.
T44	Oak	C1	The root protection area of T44 is encroached by the new access road in an area that cannot be of a no-dig specification. Furthermore, T44 has several years' worth of Ganoderma brackets on the base of its stem and has short potential longevity.
G55	Mixed ornamental shrubs	C2	Two sections of G55 directly conflict with the new access road into the site.
G59	Mixed fruit trees	C1	G59 will be removed to create open garden space for plots 3 and 4. These trees are currently small enough that they could be moved elsewhere within the site, potentially to provide a community orchard area within part of the open space at the development.

2.3.2 Of the trees to be removed, two individual specimens and one group (T31, T32 and G35) are assessed to be category B specimens. The remaining tree removals comprise category C or U specimens of low arboricultural or landscape value.

2.3.3 T31, T32 and G35 have been assigned category B2 due to their visibility from the land to the south and south-west of the site. These trees do not directly conflict with the proposals, however it is assessed that there would be significant pressures from future residents for their removal due to their height and size in relation to the gardens of plots 1–4, and the shade they would cast onto the new dwellings. Following their removal, there will be space to plant appropriate replacement native trees on the site boundary such as birch, field maple and rowan, to maintain a vegetative screen from the surrounding land. A suitable landscaping scheme to provide an attractive setting for the development could readily be secured by planning condition.

2.4 Access facilitation pruning

- 2.4.1 Based on the information currently available, it is anticipated that the crowns of all retained trees will be located a sufficient distance from proposed construction activities and expected construction access routes so as not to require pruning.
- 2.4.1 Any requirements for access facilitation pruning that cannot be predicted at this stage in the design process (e.g. for contractor compound or movement of large or specialist plant machinery) shall be discussed at the pre-commencement meeting with the project arboriculturist and agreed with the local authority arboricultural officer.
- 2.4.2 All works are to be carried out in accordance with BS3998: 2010 Tree works – Recommendations.

2.5 Building footings in proximity to trees

- 2.5.1 All proposed buildings will be located outside the root protection areas of retained trees, therefore use of specialist foundations for root protection is not deemed necessary.
- 2.5.2 NHBC guidelines on foundation depth in proximity to trees should be followed. This will be determined by a structural engineer and should be guided by information in this report as well as appropriate sampling to determine soil profiles at the site.
- 2.5.3 The requirement to retain or remove the existing sheds within the root protection areas of T45–T49 is to be confirmed on the date of this report. Removal of the sheds would need to occur carefully as described in the arboricultural method statement.

2.6 Hard standing in proximity to trees

- 2.6.1 A new parking bay will encroach into the root protection area of T2 in the area hatched magenta on the root protection area incursions plan. Additionally, the footpath surrounding the open space at the north end of the development will encroach the root protection areas of T8 and G28 in the areas shown on the plan.
- 2.6.2 The detailed specification (including levels) for the new hard standing to be constructed within the above root protection areas shall be provided by an engineer but must be signed off by the project arboriculturist before implementation to ensure the roots and rooting medium are adequately protected. To adequately protect the roots, the design for hard standing within these root protection areas must adhere to the following basic specification (see also Appendix 6):
- Within the root protection areas of T2, T8 and T28, the hard standing shall be constructed directly onto the existing ground level without soil stripping. The surface vegetation (e.g. grass sward) shall be carefully removed using hand tools but the underlying soil must be fully retained and protected. If necessary, a layer of sharp sand (or other inert granular fill) may be used to fill divots to create a level surface onto which the hard standing can be constructed.
 - The hard standing must be constructed onto a three-dimensional cellular confinement system (such as CellWeb TRP or equivalent product signed off by the project arboriculturist) filled with no-fines angular stone. This will

provide a permeable base for the surfaces that will spread loads to reduce compaction of the soil beneath (compacting the rooting medium will have a significant detrimental impact on root function and the health of surrounding trees).

- CellWeb TRP is available from 75mm–200mm depth, depending on the soil conditions and the load it is designed to support. Further guidance should be sought from the geocell manufacturer when specifying the detailed surface design. In some cases, it may be necessary to lay additional sub-base beneath the cellular confinement system, however this must also be permeable and laid onto the existing ground level.
- The cellular confinement system shall be installed directly onto a geotextile membrane (such as a TreeTex® 300). A second membrane shall be installed above the cellular confinement system as well. These membranes will prevent soil, construction debris and other materials migrating through the cellular confinement system, which would otherwise impact on the porosity of the completed surfaces. The membranes should also help filter pollutants from vehicles leeching into the rooting medium.
- The wearing course for the new surfaces must be permeable (loose gravel, resin bound gravel, porous asphalt or permeable block paving) to allow continued moisture ingress and gaseous diffusion with the rooting medium.
- Although a three-dimensional cellular confinement system should not in itself require edge supports, edge restraints may be needed for the wearing course. Standard kerb stones set in concrete haunches that are usually dug into the ground will not be suitable for use within root protection areas due to the likely damage to shallow tree roots. As an alternative, one of the following edging types may be used:
 1. Treated timber, peg and board edging.
 2. Proprietary metal or plastic edging strips.
 3. Railway sleepers affixed to the ground.
 4. Standard concrete kerbs on concrete-filled geocells (this method is only suitable if the concrete-filled geocells are installed above the existing ground level).
 5. Small concrete kerbs set in concrete (above existing ground level) and potentially also pegged into place.

2.6.3 In addition to the above, the new access road into the site encroaches into the root protection area of T45 (category B oak), by 22.3m², or 13.7% of the total root protection area. This will occur on an existing bank where an above ground surface design will not be feasible. Although T45 is not a dominant landscape feature outside of the site, it is just visible from Arundel Road so its retention would be desirable. As such, the excavation within its root protection area shall be carried out under arboricultural supervision to assess the proliferation of roots that are revealed/pruned, to determine if it is still reasonable to retain the tree. Although the road surface will not be of an above ground design, the same specification described in 2.6.2 must be used to promote future root growth beneath the road.

2.7 Services

- 2.7.1 The proposed drainage layout is shown on the root protection area incursions plan in Appendix 4. This includes the excavation of a surface water drainage feature within the root protection area of T8 in the area hatched orange on the plan. The excavation must occur as described in the arboricultural method statement.
- 2.7.2 Details of the routing of utility services for the proposed development are not currently available. All underground services should be located outside the root protection areas of retained trees and above ground services should be located outside the anticipated mature crown spreads. Sympathetic methodology to enable the installation of services within root protection areas (in certain instances) is available, however there will always be a potential arboricultural impact and arboricultural advice must be sought regarding the suitability of these methods before they are relied upon. If it is achievable, root protection areas should always be completely avoided.
- 2.7.3 Once details of the routing of new utility services become available, prior to commencement, these shall be reviewed by the project arboriculturist. The arboriculturist shall then confirm either that no works will be carried out within root protection areas or provide details of the methodology required to ensure the works are carried out in accordance with NJUG4 'Guidelines for the planning, installation and maintenance of utilities in proximity to trees' and BS5837: 2012.

2.8 Landscaping in proximity to trees

- 2.8.1 New permanent garden fencing will be installed within the root protection areas of T3, G34 and H42. The fencing specifications are to be confirmed on the date of this report. Within root protection areas a fencing type that requires only postholes (no trenching) must be used. The level of the fences must also follow existing ground levels as there may be no re-grading of levels within root protection areas.
- 2.8.2 The detailed specification for soft landscaping is to be confirmed on the date of this report, however it is anticipated that tree/shrub planting and turfing will occur within the root protection areas of retained trees. In order to protect both tree roots and the condition of the rooting medium, these works must occur sensitively as described in the arboricultural method statement.

3 ARBORICULTURAL METHOD STATEMENT

3.1 General requirements

- 3.1.1 The arboricultural method statement and tree protection plan shall remain on site for the duration of construction and landscaping works and be available to site operatives at all times. All operatives at the site shall be briefed about tree related factors as part of their site induction.
- 3.1.2 Any variation from the methodology described in this method statement shall be discussed with the supervising arboriculturist and agreed with the local authority arboricultural officer.

3.2 Phasing of works

- 3.2.1 To ensure trees are protected throughout the development, the proposed development shall occur in the following order:

Table 1: Phasing of works

Works Order	Operation	Notes
1	Initial tree works.	The tree works contractor shall undertake the tree removals specified in the arboricultural impact assessment.
2	Installation of tree protection barriers.	Tree protection fencing and temporary ground protection shall be installed in the locations shown on the tree protection plan and to the specification described in this method statement.
3	Pre-commencement meeting.	The project arboriculturist shall attend a site meeting with the site manager. The local authority arboricultural officer shall be notified so they may also attend. The above pre-start arboricultural works shall be signed off by the project arboriculturist during the meeting. The meeting shall occur before any plant activity, ground works or construction activities begin.
5	Construction phase.	The tree protection barriers shall be maintained, and the construction exclusion zones observed throughout the construction phase. Excavation within the root protection areas of T8 and T45 shall occur under arboricultural supervision.
6	Soft landscaping phase.	The tree protection barriers shall be dismantled when external construction and hard landscape operations have been completed and plant machinery or excess construction materials have been removed from site. Soft landscape operations shall occur sensitively as described in this method statement.

3.3 Initial tree works

- 3.3.1 The tree removals specified in the arboricultural impact assessment shall be carried out as the first stage of development. Any requirements for access facilitation pruning which have not been anticipated on the date of this report shall be discussed at the pre-commencement meeting with the project arboriculturist and be agreed with the local authority arboricultural officer.

- 3.3.2 Tree stumps and vegetation located within the root protection areas of retained trees shall be cleared with controlled hand tools (e.g. stump grinder/brush cutter). Plant machinery shall not be used to scrape vegetation, 'grub out' stumps within root protection areas, or access the site until the tree protection barriers have been installed.
- 3.3.3 If bonfires are lit to dispose of arisings from the vegetation or tree clearance works, an assessment of wind direction and strength shall be made to ensure flames cannot extend within 5m of any part of a retained tree. No bonfires shall be lit within a root protection area.
- 3.3.4 Trees should be checked for protected species before works are undertaken. It is against the law to disturb bats or their roosts under the Conservation of Habitat and Species Regulations. Nesting birds are protected by the Wildlife and Countryside Act. If protected species are discovered, Natural England should be contacted for advice.
- 3.3.5 The tree works contractors should carry out all tree works to BS3998: 2010 Tree works – recommendations as modified by research that is more recent. They should also carry relevant, adequate and up to date insurance.
- 3.3.6 It is suggested that an Arboricultural Association approved contractor carry out all tree works. Approved contractors are expected to work to industry best standards. The Arboricultural Association website (www.trees.org.uk) contains contact details and information on engaging a suitable contractor.

3.4 Tree protection barriers

- 3.4.1 The root protection areas of retained trees must be left free from disturbance, and protected from contamination or compaction during the proposed works. Protection shall comprise a combination of tree protection fencing and temporary ground protection.
- 3.4.2 Tree protection fencing shall be installed in the locations shown on the tree protection plan. The specification for tree protection fencing shall be metal welded mesh panels (e.g. Heras panels), in concrete or rubber feet. The panels shall be supported by metal stabiliser struts mounted on either a base plate secured by ground pins, or in a block tray (refer to Appendix 7). Any variation from this specification for tree protection fencing shall be discussed with the project arboriculturist and agreed in writing with the local authority arboricultural officer.
- 3.4.3 Signs shall be affixed to the fencing as shown in Appendix 8 to explain its purpose. The signs shall be affixed at a reasonable size and frequency to ensure they are easily visible to operatives at the site.
- 3.4.4 To create a usable workspace between the garage for plot 1 and tree T2, temporary ground protection shall be installed in the location shown on the tree protection plan. Further temporary ground protection measures may be required adjacent to T45, T46, T49, T52 and T53 if the existing concrete surface is removed from the root protection areas (to be confirmed on the date of this report).
- 3.4.5 The temporary ground protection shall be installed in the locations shown on the tree protection plan. Depending on the required loading the specification for ground protection shall be:

- For pedestrian loads: a single thickness of scaffold boards (or equivalent boards), on a compressible layer (100mm woodchip from the initial tree works or sharp sand), spread across a geotextile membrane.
- For loading of up to 2 tonnes: interlocking proprietary ground protection boards (e.g. IsoTrack L Ground Protection Mat or equivalent product signed off by the project arboriculturist) on a compressible layer (150mm woodchip from the initial tree works or sharp sand), spread across a geotextile membrane.

3.4.6 If larger loads need to be supported, a more robust ground protection specification shall be agreed with the project arboriculturist based on one of the following:

- A cellular confinement system (provided by *CellWeb* or similar product agreed with the project arboriculturist and installed to the manufacturers specification) with a temporary surface such as a sacrificial geocell (if the lower geocell is later to be used as the base for permanent hard standing) or plastic/metal road plates.
- A heavy-duty proprietary ground protection system adequate to support the anticipated range of construction traffic (provided by IsoTrack or similar product).
- Pre-cast reinforced concrete slabs.
- A bespoke ground protection system made to an engineer's specification and signed off by the project arboriculturist.

3.4.7 The tree protection fencing, and temporary ground protection shall be installed before any plant activity, ground works or construction activities commence at the site. They shall be maintained in situ until the soft landscaping phase of development when all other construction activities in the vicinity have been completed, and excess construction materials and plant machinery have been removed from site. Any damage that occurs to the tree protection barriers during the construction period must be rectified immediately, prior to other construction activities recommencing in the vicinity.

3.4.8 The areas protected by tree protection fencing (highlighted yellow on the tree protection plan) or temporary ground protection shall be referred to as the construction exclusion zones. The following restrictions shall apply within the construction exclusion zones:

- No vehicular access shall be permitted unless on adequate temporary ground protection measures that have been agreed with the project arboriculturist.
- Regular pedestrian access shall be restricted unless on suitable ground protection measures agreed with the project arboriculturist.
- No storage of construction materials shall occur.
- No storage of building spoil or construction debris (including short-term temporary stockpiling) shall occur.
- No harmful chemicals shall be stored or handled.
- No fires shall be permitted.
- No mechanical excavation including regrading of levels shall occur.
- There shall be no change in ground level unless undertaken under the supervision of the project arboriculturist.

- No construction activities including installation of new permanent hard standing shall be undertaken unless otherwise specified in this method statement.

3.5 Storage and handling of harmful chemicals

- 3.5.1 Provision must be taken to prevent the storage and handling of harmful chemicals within the root protection areas of retained trees. Harmful chemicals include fuels, oils, bitumen, builder's sand (which has a high salt content) and cement. Provision shall also be made to prevent the storage and handling of harmful chemicals in areas proposed for further planting if the existing soil is intended to be retained.
- 3.5.2 Cement mixing shall always occur outside the construction exclusion zones. If cement mixing is to occur close to the construction exclusion zones, or there is the potential for cement washings to leech into a root protection area, adequate, bunded ground protection measures must be used. This could comprise impermeable plastic sheeting under wooden boards (to prevent tears) surrounded by a raised lip.
- 3.5.3 All other chemicals that are harmful to trees must be stowed in suitable containers and stored away from the construction exclusion zones unless adequate, bunded ground protection measures are implemented to prevent spillages leeching into root protection areas.

3.6 Contractor facilities

- 3.6.1 A suitable location for site cabins, contractor parking and site facilities for operatives shall be agreed with the project arboriculturist during the pre-commencement meeting if not already specified in a construction management plan that has been signed off by the project arboriculturist. These facilities must be located outside the root protection areas of all retained trees unless on adequate ground protection measures that have been signed off with the project arboriculturist (potentially including existing hard standing). Provision must be taken to prevent exhaust fumes or hot air from generators or kitchen facilities from damaging foliage within the crowns of retained trees.

3.7 Demolition of existing sheds adjacent to trees T45–T53

- 3.7.1 The requirement to demolish or retain the existing sheds adjacent to T45–T53 is to be confirmed on the date of this report. If these are to be removed, the demolition of the above ground parts of the buildings must occur carefully to avoid accidental contact with the trees. Where possible the building shall be dismantled by hand, however if plant machinery is used, a banksman must always be present to spot overhanging branches that are not visible to the machine operator. The machine must be of a reasonable size so it can be controlled safely in proximity to the trees, and must always be operated from outside the construction exclusion zones. Debris from the demolition works must also be stockpiled outside the construction exclusion zones.
- 3.7.2 Within the root protection areas, the existing foundation slabs shall be broken up using controlled hand tools (e.g. pneumatic breaker) and removed from the root protection areas by hand. Debris must not be stockpiled within the root protection areas. If due to the scale of the works it is deemed impractical or unsafe to remove the foundation using hand tools only, plant machinery may be used under the supervision of the project arboriculturist. If plant machinery is used, it must be of

a suitable size that it can operate beneath the crown of the trees without contacting any branches. It must also be operated from outside the root protection areas at all times and be fitted with a narrow grading bucket (without teeth). Extreme care must be taken to ensure no excavation of the underlying soil or damage to tree roots occurs.

- 3.7.3 Following the removal of the sheds, additional tree protection fencing will be required to ensure the root protection areas are fully segregated from the works area.

3.8 Removing existing hard standing from root protection areas

- 3.8.1 It is to be confirmed whether the existing concrete surface within the root protection areas of T45, T46, T49, T52 and T53 is to be removed. If it is to be removed, this must occur as described below:

- The existing hard standing shall provide ground protection for construction traffic. Vehicular access across the root protection areas shall be prohibited when the surface has been removed until adequate temporary ground protection measures that have been agreed with the project arboriculturist are installed.
- The existing wearing course shall be broken up using controlled hand tools (e.g. pneumatic breaker) and removed from the root protection areas by hand. If it is deemed impractical or unsafe to achieve this using hand tools only, plant machinery operated under the supervision of the project arboriculturist may be used instead. The machine must be fitted with a narrow grading bucket (without teeth) and be operated from outside the root protection areas unless on a retained area of hard standing. If roots are revealed during this operation, use of the machine must immediately cease and the operation shall be continued by hand. If roots are exposed, they shall be covered with a layer of topsoil to prevent desiccation or frost damage.
- To minimise the chance of encountering tree roots, as much of the sub-base shall be retained below ground level as is feasible, with a layer of topsoil imported to enable soft landscaping. If it is deemed necessary to remove the sub-base to allow sufficient soil volume to be imported for the proposed soft landscaping, the sub-base shall be removed carefully in shallow increments following the same methodology required for removing the wearing the course.

3.9 Installing surface water drainage feature within root protection area of T8

- 3.9.1 A new surface water drainage feature will encroach into the root protection area of T8. This area is shown in orange hatching on the tree protection plan. All excavation in this area must occur under arboricultural supervision. Roots revealed shall be cleanly pruned using secateurs to leave the smallest feasible wound. Small clean pruning wounds require less energy from the tree to heal and reduce the chance of infection by tree pathogens.

3.10 Constructing surfaces within root protection areas of T2, T8 and G28

- 3.10.1 Within the root protection areas of T2, T8 and G28, the new surfaces shall be constructed to the basic specification described in the arboricultural impact assessment. The detailed specification (including levels) shall be provided by an engineer but must be signed off by the project arboriculturist before implementation to ensure compliance with arboricultural requirements.

- 3.10.2 Prior to construction of the surfaces, the existing ground vegetation (e.g. grass sward or up to 50mm of leaf litter) shall be removed using controlled hand tools such as a spade or turf cutter. The underlying soil must be fully retained and protected. Plant machinery may not be used to scrape vegetation unless under the supervision of the project arboriculturist and tree stumps should be removed from root protection areas carefully using a stump grinder. If obvious surface tree roots are present or if the soil is known to be shallow, then use of plant machinery will not be appropriate.
- 3.10.3 If access is required onto a cellular confinement system before the wearing course is installed, a temporary surface (such as thick plywood or metal boards depending on the load needing support) shall be installed above a geotextile membrane to prevent soil and other building debris blocking the airspaces in the cellular confinement system, which could otherwise reduce the porosity of the completed surface.
- 3.10.4 When the cellular confinement system has been filled with clean angular stone, this should not be compacted to the point it compacts the underlying soil. Four passes with a smooth roller (max weight 1000kg without vibration) or several passes by a tracked excavator should be sufficient. Checks should be made before laying the wearing course to ensure the infill is fully consolidated.
- 3.10.5 The finished level of the no-dig surface will be higher than the surrounding un-surfaced ground. To mitigate this, clean-screened topsoil may be banked around the edge of the surface. It is recommended that no less than a gradient of 1:3 is created as increasing the ground level within a root protection area can disrupt root function. It is also necessary to avoid banking soil around the buttresses or buttress roots of retained trees.

3.11 Constructing new surface within root protection area of T45

- 3.11.1 The new surface within the root protection area of T45 will not be of an above ground specification. All excavation within the root protection area must occur under the supervision of the project arboriculturist to ensure correct root pruning occurs and so they may assess the proliferation of roots that are pruned to determine the viability of retaining the tree. If it is deemed unviable to retain the tree, agreement must be sought from the local authority arboricultural officer before it is felled.

3.12 Installing new permanent fencing within root protection areas

- 3.12.1 Installation of permanent garden fencing within the root protection areas of T3, G34 and H42 will require access into the construction exclusion zones. Only pedestrian access will be permitted into the construction exclusion zones and scaffold board pathways shall be used in wet conditions. Ideally these works shall occur during the soft landscaping phase of development when it is safe to dismantle the tree protection fencing.
- 3.12.2 The fencing specification is to be confirmed on the date of this report. Within root protection areas a fencing type that requires only postholes (no trenching) shall be used. The level of the fences must follow existing ground levels as there should be no re-grading of levels within root protection areas.
- 3.12.3 The postholes shall be hand excavated with care taken to avoid damaging or severing roots with a diameter greater than 25mm. Ideally the postholes shall be

pre-dug to ensure significant roots can be avoided. The postholes shall be sleeved with impermeable sheeting before any concrete is added to prevent alkaline burn to retained roots. Cement mixing shall occur outside the construction exclusion zones.

3.13 Soft landscaping within root protection areas

- 3.13.1 Soft landscaping within the root protection areas of retained trees shall occur as the final phase of development, when all other construction activities in the vicinity have been completed and it is safe to dismantle the tree protection barriers. The detailed specification for soft landscaping is to be confirmed but will potentially include turfing and tree/shrub planting within root protection areas.
- 3.13.2 All planting stock, topsoil and other soft landscaping materials shall be stockpiled outside the root protection areas of retained trees. When the tree protection barriers have been dismantled, the extents of the root protection areas shall be made clear to operatives at the site by other means (e.g. ground marker paint or similar). The standard restrictions to works within the construction exclusion zones will still apply during the soft landscaping phase of development.
- 3.13.3 Where new turf or grass seed is to be laid within the root protection areas of retained trees, topsoil will likely need to be imported. The existing soil may be lightly tilled by hand but use of rotavators or plant machinery will be prohibited. A maximum increase of 100mm of topsoil may be introduced to a root protection area to avoid suffocating existing root growth. Care must be taken to prevent soil being piled against tree buttresses or buttress roots.
- 3.13.4 When soil or other materials are transported across a root protection area in wet conditions, scaffold board pathways must be used to prevent compaction of the rooting medium. It should be noted that even pedestrian traffic can compact the soil in wet conditions.
- 3.13.5 All planting pits within root protection areas shall be individually hand excavated (no trench planting). Care must be taken to avoid severing or damaging roots with a diameter greater than 25mm.

3.14 Pre-commencement arboricultural consultancy input

- 3.14.1 Prior to the commencement of works, arboricultural input will be required for the following aspects of development:
 - The construction management plan.
 - The routing of new utility services.
 - Final levels based on the detailed design.
 - The above soil surfacing design.
 - Details of any further areas where the existing surfacing of structures covering root protection areas are to be removed.
- 3.14.2 This arboricultural method statement and tree protection plan shall be updated to accommodate these aspects of the project and the revised information submitted to the local authority tree officer for approval.

3.15 Pre-commencement meeting

3.15.1 A pre-commencement meeting shall be held between the contractors and the project arboriculturist. The local authority arboricultural officer shall be given reasonable notice of the pre-commencement meeting so they may also attend. The purpose of the pre-commencement meeting shall be:

1. To clarify the tree protection methodology with the site manager.
2. To discuss the chronology and phasing of the project with the site manager.
3. To sign off that the pre-commencement tree works have been completed as specified in the arboricultural impact assessment, and to discuss any requirements for any access facilitation pruning which have not been anticipated prior to the meeting.
4. To sign off that the tree protection fencing and ground protection have been installed in the correct locations and to the agreed specification. To agree revised locations subject to the phasing of the development.
5. To agree with the local authority arboricultural officer the type and timings of arboricultural monitoring necessary.

3.15.2 Following this meeting, if the local authority arboricultural officer has not been able to attend, an email outlining the actions discussed will be sent to the tree officer for approval. If necessary, a revised tree protection plan and method statement will be issued for approval.

3.16 Arboricultural supervision

3.16.1 The project arboriculturist shall supervise:

- all excavation within the root protection area of T45 to install the new access road.
- all excavation within the root protection area of T8 to installed surface water drainage feature.
- the removal of existing hard surfacing and sheds within root protection areas of T45–T53.

3.17 Arboricultural monitoring

3.17.1 The site manager shall provide a monthly update to the project arboriculturist including photographic evidence that the tree protection barriers are intact and that the construction exclusion zones have been observed.

3.17.2 In addition to the above, a system and programme of onsite monitoring by the appointed arboricultural consultant shall be agreed with the Local Authority Arboricultural Officer. The form and frequency of site monitoring shall be agreed at the pre-commencement meeting

3.18 Process if an unforeseen issue relating to trees arises

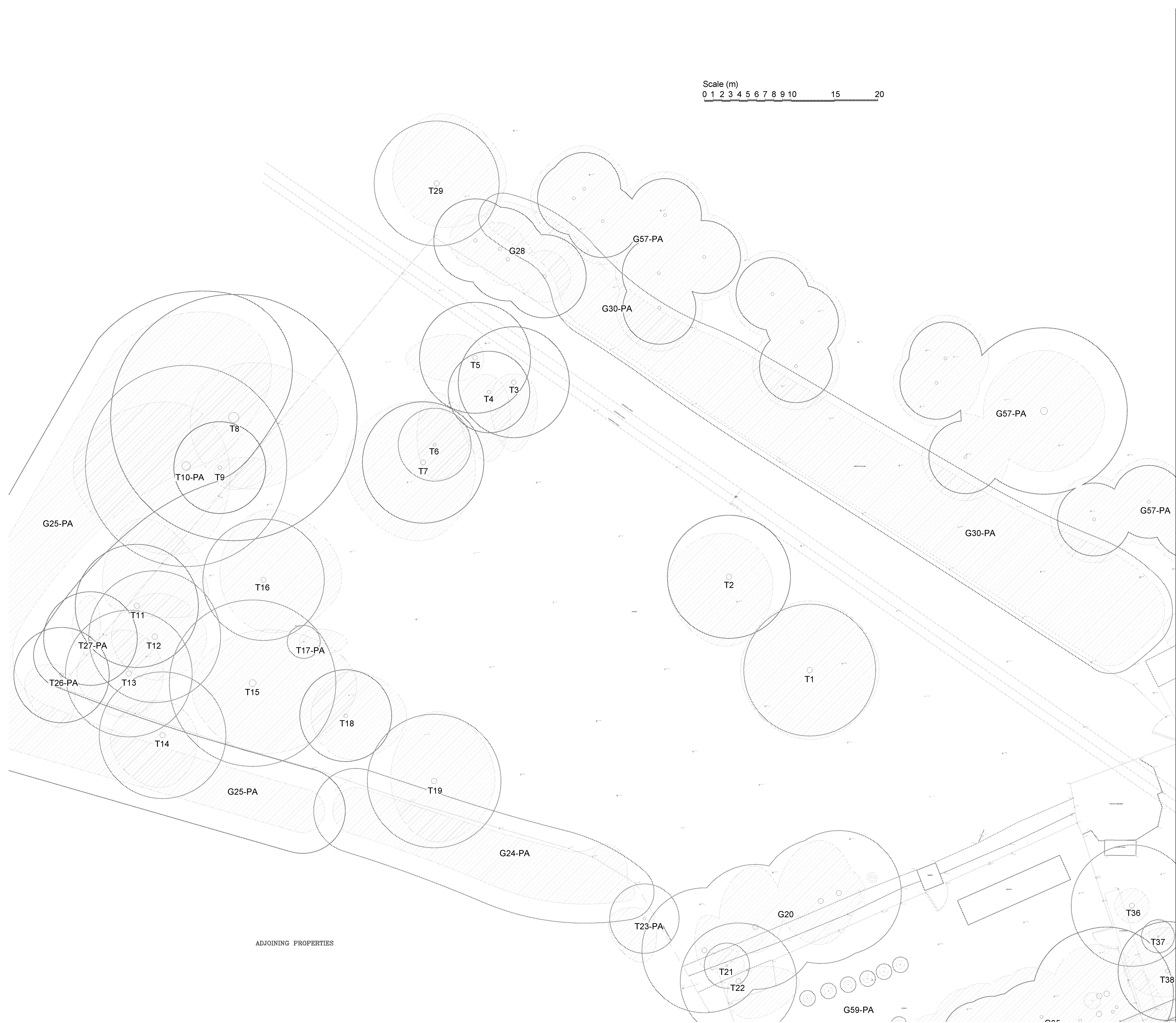
3.18.1 If significant root growth is disturbed during construction activities that are not within the scope of this report, the work shall cease until the project arboriculturist has been consulted. Roots greater than 25mm in diameter or dense/matted fibrous roots shall be considered significant root growth. It should be remembered

that whilst root protection areas are part of industry best practice, tree root growth is influenced by a number of factors and may not conform to expected ideals.

- 3.18.2 If at any time during the construction process, damage is inadvertently caused to a tree, the project arboriculturist shall be notified to assess the likely implications and to prescribe potential remedial measures to be implemented. Damage can be in the form of chemical or fuel spillage, mechanical damage to either the above ground parts of the tree or the roots, fire or any other unforeseen circumstance.
- 3.18.3 The supervising arboriculturist shall be appointed by the contractor. It will be necessary for the arboriculturist to report to the local planning authority on the outcome of the site visits as well as any unforeseen tree related issues.

Contact details	
Sussex office: Rocks Yard Victoria Road Herstmonceux Hailsham East Sussex BN27 4TQ	Kent office: Unit 1, Hanover Mill Mersham Nr Ashford Kent TN25 6NU
[REDACTED]	
Author: Peter Davies	
Date: 1 st October 2021	
[REDACTED]	

Appendix 1: Tree Constraints Plan



- Key:**
- Root protection area for category A* tree
 - Root protection area for category B* tree
 - Root protection area for category C* tree
 - Root protection area for category U* tree
 - Tree canopy

* Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.

Tree Survey Schedule contained within the arboricultural report ref. PJC/5811/21-01 contains further information for each tree.

This drawing should be viewed in colour.

Tree numbers suffixed with PA indicate the tree position is approximate.

Drawing no: PJC/5811/21/A Rev: - Sheet number: 1 of 2

Client and site:
Mr Brian Parsons

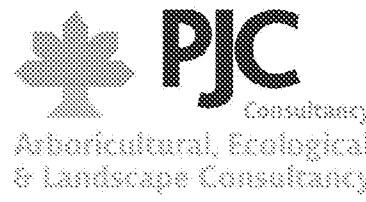
Wilmington
Arundel Road
Angmering, BN16 4ET

Drawing title: Tree Constraints Plan

Date drawn: 05/04/2021

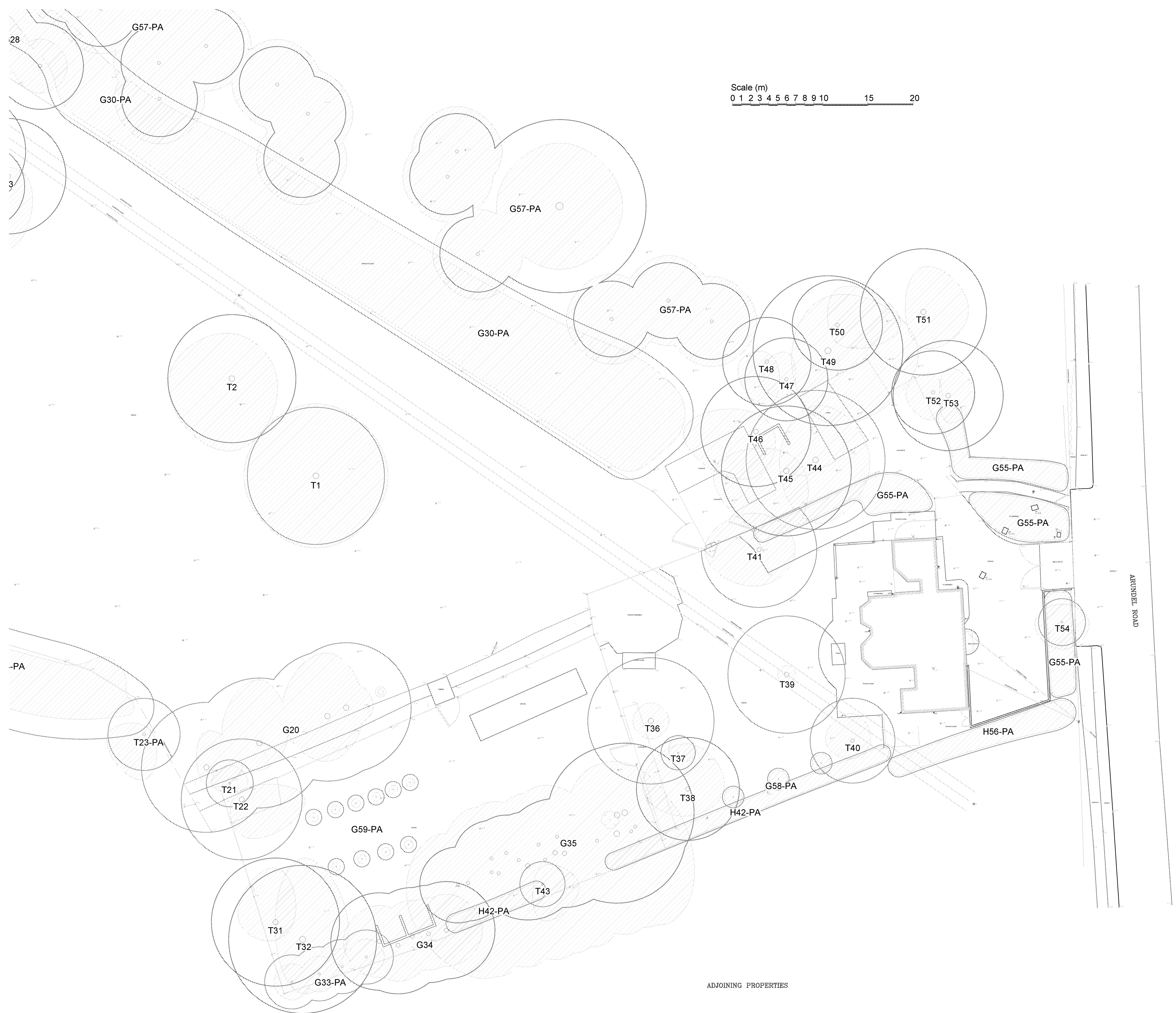
Scale: 1:200 at A1

Drawn by: PD Checked by: LW



PJC Consultancy
Rocks Yard, Victoria Road, Herstmonceux,
Hailsham, East Sussex, BN27 4TQ.
01323 832120
contact@pjcconsultancy.com
www.pjcconsultancy.com

ARUN DISTRICT COUNCIL ARBORICULTURE



Key:

- Root protection area for category A* tree
- Root protection area for category B* tree
- Root protection area for category C* tree
- Root protection area for category U* tree
- Tree canopy

* Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.

Tree Survey Schedule contained within the arboricultural report ref. PJC/5811/21-01 contains further information for each tree.

This drawing should be viewed in colour.

Tree numbers suffixed with PA indicate the tree position is approximate.

Drawing no: PJC/5811/21/A	Rev: -	Sheet number: 2 of 2
Client and site: Mr Brian Parsons		
Wilmington Arundel Road Angmering, BN16 4ET		
Drawing title: Tree Constraints Plan		
Date drawn: 05/04/2021		
Scale: 1:200 at A1		
Drawn by: PD	Checked by: LW	

Appendix 2: Tree Survey Schedule

Site: Wilmington, Angmering

Tree Survey Schedule



Survey date: 20/04/2021

Surveyor: Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T1	Pedunculate oak (Quercus robur)	12	630	N: 8 E: 8 S: 8 W: 8	Crown: 2 east Branch: 2 east	Mature	Good	Good	Open grown habit. Previously crown lifted and lightly reduced from phone line. Minor basal decay.	No action required.	31	179.6	7.6
T2	Pedunculate oak (Quercus robur)	13	590	N: 5 E: 5 S: 8 W: 7	Crown: 2 east Branch: 3 average	Mature	Good	Fair	Open grown habit but reduced to north-east from powerline. Wire cable occluded in bark around circumference of stem.	No action required.	31	157.5	7.1
T3	Pedunculate oak (Quercus robur)	18	530	N: 1 E: 2 S: 8 W: 2	Crown: 2 east Branch: 3 south	Mature	Good	Fair	Drawn up growth habit due to group pressures. Heavy reduced from powerline to north-east and crown lifted.	No action required.	31	127.1	6.4
T4	Pedunculate oak (Quercus robur)	16	390	N: 2 E: 2 S: 8 W: 3	Crown: 2 south Branch: 3 south	Early mature	Good	Fair	Drawn up growth habit and asymmetric crown due to group pressures. Minor dead wood from suppression.	No action required.	31	68.8	4.7
T5	Pedunculate oak (Quercus robur)	17	530	N: 2 E: 1 S: 2 W: 8	Crown: 3 west Branch: 3 west	Mature	Good	Fair	Co-dominant stems from 3m. Drawn up growth habit due to group pressures. Heavy reduced from powerline to north-east and crown lifted.	No action required.	31	127.1	6.4
T6	Pedunculate oak (Quercus robur)	15	350	N: 6 E: 4 S: 4 W: 2	Crown: 5 east Branch: 5 west	Early mature	Fair	Fair	Suppressed growth habit. Large dead wood and sparse areas in crown, in part due to suppression.	Remove dead wood over 50mm diameter and/or 1m length.	C1	55.4	4.2

Site: Wilmington, Angmering

Tree Survey Schedule



Survey date: 20/04/2021

Surveyor: Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T7	Pedunculate oak (Quercus robur)	16	580	N: 7 E: 6 S: 9 W: 9	Crown: 2 average Branch: 2 west	Mature	Good	Good	Slightly suppressed to east. Previously crown lifted. No major visible defects.	Remove dead wood over 50mm diameter and/or 1m length.	1	152.2	7.0
T8	Pedunculate oak (Quercus robur)	20	1180	N: 6 E: 12 S: 8 W: 5	Crown: 4 east Branch: 4 east	Over mature	Good	Poor	Large dead wood and historic branch failures in crown. Dense ivy on stem. Wound on low primary limb over site.	Reduce 2x primary limbs over site by approximately 4m to reduce end loading.	1+3	630.0	14.2
T9	Pedunculate oak (Quercus robur)	22	440	N: 0 E: 6 S: 2 W: 0	Crown: 5 east Branch: 4 south	Mature	Poor	Poor	Almost entire crown is dead. Located in falling distance of site.	Fell or reduce to monolith.	U	87.6	5.3
T10	Pedunculate oak (Quercus robur)	22	610, 750	N: 7 E: 5 S: 10 W: 13	Crown: 8 west Branch: 3 west	Mature	Good	Good	Dual stemmed from base. Suppressed to east but good overall condition.	No action required.	1	422.8	11.6
T11	Pedunculate oak (Quercus robur)	22	430, 410	N: 10 E: 8 S: 1 W: 3	Crown: 9 average Branch: 6 average	Mature	Good	Fair	Dual stemmed from base. Suppressed growth habit bias north-east due to proximity to T12.	No action required.	1	159.7	7.1
T12	Pedunculate oak (Quercus robur)	24	630	N: 5 E: 6 S: 5 W: 5	Crown: 10 east Branch: 8 west	Mature	Good	Good	High crown due to group pressures. Moderate dead wood due to suppression.	Remove dead wood over 50mm diameter and/or 1m length.	1	179.6	7.6

Site: Wilmington, Angmering

Tree Survey Schedule



Survey date: 20/04/2021

Surveyor: Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T13	Pedunculate oak (Quercus robur)	23	610	N: 5 E: 4 S: 5 W: 6	Crown: 13 average Branch: 8 average	Mature	Good	Fair	High crown clearance and moderate dead wood due to suppression.	Remove dead wood over 50mm diameter and/or 1m length.	A1	168.4	7.3
T14	Pedunculate oak (Quercus robur)	19	610	N: 4 E: 4 S: 6 W: 6	Crown: 8 south Branch: 6 south	Mature	Good	Good	Dead wood in lower crown (not over site) due to suppression. Good overall condition.	No action required.	A1	168.4	7.3
T15	Pedunculate oak (Quercus robur)	19	800	N: 6 E: 12 S: 8 W: 7	Crown: 3 east Branch: 3 average	Mature	Good	Good	Open grown habit. Moderate dead wood due to suppression. No major visible defects.	Remove dead wood over 50mm diameter and/or 1m length.	A1	289.6	9.6
T16	Pedunculate oak (Quercus robur)	18	580	N: 8 E: 9 S: 6 W: 5	Crown: 2 east Branch: 4 average	Mature	Good	Good	Dead wood and slightly asymmetric crown due to group pressures. No major visible defects.	No action required.	A1	152.2	7.0
T17	Silver birch (Betula pendula)	12	160	N: 1 E: 5 S: 1 W: 0	Crown: 3 east Branch: 4 east	Semi mature	Good	Fair	East lean as growing beneath crown of T16 and T18.	No action required.	C1	11.6	1.9
T18	Pedunculate oak (Quercus robur)	13	440	N: 5 E: 7 S: 5 W: 4	Crown: 3 east Branch: 3 average	Early mature	Good	Good	Dead wood in lower crown. Previously crown lifted.	Remove dead wood over 50mm diameter and/or 1m length.	B1	87.6	5.3

Site: Wilmington, Angmering

Tree Survey Schedule



Survey date: 20/04/2021

Surveyor: Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T19	Pedunculate oak (Quercus robur)	17	640	N: 8 E: 7 S: 7 W: 5	Crown: 3 west Branch: 4 west	Mature	Good	Good	Open grown habit. Dead wood due to suppression. No major visible defects.	Remove poorly cut stubs on stem. Remove dead wood over 50mm diameter and/or 1m length.	A1	185.3	7.7
G20	Crack willow (Salix fragilis)	11-16 average	Up to 600 average est	1-7 average	1-3 average	Over mature	Good	Poor	Row of 4x crack willows. 3 are multi-stemmed with poor unions. Ivy clad. Limited potential longevity.	Fell and remove stumps.	C1	162.9 average	7.2 average
T21	Leyland cypress (Cupressus X leylandii)	9	220	N: 2 E: 2 S: 1 W: 2	Crown: 2 west Branch: 2 west	Semi mature	Fair	Fair	Suppressed by surrounding trees.	Fell and remove stump.	C1	21.9	2.6
T22	Leyland cypress (Cupressus X leylandii)	14	560	N: 1 E: 7 S: 4 W: 1	Crown: 1 south Branch: 0 south	Mature	Good	Poor	Leans heavily east, possibly historic wind blown tree. Heavily suppressed to north by crack willows.	Fell and remove stump.	C1+2	141.9	6.7
T23	Crack willow (Salix fragilis)	8	80 average x17 stems est	N: 1 E: 1 S: 5 W: 4	Crown: 2 average Branch: 1 average	Semi mature	Good	Poor	New growth on old stump. Smothered by ivy.	No action required.	C1	49.2	4.0
G24	Mixed (hawthorn, blackthorn, crack willow, holly, elder)	2-6 average	Up to 180 average est	1-4 average	0-1 average	Young-early mature	Fair	Fair	Moderately dense shrubs and small trees. Largely pruned to site boundary.	No action required.	C1+2	14.7 average	2.2 average

Site: Wilmington, Angmering

Tree Survey Schedule



Survey date: 20/04/2021

Surveyor: Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
G25	Mixed (hawthorn, oak dominant, holly)	2-20 average	Up to 500 est (200 average)	1-5 average	1-6 average	Semi mature-mature	Good	Fair	Drawn up growth habits due to group pressures. Root protection areas and crown spreads do not encroach site.	No action required.	~~B1~~ B2	18.1 average	2.4 average
T26	Pedunculate oak (Quercus robur)	18	460	N: 1 E: 1 S: 6 W: 4	Crown: 11 south Branch: 5 south	Mature	Fair	Fair	Drawn up growth habit and dead wood (not over site) due to suppression.	No action required.	~~B1~~ B2	95.7	5.5
T27	Pedunculate oak (Quercus robur)	18	450	N: 5 E: 1 S: 2 W: 2	Crown: 2 south Branch: 2 west	Mature	Good	Fair	Drawn up growth habit.	No action required.	~~B1~~ B2	91.6	5.4
G28	Pedunculate oak (Quercus robur)	17-22 average	Up to 400 average est	2-4 average	4-5 average	Mature	Good	Fair	Row of 4x trees on edge of woodland, viewed from site. Previously reduced from powerline.	No action required.	~~B1~~ B2	72.4 average	4.8 average
T29	Pedunculate oak (Quercus robur)	22	600 est	N: 8 E: 8 S: 5 W: 5	Crown: 5 south Branch: 6 south	Mature	Good	Good	Viewed from site. Previously reduced from powerline.	No action required.	~~A1~~ A2	162.9	7.2
G30	Mixed (blackthorn, hawthorn dominant, birch, goat willow)	1-6 average	Up to 200 est (under 75 average)	1-3 average	0 average	Semi mature-mature	Good	Fair	Scrub and small trees. Previously pruned to site boundary.	Reduce clear of foul water pumping station.	~~C1~~ C2	2.5 average	0.9 average

Site: Wilmington, Angmering

Tree Survey Schedule



Survey date: 20/04/2021

Surveyor: Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T31	Leyland cypress (Cupressus X leylandii)	18	590	N: 6 E: 2 S: 2 W: 4	Crown: 1 south Branch: 1 south	Mature	Good	Fair	Suppressed to south-east by willow. Stem leans north.	Fell and remove stump.	B2	157.5	7.1
T32	Goat willow (Salix caprea)	17	410, 490, 250	N: 9 E: 5 S: 6 W: 3	Crown: 3 north Branch: 2 north	Mature	Good	Fair	3x stems from base. Drawn up growth habit and minor dead wood due to suppression.	Fell and remove stump.	B2	212.9	8.2
G33	Leyland cypress (Cupressus X leylandii)	5-9 average	Up to 250 average est	1-3 average	0-1 average	Semi mature	Good	Fair	Cypress screen on site boundary. 2x windblown but still alive.	No action required.	C2	28.3 average	3.0 average
G34	Leyland cypress (Cupressus X leylandii)	15-16 average	Up to 450 average est	1-4 average	1 average	Early mature-mature	Good	Good	Cypress screen on site boundary. Larger and more established than G33.	No action required.	B2	91.6 average	5.4 average
G35	Eucalyptus (Eucalyptus spp.)	21-24 average	Up to 640 (350 average)	N: 6 E: 5 S: 11 W: 6	1-5 average	Early mature-mature	Good	Good	Double row of trees on site boundary. Drawn up growth habits due to group pressures.	Fell and remove stumps.	B2	55.4 average	4.2 average
T36	Pedunculate oak (Quercus robur)	6	580	N: 2 E: 2 S: 2 W: 2	Crown: 1 west Branch: 1 west	Mature	Good	Poor	Dual stemmed from 2m with included bark in unions. Tree is heavily pollarded with a couple of years regrowth.	Fell and remove stump.	C1	152.2	7.0

Site: Wilmington, Angmering

Tree Survey Schedule



Survey date: 20/04/2021

Surveyor: Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T37	Sweetgum (Liquidambar styraciflua)	9	160	N: 2 E: 2 S: 1 W: 1	Crown: 1 north Branch: 2 north	Semi mature	Good	Fair	Slender growth habit. Suppressed to south. Co-dominant leaders from 2.5m with tight stem union.	Fell and remove stump.	C1	11.6	1.9
T38	Horse chestnut (Aesculus hippocastanum)	9	350, 230, 230	N: 5 E: 4 S: 3 W: 5	Crown: 1 west Branch: 2 west	Early mature	Good	Fair	Multi-stemmed from 1.2–2m. Crown previously reduced.	No action required.	B1	103.3	5.7
T39	Willow (Salix spp.)	3	410, 350	N: 1 E: 1 S: 1 W: 1	Crown: 1 average Branch: 2 average	Mature	Good	Poor	Pollarded to 3m with some regrowth present.	No action required.	C1	131.5	6.5
T40	Sorbus spp.	5	390	N: 3 E: 2 S: 2 W: 3	Crown: 1 north Branch: 2 north	Early mature	Good	Fair	Crown heavily reduced. Located under powerline.	No action required.	C1	68.8	4.7
T41	Ash (Fraxinus excelsior)	11	350, 290	N: 4 E: 4 S: 4 W: 6	Crown: 2 average Branch: 2 west	Early mature	Fair	Fair	Dual stemmed from base. Previously crown lifted and reduced. Crown not in leaf but appears stressed.	Fell and remove stump.	C1	93.5	5.5 (amended on tree constraints plan)
H42	Mixed ornamental species	1–3 average	Up to 100 average est	1–2 average	0 average	Semi mature	Good	Good	Hedgerow on site boundary. Sparse areas adjacent to G35.	No action required.	C1+2	4.5 average	1.2 average

Site: Wilmington, Angmering

Tree Survey Schedule



Survey date: 20/04/2021

Surveyor: Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T43	Apple (Malus domestica spp.)	4	210	N: 2 E: 4 S: 4 W: 1	Crown: 2 average Branch: 1 west	Early mature	Fair	Fair	Suppressed to north by G35.	No action required.	C1+2	20.0	2.5
T44	Pedunculate oak (Quercus robur)	18	640	N: 6 E: 6 S: 7 W: 4	Crown: 3 east Branch: 3 east	Mature	Good	Poor	Stem bifurcates at 4m with tight union. Dead wood over sheds from suppression. Estimated 7 years of Ganoderma spp. brackets on base.	Fell and remove stump.	C1	185.3	7.7
T45	Pedunculate oak (Quercus robur)	19	600	N: 2 E: 2 S: 7 W: 8	Crown: 3 south Branch: 3 south	Mature	Good	Fair	Previously crown lifted. Dead wood over shed. Drawn up growth habit due to group pressures. Visible but not prominent from Arundel Road.	Remove dead wood over 50mm diameter and/or 1m length over shed.	B1+2	162.9	7.2
T46	Pedunculate oak (Quercus robur)	18	510	N: 2 E: 2 S: 5 W: 8	Crown: 2 east Branch: 2 east	Mature	Good	Fair	Asymmetric crown due to group pressures.	No action required.	B1	117.7	6.1
T47	Pedunculate oak (Quercus robur)	19	380	N: 3 E: 1 S: 2 W: 3	Crown: 14 average Branch: 10 east	Mature	Fair	Fair	Drawn up growth habit. Dead wood over shed. Dual stemmed.	Remove dead wood over 50mm diameter and/or 1m length over shed.	B1	65.3	4.6
T48	Pedunculate oak (Quercus robur)	15	410	N: 1 E: 1 S: 5 W: 3	Crown: 5 south Branch: 4 average	Mature	Fair	Fair	Asymmetric crown due to suppression. Ivy inhibits inspection of stem.	Sever ivy around base.	B1	76.1	4.9

Site: Wilmington, Angmering

Tree Survey Schedule



Survey date: 20/04/2021

Surveyor: Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
T49	Pedunculate oak (Quercus robur)	21	690	N: 6 E: 10 S: 8 W: 4	Crown: 4 east Branch: 7 east	Mature	Good	Fair	Drawn up growth habit and asymmetric crown due to group pressures.	Remove dead wood over 50mm diameter and/or 1m length over shed.	1	215.4	8.3
T50	Pedunculate oak (Quercus robur)	22	420	N: 4 E: 7 S: 2 W: 1	Crown: 1 average Branch: 5 east	Mature	Good	Fair	Drawn up growth habit and asymmetric crown due to group pressures.	No action required.	1	79.8	5.0
T51	Pedunculate oak (Quercus robur)	19	580	N: 5 E: 5 S: 4 W: 2	Crown: 3 east Branch: 3 east	Mature	Good	Good	Asymmetric crown due to group pressures.	No action required.	1+2	152.2	7.0
T52	Leyland cypress (Cupressus X leylandii)	16	380	N: 2 E: 1 S: 3 W: 3	Crown: 2 south Branch: 2 south	Mature	Good	Fair	Companion tree to T53.	No action required.	2	65.3	4.6
T53	Leyland cypress (Cupressus X leylandii)	16	510	N: 3 E: 3 S: 3 W: 1	Crown: 4 east Branch: 4 east	Mature	Good	Fair	Companion tree to T52. Minor snapped limbs on east side.	No action required.	2	117.7	6.1
T54	Flowering cherry (Prunus spp.)	4	220 at 1m	N: 2 E: 3 S: 3 W: 3	Crown: 1 average Branch: 1 average	Early mature	Good	Fair	Crown previously reduced.	No action required.	1+2	21.9	2.6

Site: Wilmington, Angmering

Tree Survey Schedule

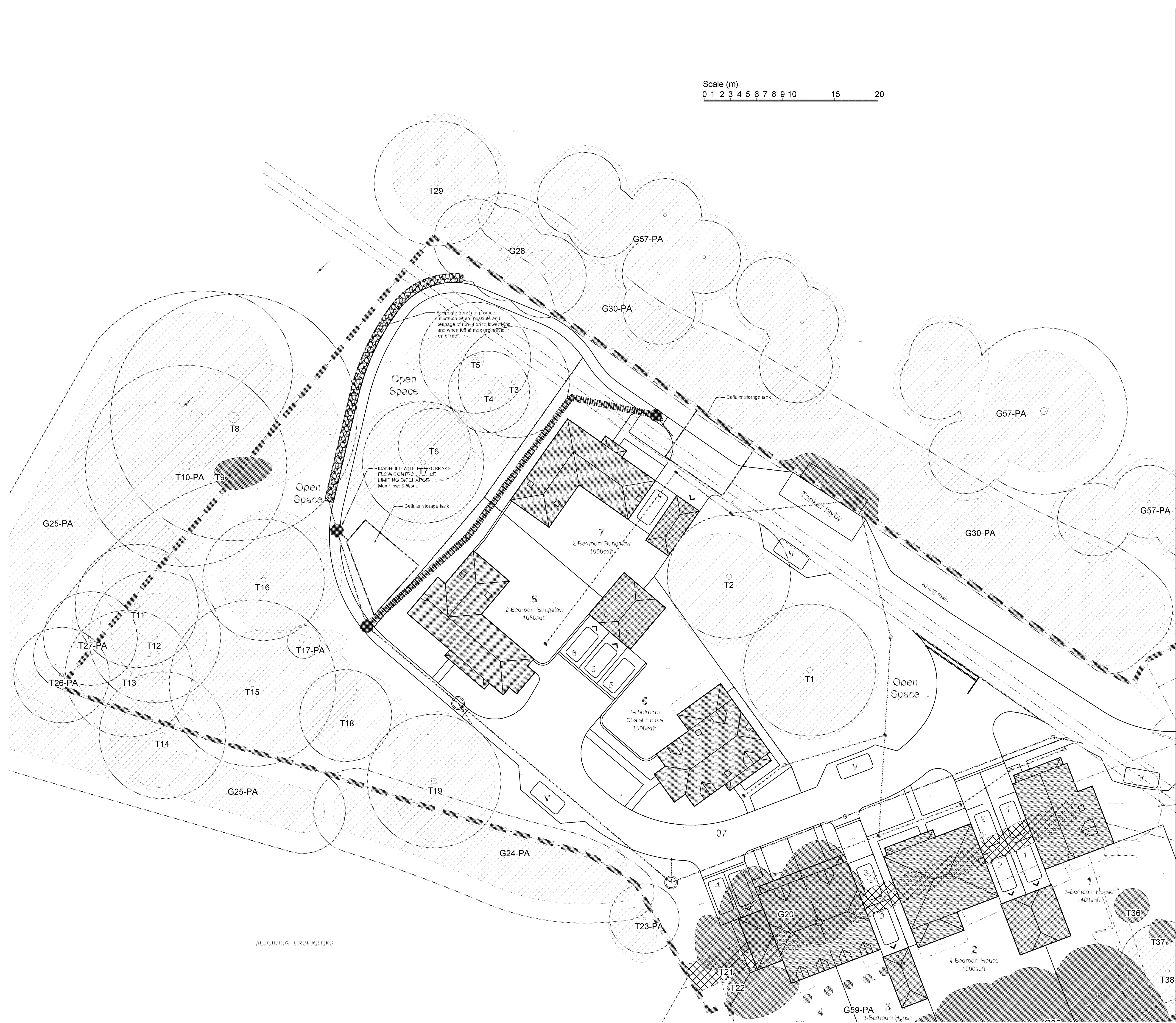


Survey date: 20/04/2021

Surveyor: Peter Davies

Tree ref.	Species	Height (m)	Stem diameter (mm)	Branch spread (m)	Crown clearance (m)	Age class	Physiological condition	Structural condition	Comments	Management recommendation	Category grading	Root Protection Area (m ²)	Root Protection Radius (m)
G55	Mixed ornamental shrub species	1–3 average	Up to 100 (under 75 average) est	1–2 average	0 average	Semi mature–mature	Good	Good	Mixed shrub beds.	Remove sections of group shown on tree retention plan.	C2	2.5 average	0.9 average
H56	Leyland cypress (Cupressus X leylandii)	3 average	Up to 150 average est	1 average	0–1 average	Semi mature	Good	Good	Third party formal hedgerow. Sparse areas to south.	No action required.	C2	10.2 average	1.8 average
G57	Mixed (oak dominant, ash)	18–24 average	Up to 800 (350 average) est	3–9 average	2–7 average	Early mature–mature	Good	Good	Trees in woodland area with sporadic under–storey.	No action required.	S1	55.4 average	4.2 average
G58	Mimosa (Acacia dealbata)	3 average	Up to 100 average est	1 average	1 average	Young	Good	Good	Relatively newly planted trees on boundary of garden.	No action required.	C1	4.5 average	1.2 average
G59	Mixed fruit trees	1 average	Under 75 average	0.5 average	0 average	Young	Good	Good	Newly planted trees in lawn area.	Fell and remove stumps. Trees could potentially be moved given their small size.	C1	2.5 average	0.9 average

Appendix 3: Tree Retention Plan



- Key:**
- Root protection area for category A* tree to be retained
 - Root protection area for category B* tree to be retained
 - Root protection area for category C* tree to be retained
 - Canopy of tree to be retained
 - Canopy of category B* tree to be removed
 - Canopy of category C* tree to be removed
 - Canopy of category U* tree to be removed

* Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.

Tree Survey Schedule contained within the arboricultural report ref. PJC/5811/21-02 contains further information for each tree.

This drawing should be viewed in colour.

Tree numbers suffixed with PA indicate the tree position is approximate.

Drawing no: PJC/5811/21/B Rev: 01 Sheet number: 1 of 2

Client and site:
Mr Brian Parsons

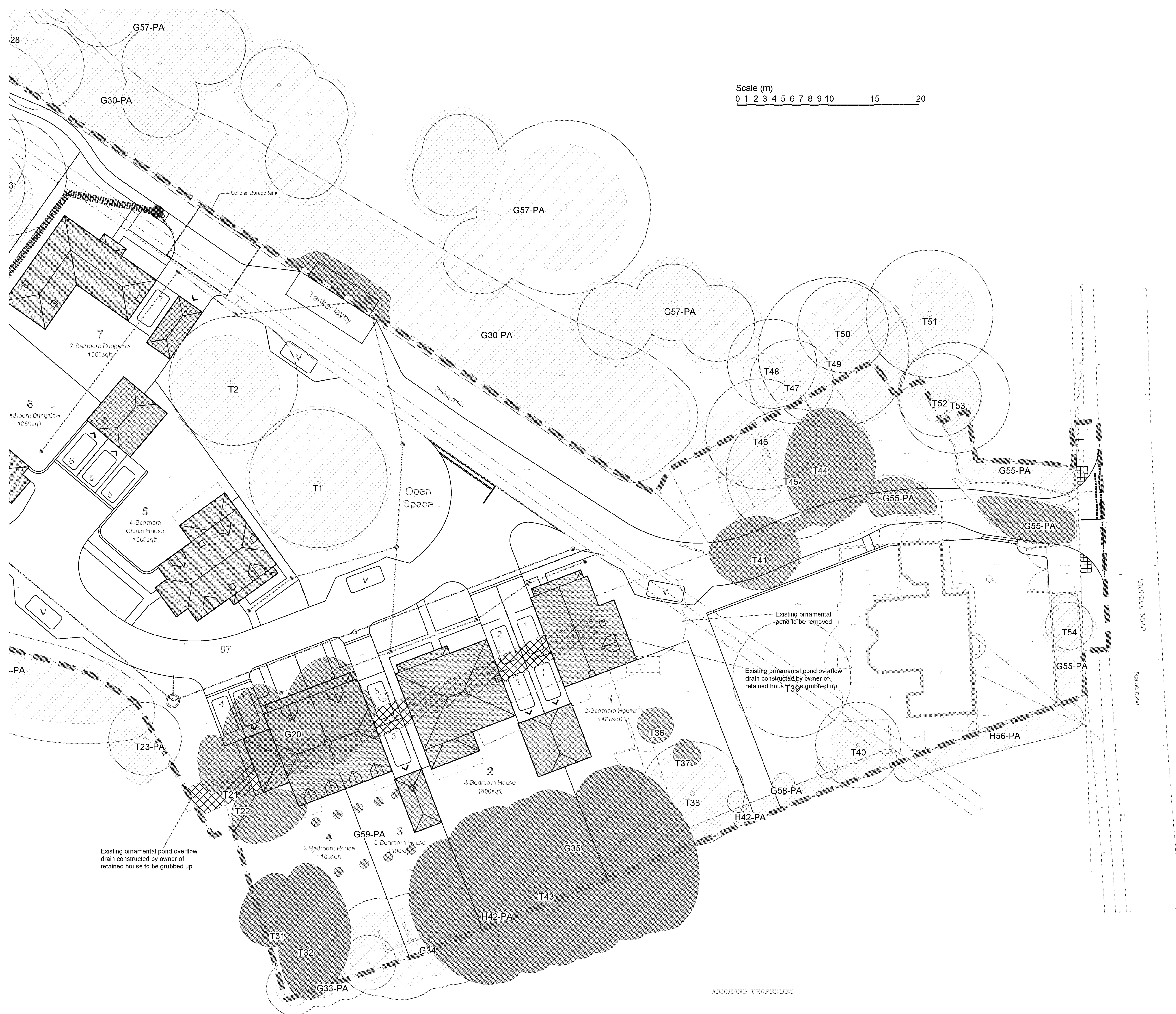
Wilmington
Arundel Road
Angmering, BN16 4ET

Drawing title: Tree Retention Plan

Date drawn: 29/09/2021

Scale: 1:200 at A1

Drawn by: PD Checked by: LW



- Key:**
- Root protection area for category A* tree to be retained
 - Root protection area for category B* tree to be retained
 - Root protection area for category C* tree to be retained
 - Canopy of tree to be retained
 - Canopy of category B* tree to be removed
 - Canopy of category C* tree to be removed
 - Canopy of category U* tree to be removed

* Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.

Tree Survey Schedule contained within the arboricultural report ref. PJC/5811/21-02 contains further information for each tree.

This drawing should be viewed in colour.

Tree numbers suffixed with PA indicate the tree position is approximate.

Drawing no: PJC/5811/21/B Rev: 01 Sheet number: 2 of 2

Client and site:
Mr Brian Parsons

Wilmington
Arundel Road
Angmering, BN16 4ET

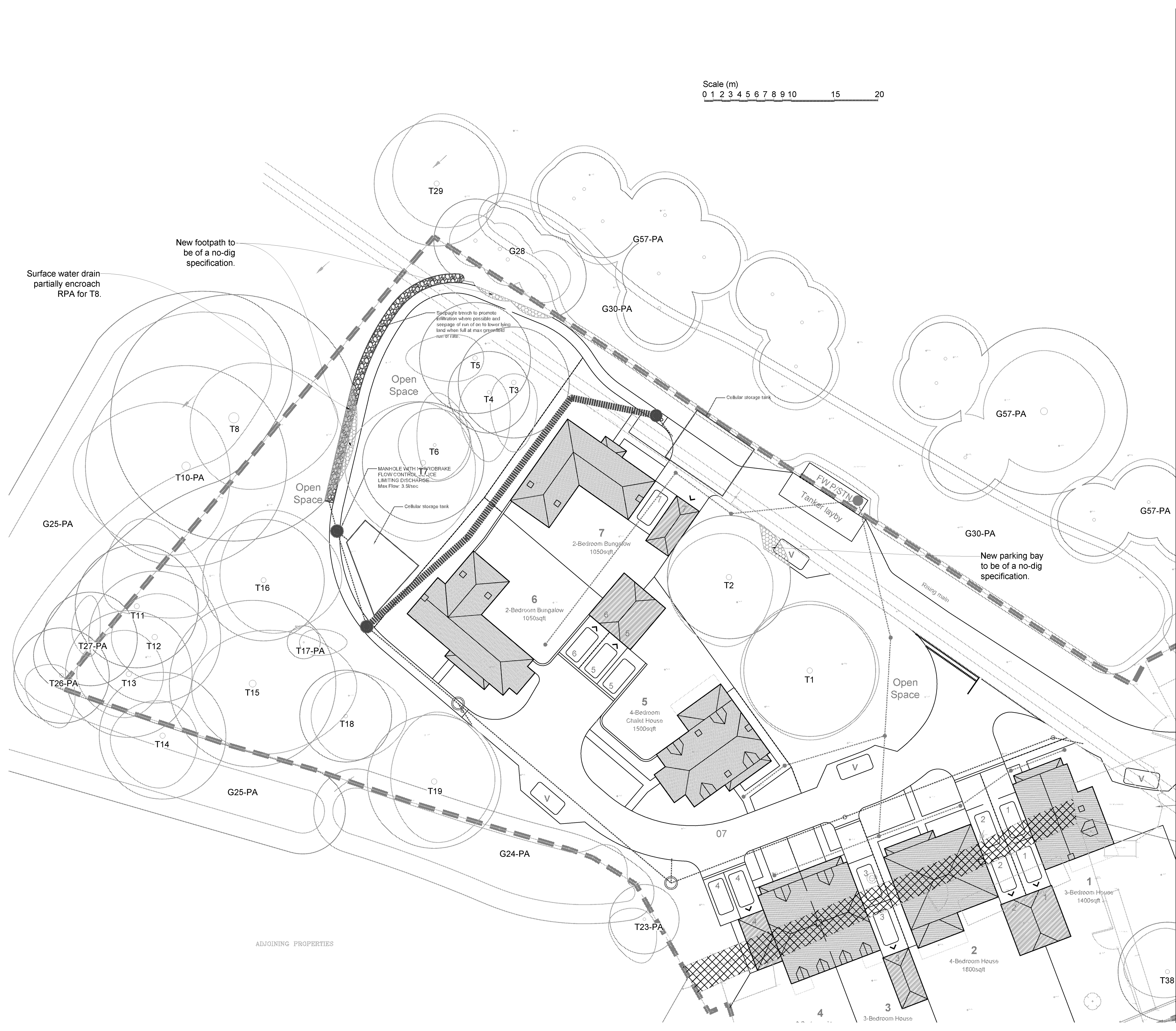
Drawing title: Tree Retention Plan

Date drawn: 29/09/2021

Scale: 1:200 at A1

Drawn by: PD **Checked by:** LW

Appendix 4: Root Protection Area Incursions Plan



- Key:**
- Root protection area for category A* tree to be retained
 - Root protection area for category B* tree to be retained
 - Root protection area for category C* tree to be retained
 - Canopy of tree to be retained
 - New hard standing within root protection area
 - Excavation required within root protection area

* Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.

Tree Survey Schedule contained within the arboricultural report ref. PJC/5811/21-02 contains further information for each tree.

This drawing should be viewed in colour.

Tree numbers suffixed with PA indicate the tree position is approximate.

Drawing no: PJC/5811/21/C Rev: 01 Sheet number: 1 of 2

Client and site:
Mr Brian Parsons

Wilmington
Arundel Road
Angmering, BN16 4ET

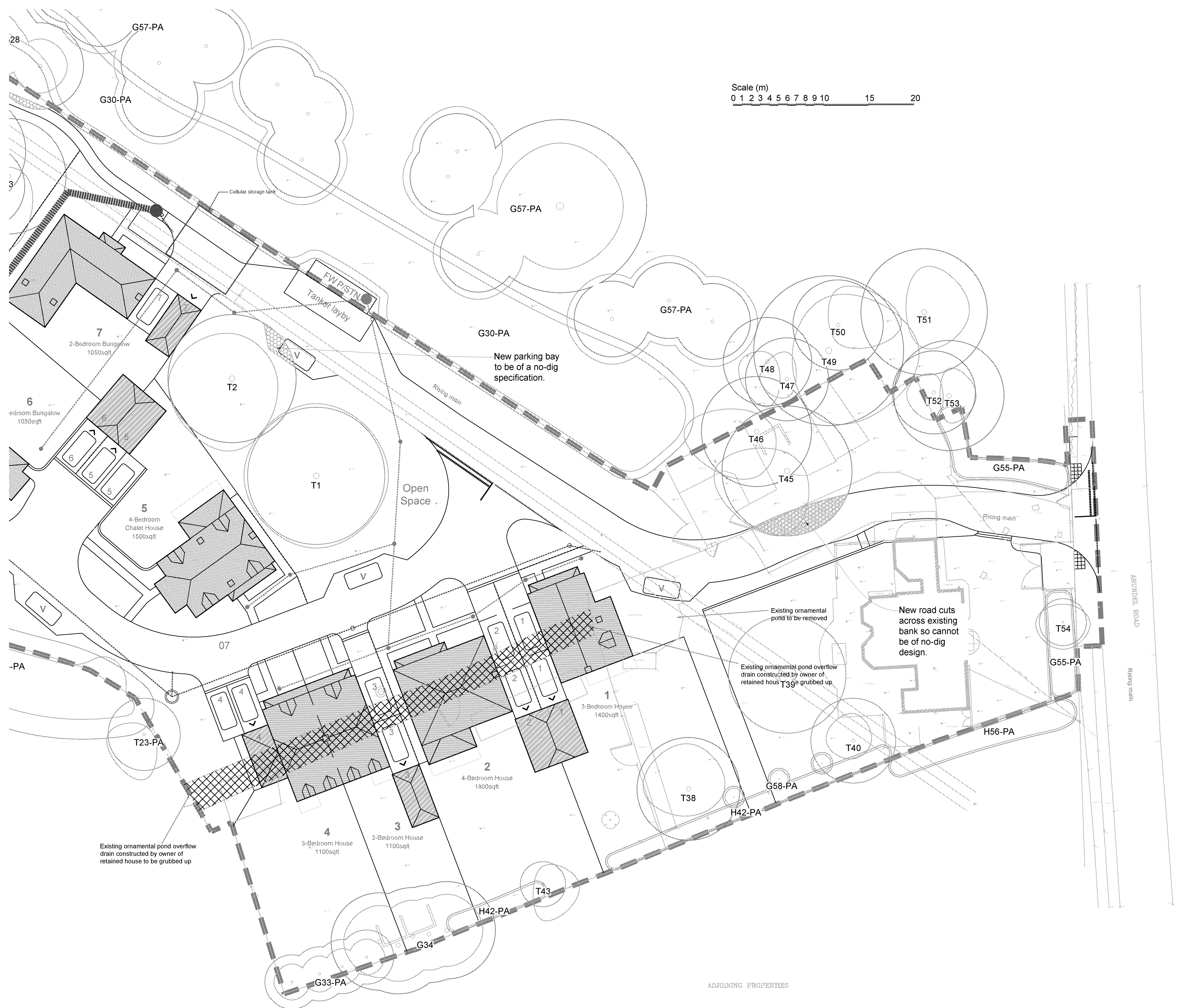
Drawing title: Root Protection Area Incursions Plan

Date drawn: 01/10/2021

Scale: 1:200 at A1

Drawn by: PD

Checked by: LW



- Key:**
- Root protection area for category A* tree to be retained
 - Root protection area for category B* tree to be retained
 - Root protection area for category C* tree to be retained
 - Canopy of tree to be retained
 - New hard standing within root protection area
 - Excavation required within root protection area

* Tree categorised in accordance with BS 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.

Tree Survey Schedule contained within the arboricultural report ref. PJC/5811/21-02 contains further information for each tree.

This drawing should be viewed in colour.

Tree numbers suffixed with PA indicate the tree position is approximate.

Drawing no: PJC/5811/21/C Rev: 01 Sheet number: 2 of 2

Client and site:
Mr Brian Parsons

Wilmington
Arundel Road
Angmering, BN16 4ET

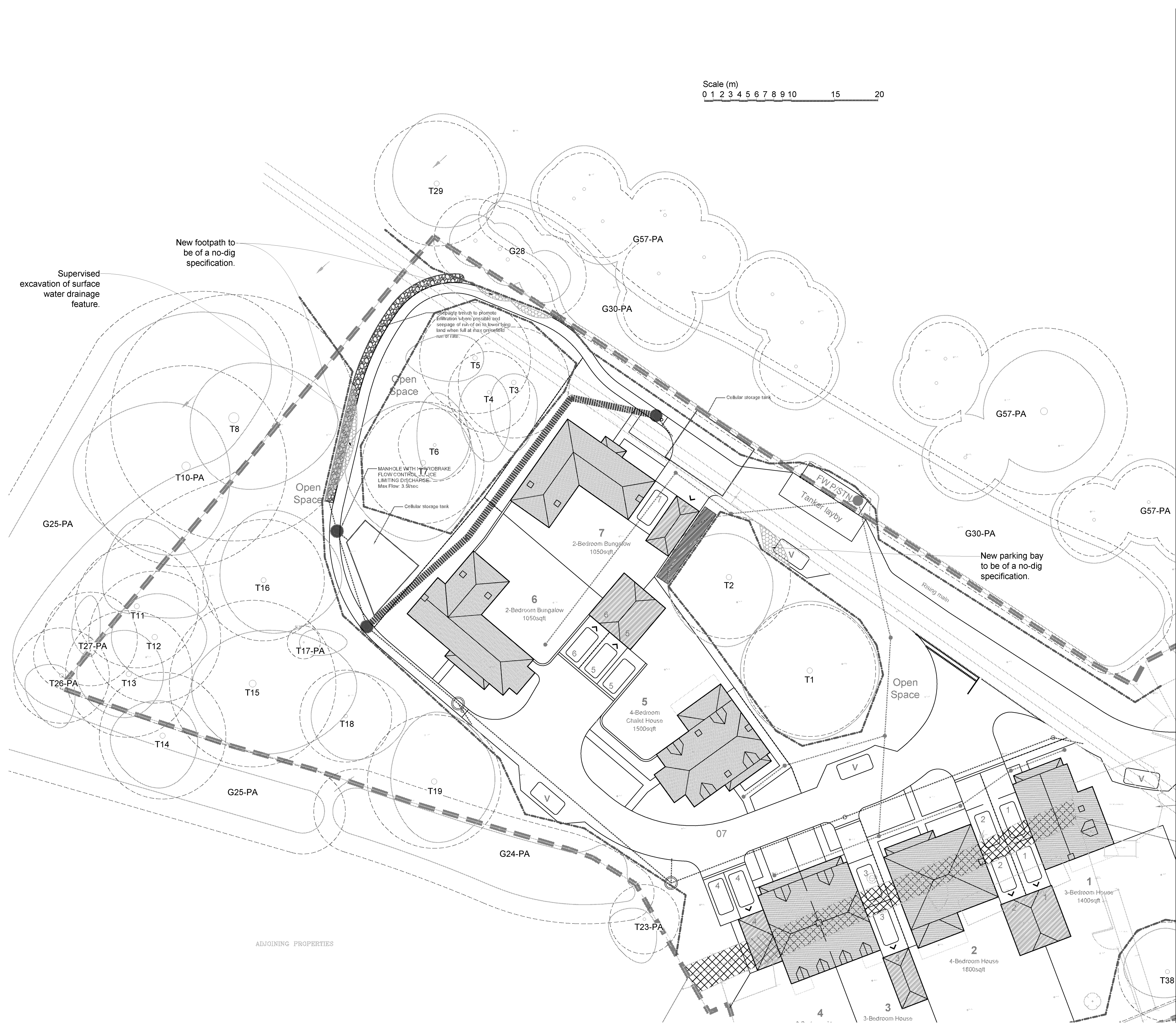
Drawing title: Root Protection Area Incursions Plan

Date drawn: 01/10/2021

Scale: 1:200 at A1

Drawn by: PD **Checked by:** LW

Appendix 5: Tree Protection Plan



- Key:**
- Root protection area for tree to be retained
 - Canopy of tree to be retained
 - Tree protection fencing
 - Temporary ground protection
 - Construction exclusion zone
 - New hard standing within root protection area
 - Supervised excavation required within root protection area

Tree Survey Schedule contained within the arboricultural report ref. PJC/5811/21-02 contains further information for each tree.

This drawing should be viewed in colour.

Tree numbers suffixed with PA indicate the tree position is approximate.

Drawing no: PJC/5811/21/D Rev: 01 Sheet number: 1 of 2

Client and site:
Mr Brian Parsons

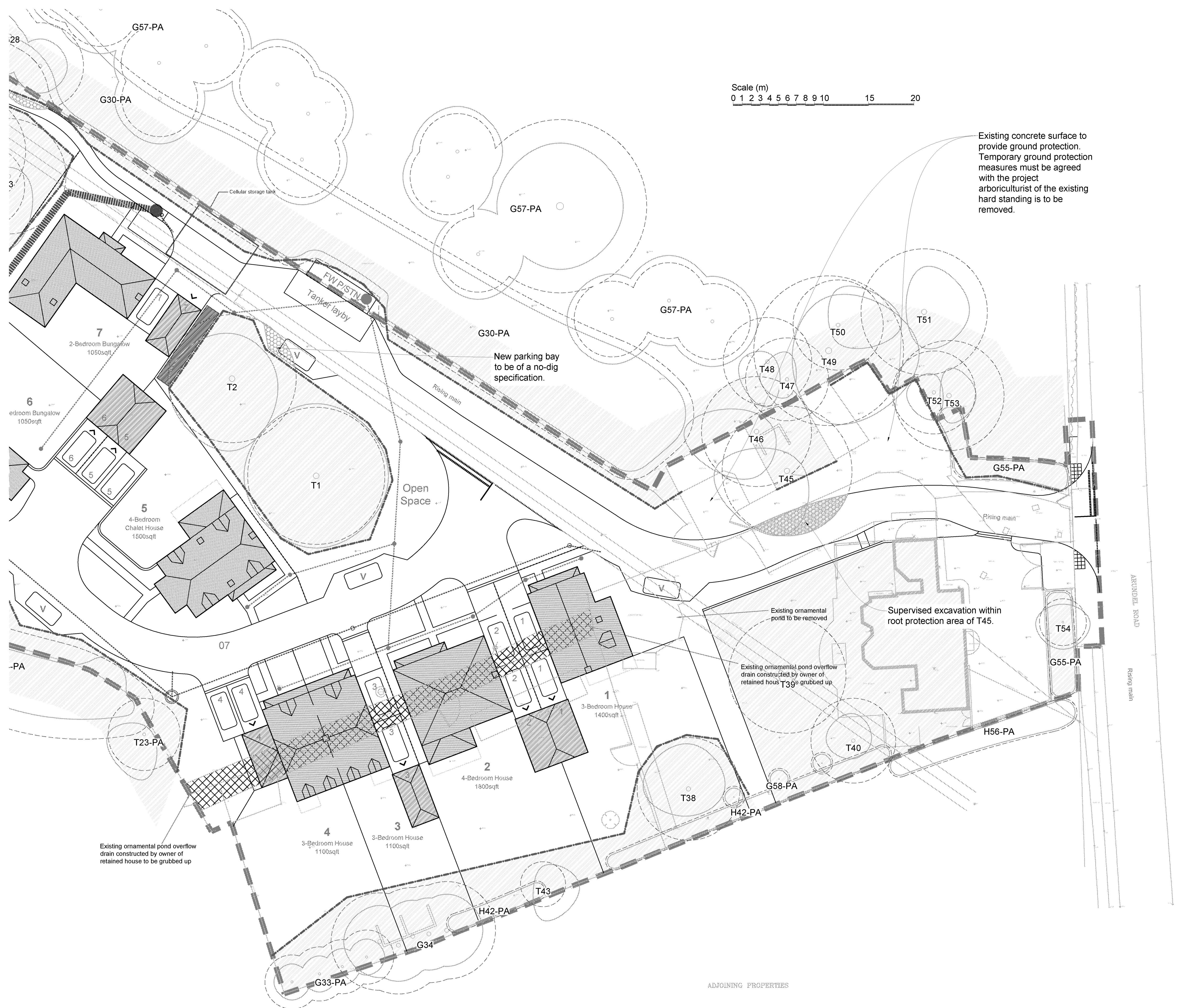
Wilmington
Arundel Road
Angmering, BN16 4ET

Drawing title: Tree Protection Plan

Date drawn: 01/10/2021

Scale: 1:200 at A1

Drawn by: PD **Checked by:** LW



- Key:**
- Root protection area for tree to be retained
 - Canopy of tree to be retained
 - Tree protection fencing
 - Temporary ground protection
 - Construction exclusion zone
 - New hard standing within root protection area
 - Supervised excavation required within root protection area

Tree Survey Schedule contained within the arboricultural report ref. PJC/5811/21-02 contains further information for each tree.

This drawing should be viewed in colour.

Tree numbers suffixed with PA indicate the tree position is approximate.

Drawing no: PJC/5811/21/D

Rev: 01

Sheet number: 2 of 2

Client and site:

Mr Brian Parsons

Wilmington

Arundel Road

Angmering, BN16 4ET

Drawing title: Tree Protection Plan

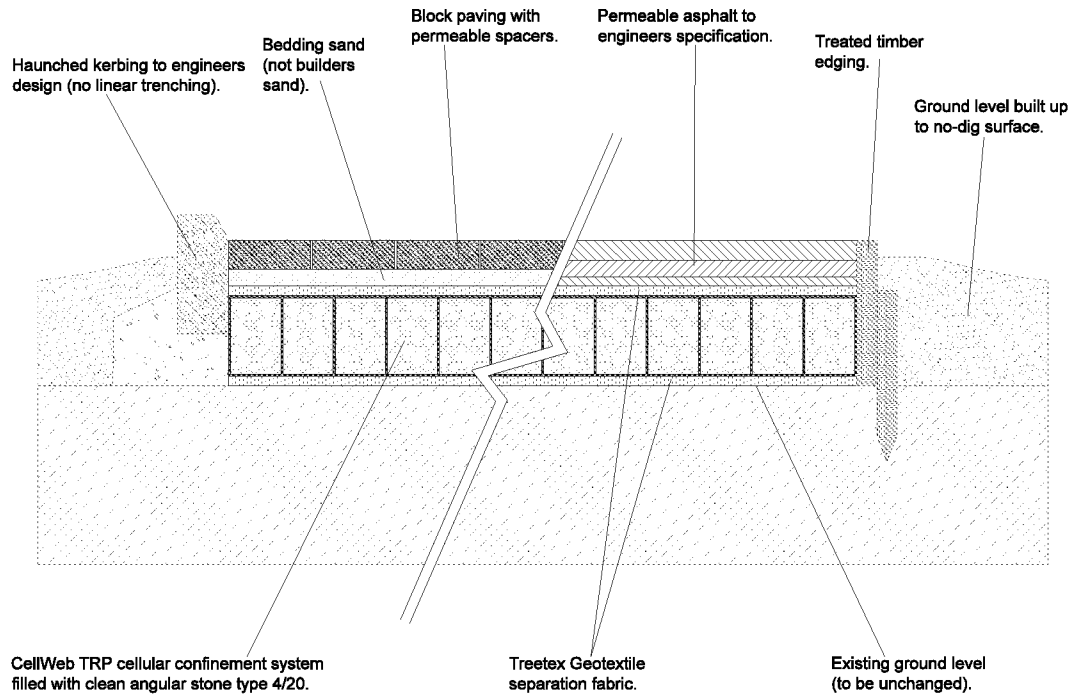
Date drawn: 01/10/2021

Scale: 1:200 at A1

Drawn by: PD

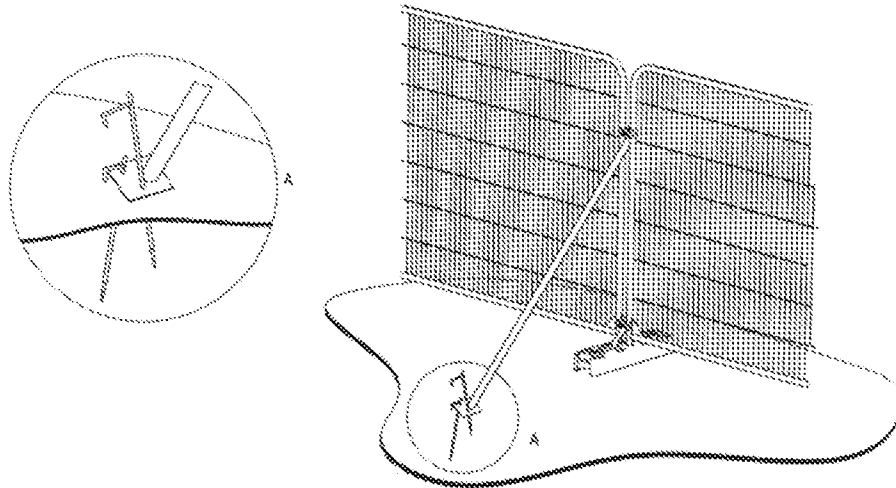
Checked by: LW

Appendix 6: Example No-dig Surface Specification

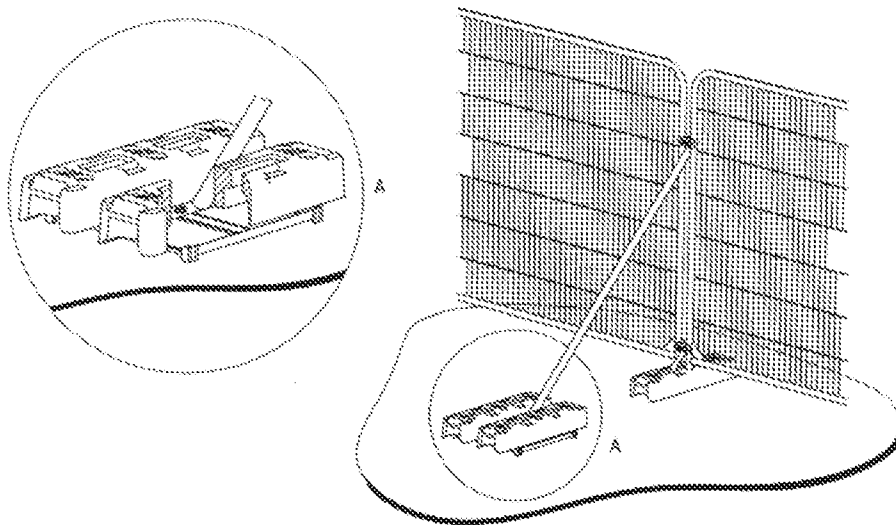


Additional sub-base may be required provided depending on CBR% rating and maximum size of vehicle expected on surface. This must be permeable and installed above ground level.

Appendix 7: Tree Protection Fencing Specification



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

Appendix 8: Example Protective Fencing Sign

