



Landscape Management Plan Lapstone Playing Fields, Pavillion Close, Fair Oak, Eastleigh SO50 7PS

Prepared by:

Helen Brown Treescapes

MSc For; BSc (Hons); TechCert (AA); TechArborA

Report Reference: HBD2230LS

Report Date: 2nd November 2022

1.0 BACKGROUND

1.1 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 1.

1.2 Landscaping scheme

The landscaping scheme has been designed to provide a naturalistic backdrop to the sports pitches, which will both enhance the amenity value of the site while blending it into the natural landscape. This will be achieved by using predominantly native species which are typical of a woodland-grassland setting, softening the existing woodland edges so they taper rather than following a hard line and retaining the existing wildflower areas. Where appropriate, the site boundaries are bolstered with native hedgerow planting to provide foraging material and also to aid rainfall catchment. In addition to the native tree planting, we have introduced trees for their seasonal interest, such as the Judas tree (*Cercidiphyllum japonicum*) purple leaved crab apple (*Malus purpurea*), Manna ash (*Fraxinus ornus*) and black elder (*Sambucus nigra*). The scheme also mitigates the loss of a number of goat willow trees (*Salix caprea*), which are to be replanted, using sapling cuttings from the original trees on site to ensure the same genetic stock is retained. Alder (*alnus glutinosa*) is also to be planted in the new wetland habitat area, while areas of scrub buffer the existing willow car margins to the south of the site.

2.0 HEDGE PLANTING

2.1 Hedgerow species: The proposed hedge, shown on plan LS1, is to comprise native species such as blackthorn (*prunus spinosa*), dog rose (*Rosa canina*), hawthorn (*Crataegus monogyna*), hazel (*Corylus avellana*) and wild privet (*Ligustrum vulgare*) planted to demarcate the boundary of the playing fields and bolster the existing hedge which has become porous.

2.2 Hedge planting: The hedging species should be planted as whips (saplings of 0.5-1.0 metre height) at 30-40 cm spacings, in a zigzag formation, to ensure the hedge has a dense structure. Ultimately this will create a natural boundary which will blend the proposal into the surrounding landscape. Whips should be protected with deer/rabbit guards and staked. Guards and stakes should be checked regularly and removed as appropriate. Hedgerow whips should be soaked with fresh water twice a week during dry periods and must not be allowed to dry out. Mulching with a good quality compost after planting will feed the young saplings, suppress weed growth and help to retain soil moisture. Refer to Appendix 3 for further details.

Table 1 Hedgerow species

Common name	Species	% of total planted
Blackthorn	<i>Prunus spinosa</i>	30%
Burning bush	<i>Eunonymus allatus</i>	
Crab apple	<i>Mauls sylvestris</i>	
Dog rose	<i>Rosa canina</i>	
Field maple	<i>Acer campestre</i>	
Hazel	<i>Corylus avellana</i>	
Privet	<i>Ligustrum vulgare</i>	
Hawthorn	<i>Crataegus monogyna</i>	
Spindle	<i>Euonymus europaeus</i>	

2.3 **Hedgerow management:** The hedge species should be allowed to reach maturity and allowed to produce flowers, fruit and nuts for vertebrates before being cut. Cutting cycles should be kept to a minimum to ensure fodder is provided for biodiversity and the screen is maintained.

2.4 **Wildlife and Countryside Act 1991:** It is an offence to take, damage or destroy the nest of any wild bird while the nest is in use or being built. It is therefore advisable to trim hedges in January or February to avoid the destruction of birds. This allows birds and mammals to forage the hedgerows for berries. The native hedging should be cut no more than every two-three years to allow thick nesting cover to develop and this also increases the berry crop available to over wintering birds.

3.0 TREES

3.1 **Tree planting:** A methodology for tree planting is detailed in Appendix 3 and follows current best practice and the recommendations of BS4428 'Recommendations for general Landscape operations'. Particular regard should be given to biosecurity when sourcing the planting stock to ensure regulations regarding the transmission of pests and diseases are adhered to. It is also worth including a root irrigation system during planting so that watering can reach roots efficiently. Trees should be planted as soon as planning permission is granted in order that the treed may mitigate any potential effects from the development. Trees should be 12-14 cm diameter standards and may be container grown or bare root. The exceptions are the *Betula jaquemontii* (5 on plan LS 1), which are multi-stemmed trees.

3.2 **Watering:** During the first 24 months post development, the trees will be watered during periods of low rainfall in the summer months when the trees are in leaf (when precipitation is below 0.5mm/Hr). Established trees (10-12cm) will require 20 Litres of water three times a week in the height of summer, reducing to once or twice a week in cooler temperatures. Watering should not be necessary during the months of October to March. Incorporating a watering system which targets the roots is also advised at the planting stage (see Appendix 4).

3.3 **Mulching:** An organic mulch applied at the base of the tree and within a 1m radius of the tree/hedge base will help to retain the soil moisture levels and will also suppress weeds. Ideally, the mulch would comprise leaf litter collected from the nearby woodland as this will also import mycorrhizal fungi and a seed bank to aid the hedge establishment.

- 3.4 **Formative pruning:** During the first 10 years of growth it may be necessary to formatively prune the 10-12 cm girth trees to ensure they retain good form into maturity. This is particularly relevant where co-dominant stems or crossing branches have been produced. If the work is carried out while the trees are young, the pruning cuts will be kept to a minimum, reducing the shock endured by the tree and also tree's exposure to pathogen infection.
- 3.5 **Tree replacements:** The trees will be checked annually following planting to ensure stakes, protective guards and ties are still in place, and replaced as necessary. During this period, any dead or diseased trees will be replaced, like with like, as close as possible to the original planting position although this will be dictated by prevailing conditions which may have caused the tree to die. For example, if the tree has become overshadowed by a neighbour, it would be appropriate to move it to a clearing. The proposed monitoring objectives will be brought into effect once the trees have been planted. Following the initial five year monitoring period, the trees will be checked on a five yearly bases for the next 20 years.
- 3.6 Summary of 5 year management plan:

Action	Year 1	Year 2	Year 3	Year 4	Year 5
Watering	•	•			
Check planted trees; loosen tree ties and check planting tubes are not damaged	•	•	•	•	•
Check trees for disease and dieback and replace if necessary	•	•	•	•	•
Carry out formative pruning		•			•

4.0 WOODLAND FOOTPATH SPECIFICATIONS

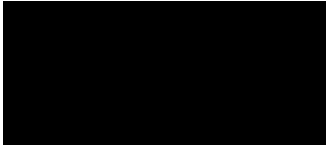
The footpath is expected to bear low levels of pedestrian activity and will have a deciduous bark chip surface which will allow sufficient load bearing to protect the tree roots from compression. The bark chip will be held in place with timber edging and under laid with a geotex membrane. The footpath 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. The geotextile membrane will be retained by an edging of wooden boards secured by driven wooden pegs. A detailed specification for the footpath is attached as Appendix 5.

5.0 SUMMARY

The detail set out in this document ensures a diverse range of species will be planted to enhance the amenity value of this site. The tree and hedge planting will bolster the existing biodiversity value, providing more habitat niches and linking the site to the local landscape. It is important that the planting protocol is followed and a post planting management regime of watering and mulching is adhered to.

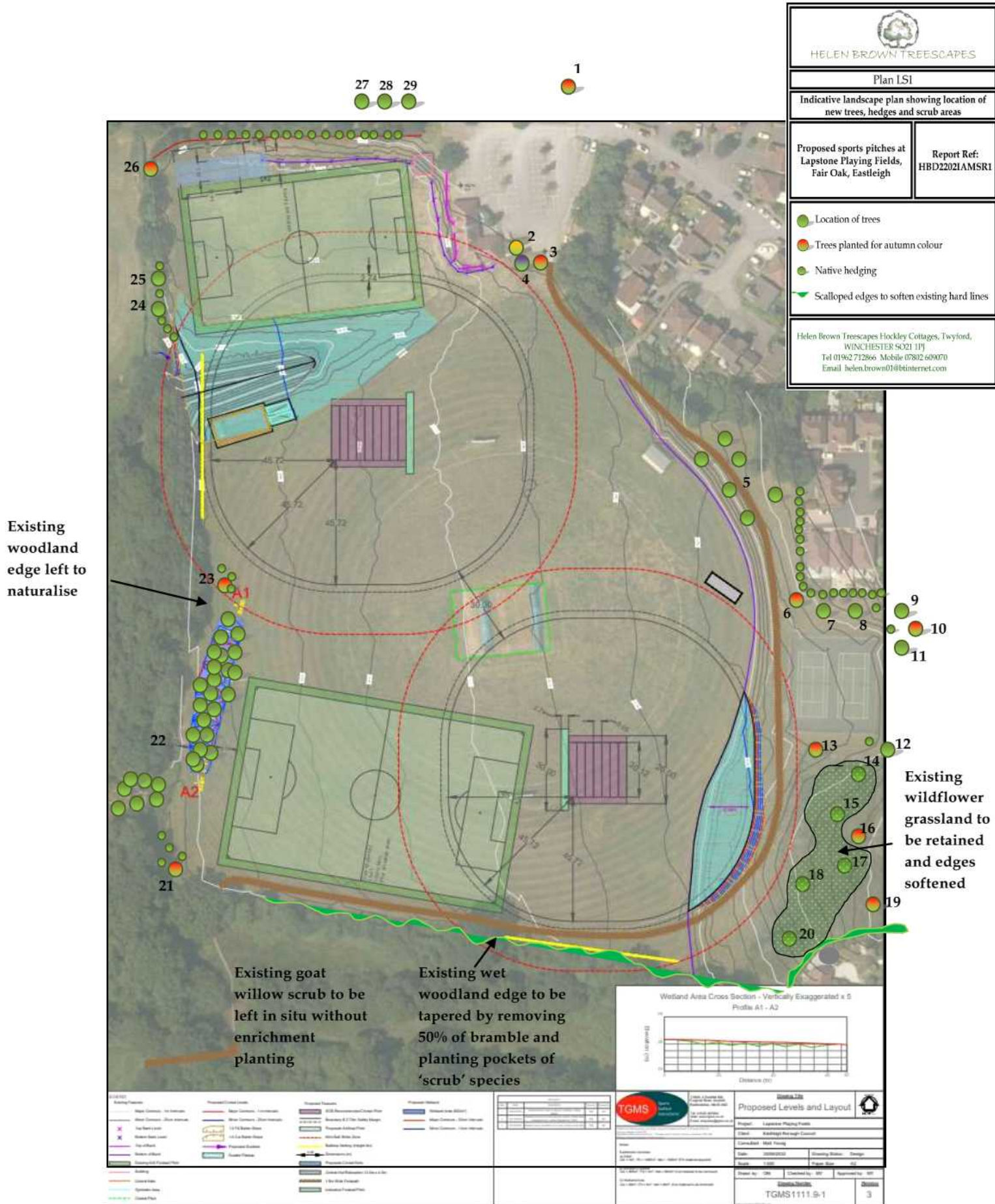
If you would like to discuss any of these points further, please do call me.

Yours sincerely



Helen Brown
MSc For. Tech Cert Arb

APPENDIX 1

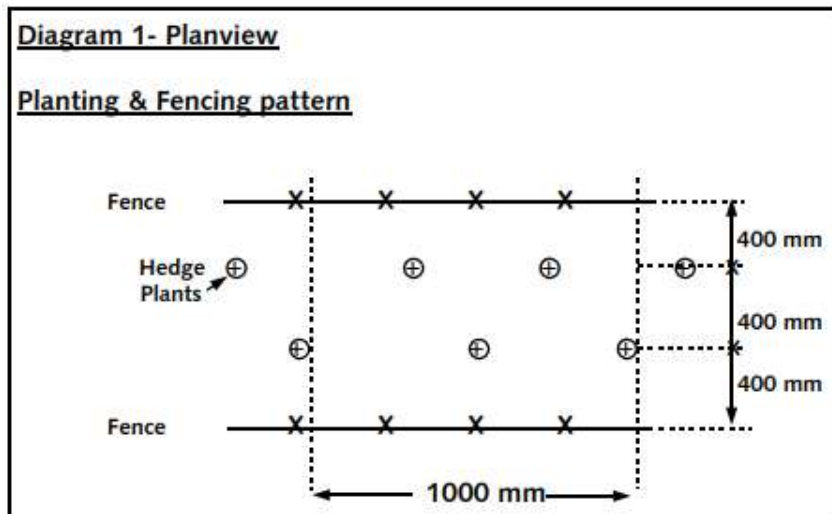


APPENDIX 2 TREE SPECIES

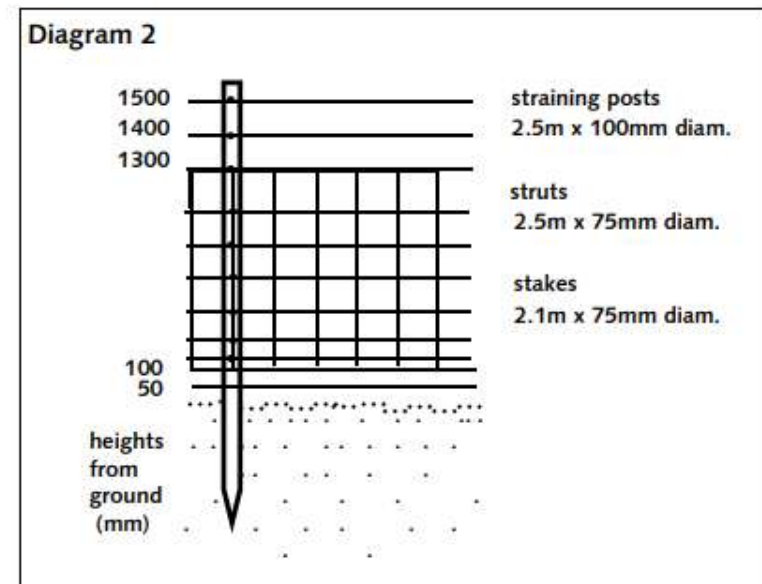
Tree number	Common name	Latin
1,7, 23	Red oak	<i>Quercus rubra</i>
2	Judas	<i>Cercis silaquestrum</i>
3	Red oak	<i>Quercus rubra</i>
4 , 11	Crab apple	<i>Malus purpurea</i>
5	White birch (multi-stemmed)	<i>Betula utilis jaquemontii</i>
6 , 26	Manna ash	<i>Fraxinus ornus</i>
7	Crab apple	<i>Malus purpurea</i>
8	Mountain ash	<i>Sorbus aucupara</i>
9	Holly	<i>Ilex aquifolium</i>
10	Pin oak	<i>Quercus palustris</i>
11	Bird cherry	<i>Prunus padus</i>
12	Field maple	<i>Acer campestre</i>
13	Red maple	<i>Acer rubrum</i>
14	Fruiting	<i>Malus Sp.</i>
15	Fruiting	<i>Prunus Sp.</i>
16	Fruiting	<i>Malus Sp.</i>
17	Fruiting	<i>Malus Sp.</i>
18	Hawthorn	<i>Crataegus Sp.</i>
19	Birch	<i>Betula Sp</i>
20	Fruiting	<i>Malus Sp.</i>
21 , 24	English oak	<i>Quercus ruber</i>
22	Alder & Goat willow	<i>Alnus glutinosa & Salix caprea</i>
25	Field maple	<i>Acer campestre</i>
27, 28, 29	Birch	<i>Betula pendula</i>

APPENDIX 3 HEDGE PLANTING PROTOCOL

Hedging should be planted in two, staggered rows at a density of not less than 5 per meter (see diagram 1), with approximately 450mm between plants in the same row, and 300-400mm between rows. The interplant whips/transplants should be planted within this pattern in groups of 2/3. The **density of planting and distances between plants should be specified in the hedgerow scheme details.**



When planting a new hedge, protection from grazing animals, both livestock and wild animals such as deer and rabbits must be considered. **Specify how planting is to be protected.** The level of protection will depend on the level of perceived grazing. If protecting from livestock, then permanent fencing will probably be required of sufficient height to restrict grazing over the top. Where a double fence is applicable, the fences must be a minimum width of 2 metres apart. The fences should be of treated wooden posts with galvanised stock netting and wire to a height of 1.4m (see diagram 2).



APPENDIX 4 TREE PLANTING PROTOCOL

Tree planting specification: (With kind permission from Winchester City Council)

1. Specification for the supply of trees.

- Bare root trees shall be bagged to avoid drying out.
- All tree(s) shall have their central leaders and growing tip undamaged
- All Tree(s) shall have a balanced crown with active bud and shoot formation consummate to its species from formative pruning, and that there is a balanced branching framework typical of the species.
- All lateral branches are subordinate to the central leader and evenly spaced along the central stem. Lateral branch diameter should not exceed 50% of stem diameter at the point of branch attachment.
- Tree stems shall be straight with a clearly defined taper and have had all the epicormic shoots removed
- Trees shall be free of pest and disease.
- Trees shall be free of co dominant leaders, weak, dead or crossing branches.
- Graft and budding unions will be compatible
- Bare root trees shall have least 4 anchor roots evenly spaced with a high amount of fibrous roots.
- Trees supplied with root ball trees should be moist and have their wire or hessian root ball wrapper in place. There shall be no movement of the tree stem within the root ball.
- Containerised stock will be weed free or moss free on compost surface.
- Roots of containerised stock will not be spiralling or girdling in pot and shall not be pot bound with roots growing out of pot.
- All containerised stock will be supplied with moist compost.
- Containerised trees shall not be potted too deep, i.e. grafting point should be clear of soil.
- The foliage colour of containerised stock shall be healthy and not showing signs of nutrient deficiency
- Canes or supporting stakes of containerised stock shall not be damaging the plant stems.
- All trees supplied shall be true to type or species.

APPENDIX 4 TREE PLANTING PROTOCOL

2. Specification for Tree Planting

At no time are tree roots to be exposed to wind or drying out. Bags that protect bare root trees are to be kept in place until placing of the tree into the planting pit.

Remove the turf / surfacing and dig a square hole to required depth and size to accommodate all roots of tree. The planting hole should be deep and wide enough to accommodate all of the roots. Removing or reduction of tree roots to fit excavated pit is prohibited. Break sides and base of tree planting pit to assist with drainage.

The finished planting depth of bare root trees is the soil mark on the base of the tree and for root ball and container trees the top of the container and root ball should be just under the finished level of the soil.

Before planting containerised trees they shall be thoroughly watered, remove the pot, tease the roots out gently from the root ball to encourage roots to grow outwards from the tree and not to continue growing in a circle direction in the planting pit.

For bare root trees remove protective packing from the root system, inspect the root system and prune any damaged roots, re-bag/ cover tree roots until placing in the tree planting pit.

For root ball trees leave the wire mesh or hessian sacking around root ball.

Bare root trees and root ball trees shall be placed in the centre of the tree planting pit, and the cross bar staking shall be constructed before the tree is fully planted. Remove the tree from the planting pit to avoid damage to it and recover the root system to stop the roots from drying out whilst constructing the support system

Once the staking system is installed remove root protection and place the tree in the tree planting pit with the root soaker installed to the manufactures recommendation.

A minimum of 10L of organic matter thoroughly mixed into the back fill soil when planting the tree, bare root trees will require periodically shaking to work fine soil into the tree root system. Continue to back fill the planting pit with soil and organic matter in layers and firm soil to ensure that there are no air pockets in the tree planting pit.

For root ball and bare root trees Install the tree tie and cushion to the cross bar ensuring the tree is upright.

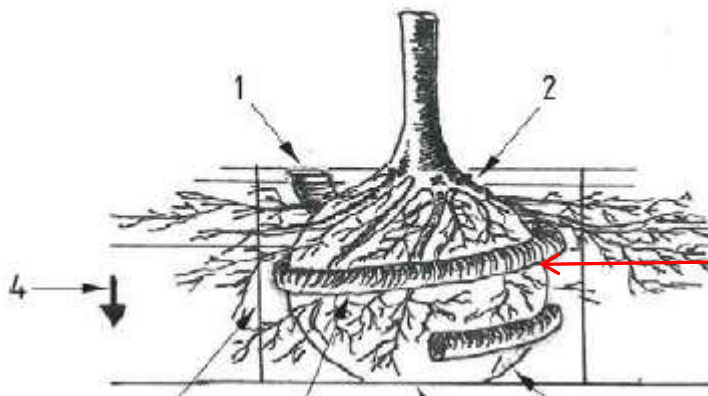
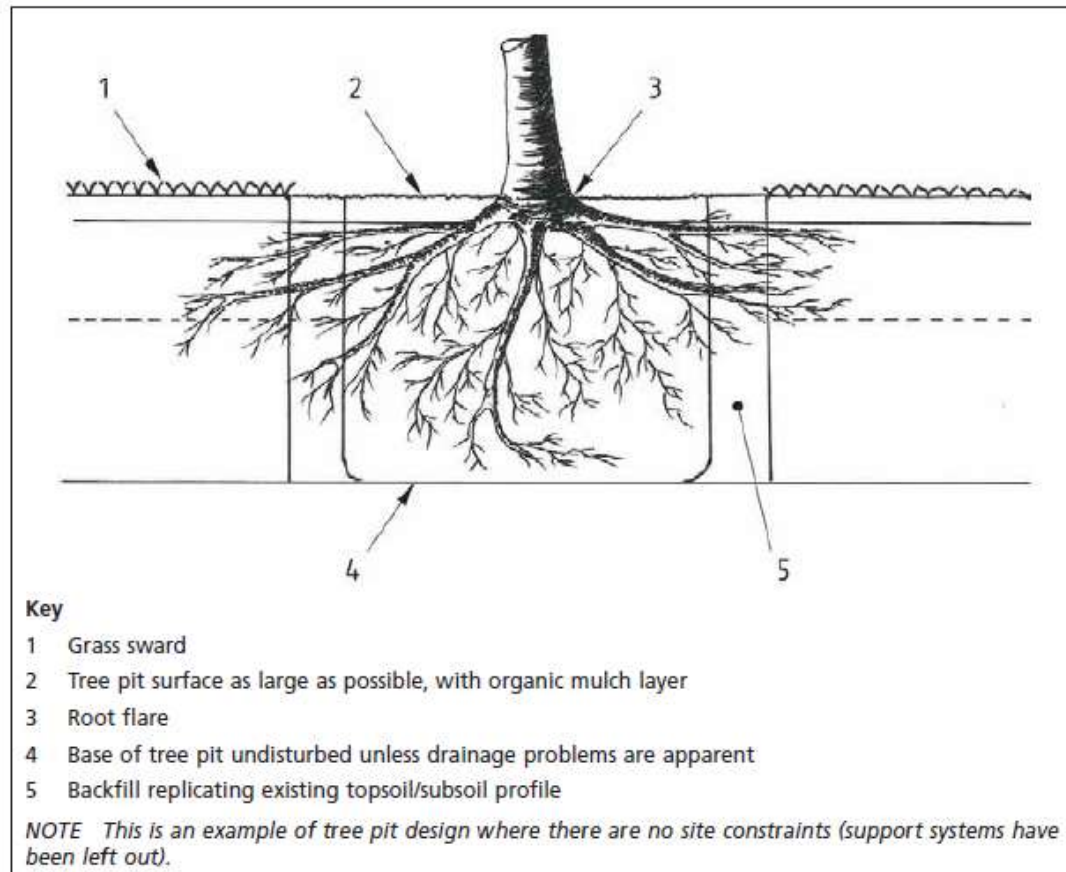
For containerised trees install the tree stake at an angle to the side of the trees root ball to avoid damage to it.

The tree must be planted in the middle of the planting pit and the surface covered with a 60mm layer of well rotted wood chip mulch to a finished level of the soil mark at the base of the tree.

The tree should be planted in accordance with the recommendations in BS8545 2014 page 56 figures F1 as shown below.

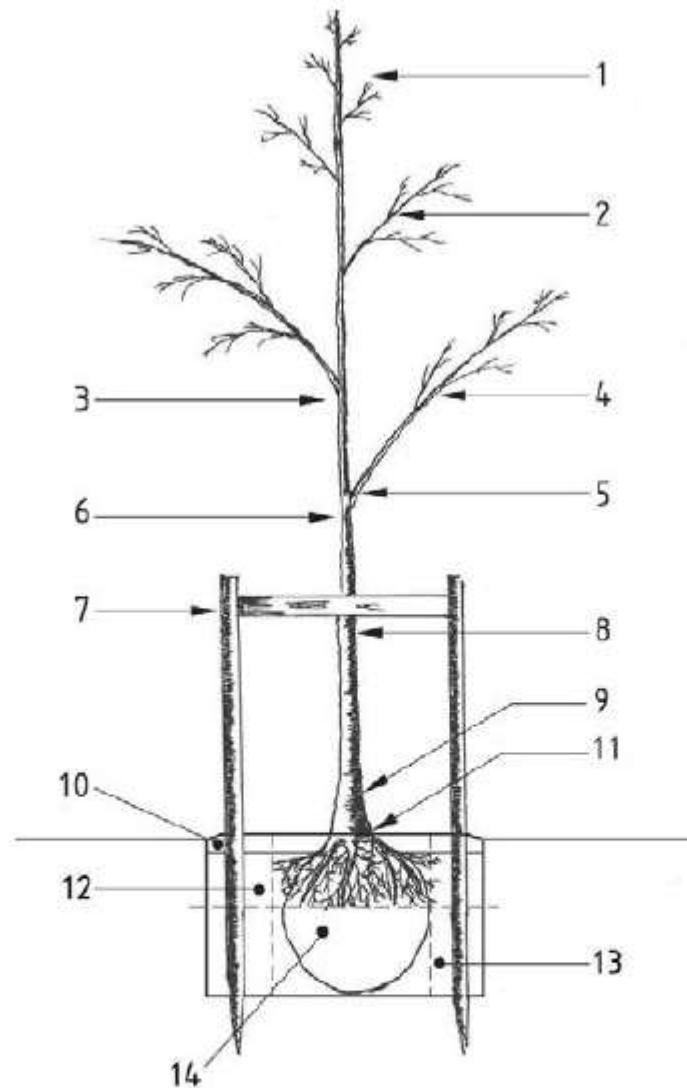
APPENDIX 4 TREE PLANTING PROTOCOL

Figure F.1 Tree pit design: Planting in grass



Drawing showing installation of root soaker pipe and cap.

APPENDIX 4 TREE PLANTING PROTOCOL



Layout
drawing
of tree
and
staking

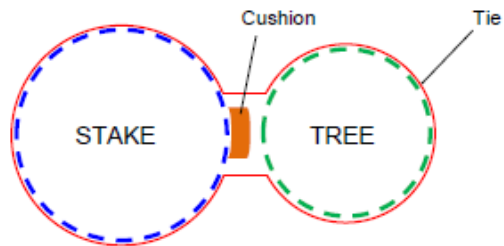
Key

1 Straight leader	8 Clear stem
2 Formative pruning, as necessary	9 Bud/graft union
3 Size	10 Mulch
4 Lateral branch subordination, as necessary	11 Root flare
5 Branch union with no included bark	12 Irrigation
6 Height/stem diameter ratio	13 Soil volume
7 Support	14 Type and condition of root system

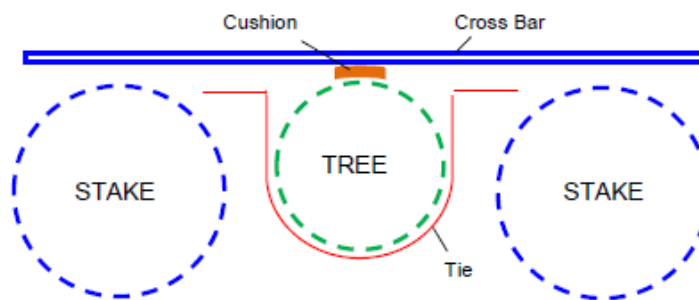
APPENDIX 4 TREE PLANTING PROTOCOL

Tree Staking Methods

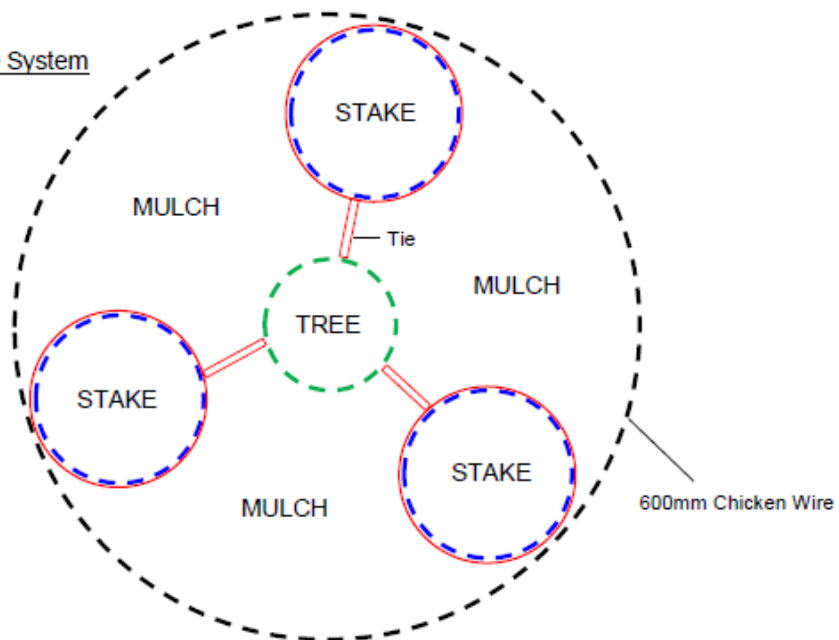
One Stake System with/without wire guard



Two Stake System + Cross Bar



Three Stake System



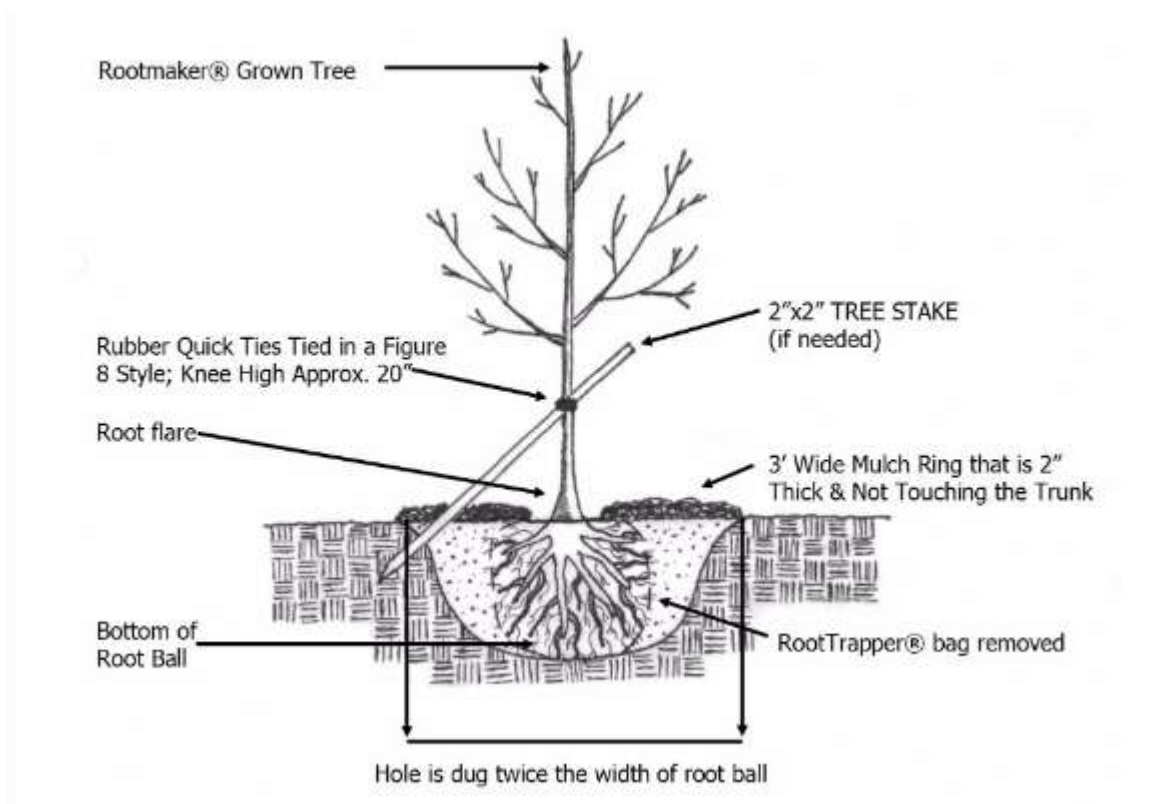
APPENDIX 4 TREE PLANTING PROTOCOL



Example of
a 3 stake
system with
chicken
wire.

APPENDIX 4 TREE PLANTING PROTOCOL

4. Staking of a Containerised tree or Evergreen



5. Maintenance

- If the tree fails to transplant and establish fully, it must be replaced within the dormant period and maintained for 12 months after the planting date.
- The tree will be watered with 30litres of water per tree per visit via the root soaker as necessary depending on weather patterns to ensure the tree survives hot weather.
- Newly planted trees shall be inspected and formatively pruned to remove dead, crossing and weak branches or broken branches , co- dominant leaders and epicormic growth. (After leaf flush but before leaf fall. (Jun to Sept)
- A 0.5m radius circle around the tree base with a 60mm depth of well rotted woodchip mulch will be maintained.
- Ensure root soaker water tube is clear of debris and filler cap is fitted.
- The mulch layer around the tree is topped to a depth of 60mm.
- The tree ties and cushion have been adjusted to account for the trees new growth.



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 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.

APPENDIX 5

HAMPSHIRE COUNTY COUNCIL FOOTPATH INFORMATION

- 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).

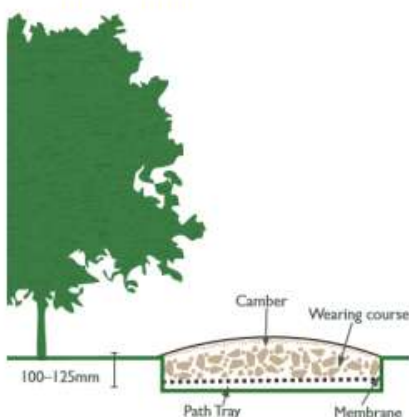
Typical Footpath Specification

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 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.

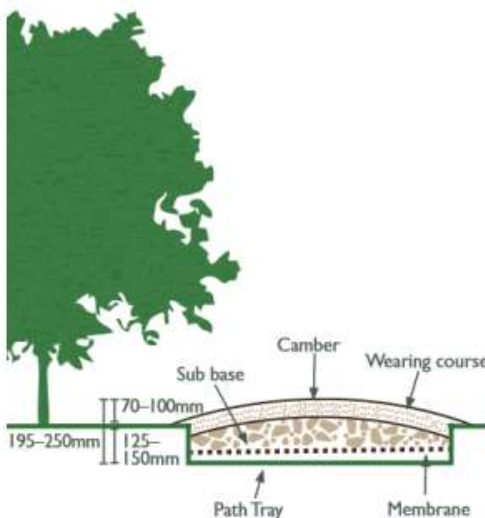
Path should be 2.5m wide (if possible)

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.