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# **Arboricultural Impact Assessment and Method Statement**

**Proposed development of two cricket pitches and associated  
footpath at:**

**Lapstone Playing Fields,  
Pavillion Close,  
Fair Oak,  
Eastleigh  
SO50 7PS**

**On behalf of:**

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**Report Reference:** HBD2202IAMSR3

**Report Date:** 5<sup>th</sup> June 2023

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## **1.0 INTRODUCTION**

In accordance with your instruction, I visited Lapstone Playing Fields on 2<sup>nd</sup> February and 26<sup>th</sup> September 2022 and collected and prepared tree information relevant to the proposed development to the standard normally required by the Local Planning Authority in support of a planning application. On both occasions, the weather was overcast but bright, dry and still. This report is an Arboricultural Impact Assessment (AIA) as recommended in paragraph 5.4 of BS 5837:2012 *Trees in relation to design, demolition and construction - Recommendations* and is written to inform the layout of the proposed development based on the juxtaposition of those trees on site and within influencing distance of it.

### **1.1 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 written in support of the planning application and is not intended to provide a risk assessment of the trees in question. I would suggest a risk assessment is carried out prior to any development commencing.

### **1.2 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 with the assumption that the tree would only fail in adverse weather conditions which cannot be accounted for. Defects such as fruiting bodies and structural weaknesses were only noted where they were observed. Further details may be found at Appendix 1.

## **2.0 TREES IN CONTEXT**

### **2.1 Formal tree controls**

This site is managed by Fair Oak Parish Council and falls under the jurisdiction of Eastleigh Borough Council (EBC). According to the EBC website, some of the boundary trees (not effected by proposals) are within a conservation area but the trees effected by the proposals are not protected by TPO's or conservation area.

## 2.2 Site description

The site is located within the parish of Fair Oak, Eastleigh and is surrounded by fields and woodland to the south and west with Wyvern School located to the north and low density housing to the east. A new housing development '1 Horton Heath' is to be created to the south west of the site (planning portal reference: O/20/89498).

**2.2.1 Drainage:** An underground drainage channel runs east-west across the northern extent of the site, issuing into a culvert in the western reaches of the playing fields. This eventually drains into Quobleigh pond in the woodlands to the west, creating a wet woodland habitat.

**2.2.2 Access:** There are a number of pedestrian access points round the periphery of the playing fields with the main vehicular access via Pavilion way to the north east. This access point is gated but can be opened for construction plant. The access to the south leads to a board walk, of approximately 50 metres in length and bridges a boggy area of mainly goat willow with bramble. As the land rises out of the boggy area, it becomes dryer and leads to an area of woodland where the board walk stops. It is this area of woodland where the new footpath is proposed.

## 2.3 Trees of interest

The tree population is concentrated around the periphery of the playing fields, where hedges and boundary trees connect the site to the surrounding landscape. The tree species around the periphery, and within the adjacent woodland to the south and west, are predominantly pedunculate oak (*Quercus robur*) with ash (*Fraxinus excelsior*) and are of mixed ages. The edges of the woodland to the south and west are dominated by goat willow (*Salix caprea*) with oak interspersed. The hedges demarcating the southern and western site boundary comprise mainly black thorn (*Prunus spinosa*) and hawthorn (*Crataegus monogyna*) and have become leggy and suppressed with bramble (*Rubus fruticosus*). The area of woodland shown on plan HB1 is dominated by hazel (*Corylus avellana*) with self seeded specimens of bird cherry (*Prunus avium*). It is likely that the hazel has been managed as a 'working' copse in the past, providing hazel products for agriculture and such. As the cope is no longer managed, the hazel trees, or stools, have become congested with a significant amount of dead wood with very little light reaching the woodland floor. The other trees in this area are generally in poor health with considerable dieback, which is likely to be due to the dark growing conditions. Further details are available in the tree schedule at Appendix 1 with photographs of the trees in context at Appendix 2. A plan of the site (HB1) showing the tree locations is at Appendix 4 and 5.

**2.3.1** The culverted channel in the northern reaches of the site issues into a boggy gully which descends by approximately 2-3 metres and is approximately 50 metres in length. The banks of this gully have become colonised with goat

willow (*Salix caprea*), a 'pioneer' species, which is one of the first tree species to colonise hostile sites, preparing the ground for other longer living species. As one of the UK's most common tree species, goat willow is also extremely tolerant of wet growing conditions and is able to readily colonise where other species cannot grow. They are one of the smaller species rarely exceeding 10 metres in height and are relatively short lived compared to other counterparts such as oak and beech. In essence, I do not consider this habitat to be significant in arboricultural terms as this species is not at all rare and will easily colonise any scrub or wet land. The trees form a group of a similar age (approximately 20-30 years old), and is therefore lacking in age and species diversity.

2.3.2 The goat willow dominates this area, as it typically will do, casting numerous seeds with a high colonisation rate, although it could, potentially, prepare the ground for a more diverse 'wet woodland' to develop: Wet woodland is a protected habitat due to widespread pressure to drain land for agriculture and to accommodate housing. At present, this area of woodland does not constitute 'wet woodland' or 'willow carr' and would rely on a slow and steady flow of water in perpetuity if it were to develop into such.

## **2.4 The proposal**

This report relates specifically to two aspects of the proposed application; firstly, to create two natural turf cricket pitches within Lapstone playing fields and secondly, to install a footpath which would connect with the southern end of the existing board walk, joining the sports pitches to 'One Horton Heath' to the southwest of the site. Both proposals are shown on the 'TGMS sports turf consultants' proposed layout drawing number TGMS1111.9-1 Revision 3, dated 20/6/22 at a scale of 1:500 at A2. This drawing has been annotated with tree locations and is attached as plan HB1 at Appendix 4.

## **3.0 ISSUES RELEVANT TO THE TREES**

### **3.1 Creation of sports pitches**

The installation of the most northerly sports pitch would result in the extension of the existing culvert to meet the western boundary while the current gully would be in-filled and turfed to accommodate the new sports pitch. A feasibility study carried out by TGSM (Report reference TGMS1111.9 Rev 6, dated 20/06/22) indicates that the changing character of the drainage system should not moderate the water flow and is therefore unlikely to affect residual trees on the periphery of the site. That said, it will however be necessary to remove the group of goat willow trees marked as G1 on plan HB1 in order to facilitate the proposal (see Appendix 4): This equates to approximately 50 trees, 50% of which are multi-stemmed. The existing stream channel is approximately 1.5 metres in width, extending to 8 metres in width, including the banks and 50m in length, giving a total area of 400 m<sup>2</sup>. Mitigation for the loss of the trees will be addressed in the method statement in section 2.

### 3.2 Woodland footpath construction

The proposed footpath route will meander around the trees, taking the line of least resistance, avoiding the hazel bases and allowing a minimum of 60 cm clearance from the footpath edge to the base of the trees. The proposed footpath surface will adhere to the protocol put forward by Hampshire County Council, which states in its footpath surfacing guidance (attached at Appendix 2) *“For all except urban paths, a non-metalled surface (ie ‘gravel’ path - not tarmac) is strongly preferred. This should be smooth, of adequate width, well compacted and firm underfoot (but with a little ‘give’). It should also be well-drained and useable in all weathers.”* With this in mind and given the woodland setting and projected low level pedestrian use of the path, the proposed footpath will comprise timber edging of approximately 1.5 metre width with a surface of bark chippings. A gravel surface was considered inappropriate for the setting as it would be too conspicuous and may unbalance the natural soil pH. Where the footpath meets the drainage channel, which flanks the western boundary, a small boardwalk 3-4m long will be built to span the drainage channel. The Hampshire Countryside boardwalk specification is proposed for this section (see ‘designstandards-boardwalks’ attached), which is consistent with the specification of the existing boardwalk on the footpath route. Further details regarding the footpath surface are available in the method statement in section 2.

**3.2.1 Tree root and canopy protection:** It may be necessary to raise the crowns of the hazels adjacent to the footpath however, as these trees are in poor condition and have become over-crowded, I suggest the traditional management regime of coppicing is re-instated, where the trees are cut to ground level to encourage new healthy growth. During the development phase, tree crowns and root protection areas would normally be protected with heras fencing, however I consider fencing to be unduly onerous in this situation.

**3.2.2 Special surfacing:** Special surfacing such as cell web or similar is not warranted here. The footpath is expected to bear low levels of pedestrian activity and will have a deciduous bark chip surface which will allow sufficient load bearing to protect the tree roots from compression. The bark chip will be held in place with timber edging and under laid with a geotex membrane. This is detailed in section 4.0.

**3.2.3 Services, surface drains, soakaways and services:** At the time of writing this report, no additional services are proposed in order to facilitate the new footpath. Should this situation change, 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 and drainage would therefore be agreed with the Eastleigh Borough Council.

**3.2.4 Tree removal and pruning:** It will not be necessary to remove any trees in order to install this footpath however, dead branches and undergrowth of bramble should be removed in addition to the hazel coppicing as prescribed in the method statement.

**3.3 Materials delivery, storage and handling**

In both the sports pitch and footpath phases of the proposal, materials should not be handled or stored within the RPAs of retained trees; the load exerted can result in soil compaction and leachate from spills can be toxic to trees. Any materials and machinery should therefore be stored and mixed well away from the RPA of retained trees and downhill from them in a bunded area.

## 4.0 METHOD STATEMENT: PROTECTIVE AND MITIGATION MEASURES

### 4.1 Implementation and phasing of the proposed development

Prior to any building work commencing on site, a meeting will be held with the tree consultant and site manager present. During the meeting details regarding the location of heras fencing will be discussed and a time to reconvene in order to assess the heras fencing will be agreed. The schedule of events during the development phase will be as follows:

- i) Pre commencement site meeting with the arboricultural consultant and site manager to discuss phasing and location of heras fencing and temporary ground protection. A date will also be agreed for the consultant to oversee the laying of the special footpath surfacing.
- ii) Heras fencing will be installed as indicated in plan HB1.
- iii) The arboricultural consultant will return to site to assess the heras fencing to ensure it has been set out according to the method statement specifications.
- iv) During the development phase, the arboricultural consultant will be notified and asked to supervise any excavating within the RPA of retained trees, specifically to ensure trees are suitably protected in the vicinity of the new culvert installation.

### 4.2 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 erected in order to protect existing trees on site but also to demarcate future planting sites, ensuring soil is not contaminated or compacted during the development phase. The fencing will conform with 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. Further details regarding protective fencing may be found at Appendix 4.

### 4.3 Tree Planting

In addition to replacing the goat willow trees, predominantly in the south west corner of the site, this project will enhance the local landscape with a dynamic planting scheme: A diverse tree population will be planted which will be resilient to climate change and new pests and diseases.

This will boost the local tree population while enhancing the site as a source of fodder and shelter for wildlife. Planting 'keystone' species such as oak will mitigate the general decline in the population of this species and bolster the legacy of 'Fair oak'. The number of oaks planted will be agreed with the LPA but a minimum of 7 are suggested, including English oak (*Quercus robur*), Sessile oak (*Quercus patraea*) and red oak (*Quercus rubra*) also horn beam (*Carpinus betulus*), field maple (*Acer campestre*) with smaller *Sorbus sp.*, guelder rose (*Viburnum opulus*), wayfaring tree (*Viburnum lantana*) and birch (*Betula pendula*) varieties, including evergreens such as yew (*Taxus baccata*) and holly (*Ilex aquifolium*) selected to provide a year round diverse range of form and colour. The shrub layer in the planting areas will comprise hazel (*Corlus avellana*), dog wood (*Cornus sanguine*) and the hedges bolstered with native species such as hawthorn (*Crataegus monogyna*), holly (*Ilex aquifolium*) and black thorn with dog rose (*Rosa canina*) to improve their structure and composition for flag species such as dormice as well as invertebrates and birds. Further details are available in the landscaping scheme.

#### 4.4 Enhancing the natural habitat

In response to requests made by Eastleigh Borough Council for a 10% net gain in habitat provision, we are proposing to form a new wetland area in the south west corner of the site. This will comprise approximately 1,163 m<sup>2</sup> to compensate for the lost 400 m<sup>2</sup> of damp ground. Although the existing wet area is not considered to be 'wetland habitat' at present, we will create a site to accommodate wet woodland, comprising a series of gullies which will channel rainfall and groundwater run-off from the pitches, issuing slowly into a wet catchment area – akin to the present drainage system. This will be planted with goat willow, hawthorn (*Crataegus monogyna*) and blackthorn (*Prunus spinosa*). This concept has notionally been agreed with Sarah Boyd (Biodiversity Officer) on the understanding that the finer design detail will be agreed during the planning process. It is important that this area and the gully system are located away from the rooting systems of the adjacent oaks which are likely to spread at least 10 metres from the base of the trees.

#### 4.5 Green infrastructure

In the wider context and in terms of linking with other green spaces, Lapstone playing fields are an important component of the plan to green the village of Fair Oak. Council owned sites, including Lapstone, are being enhanced with planting which aims to provide a green infrastructure for the benefit of local biodiversity and residents alike. The infrastructure is tree dominated so will also help mitigate flood risk with enhanced rainfall interception. A vital component of the green infrastructure is the native hedge which is in decline due to development pressures and modern farming practices. We do not intend to remove any hedging as part of the development, rather we are proposing to create new native hedging along the western boundary, which will benefit biodiversity while simultaneously retaining and slowing down rainfall run off.

#### 4.6 Tree works

Tree works detailed within this report or any minor tree work that manifests in order to enable the planning permission to be implemented and are effectively consented by virtue of the grant of planning permission. All pruning and felling tree work shall be carried out in accordance with BS 3998:2010 *Tree Work - Recommendations*.

#### 4.7 Woodland footpath installation:

The footpath is expected to bear low levels of pedestrian activity and will have a deciduous bark chip surface which will allow sufficient load bearing to protect the tree roots from compression. The bark chip will be held in place with timber edging and under laid with a geotex membrane. The footpath surface will comprise 100mm of deciduous bark chip with a sub base comprising 50mm thick layer of geotextile membrane (TRP 4000). The bark chip has sufficient load bearing capacity to protect the tree roots from low level pedestrian use while the geotextile membrane is permeable to allow water percolation and gaseous exchange. Where adjoining rolls of textile membrane meet, there will be an overlap of 300mm to ensure bark chip does not mix with the soil beneath. 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 geotextile membrane will be retained by an edging of wooden boards secured by driven wooden pegs. The restrictions on excavation and the use of a geotextile membrane and bark chip in accordance with Section 11 of BS 5837:12 will limit the risk of damage to tree roots to within acceptable parameters. A detailed specification for the footpath is attached as Appendix 3.

#### 4.8 Tree root and canopy protection

It may be necessary to raise the crowns of the hazels adjacent to the footpath however, as these trees are in poor condition and have become over-crowded, I suggest the traditional management regime of coppicing is re-instated, where the trees are cut to ground level to encourage new healthy growth. During the development phase, tree crowns and root protection areas would normally be protected with heras fencing, however, in my opinion, heras fencing would be unduly onerous in this situation.

#### 4.9 Hazel coppicing

The hazel stools have become overgrown and congested with a considerable amount of dieback. As suggested in section 3.0, these trees would benefit from a coppicing strategy in order to regenerate growth. Coppicing involves cutting the trees to ground level during the dormant months of October to February on a three to five year bases. For the benefit of biodiversity, it would normally be preferable to cut, for example, 30% of the trees in the first year, continuing an annual cut until all the trees are coppiced. In this case however, there are only five trees requiring coppicing so it would be practicable to cut them all at the same time.

#### **4.10 Tree removal and pruning**

It will not be necessary to remove any trees in order to install this footpath however, dead branches and undergrowth of bramble should be removed in addition to the hazel coppicing as prescribed above.

#### **4.11 Surface drains**

Trenches excavated to enable surface drainage, from footpaths for example, 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. With regards to the proposed culvert, its location is to be well away from the existing oaks growing on the periphery of the site and down hill from them such that, water will not be collected within the RPA of the trees. The culvert installation will be overseen by the project arborist.

#### **4.12 Storage and handling of materials**

This site has sufficient space for materials to be stored and handled in a mixing area outside the tree root protection areas. 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. 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 a retained tree.

#### **4.13 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 woodland footpath and with particular regard to the excavation of the new culvert. 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.**

## 5.0 CONCLUSIONS

This report, together with Plan HB1, is intended to consider the impact of the proposed pitch and footpath in relation to the trees within influencing distance of them.

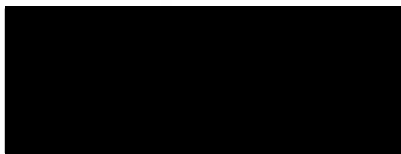
In my professional opinion, the removal of the existing culvert and associated goat willow will be more than compensated for by the associated planting scheme which will enhance the arboricultural interest of the playing fields. The scheme will also provide a richer and more diverse range of species for the benefit of biodiversity and will be more aesthetically pleasing for local residents. Planting a combination of native and other trees will future proof the project in terms of resistance to pests and disease and changing climatic conditions.

The proposed footpath is to follow the course of an existing desire line and will have minimal impact upon the trees - which would benefit from coppicing in any case. The footpath will endure relatively low use and, as such, special surfacing is not recommended.

Overall, we are proposing to enhance the local landscape through tree and hedge planting which will not only mitigate the loss of trees on site but will result in a net gain in the local tree population and a greener local landscape in general. In addition to the inclusion of larger tree species such as oak, this will also include the replacement of the willow scrub habitat for the benefit of associated biodiversity.

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 number | Species                          | Height (m) | Trunk Diameter (cm)  | Crown spread (m) N, E,S,W | Crown height above ground (m) | Life stage   | General observations                                                                                                      | BS 5837 cat | Root protection area (m) |
|-------------|----------------------------------|------------|----------------------|---------------------------|-------------------------------|--------------|---------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------|
| T1          | Hazel<br><i>Corylus avellana</i> | 7          | 3,6,4,3,3,3<br>=8.8* | 1.5,1.5,1.5,1.5           | 1                             | Mature       | Fair form and vitality but dead wood present and would benefit from coppicing                                             | C           | 1.2                      |
| T2          | Hazel                            | 5          | 45 at base           | 1.5,1,1.5,1.5             | 0                             | Mature       | Poor form and vitality, 60% dieback with snapped limbs and failed poles. Coppice to rejuvenate                            | U           | -                        |
| T3          | Ash<br><i>Fraxinus excelsior</i> | 10         | 30                   | 4,5,4,3                   | 4                             | Early mature | Poor form and vitality, crown has 50% dieback                                                                             | U           | -                        |
| T4          | <i>Prunus Sp.</i>                | 7          | 25                   | 1,2,1.5,1                 | 2                             | Early mature | Poor form and vitality, congested crown                                                                                   | C/U         | -                        |
| T5          | Hazel                            | 9          | 50 at base           | 1.5,1.5,1,1.5             | 1                             | Mature       | Poor form and vitality, congested stool growth with 80% dieback                                                           | U           | -                        |
| T6          | <i>Prunus Sp.</i>                | 8          | 17                   | 1,1,1,1                   | 2.5                           | Mature       | Poor form and vitality with 80% crown dieback, bifurcated at 2m                                                           | U           | -                        |
| T7          | Hazel                            | 7          | 15 stems<5           | 2.5,2.5,2.5,2.5           | 1                             | Mature       | Poor form, fair vitality, 50% dead crown, multi-stemmed from base. Coppice to rejuvenate                                  | U           | -                        |
| T8          | Cherry<br><i>Prunus avium</i>    | 6          | 32                   | 1,3,1.5,1                 | 0                             | Mature       | Poor form and vitality, tri-stemmed at 1.2 m height, 45° lean east, lost leader, contorted branch growth, congested crown | U           | -                        |
| T9          | Hazel                            | 5          | 20,11,5              | 1.5,1,1.5,1.5             | 0                             | Mature       | Very poor form and vitality, snapped branch is lying across the pathway. Coppice to regenerate                            | U           | -                        |

# APPENDIX 1

## TREE SCHEDULE AND EXPLANATORY NOTES

| Tree number | Species                                                                                                                | Height (m) | Trunk Diameter (cm) | Crown spread (m) N, E,S,W | Crown height above ground (m) | Life stage   | General observations                                                                                                                              | BS 5837 cat | Root protection area (m) |
|-------------|------------------------------------------------------------------------------------------------------------------------|------------|---------------------|---------------------------|-------------------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------|
| T10         | Oak<br>( <i>Quercus robur</i> )                                                                                        | 7          | 23,16               | 1,3,2,1                   | 4                             | Early mature | Very poor form and vitality, bifurcated at base, 50% crown dieback with lost leader                                                               | C/U         | -                        |
| T11         | Hawthorn<br>( <i>Crataegus monogyna</i> )                                                                              | 7          | 13, 10, 7=18        | 2,2,2,2                   | 1                             | Mature       | Fair form and vitality, would benefit from coppicing to rejuvenate growth                                                                         | C           | 2.4                      |
| T12         | Beech<br>( <i>Fagus sylvatica</i> )                                                                                    | 15         | (90)                | 6,6.5,5,5                 | 3                             | Mature       | Poor form and vitality but it is a veteran tree so important for the woodland ecology, growing on steep bank side so stem diameter was estimated, | C           | 10.8                     |
| T13         | Oak                                                                                                                    | 7          | 35                  | 4.5,4.5,4.5,4.5           | 3                             | Semi-mature  | Fair form and vitality<br>Growing in a copse of oak and goat willow                                                                               | C           | 4.2                      |
| G1          | Goat willow <i>Salix caprea</i> and 1 x birch<br><i>Betula pendula</i>                                                 | 11         | 25                  | 3,3,3,3                   | 1                             | Mature       | Normal for the species ie congested crowns, snapping branches                                                                                     | C           | 3.0                      |
| G2          | Oak x 5<br><i>Quercus robur</i>                                                                                        | 13         | 35                  | 5.5, 5.5, 5, 5            | 5                             | Semi mature  | Growing along boundary line and sharing canopy with G1                                                                                            | B           | 4.2                      |
| G3          | Black thorn, <i>Prunus spinosa</i> , blackberry<br><i>Rubus fruticosus</i> . and hawthorn<br><i>Crataegus monogyna</i> | 4          | 7                   | 2,2,2,2,                  | 0                             | Mature       | Hedgerow species - over grown and congested                                                                                                       | C           | 0.9                      |

**APPENDIX 1**  
**TREE SCHEDULE AND EXPLANATORY NOTES**

| Tree number | Species                                             | Height (m) | Trunk Diameter (cm) | Crown spread (m) N, E,S,W | Crown height above ground (m) | Life stage  | General observations                                                                                                                          | BS 5837 cat | Root protection area (m) |
|-------------|-----------------------------------------------------|------------|---------------------|---------------------------|-------------------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------|
| G5          | Ash x 4<br>( <i>Fraxinus excelsior</i> )<br>Oak x 1 | 5          | 18                  | 3,4,3,4                   | 2                             | Semi mature | Oak - normal form and vitality, growing on neighbouring property<br>Ash - poor form and vitality - re-survey in leaf to check for ash dieback | C/R         | 2.1                      |
| G0          | Goat willow                                         | 11         | 25                  | 5,4,5,4                   | 1                             | Mature      | Normal for the species ie congested crowns, snapping branches                                                                                 | C           | 3.0                      |

# APPENDIX 1

## TREE SCHEDULE AND EXPLANATORY NOTES

### Abbreviations:

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

- **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.
- **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.
- **BS 5837 category:** As advised in BS 5837:2012. This grading is based on the amenity value of the tree and also the estimated remaining contribution in years i.e. A - more than 40; B - 20-40; C - 10-20; U - less than 10 and. Trees of A and B grades are considered to be worthy of retention while those of a C grade are deemed replaceable. U grade trees are of poor quality with limited value in arboricultural terms.
- **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. (\*) refers to the combined stem diameter calculation as defined in BS5837:12 point 4.6, 4.6.1 (a).

## APPENDIX 2 SITE PHOTOGRAPHS



**Plate 1.** The western end of the culvert with goat willow (oak demarcating the boundary will be retained)



**Plate 2.** Goat willow growing in the culvert (northern view)

## APPENDIX 2 SITE PHOTOGRAPHS



**Plate 3.** G2 comprising oak on the western boundary



**Plate 4.** G3 comprising hawthorn and sloe on the north-western boundary

## APPENDIX 2 SITE PHOTOGRAPHS



**Plate 5.** G4 and G5 comprising ash and oak with cherry



**Plate 6.** Goat willow with oak growing along the western boundary where it meets the culvert

## APPENDIX 2 SITE PHOTOGRAPHS



**Plate 7.** The proposed footpath route, looking west from the end of the existing board walk



**Plate 8.** The same view as plate 7 but showing the space availability more

## APPENDIX 3 FOOTPATH SURFACING RECOMMENDATIONS



# Path Surfacing

Countryside Service Design Standards (2020)

Many countryside paths have a natural surface; this is often trodden earth within Hampshire. In most cases, this is fitting, works well, and requires only a minimum amount of maintenance. Where paths cross clay or marshy areas, or are habitually muddy through heavy use, then it may be appropriate to surface them. Solutions will be site-specific; it is strongly recommended that advice be sought from County Council officers at the design stage.

### Responsibilities

The County Council is legally responsible for ensuring that the surface of rights of way is suitable for the public to use, including taking action if the surface is damaged by farm vehicles or utility works.

### Is it necessary to surface the route?

Many countryside paths have a natural surface which is adequate for public use—this is the preferred surface wherever possible as it is in keeping with its environment and requires minimal maintenance.

Where a path is regularly muddy or waterlogged, the first consideration should be enabling the water to drain or evaporate. Often, a path surface will dry out if the vegetation is cleared to allow light in. Grips or small ditches allow the water to flow off the path onto lower ground (see drainage guide).

When considering any muddy areas, push a stick or space into the mud at various points to see what is underneath. It may be that leaf litter has built up and turned to mud; if this is the case, scraping off the mud with a machine can reveal a good underlying surface which is often sufficient. However, surfacing may be required where drainage and scraping alone will not solve the problem.

### Considerations for surfacing work

- Look at the immediate area—is the ground around the path waterlogged? If so, the path level will need to be raised above this. What is the soil type? If very wet or clay, a membrane may need to be used to stop the new surface sinking into it.

This guidance is suitable for most situations in Hampshire; for further advice email [countryside@hants.gov.uk](mailto:countryside@hants.gov.uk) or call 0300 555 1391

- Where is water coming from and where could it go to? Is it rainwater draining from neighbouring land? Could it be diverted onto lower ground off the path? Are there ditches or pipes already there which need clearing?
- Can contractors get to the path with machinery and vehicles? Can materials be delivered close to the path? Is landowner permission required to obtain access?
- Are there legal restrictions on path width (see the widths guide) or are permissions needed? For example, if the path has a conservation designation such as SSSI or SPA/SAC, consent will be needed and there may be restrictions on materials.
- Who will undertake maintenance when required? Regular vegetation cutting and clearance of ditches and drainage pipes once or twice a year will considerably lengthen the life of the surface.
- What is the expectation for the finished surface? If it is mainly used by local dog-walkers then a lower spec is appropriate than if it's a path which people walk or cycle to get to work (expecting to use it in work clothes/shoes without getting muddy). Paths which are used by horse-riders or vehicles will need to be more heavily constructed. If a path is heavily used, consider providing a passing place every 150m or so.

### Technical Guidance

For all except urban paths, a non-metalled surface (ie 'gravel' path - not tarmac) is strongly preferred. This should be smooth, of adequate width, well compacted and firm underfoot (but with a little 'give'). It should also be well-drained and useable in all weathers.

Most path construction will follow this process:

- Check the path and surroundings for underground services (see 'All Projects' sheet).
- Start by removing the mud down to a reasonably dry, flat base, of the width of the finished path. This is known as a 'path tray', which is usually 60-100mm deep.
- Lay a geo-textile membrane if needed.
- For paths used by cyclists and/or horse-riders (eg bridleways), lay a sub-base of larger material.



## Hampshire County Council

[www.hants.gov.uk](http://www.hants.gov.uk)

## APPENDIX 3

### FOOTPATH SURFACING RECOMMENDATIONS

- Acceptable sub-base materials in Hampshire include washed rail ballast (granite), recycled builders' rubble, road planings and washed rejects (flint, chalk, crush).
- For all paths, lay a 'wearing course' of finer material typically 'type 1' which means material of 40mm diameter to dust, or in urban areas or where wheelchair use is likely 20mm-dust, and compact with a vibrating roller or wacker-plate. Acceptable materials in Hampshire include scalpings, natural stone aggregate.
- A camber or crossfall (slope of around 2% across the width) should be used to shed rainwater off the path; choose whichever will lead the water to lower ground.
- A membrane (sometimes referred to as a geo-textile) is matting which is used in wet areas to stop the new surface materials sinking away into the wet ground. Terram, Biddum and Geogrid are commonly used in Hampshire.
- A 3-d cellular containment system (cellweb) can be used where a path crosses tree roots, to protect them.

#### Timber Edges

- Paths generally do not need timber board edges, and look more fitting without them; they can also trap water on the path once the surface has settled, and can be a slip risk for cycle wheels and horse hooves.
- However, timber edges may be desirable to retain materials if the ground drops away to one side or if the path level is well above that of the surrounding ground (eg in wet areas).

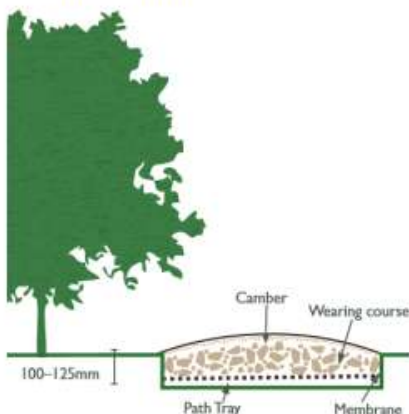
#### Typical Footpath Specification

The following is suitable for a path used only by walkers. This is a guide and officers' advice should be sought at the design stage.

Path should be 1.5m wide (if possible)

Dig out path tray to path width and 60mm deep, or to dry ground if deeper.

If needed, lay a geotextile membrane or cellular confinement system.



This guidance is suitable for most situations in Hampshire; for further advice email [countryside@hants.gov.uk](mailto:countryside@hants.gov.uk) or call 0300 555 1391

Lay wearing course: 100-125mm depth of compacted material (usually scalpings or natural stone aggregate), extending over edges of path tray.

Compact with vibrating roller or wacker-plate, leaving a camber or crossfall as appropriate to shed the water.

#### Typical Bridleway Specification

The following is suitable for a path used by walkers, cyclists and/or horse-riders. This is a guide and officers' advice should be sought at the design stage.

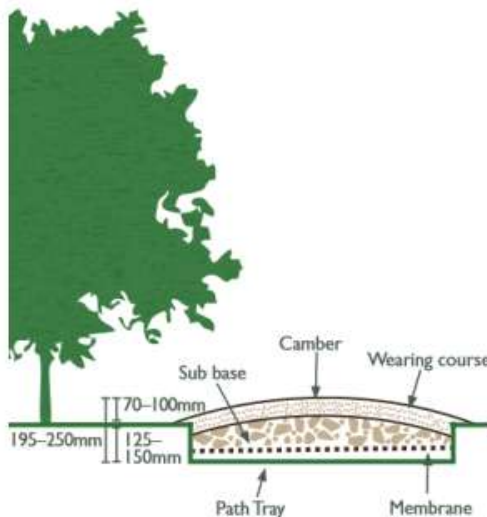
Path should be 2.5m wide (if possible)

Dig out path tray to path width and 100mm deep, or to dry ground if deeper.

If needed, lay a geotextile membrane or cellular confinement system.

Lay sub-base: 125mm-150mm depth of material when compacted, with a camber or crossfall as appropriate.

Lay wearing course: 70-100mm depth of material when compacted, extending over edges of path tray and leaving a camber or cross-fall as appropriate.



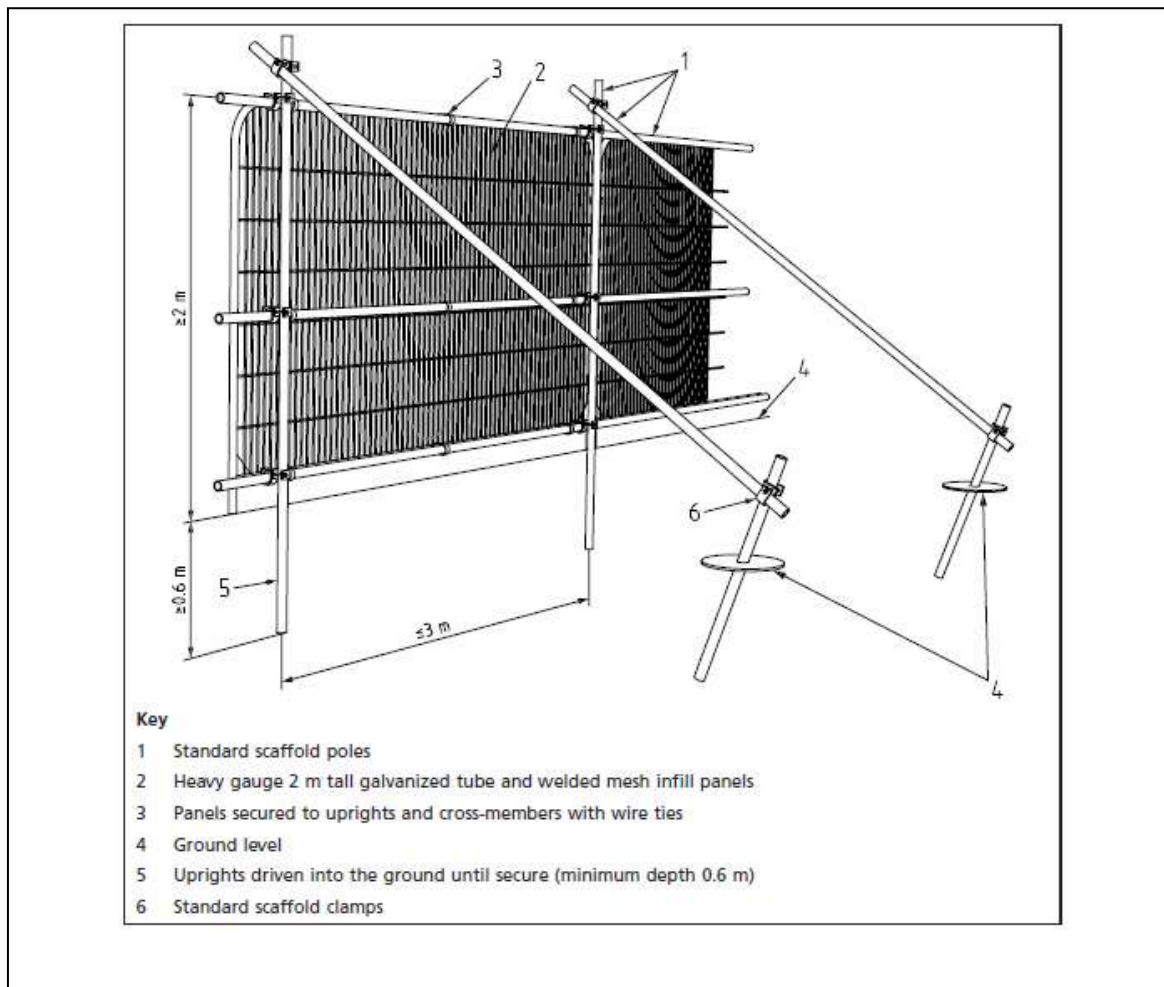
**For paths which are used by horse and carriages and/or motor vehicles, please seek advice from County Council Officers.**

## APPENDIX 4 HERAS FENCING AND 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.



## APPENDIX 4 HERAS FENCING AND TREE PROTECTION

Where ground protection measures are necessary 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.

