Arboricultural Impact Assessment and Method Statement

Bishops Waltham Parish Council
Car Park Extension
Priory Park
Elizabeth Way
Bishops Waltham
SO32 1SQ

On behalf of:
Bishops Waltham Parish Council
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1.0 INTRODUCTION

I have been instructed to carry out a tree survey of the trees within the proposed development area at Priory Park, Bishops Waltham, Hampshire. The survey was requested by Ms Catherine Wilkinson, Administration Officer for Bishops Waltham Parish Council, to inform the layout of the proposed carpark in relation to the two significant poplar trees within influencing distance of the proposal. The tree survey was carried out on 18th January 2023 –the weather was bright and still with good visibility. This report is a combined Arboricultural Impact Assessment (AIA) and Method Statement (MS) as recommended in paragraph 5.4 of BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations*. The Method Statement is intended to ensure the trees are appropriately protected during the development phase and in perpetuity. This document is therefore written as a part of the formal submissions to the Local Planning Authority in support of the planning application.

1.1 **Qualifications and experience:** I have based this report on my site observations, and I have come to conclusions in light of my experience and qualifications in arboriculture and forestry.

1.2 **Caveat:** It is not practicable or reasonable to take into account the potential effects of extreme weather, vandalism or accident. Helen Brown Treescapes cannot therefore accept any liability in connection with these factors. This report is intended to highlight the potential impact of the proposals on the tree population within influencing distance of it and vice versa. **It is not intended to provide a risk assessment of the trees in question.**

1.3 **Methodology:** All measurements were estimated, with the exception of trunk diameter which was measured with a diameter tape. The trees were surveyed from the ground that is, no aerial investigation took place and each branch was not looked at in detail. Tree structure and vitality was considered 'normal' if it was found to be typical of the age and species; features such as fruiting bodies and structural weaknesses were only noted where they were observed. Further details may be found at Appendix 1.

2.0 THE PROPOSAL

2.1 **Development:** The proposal is to extend the existing carpark which serves the playing fields, sports facilities and associated buildings at Priory Park, Elizabeth Way, Bishops Waltham . The layout is shown on the Southern Planning Practice 'Block Plan' drawing number WIN-ALD-1451.02 Rev. A dated November 2021. This drawing shows the location of the trees in question and is attached as plan HB1.

3.0 TREES

3.1 **Formal tree controls:** This site falls under the jurisdiction of Winchester City Council (WCC) which has not been approached to ascertain whether any of the trees on site are protected by a tree preservation order or conservation area. That said, in response to the recently submitted planning application (922/01679/FUL) the tree officer at WCC, John Bartlett has requested an arboricultural impact assessment/method statement to ensure the poplars on the eastern boundary of the site are given material consideration during the planning and development process. No tree work should commence on site before the report has been signed off by the tree officer.

3.2 **Site in context:** This site is located approximately 500m southwest of the village of Bishops Waltham and is surrounded by low density housing to the north and agricultural land to the south, east and west. The site is accessed via Elizabeth Road and Victoria Road to the north east which lead to the B2177.

3.3 **Significant trees:** The tree population is generally located on the site boundaries and comprises a mix of deciduous and evergreen species. The significant trees in question are two poplar trees *(Populus canadensis)*, situated to the east of the proposed carpark and within influencing distance of it. The trees are shown as T1 and T2 on plan HB 1 at Appendix 4. A tree schedule with further details regarding the trees may be found at Appendix 1.

4.0 ISSUES RELEVANT TO THE TREES

4.1 **Tree root and canopy protection:** The poplar trees are mature and multi stemmed with trunk diameters in excess of 100 cm. As such, both trees have a large root protection area (RPA) of 15m, which overlaps the proposed carpark. The root protection area of the trees should be considered sacrosanct during the development phase and demarcated with heras fencing to ensure heavy machinery is not operated, or materials stored within the rooting area. This can be detrimental to the tree, causing soil compaction and root die back. The crowns of the trees also require protection to avoid damaging branches. Heras fencing should therefore be installed to follow the line of the RPA, or crown extent, whichever is greater. Where access is required within the RPA, such as to lay the carpark surfacing, the heras fencing may be temporarily pulled back and the exposed ground augmented with alternative protection. The protection of the RPA and canopy spread is detailed in the Arboricultual Method Statement below.

4.2 **Carpark construction in relation to tree roots and tree crowns:** In order to minimise the impact on the tree RPAs, construction techniques should be sympathetic and carried out with hand tools only, while new surfacing should be permeable load baring. It is also important that the car park surface allows sufficient clearance from the tree bases as recommended in table A.1 of BS5837:12 '*Trees in relation to design, demolition and construction*'. This ensures the new surfacing has sufficient clearance from the large structural roots, found near the ground surface, so that future incremental root growth does not crack or damage the new surfacing. Metalled surfaces must therefore be **a minimum of 3.0 metres** away from the base of the trees in order to comply with the British Standard Guidelines. Further details are issued in the Method Statement.

4.3 **Special surfacing**: Where the carpark surface is within the RPA of the poplars, special surfacing in the form of a permeable and load bearing solution such as 'cellweb' or similar should be installed to minimise potential damage to tree roots caused by soil compaction.

4.4 **Tree removal and access facilitation pruning:** The poplar trees will be retained during and post development phase, although I recommend reducing the crown by a further 3m to ensure significant heavy branches do not overhang the carpark. It will be necessary to remove some of the existing hedging but this loss will be more than compensated for in the pending landscape plan.

4.5 **Materials delivery, storage and handling:** Materials should not be handled or stored within the RPAs of retained trees as the load exerted can result in soil compaction and leacheate from spills can be toxic to trees.

4.6 **Surface drains, soakaways and services:** It is important that services, surface drains and soakaways avoid the RPAs of retained trees as roots can be damaged during trench excavations. The location of services should therefore be agreed with the local planning authority prior to the development phase commencing.

4.7 **Shading:** Provided heavy branches do not overhang the carpark and the tree health is regularly inspected, I would not consider shading to present a problem in this case, moreover, with warming summer temperatures the shade cast by the tree is likely to be considered an asset.

5.0 IMPLEMENTATION AND PHASING OF THE PROPOSED DEVELOPMENT: Prior to any construction work commencing on site, heras fencing will be checked by the consulting arborist, to ensure it is appropriately erected and positioned. The schedule of events during the development phase will be as follows:

i) Heras fencing will be installed as indicated on plan HB1 and inspected by the project arborist

ii) The arboricultural consultant will oversee the installation of the special carpark surfacing

iii) During the development phase, the arboricultural consultant will be notified and asked to supervise any excavating within the RPA of retained trees.

5.1 **Protective fencing:** Protective fencing will be erected prior to the commencement of any development activity and will be retained in the positions shown on the annotated site layout plan HB1 until the completion of development. The location of the fencing is shown on the plan by a broken red line and encompasses the root protection area or canopy spread, whichever is the greater, of the retained trees. The fencing will be to the BS 5837:2012 '*Trees in relation to design, demolition and construction – recommendations*' (section 6.2) i.e. preformed galvanised steel mesh panels ('Heras' or similar) facings on a driven braced scaffold pole framework. It will be retained at the locations shown until construction is completed. It may be moved or removed only with notice to and consent from the local planning authority

5.2 **Temporary protective surfacing:** Where development activity is unavoidable within the RPAs of T1 and T2, the heras fencing may be temporarily pushed back, and where appropriate, the exposed area augmented with alternative protection to ensure the ground is not compacted. Temporary ground protection will be installed in accordance with the recommendations in 6.2.3 of BS 5837:2012. This will take the form of scaffold boards butted to form a continuous surface, or plywood of a single thickness of scaffold boards either placed on top of a scaffold frame or on top of a compression – resistant layer (e.g. 100mm depth of woodchip), laid onto a geotextile membrane as shown in Appendix 2. The ground protection will be retained until construction is completed. Both the heras fencing and temporary ground protection will be installed prior to any building work commencing on site and will be inspected and signed off by the supervising consultant. Alternatively, the special surfacing solution ie 'cellweb' may be laid within the RPA once the heras fencing is pushed back – as described in paragraph 5.3 below and shown on plan HB1.

5.3 **Special surfacing within the RPA: Installation of the new carpark surface: As explained in** paragraph 4.2 above, in order to comply with the industry British standard 5837:12, surfacing should not come within 3 metres of the tree base. Where the new carpark surface is within the RPA of T1 and T2, excavation will be limited to the removal of a nominal soil layer no deeper than 50mm, to be carried out by hand. There will be no further excavation. The levels allow these areas to be installed using a no-dig form of construction and will allow the use of a cellular confinement system e.g. 'Geoweb' or similar. Where new surfacing is proposed in these areas, a geotextile membrane will be installed over the existing ground level, where adjoining rolls of membrane meet, there will be an overlap of 300mm. The cellular confinement system will then be laid over the membrane and infilled with a no-fines granular material. The final surface layer, which must be breathable - for example, pea shingle, block paving, or breathable tarmac, will then be laid over the filled cellular material and retained by an edging of wooden boards secured by driven wooden pegs. The restrictions on excavation and the use of a geotextile membrane and cellular confinement system in accordance with the guidelines in Section 11 of BS 5837:12 will limit the risk of damage to tree roots to an acceptable level. A specification for Cellweb is attached as Appendix 3.

5.4 **Storage and handling of materials:** This site has sufficient space for materials to be stored and handled in a bunded area outside the tree root protection area. Also, there shall be no fires within 10m of the canopy of any retained tree, and no storage or mixing of harmful materials e.g. DERV fuel or concrete within 10m of the trunk of the retained tree. The mixing area will be bunded with heavy duty plastic secured in place with scaffold boards to ensure any run-off does not percolate into the tree's rooting system.

5.5 **Surface drains, soakaways and services:** RPAs will be avoided in the drainage design however, in the unlikely event that existing cables need to be unearthed within an RPA, the method for doing so will accord with the recommendations in the NJUG Publication: Volume 4: Issue 2: 16/11/2007: *Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees*. Trenches will be dug by hand and any roots over 2.5cm in diameter will be retained undamaged. Smaller roots may be cut back to the proximal face with a clean, sharp pair of secateurs. The trench backfill around the roots shall be a granular material that can be compacted to the point where it can bear the new surfacing without subsiding but without abrasion of tree roots and without raising the soil bulk density to the point where root growth cannot take place. Should it be necessary, this operation will be overseen by the project arboriculturist.

5.6 **Supervision:** The project arborist will attend the site to inspect the heras fencing and ensure that it has been laid out as prescribed in the method statement and meets the requirements of BS5837:12. Any excavations within the RPA of retained trees will be overseen by the project arborist including the preparation and laying of the driveway's special surfacing. It is the responsibility of the site manager to inform the arboricultural consultant when inspections are required for example, when heras fencing is ready to be inspected.

5.7 **Tree works:** At the time of writing this report, no pruning works are required to enable the planning permission to be implemented. Should the situation arise where it becomes necessary, for example to carry out light pruning in order to erect scaffolding, such tree work would effectively be consented by virtue of the grant of planning permission. All tree work shall be carried out in accordance with BS 3998:2010 *Tree Work – Recommendations* by suitably qualified personnel.

5.8 **Tree planting:** No trees will be removed in order to facilitate this proposal. However, the forthcoming landscaping scheme proposes the addition of numerous large tree species such as oak, hornbeam and birch in addition to native hedge planting, so the site will benefit from the proposal in terms of its tree population.

6.0 CONCLUSIONS: It is important that the protective measures prescribed in the method statement and plan HB1 are put in place in order to ensure the retained trees are not adversely affected by the proposed development. Supervision should be sought where appropriate to ensure trees are not damaged during the development phase. Provided these measures are adhered to, the trees on site should not be adversely affected by this proposal – rather the site will benefit from a sensitive and complimentary planting scheme which will enhance both its amenity and wildlife value.

Please call me if you would like to discuss any of these points further.
Yours sincerely

Helen Brown
MSc For. Tech Cert Arb

APPENDIX 1
Tree Schedule and Explanatory Notes

Tree No	Species	Height (m)	Trunk Diameter (cm)	Crown spread (m)		Crown height above ground (m)	Life stage	General observations	BS 5837 cat	Root protection area (m)
1	Hybrid black poplar *(Populus canadensis)*	20	92 70 97 =151*	10 8	8 7	8	Mature	Normal vitality; tri-stemmed; most easterly stems sounds hollow when tapped with a percussion mallet; stems ivy clad; pollarded in past 2 years. RECOMMENDATION: Sever ivy and leave in situ, reassess extent of cavity and carry out risk assessment, consider 50% reduction to reduce sale area	B	15
2	Hybrid black poplar	17	103 95 =140*	8 8.5	6.5 6	8	Mature	Normal vitality; bifurcated most easterly stem at a 45° angle; eastern stem has dense ivy cover; pollarded in past two years. RECOMMENDATION: Sever ivy and leave in situ to die back then reassess structure	B	15

APPENDIX 1
Tree Schedule and Explanatory Notes

Abbreviations:

G	: Group
m	: Metre
>	: Greater than
<	: Less than

Presentation of data: The inspection details as identified in the brief are set out in the tree schedule in Appendix 1. Age classification has been presented as one of four categories, young, early-mature, mature and over mature, rather than age in years. This is because age in years cannot be accurately assessed without a more detailed investigation and because an age class gives a better picture of the age range of the tree population regardless of species. Age class is one of the criteria used in Table 1 of BS5837:2012 '*Trees in relation to design, demolition and construction – recommendations*' (section 6.2) for determining the protection area for trees. This is relevant for any potentially damaging operations near trees e.g. excavations for services.

- **Dimensions**: I have estimated all dimensions unless otherwise indicated.
- **Species:** Species identification is based on visual observations.
- **Height:** Height is estimated to the nearest metre.
- **Trunk diameter:** Trunk diameter for accessible trees has been measured with a diameter tape and recorded in centimetres. *combined stem diameter is calculated according to paragraph 4.6.1 BS5837:12 *'Trees in relation to Design and Construction – Recommendations'*.
- **Crown spread:** Crown spread for trees within the site is estimated at the four cardinal compass points. The distances given as appropriate correspond to crown spreads to the four cardinal compass points as shown in the grid below:

N	E
W	S

- **Crown height above ground:** The height of the crown clearance above the ground over the site is estimated to the nearest 0.5m. 'Minor branches' refers to those branches with a diameter of 70mm or less and 'major' refers to those with a diameter in excess of 70mm.
- **Life stage:** The life stage categories correspond to the classes given in BS 5837:2012, which are Young (Y), Semi-mature (SM), Early Mature (EM), Mature (M) and Over-mature (OM). There are no veteran trees included in the schedule.
- **Estimated contribution in years:** <10, >10, >20, >40, as advised in BS 5837:2012.
- **General observations:** These comment on the health and physiological and structural condition of the tree, with management recommendations where

appropriate. Vitality is an indication of the health of the tree for use with Table 1 of BS 5837:20012. I asses the trees as N = normal vitality and L = low vitality in accordance with table 1.

- **Root protection area:** The area of root protection should be equivalent to the area of a circle centred on the tree with a radius of least 12 times the trunk diameter. This column gives the radius of such a circle; the distance may not be the same as the distance for protective fencing.

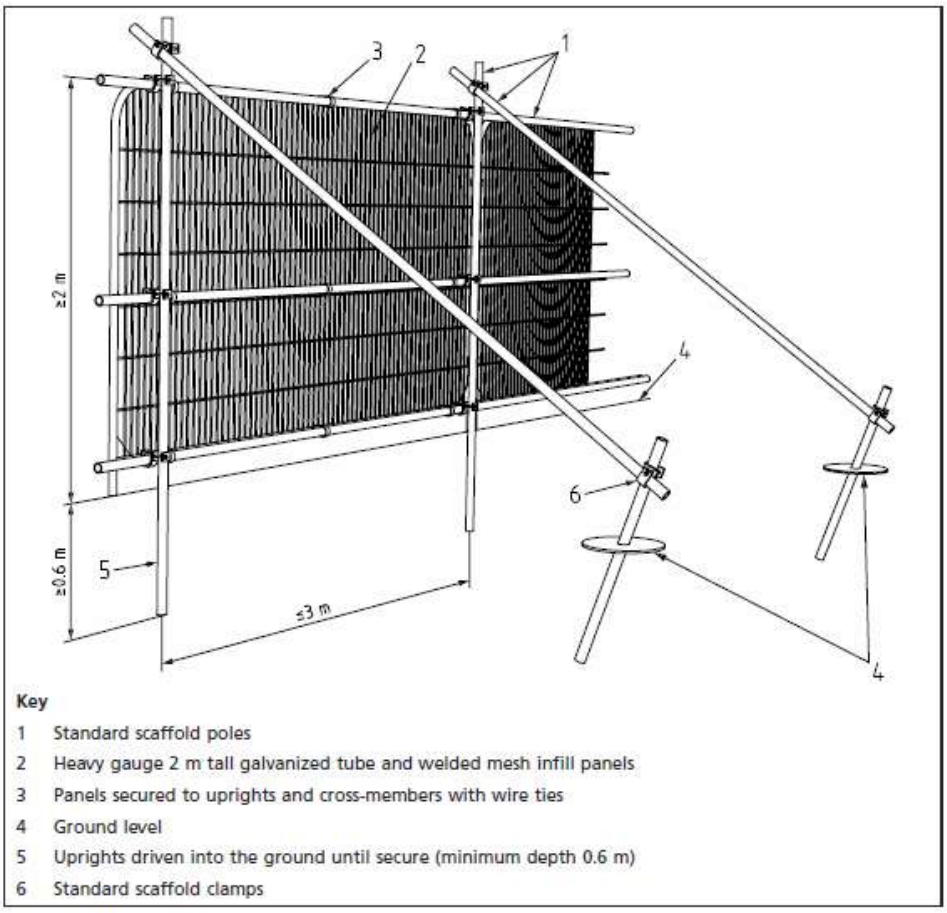
- **Subjective assessment of the tree**: The BS 5837:2012 assessment is the recommended pre-planning site survey method, ideally for sites where development is proposed. There are four categories, which are summarised below. Please note that the trees were assessed, as instructed, for the purposes of the planning application. A detailed Visual Tree Inspection to assess the potential risk presented by the tree was therefore not carried out.
- **Category A:** Trees that appear to be in good health and condition and are of amenity value because of their form, quality and location. They can reasonably be retained.
- **Category B:** Trees that appear to be in reasonable health and condition and are of some amenity value because of their form, quality and location, although not in the first rank. They can reasonably be retained.
- **Category C:** Trees that appear to be in average or slightly below average health and condition and are of limited amenity value because of their form, quality and location. They can be retained, but require remedial works to improve their condition.
- **Category U:** Trees that appear to be in poor health and condition and are of no significant amenity value because of their form, quality and location. I have stated where these trees should be removed.

APPENDIX 2
Tree Protection

Protective fencing should be erected before any construction commences on site. It should also be in position to protect important trees prior to demolition.

Protective fencing should stay in position until all construction activity has finished.

'Fencing should be established at the minimum distance set out in British Standard 5837:2012 '*Trees in relation to design, demolition and construction - Recommendations*'.
Excavations should not encroach into the fence position and it is appropriate to keep at least 0.5m between the fence and any changes in level.



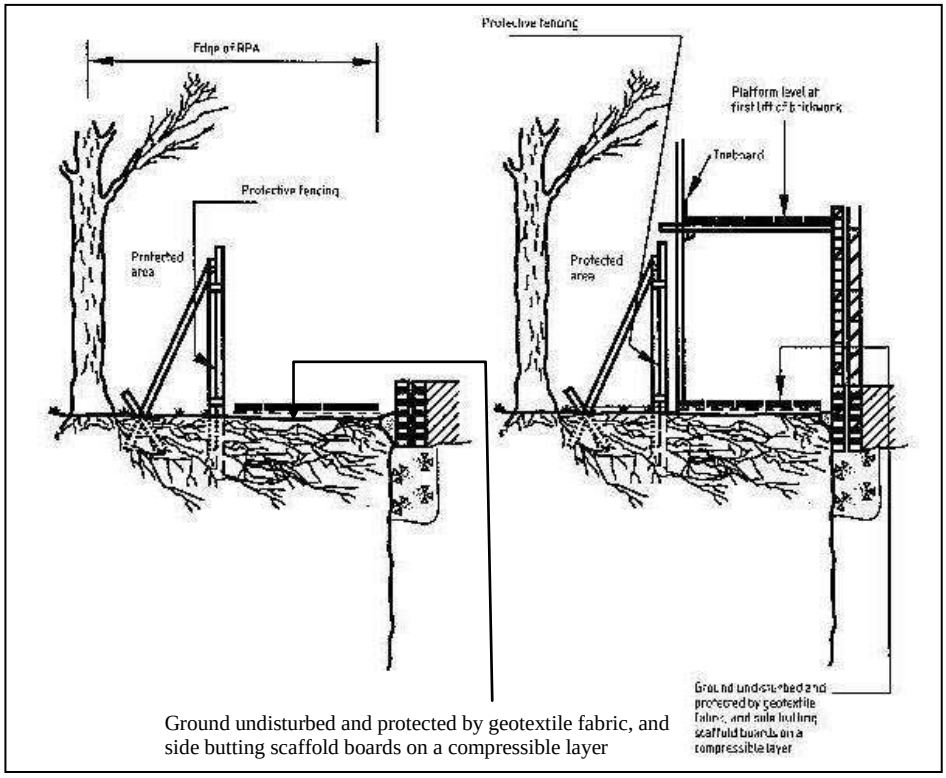
Key

1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

APPENDIX 2
Tree Protection

Where ground protection measures are neccessary they can be provided by laying a geotextile mat onto the existing ground level and adding to this compressible materials, such as bark mulch or sharp sand to form a safe, level surface. Onto this surface is laid scaffold boards which become the working surface for the duration of the construction phase.

Where scaffolding is proposed above the area requiring protection the footway can be suspended above ground level using the upright scaffold poles onto which horizontal supports can be attached and then boards used to form the footway surface. A geotextile mat should be laid on the ground beneath to prevent contamination from materials dropped through the footway.

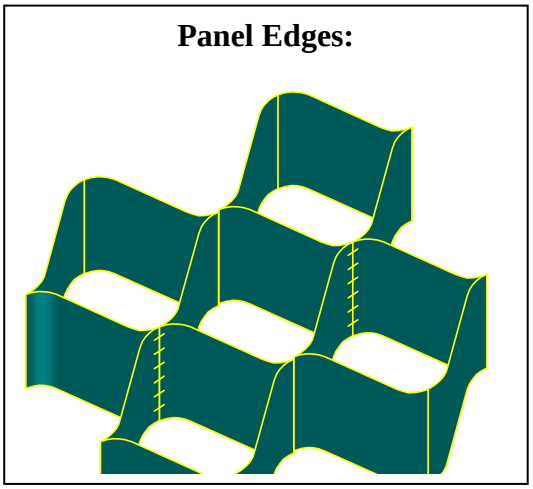


Ground undisturbed and protected by geotextile fabric, and side butting scaffold boards on a compressible layer

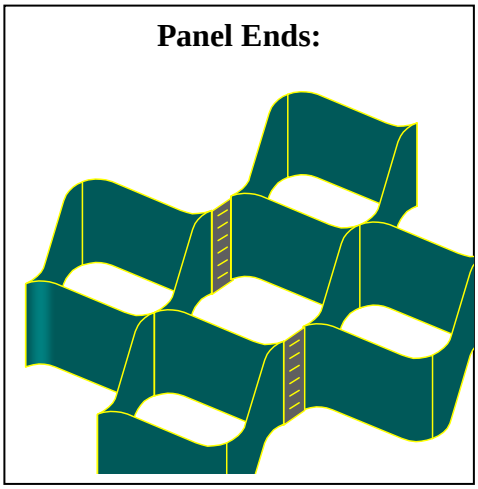
Appendix 3
Cellweb Construction

Below are illustrations of the correct stapling procedure for joining both edges and ends of panels together:

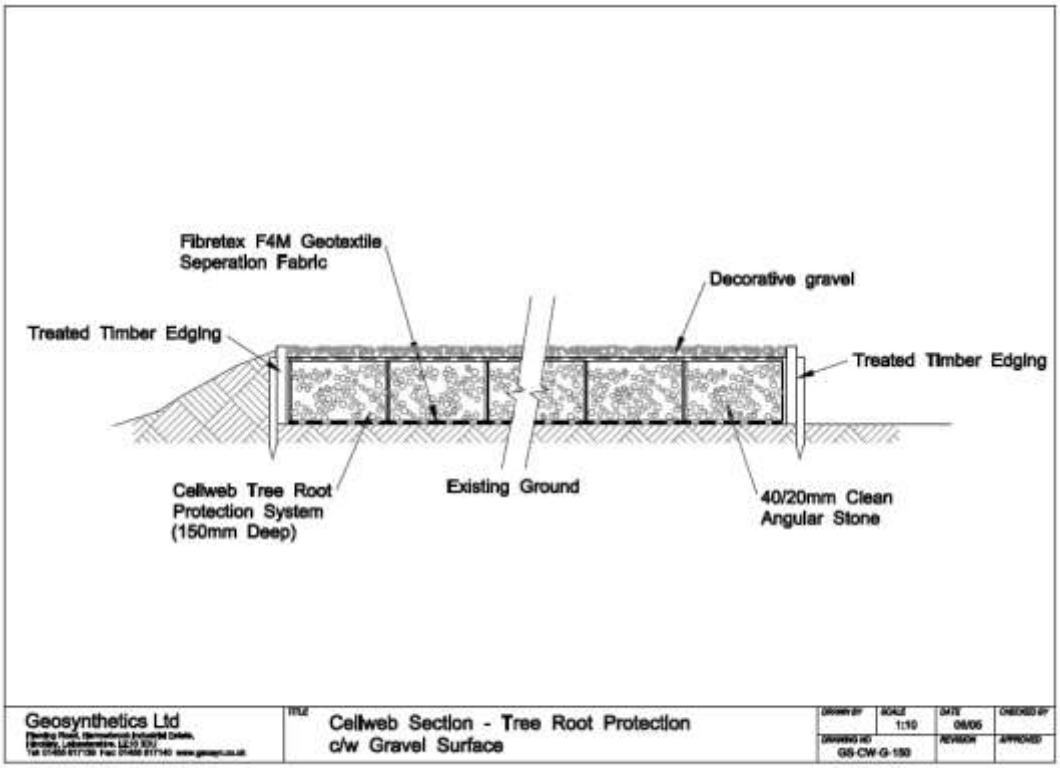
Panel Edges:

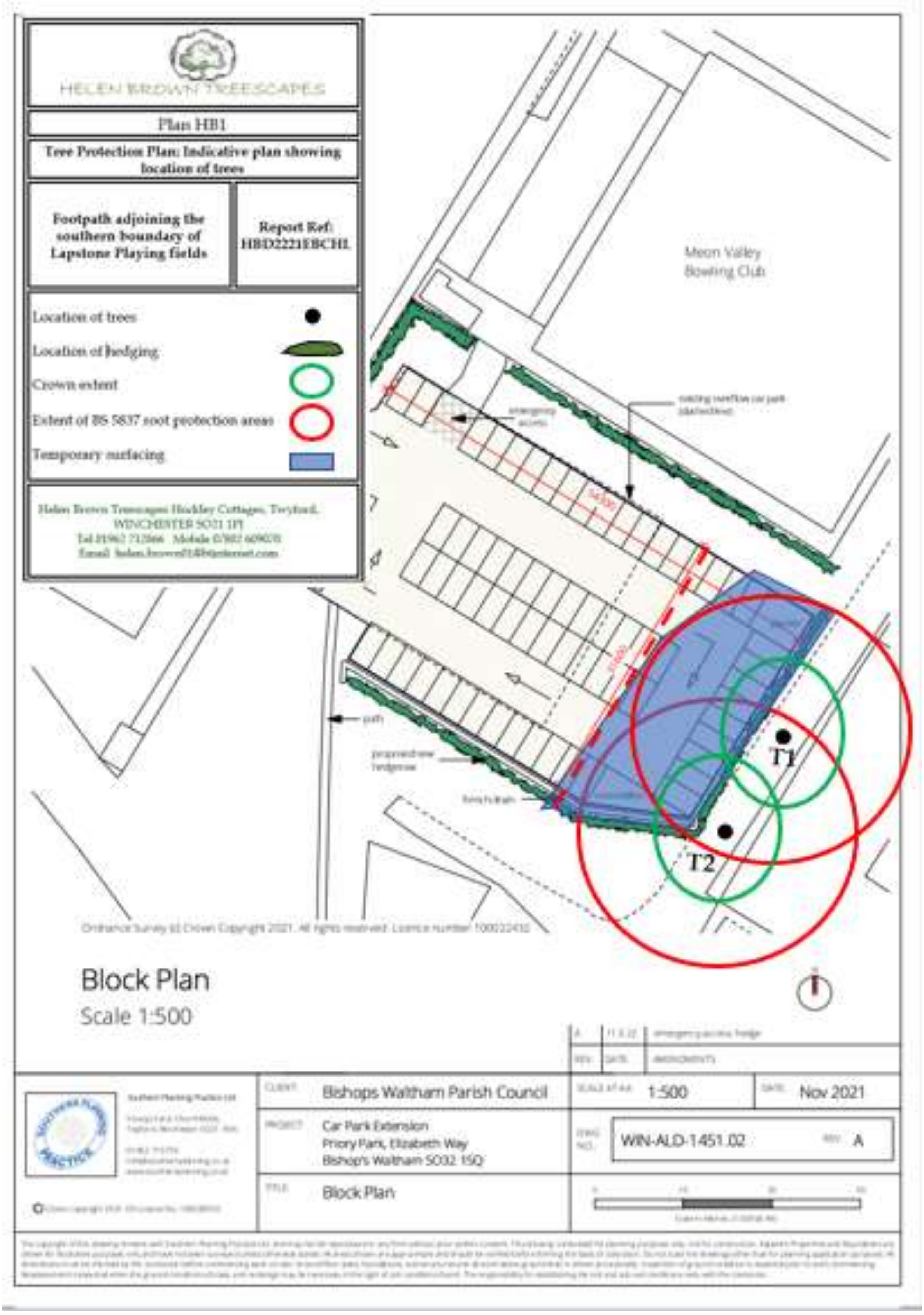


Panel Ends:



Cellweb Tree Root Protection System: Section diagram example

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Plan HB1
Tree Protection Plan: Indicative plan showing location of trees
Footpath adjoining the southern boundary of Lapstone Playing fields
Report Ref: HBD2221EBCHL
Location of trees
Location of hedging
Crown extent
Extent of BS 5837 root protection areas
Temporary surfacing
Meon Valley Bowling Club
T1
T2
Block Plan
Scale 1:500
Bishops Waltham Parish Council
1:500
Nov 2021
Car Park Extension
Priory Park, Elizabeth Way
Bishop's Waltham SO32 1SQ
WIN-ALD-1451.02
A
Block Plan