



Arboricultural Impact Assessment & Method Statement

In support of a planning application at

LAND OFF SUMMER LANE, PAGHAM, WEST SUSSEX

On Behalf of: Drew Smith Group
Reference: C.MW.19.0612.AIA.AMS
Date issued: 31.10.2019



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1.0 INSTRUCTIONS AND TERMS OF REFERENCE

- 1.1 In October 2019, ArborCall Ltd. was instructed by Drew Smith Group to produce this report in support of the reserved matters planning application for residential dwellings on the site: Land off Summer Lane, Pagham, West Sussex, within the administrative boundary of the South Downs Country Park.
- 1.2 Document supplied to assist this assessment include:
- Pagham Full Topo
 - 1177 PD100_Rev_P5- SITE PLAN
 - Tree Survey and Impact Assessment by ArborTech, dated May 2015
- 1.3 The assessment considers the impact of the proposal on the constraint presented by trees retained within the site, and those on adjacent land. Such impact can be caused directly through construction damage and indirectly from post development resentment and pressure to detrimentally prune or remove the trees. The latter is often due to a poor juxtaposition between the proposal and the trees.
- 1.4 The root protection area (RPA) for each tree represents a minimum area in m² that should be left undisturbed around each retained tree. This is initially represented by a circle but is fundamentally an area of rooting volume. This is often adjusted to account for constraints to root growth within the site (primarily highways and buildings). Recommendations are provided in the British Standard as to the protection of existing trees during the construction process. This is achieved by ensuring a tree protection strategy is implemented before any demolition or construction on site.
- 1.5 Any questions relating to the content of this report should be directed, in the first instance, to ArborCall Ltd., at mail@mwei.com or 01730 239 492 quoting the site address and report reference number.

2.0 SITE DESCRIPTION

- 2.1 The site is currently unused land on the edge of the existing settlement area of Pagham.
- 2.2 It is predominantly flat in nature and covered by scrub and seedling trees that were too small to be included within this assessment.
- 2.3 The site is centred at Ordnance Survey Grid Reference: SZ 89043 98547.

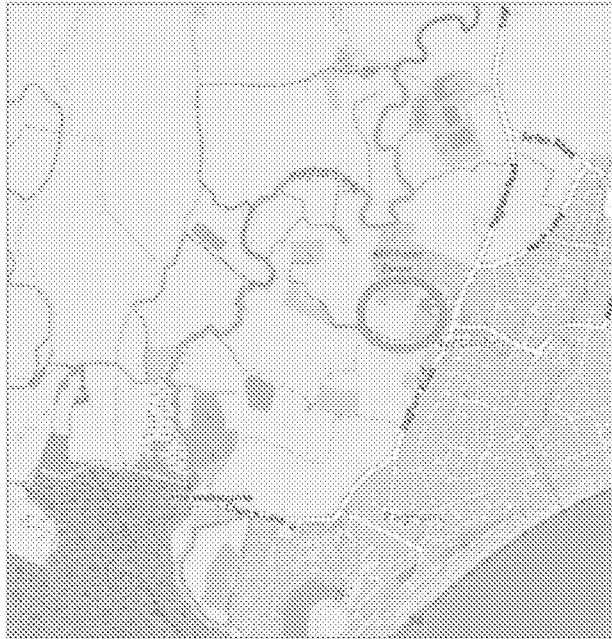


Figure 1: Site location plan © OpenStreetMap contributors



Figure 2: Site photograph

3.0 STATUTORY LEGISLATION

- 3.1 According to Arun District Council's on-line service¹, there is one tree preservation order on the site (checked at the date of writing).
- 3.2 Scant data was available through the online portal. So, based upon previous correspondence from the tree officer, it is known that two oak trees are subject to TPO protection. These are numbered 3 & 5 within this assessment.

4.0 TREE SURVEY - SCOPE AND METHODOLOGY

- 4.1 Tree survey data can be found on the plan at Appendix 2.
- 4.2 The tree survey has been carried out following the recommendations of The British Standard and the trees are assessed objectively and without reference to any site layout proposals. Categories are based on each tree's health and condition, together with an assessment of its life expectancy if its surroundings were to be unchanged.
- 4.3 The reference numbers of surveyed trees and groups of trees are shown on the tree reference plan, which is appended to this report and based on the supplied survey drawing. Stem locations within groups may be estimated, and indicative of canopy only.
- 4.4 The tree survey was carried out from ground level only, with the aid of binoculars as necessary, following the Visual Tree Assessment² (VTA) method.
- 4.5 Where trees are located on neighbouring land an estimated appraisal has been made of their quality and dimensions.
- 4.6 Where stems or branches are obscured by ivy or other materials a full assessment of those parts will not be possible.
- 4.7 Tree heights were measured with a clinometer or estimated in relation to those measured.
- 4.8 Trunk diameters are measured at 1.5m above ground level, where this is not possible, then Figure C.1 of the British Standard is followed.

¹ <https://www1.arun.gov.uk/webapps/wmil/>

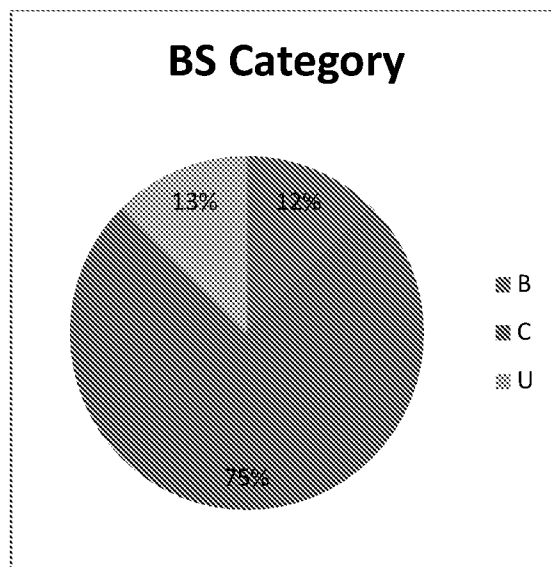
² Mattheck, C. & Breloer, H., 1998. The Body Language of Trees: A Handbook for Failure Analysis. London:H.M.S.O.

4.9 Tree canopies, where markedly asymmetrical, were measured (or estimated by pacing) in four directions using a laser measure. Symmetrical canopies are measured in one direction only, with dimensions in the remaining directions assumed to be similar. For the canopies of groups of trees, the maximum radius for each compass point is measured (more complicated groups will have further notes taken and an accurate representation will be shown on the plan).

4.10 All estimated dimensions are noted in the data.

5.0 SUMMARY OF SURVEYED TREES

5.1 Seven trees and one group were surveyed. The survey schedule can be found at Appendix 2 on the tree survey plan.



BS Category	Quantity
B	1
C	6
U	1

Common Name	Quantity
Ash, Common	1
Hawthorn, Common	1
Mixed species	1
Oak, pedunculate	4
Willow, Goat	1

- 5.2 The off-site oak T8 is the principal specimen on site in terms of landscape value.
- 5.3 The oaks that are subject to the TPO (3 & 5) have been assigned category C due to their poor quality and value. They have recently had damage to their roots occur during works, by a third party, to clear the existing drainage ditch.
- 5.4 Both trees are displaying indications of physiological stress in the form of epicormic shoots on the stem and branches. Neither tree is especially tall thus providing only limited wider landscape value.



Figure 3: Hedge 02. To be partially retained as required



Figure 4: Ash 01. To be removed to facilitate access construction.



Figure 5: Oaks 03, 04, 05. Category C & U. Central tree to be removed. Two 'outer' trees to be retained

6.0 ARBORICULTURAL IMPACT ASSESSMENT (AIA)

- 6.1 As can be seen on the appended tree survey, there are no trees of high value within the site. The category B oak T8 is actually off-site and its RPA doesn't actually cross the boundary line.
- 6.2 In-line with a request from the local planning authority (LPA), the two oak trees 03 & 05 will be retained. The road has been realigned to facilitate this.
- 6.3 In addition to the standard root protection area, the LPA has requested an additional 2m buffer. This is somewhat unusual, and as the road cannot be realigned to avoid this additional buffer, it will be accommodated through implementation of a no-dig style surface.
- 6.4 Any loss that may be felt as a result of tree removals will be more than mitigated through the substantial new planting proposed for the site.
- 6.5 Breakdown of removals:
- The willow and hawthorn 06 & 07 are within the centre of the site and must be removed to facilitate holistic site development.
 - Ash 01 is in the location of the main site access.
 - Oak 04 is of very poor quality and is to be removed as good arboricultural practice.
- 6.6 The boundary hedge No.2 will be retained where room allows. The southern section will be removed, as shown.
- 6.7 Provided the following method statement is followed, the two oak trees can be sustainably retained within the proposed layout.

7.0 ARBORICULTURAL METHOD STATEMENT (AMS)

- 7.1 The tree protection on this site is subject to implementation as detailed in the following sections.
- 7.2 The recommendations of the British Standard have been applied where viable. Where deviations from the preferred approach are required, impact on any retained trees is minimised through a combination of supervision from an Arboricultural Clerk of Works and adherence to the associated method statement.
- 7.3 It is imperative that the strategy is followed to avoid not only impact upon the trees, but to adhere to any planning conditions, should consent be granted.
- 7.4 The information from this section forward must be passed to the site foreman and cascaded to all relevant personnel involved in the project.
- 7.5 Any questions about the content or its implementation should be directed to ArborCall, before action is taken.
- 7.6 A plan showing the types of tree protection and their locations is appended. It includes the tree survey data, existing site features along with the proposed construction, drainage changes in level and other factors that could impact trees.
- 7.7 The plan must be read in conjunction with this method statement.

Timing of Operations

7.8 It is essential that the following phasing is followed if trees are to be effectively protected throughout construction.

1. **Erection of protection barriers**
2. **Excavation for any groundworks & service trenches**
3. **Construction of no-dig road**
4. **Main construction phase**
5. **Removal of barriers after all construction work has been completed**
6. **Soft landscaping (if required)**

7.9 The above has been drafted at planning stage. Should any of the protection measures prove incompatible with elements of the build program, please call 01730 239 492 to discuss options.

Arboricultural Clerk of Works (ACoW)

7.10 Where works have the potential to impact retained trees, supervision may be specified within the method statement.

7.11 This is typically the project arboriculturist, who will document the process and provide an auditable record of the operation.

7.12 See subsections for requirements.

Construction Exclusion Zone (CEZ)

7.13 It is the responsibility of everyone engaged in the construction process to respect the tree protection measures and observe the necessary precautions within and adjacent to them.

7.14 Inside the exclusion zone, the following shall apply:

- No mechanical excavation whatsoever;
- No excavation by any other means without arboricultural site supervision;
- No hand digging without a written method statement having first been approved by the project arboriculturist;
- No lowering of levels for any purpose (except removal of grass sward using hand tools);

- No storage of plant or materials;
- No storage or handling of any chemical including cement washings;
- No vehicular access;
- No fire lighting.

7.15 In addition to the above, further precautions are necessary adjacent to trees:

- No substances injurious to tree health, including fuels, oil, bitumen, cement (including cement washings), builder's sand, concrete mixing and other chemicals shall be stored or used within or directly adjacent to the protection area of retained trees;
- No fire shall be lit such that flames come within 5m of tree foliage.

7.16 Variation from the above may be specified in the following sections of this method statement. This is only acceptable where detailed and will typically be subject to supervision by the ACoW.

Protection Barriers

7.17 Given the simplicity of this project, the installation of barriers as shown on the appended plan will be more than adequate to protect the subject trees throughout construction.

7.18 Barriers must be fit for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained tree(s). Barriers should be maintained to ensure that they remain rigid and complete.

7.19 The default specification comprises a vertical and horizontal scaffold framework, well braced to resist impacts, as illustrated on the tree protection plan (TPP). The vertical tubes should be spaced at a maximum interval of 3 m and driven securely into the ground. Onto this framework, welded mesh panels should be securely fixed. Care should be exercised when locating the vertical poles to avoid underground services and, in the case of the bracing poles, also to avoid contact with structural roots. If the presence of underground services precludes the use of driven poles, an alternative specification should be prepared in conjunction with the project arboriculturist that provides an equal level of protection. Such alternatives could include the attachment of the panels to a free-standing scaffold support framework.

Ground Protection

7.20 If required (or as shown on the appended tree protection plan), ground protection is to be installed as follows. It must be capable of supporting the expected loads and avoiding rutting, compaction and damage to the soil: as advised in section 6.2.3 of the British Standard.

7.21 Stages of ground protection installation:

1. No plant machinery to be used in the area of ground protection for whatever reason;
2. Dismantle primary TPF and re-erect in secondary location as shown on TPP (if required) OR erect fencing to protect any newly exposed CEZ not to be covered by ground protection;
3. Any shrubs, saplings or trees to be removed, are to be cut or ground out to just below ground level rather than grubbed or winched out, which can damage roots of retained trees;
4. Lay woven geotextile over existing ground surface by hand;
5. Cover the area with compressible layer, woodchip, for example, using hand tools only;
6. Cover compressible layer with side butting scaffold boards or plywood boards;
7. Confirm surface is acceptable for use with project arboriculturist;
8. Area ready for construction access;
9. Any scaffolding required within the area will be erected with the uprights placed on spreader boards;
10. The boarding will be left in place until the construction works are finished.

7.22 A single thickness of boarding laid on the soil surface will provide sufficient protection for pedestrian loads. However, for wheeled or tracked construction traffic movements within the RPA, ground protection will involve the use of temporary cellular confinement systems, reinforced concrete slabs or track-board systems details of which are to be specified by the project engineer and approved for use by the project arboriculturist and local authority before construction commences.

7.23 Track-boards can be sourced from Trakmats Europe Ltd, 0845 6435388, www.trakmatseurope.com, or groundguards.com

7.24 There is to be no excavation within ground protection area whatsoever. This includes installation of services and associated utilities.

Installation of 'No-Dig' CCS Surface

7.25 To ensure that tree roots, within the ground under this proposed surface, continue to survive during and after construction a cellular confinement system (CCS) such a ProtectaWeb of 75-200mm depth is to be used.

7.26 The following example CCS specification is courtesy of Wreckin Products and shows an asphalt finish. Other surfaces can be used, and similar CCS are available from other suppliers: www.geosyn.co.uk; www.terram.com; www.corelp.co.uk.

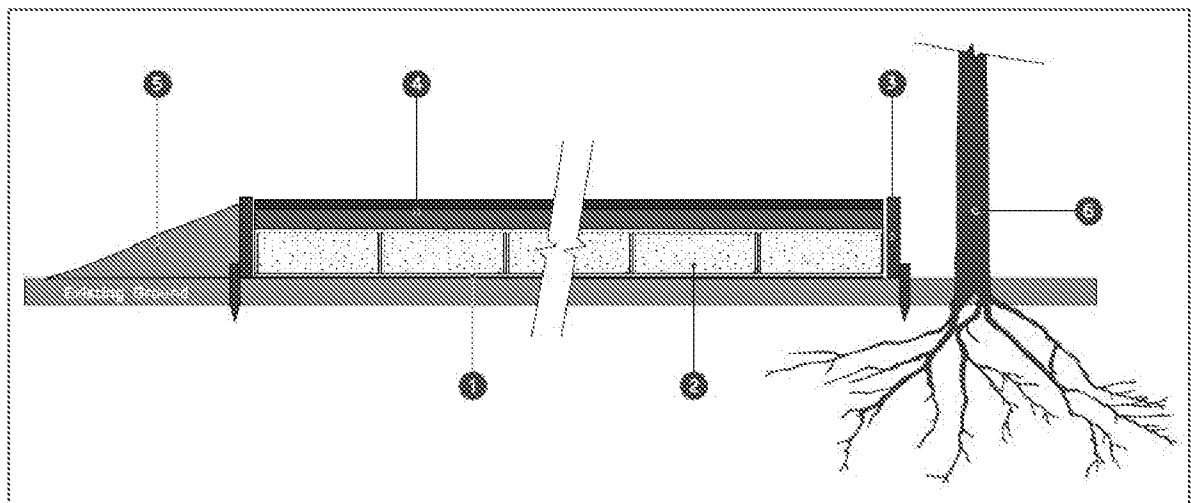


Figure 6: Wreckin Products ProtectaWeb CCS example

11. Root-tex 30 geotextile
12. 70-200mm deep ProtectaWeb tree root protection system infilled with 4/20 clean angular stone to BS EN 13242 / EN 12620
13. Treated timber edging (or other edging detail acceptable)
14. Asphalt surface to engineer's details
15. Soil graded to edging (if required)
16. Existing tree

7.27 Stages for Installation of the cellular confinement surface:

1. Contact project arboriculturist to hold pre-start site meeting, a 'toolbox' talk before starting work and provide Arboricultural Clerk of Works (ACoW) supervision throughout the process;
2. Dismantle TPF and re-erect in secondary location as shown on TPP;
3. Remove existing grass sward to 50mm with hand tools or turf stripper only;
4. Remove existing vegetation by using a specific herbicide (as advised by a specialist) or manual removal with hand tools only. Agreed removal of shrubs, saplings or trees, within the protected areas of retained trees are to be cut or ground out to just below ground level rather than grubbed or winched out, which can damage roots of retained trees;
5. Retain all original ground levels after vegetation removal. No further excavation whatsoever within RPAs;
6. Remove any existing hard surfaces (paving, tarmac etc.) Hand tools should be used if possible. If machinery is required for this operation, it must be used only on existing surfaces or outside the protection areas and tree canopies (approval from project arboriculturist must be sought before using machinery). The sub base of existing surfaces or foundations should be left in situ where possible to avoid unnecessary root disturbance and provide a base for the new surface;
7. Install a non-woven geotextile (such as Root-tex 30) directly over soil grade level (levelled where necessary, by non-compacted washed sand) and fix in place;
8. Lay the cellular system over the geotextile, which is secured open under tension during the infill process with steel staples or wooden pegs;
9. Install kerbs and edgings directly on top of existing soil grade level. For light structures, a treated peg and board may be acceptable. For more substantial structures, railway sleepers, haunched concrete with road pins, drilled kerbstones, gabions or cast in situ kerbs will be appropriate;

10. Fill the cellular system ensuring any machinery works only on already filled areas. Typical infill consists of no fines angular granular material 20-40mm, which will remain uncompacted;
 11. Cover with a non-woven geotextile (Root-tex 30 or similar).
 12. Install porous wearing surface.
- 7.28 Any variation to the above specification must meet the following design criteria for low-invasive surfaces to provide the conditions for continued tree survival and growth:
- Maintain oxygen diffusion through new surface to rooting area (5-12% by volume)
 - Maintain sufficient passage of water to the rooting area (12-40% by volume)
 - Avoid compaction by maintaining a soil structure sufficient to sustain root growth (soil bulk density below 1.4g/cc).
- 7.29 Site analysis of the soil type and its structural characteristics will be required prior to determining the specific depth of products to be adopted for example, footpaths normally require a depth of 75mm and, 100mm to 200mm depths are used for residential driveways, while greater depths may be required for the passage of heavier traffic such as for construction access and delivery vehicles.
- 7.30 If ground levels are to be raised more than 150mm this should be achieved by the use of a granular material, which does not inhibit vertical gaseous diffusion. For example, no-fines gravel, washed aggregate, structural soil (min. 20% sand content) or cobbles.

Tree Surgery

- 7.31 Tree surgery work is listed in the schedule on the appended plan, along with all trees to be removed.
- 7.32 All work will be carried out in accordance with BS3998³ industry best practice and in line with any works already agreed with the council.

³ BS3998:2010- *Recommendations for Tree Work*. London: British Standards Institute

- 7.33 The statutory protection^{4 5} will be adhered to. If further advice is required, particularly if bats are discovered during tree work, it will be obtained from Natural England or other competent persons and recommendations adhered to.
- 7.34 The stumps of any trees removed from within the Construction Exclusion Zone or the RPAs of retained trees will be either cut flush to ground level and left in situ or ground out using a stump grinder. They will not be winched out.
- 7.35 All operations shall be carefully carried out to avoid damage to the trees being treated or neighbouring trees. No trees to be retained shall be used for anchorage or winching purposes.

Demolition

- 7.36 All barriers and/or ground protection to be installed as per approved Tree Protection Plan prior to commencement on site.
- 7.37 Sensitive demolition must only occur **under supervision from the project arboriculturist**
- 7.38 Stages of demolition within tree protection areas:
1. No plant machinery to be sited on any exposed rooting area or soft ground;
 2. Remove debris by hand or with plant machinery not located on any exposed rooting area;
 3. Floor to be broken up with hand-held breaker and pieces removed by hand.
Slab floor can be lifted carefully by machinery if appropriate;
 4. Underlying ground levels to be retained. No excavation to occur;
 5. Any exposed roots and surrounding newly exposed areas to be covered with up to 100mm of topsoil, from elsewhere on site, or imported topsoil to BS3882 . Soil may be placed in area by plant but must be spread by hand;
 6. Tree protection barriers to be erected in final position to protect any newly exposed soft ground (as advised by supervising arborist).

⁴ *Wildlife and Countryside Act*. (1981) London: HMSO.

⁵ *Countryside and Rights of Way Act*. (2000) London: HMSO.

Installation of underground services

7.39 Mechanical trenching for the installation of underground apparatus and drainage sewers any roots present and can change the local soil hydrology in a way that adversely affects the health of the tree. For this reason, particular care should be taken in the routeing and methods of installation of all underground apparatus. Wherever possible, apparatus should be routed outside RPAs. Where this is not possible, it is preferable to keep apparatus together in common ducts. Inspection chambers should be sited outside the RPA.

7.40 Where underground apparatus is to pass within the RPA, detailed plans showing the proposed routeing should be drawn up in conjunction with the project arboriculturist. In such cases, trenchless insertion methods should be used: Microtunnelling, Surface-launched directional drilling, Pipe ramming or Impact moling (see BS5837:2012 Table 3), with entry and retrieval pits being sited outside the RPA. Provided that roots can be retained and protected, excavation using hand-held tools might be acceptable for shallow service runs. If this is case, the following methodology must be followed:

7.41 Stages for installing services:

7. Contact project arboriculturist to hold pre-start site meeting and 'toolbox' talk before starting work.
8. Remove just enough tree protection fencing to allow access to area and facilitate trenching.
9. Remove any surface vegetation or existing hard surfaces using hand tools.
10. Using an air-pick excavate the trench, keeping to minimum dimensions required.
11. Roots occurring in clumps of 25 mm diameter and over are encountered they will be retained and kept damp by covering with hessian (re-wetted as required). If required, these should be severed only following consultation with an arboriculturist; as such roots might be essential to the tree's health and stability.
12. Feed in services.
13. Backfill trench with 200-300mm depth of excavated soil, or a mixture of excavated and imported topsoil to BS3882: 2015, firming down with heels.

14. Repeat step 7 until trench is filled.
 15. Re-erect tree protection fencing as per approved plan.
- 7.42 The method of excavation above, for trenching within RPAs, is using air excavation. This tool utilises compressed air to remove soil from around tree roots causing minimal damage and can be run off a typical site compressor. I can provide details of contractors supplying air excavation services if required.
- 7.43 Alternatively, trenchless technology, such as thrust boring can be used in some instances and is particularly effective as it can pass directly under the tree, at a depth which is likely to avoid almost all impact on roots of the subject tree. As no access/thrust pits will be located within the RPAs of the subject trees, the need for arboricultural supervision is limited.
- 7.44 Reference can be made to NJUG Vol 4⁶ for guidance, but any approach must be approved by the project arboriculturist and brought to the attention of the local authority tree officer.

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⁶ National Joint Utilities Group. (2010). *Volume 4: NJUG Guidelines For The Planning, Installation And Maintenance Of Utility Apparatus In Proximity To Trees (Issue 2) – Operatives Handbook*. NJUG.

APPENDIX 1: TREE CATEGORIES EXPLAINED

BS5837:2012 Table 1 -Cascade chart for tree quality assessment			
Category and definition	Criteria (including subcategories where appropriate)		
Trees unsuitable for retention (see Note)			
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	*Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) *Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline *Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.		
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation
Trees to be considered for retention			
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	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 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	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	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	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	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/transient landscape benefits	Trees with no material conservation or other cultural value

APPENDIX 2: TREE PROTECTION PLAN

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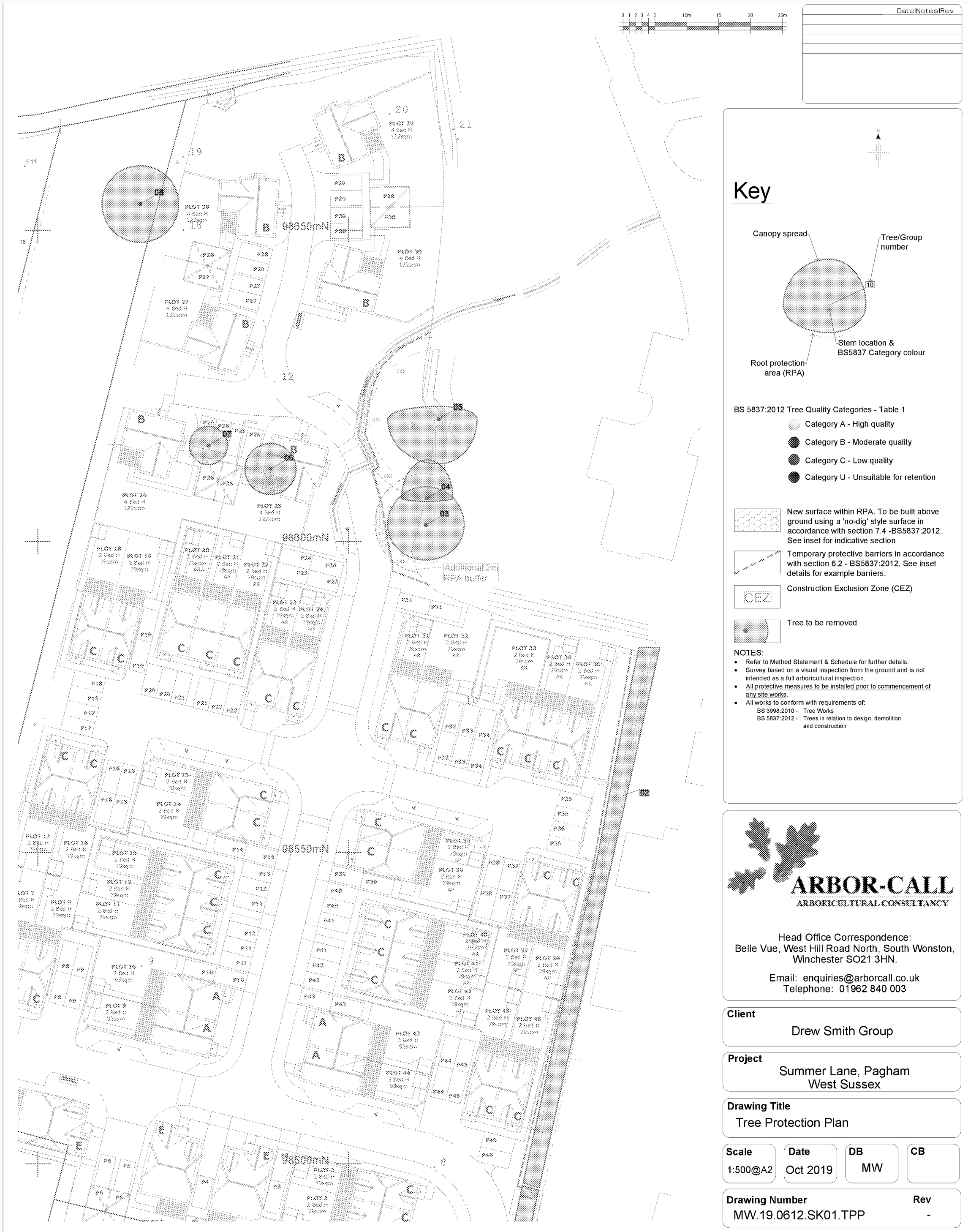
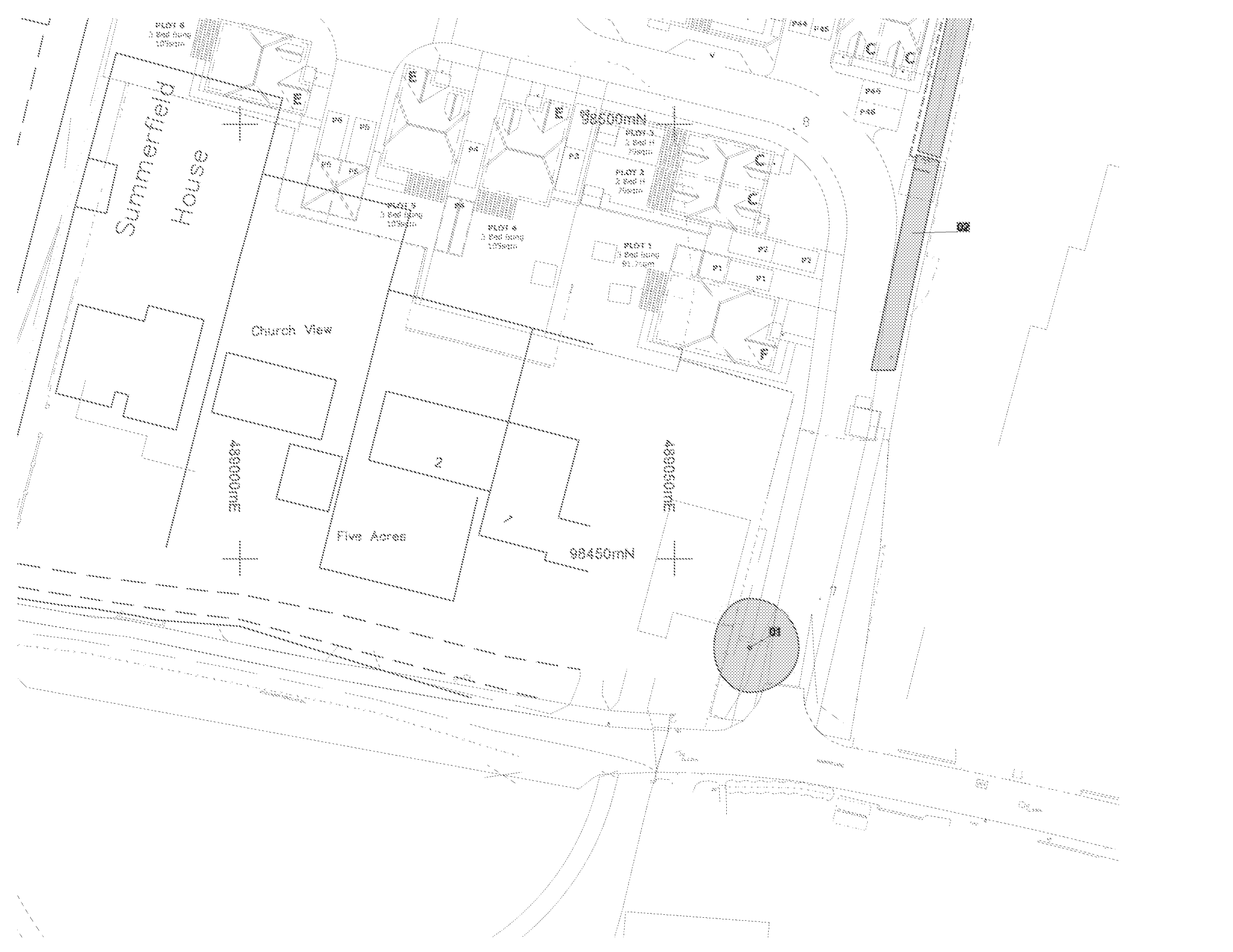
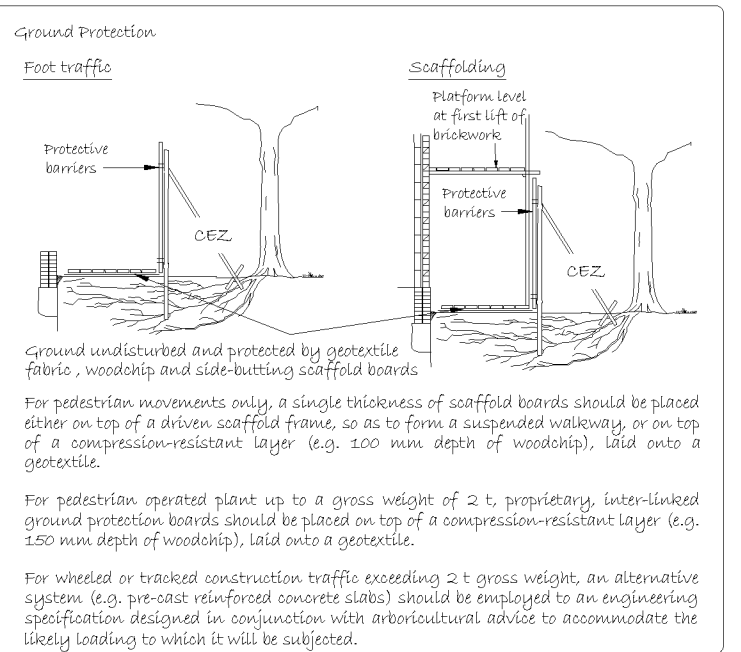
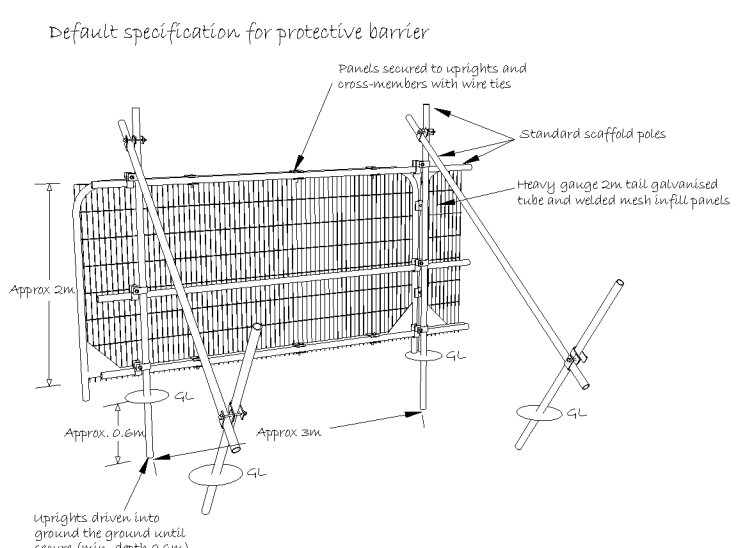
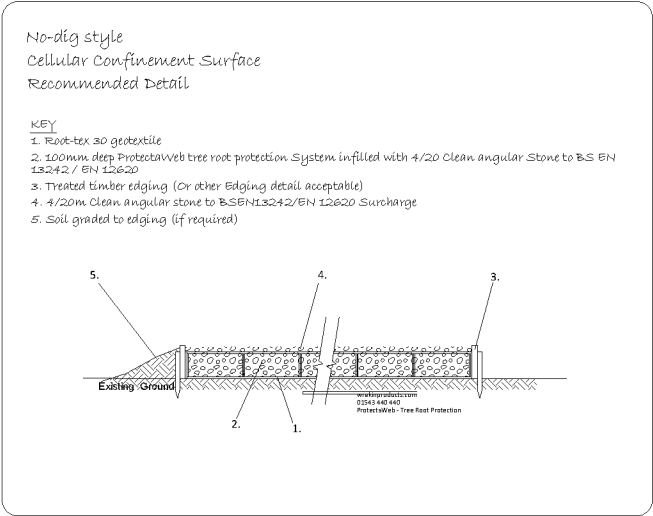
Tree for Removal and Retention			
Retained Trees			
Ref	Species	Common Name	Category
B8	Quercus robur	Oak, pedunculate	B1
D5	Quercus robur	Oak, pedunculate	C1
D3	Quercus robur	Oak, pedunculate	C1

Retained Groups			
Ref	Species	Common Name	Category
B2	Crataegus monogyna x10Prunus spinosa x10	Hawthorn, Common x10Blackthorn x10	C1

Trees to be removed			
Ref	Species	Common Name	Category
A1	Crataegus monogyna	Hawthorn, Common	C1
A2	Salix caprea	Willow, Goat	C1
A3	Quercus robur	Oak, pedunculate	U
A4	Fraxinus excelsior	Ash, Common	C1

Trees to be removed			
Ref	Species	Common Name	Category
A5	Crataegus monogyna x10Prunus spinosa x10	Hawthorn, Common x10Blackthorn x10	C1

Tree Work				
Work to Retained Trees				
Ref	Species	Common Name	Recommendations	Category
D5	Quercus robur	Oak, pedunculate	During construction, tidy cut root ends. Cover RPA with 200mm mulch	C1
D3	Quercus robur	Oak, pedunculate	Pre construction: prune severed roots back to ditch profile. Remove two branch stubs, one at crown break and one at 2 m. Remove brambles from crown. During construction remove concrete from within root protection area and dress RPA with 200mm of mulch	C1



Key

Canopy spread

Tree/Group number

Stem location & BS5837 Category colour

Root protection area (RPA)

BS 5837:2012 Tree Quality Categories - Table 1

- Category A - High quality
- Category B - Moderate quality
- Category C - Low quality
- Category U - Unsuitable for retention

New surface within RPA. To be built above ground using a 'no-dig' style surface in accordance with section 7.4 - BS5837:2012. See inset for indicative section

Temporary protective barriers in accordance with section 6.2 - BS5837:2012. See inset details for example barriers.

Construction Exclusion Zone (CEZ)

Tree to be removed

NOTES:

- Refer to Method Statement & Schedule for further details.
- Survey based on a visual inspection from the ground and is not intended as a full arboricultural inspection.
- All protective measures to be installed prior to commencement of any site works.
- All works to conform with requirements of:
 - BS 3998:2010 - Tree Works
 - BS 5837:2012 - Trees in relation to design, demolition and construction

ARBOR-CALL
ARBORICULTURAL CONSULTANCY

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Client

Drew Smith Group

Project

Summer Lane, Pagham
West Sussex

Drawing Title

Tree Protection Plan

Scale

1:500@A2

Date

Oct 2019

DB

MW

CB

Drawing Number

MW.19.0612.SK01.TPP

Rev

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