



Highway Tree Planting & Verge Enhancement Schemes

Best Practice Guidelines



SURREY
COUNTY COUNCIL

Foreword

Surrey's Community Vision for 2030 contains the ambition that:

'Residents live in clean, safe and green communities, where people and organisations embrace their environmental responsibilities'.

This ambition reflects Surrey residents' desire to preserve their county for future generations and recognises that people and organisations are collectively responsible for ensuring Surrey is safe, free from pollution and has open, green spaces to enjoy in the future.

The UK government has committed to achieving net zero carbon emissions by 2050, and on 9 July 2019 the council followed suit by declaring a 'Climate Emergency' and committing to work with partners to agree Surrey's collective response, which will include a strategy for becoming carbon neutral as early as possible.

Surrey Highways has developed this best practice guide, to assist Surrey Highway Officers, Local Tree groups and Residents' Associations as well as individuals who live and work in Surrey. The guidelines provide information on what to consider as well as how to progress opportunities to plant trees and shrubs on highway land and enhance existing highway verges.

The guidelines are designed to guide and are not a definitive policy on tree planting or verge enhancements. Each request will be considered on its merits and where both funding and resources are available, opportunities will be exploited to help fulfil Surrey's Community Vision for 2030.



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Cabinet Member for Highways

Picture 1: Row of Cherry trees with watering bags on a wide highway verge



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Picture 2 - Large tree, Norway Maple, in a large highway grass areas

Planting on the Highway

Surrey County Council encourages planting on the highway, but it is vital that the right tree or shrub is planted in the right location and supported by proper maintenance.

Many years ago, planting was undertaken by developers and local authorities with limited thought on the future use of the road or the likely size of the tree. This has resulted in important lessons being learnt and a change in what is considered suitable on an urban street.

Greening our highway, including trees and shrubs bring many benefits to people and the environment.

Planting can help to support wildlife, provide shade and shelter, improve air quality, reduce noise or flooding but also help to green our streets.

Surrey County Council has a number of pressures on the Highways budget, but will consider locations proposed by individuals as well as groups. Fees to cover administrative costs are payable by applicants, currently set at £25 (as of 2020) but will be subject to review and will be available on our fees & charges webpage. In some cases planting cannot be carried out due to overhead cables, street lights, signs, road visibility and underground services.

Surrey County Council will endeavour to respond positively to tree and shrub planting requests.

Where the site is suitable but Surrey County Council highways are unable to fund the tree planting, individuals and groups are encouraged to raise the funds to ensure the planting can be progressed.



Picture 3 - Rowan tree planted under telephone cables and too close to a street lighting column – this will cause issues in the near future.

Tree Species

Trees are a living thing and as such ultimately have a lifespan. Before they die they may be removed as a result of disease or for safety reasons.

In order to ensure that there will be trees in the future, it is important that when new trees are brought into the street scene, they are a mixed population of tree types.

This is so that if a disease or pest were to damage one type of tree, the losses would not be too significant as there would still be immune trees in the locality. In addition, like flowering plants and

shrubs, each tree type may have different leaf colour and particular time of the year when it is most glorious.

Annex A, contains a provisional list of trees which will be considered by the County Council Arboriculture team to plant on the highway. The Council will only permit species which are native or are compliant with bio-security measures and fully approved for use in the United Kingdom. The list is not exhaustive, but the trees listed have known qualities which complement the highway. This may include the type of root growth, the height and spread of the tree canopy, seasonal arisings and resistance to current diseases or pests which are prevalent in today's changing climate. The list is designed to help prevent an ongoing costly maintenance burden to the taxpayer and minimise potential damage to highway land or private property.

Protecting trees

Urban trees are not protected in the same way as young trees growing in their natural environment where they would be surrounded by surrounding vegetation to provide shelter. Urban tree locations can be vulnerable to wind and disturbance from pets, pedestrians, vehicles and general highway maintenance activities.

Trees will be provided with suitable protection against animals and mechanical devices such as grass trimmers. The primary means of protection will be by planting in the right place, using stock of suitable size and using mulch under the tree to prevent grass and weeds growing near to it in the first few years. The mulch should be over a 1m diameter or square area, and to a depth of 50-75mm, without touching the new tree itself. Mulching helps to conserve water and prevent weeds growing around the tree.

Staking trees

Most highway trees will require staking initially. This will help protect it from highway users and strong winds whilst it establishes itself. Stakes should go into the ground at least 60cm, to ensure it is stable enough to support the tree. It is important to remove the stakes after 18-24 months, to prevent damage to the tree from the support strap becoming too tight, and also ensuring that the tree becomes capable of standing on its own, without support. If a tree relies on the supporting stakes the tree may grow fewer roots and develop a weak tree base – resulting in a tree unable to withstand typical Surrey weather, if the stakes rot.



Picture 4 – Young tree with stakes and feed / water bag

Maintenance of newly planted trees

Surrey County Council cannot undertake the ongoing maintenance of a young tree, and volunteers will be required to regularly water the tree in its first two years, particularly during the growing seasons.

Where suitable, the use of tree planting feeding bags or root drenches will be encouraged, to ensure trees remain hydrated particularly in the summer. The watering bags slowly release water and help keep trees moist for healthier growth. They are quick and easy to install and can reduce the time taken to water each tree by volunteers. It is critical that the tree is not allowed to dry out for the first two years.

Formative pruning will also be encouraged by volunteers to ensure clean and healthy growth from an early age with the aim of minimising long-term tree health problems.

Some trees will die either naturally or through vandalism or damage. In this event, trees will not automatically be replaced. Each site will be assessed independently, taking into consideration factors such as available funding or local air quality issues.

Tree stumps

Surrey County Council has a limited arboriculture budget and we prioritise our works on a risk-based approach. This means that the majority of our highway trees on grass verges and footways are felled to a 1m stump. In the right place these stumps can be beneficial to insects, such as the stag beetle. Stumps are hence only removed where they present a significant obstruction to users of the highway.

Individuals may be permitted to fund the removal of the stump from grass verges and are encouraged to use a Surrey County Council and Arb Association approved contractor. All contractors working on the highway, must have their Street Works qualifications as a minimum of LA (Location and avoidance of underground apparatus) and O1 (Operatives - Signing, lighting and guarding).

Surrey County Council will provide statutory undertakers plans before any stump grinding is permitted on the highway. Surrey County Council must be informed of any stump which is removed from the highway.



Picture 5a & 5b. Tree stumps left from felled trees, cut to approximately 1m in height

Grass Verges

The easiest place to dig a hole, to plant a tree is generally considered to be the grass verge. Grass verges vary in size from a minimal 30cm through to a wide expanse which may be larger than 30m square. Grass verges are also the easiest location for statutory undertakers to dig trenches to locate their pipes and cables in.

Before any grass verge is considered to be a suitable location to plant a tree, the following considerations must be undertaken:

- Is the grass verge part of the public highway
- Are there cables, wires overhead or a street lighting column close to the location
- Are there existing statutory undertakers cables and pipes within the verge – if so, is there space for tree planting to take place
- Does the adjacent property have existing vegetation or trees on their boundary property
- If there are properties adjacent to the grass verge, is the property owner in agreement to have a tree planted close to their boundary.
- Is the verge wide enough to sustain a tree, and ensure that as it grows it will not grow over the road or block the footway.

Picture 6 – Silver birch tree planted too close to the road – and will in just a few years encroach onto the road and likely be damaged by vehicles brushing past it.



Footway

Planting trees on the footway, requires a tree pit to be installed to prevent the footway collapsing into the tree hole.

Tree pits will always be a minimum of 1m square or diameter. When considering installing a tree pit, it is important that the footway width is not reduced to below 1.6m to allow full access along the footway.

The tree species for tree pits are specific to ensure the tree can establish itself. Ideally a medium sized tree requires 12 m³ to give it the best start and chance in life. Most of our footways do not have this area of space between private properties and the road, and hence the choice of tree species are limited.

Paved surfaces and utility pipe and cables are vulnerable to root damage. It is important to not plant trees too close to existing known utilities. Tree roots should also be guided downwards, for a minimum of 300mm to remove the possibility of either the road or footway suffering from root heave.

In most locations there will be the need to install specific tree root restriction materials, rather than allowing the tree roots to potentially cause damage to the footway or road. There a number of suppliers of such materials, and an example is below.



Picture 7 – An example of a Ribbed Root Barrier Panel, courtesy of Green Tech. The panels can be used in a circular, square or straight line direction to protect underground service or the highway surfaces.

The Road

There may be opportunities to plant trees on the existing road network, however due to the requirement for the installation of load-bearing systems for tree rooting environment (for instance rafts or crates) to protect the tree and its roots from compaction, the size of excavation required means that these opportunities would be limited to capital funding and larger schemes.

New developments with sustainable drainage systems, such as swales and structural soil are better suited to identifying areas where trees can be designed into the built environment.

Further details on planting trees within the *streetscene* can be found in Annex D.

Planting shrubs

A shrub or bush is usually smaller than a tree, often having multiple permanent stems branching from or near the ground. Shrubs can grow both tall and wide, and must be chosen carefully as ongoing maintenance costs must be considered. Many shrubs will need to be kept well-watered during dry periods. Safe access to the shrub area and volunteers to water the plants will be required to ensure the shrub grows successfully. All shrubs and their locations must be approved by the Arboricultural team before planting takes place.

Planting a memorial tree or shrub

Individuals may contact Surrey County Council with a request to plant a tree or shrub to commemorate an occasion or person. Memorial planting will be self-funded by 3rd parties, as per the process in Annex 2. It is important to note that Surrey County Council will not permit plaques to be

placed on or near the tree or shrub, and that if it subsequently dies or is damaged accidentally or deliberately it is not possible for Surrey County Council to fund a replacement.



Picture 8 – Fastigate Oak, located on a wide urban verge, with a 1m diameter mulch circle.

Maintaining Grass Verges

Many grass verges which run alongside the highway are the responsibility of Surrey County Council. We work very closely with the 11 District and Borough Councils within Surrey, and in some areas they directly manage these grass verges on our behalf.

Restoring biodiversity and encouraging natural grass land and native wild flowers along some of our grass verges is an opportunity to support insects, wildlife and grassland species. Areas of highway can be considered for encouraging native wild flowers and grasses to grow – however, these sites must be approved by Surrey County Council to ensure that the safety of the highway users is paramount.

Grass cutting

Surrey County Council funds 4 urban grass cuts and 2 rural grass cuts in a year. Some Districts and Boroughs undertake additional cuts.

Grass cutting is an important part of maintaining the highway network. If the verges were left uncut, it would take a very short period of time before plant diversity declines as scrub and woodland develops.

Grass cuttings in the main are not collected, as this requires alternative equipment to the standard highway verge cutting machinery and the cost of upgrading cutting machinery is too prohibitive for many contractors.

Rural verges, particularly with roads of a speed limit of 50mph or more, will continue to require a minimum of a 1m swathe strip to be cut in April/May. This ensures that the carriageway edge remains clear of overgrown vegetation, which if not cleared could impact on draining water from the carriageway. Cyclists may also be obstructed by the vegetation and pedestrians will not have a safe place to walk where there is no footway. If a footway exists on the grass verge, the grass will continue to be cut either side of the path, to ensure the path does not become overgrown.



All verges should have a full width cut in the autumn to prevent woody shrub growth, and self-seeded saplings growing in inappropriate locations.

Where rural verges are left to grow until autumn, Blue shaped hearts can be planted to indicate to highway users it has been deliberately left. The “BLUE” campaign is a nationally led campaign to encourage biodiversity and is gaining popularity across the Country. Their work is collaborating with PlantLife,

Wild flowers

Surrey County council encourages the sowing of native flower seeds. Native seeds will encourage biodiversity improvements – although may not be as bright and colourful as some non-native flowers. Planting generic mixes of wildflower seed does little to conserve locally occurring wild flowers and can have a negative impact on natural native flora. Sowing mixes of seeds can be expensive and labour intensive to maintain unless planning and preparation work is undertaken. Many seeds require a period of cold to germinate, so need to be sown by late summer, or very early in the Spring.

Sowing seeds on existing grass verges are less likely to be successful than if they are sown on a scarified verge. Grass is a quick growing plant, and as such will often outgrow wild flowers providing shade to them and stifling their growth. Scarifying verges can be costly, if extensive temporary traffic management is required, and it can also encourage weeds to grow initially, and labour will be required to remove the weeds until the wild flowers establish themselves.

Wildflowers flourish on areas where there are low nutrients. Where verges are being developed, consideration of replacing the soil on verges with limestone scalplings and a very thin layer of soil should be undertaken. Wild flowers would thrive on this area, and a reduction in the number of grass cuts should be evidenced within a short period of time.



Alternative treatment of verges

Surrey County Council encourages the use of alternative verge management, which may include the use of cut and collect machines, where available, undertaking a single cut each year in set rural areas.

The use of cut and collect machinery on both the rural and urban verges can reduce the thick thatch that can build up on verges. Where machinery is not currently available, volunteers can be encouraged to assist with boosting natural wild flower growth by raking up and collecting the grass following a cut where it is safe to do so. This will help reduce the nutrients in the grass verge which means that slower-growing wild flower species can start to replace lush grass growth.

In urban areas this may result, over time, in considerably fewer number of cuts being required to keep the grass at a standard height. Grass cuttings can be deposited in areas of verge with trees or those areas of verge which can hide the grass cuttings. These grass cuttings once they have mulched down can be used to protect newly planted trees and recycled.

Protecting areas of grass verges

Some areas of verge may contain certain species of wildflowers or grasses which are of a specific interest to a group or the wider community. Where individuals or groups identify areas which they have nurtured or which they wish to nurture permission must be sought from Surrey County Council.

The Highway Maintenance Engineer will assess the sight and ensure that the safety of highway users or those wishing to work on the highway is not put at risk from allowing a particular area to be acknowledged as an area with specific maintenance requirements. Where it is safe to do so, the area may be identified by the use of passively safe markers. The correct process for registering an area of verge for protection is at Annex C.

Herbicides

Surrey County council will only use approved herbicides to specifically treat invasive weeds such as Giant Hogweed and Japanese Knotweed on their highway verges. Herbicides are not sprayed on a grass verge to inhibit grass growth.

Annex

Annex A - Tree Species

Please consider mature size of tree selected and potential to affect adjacent property. Do not regard space over adjacent property as potential growing space.

Small Height (5 – 12m)

Requires 10m³ and minimum width of 1.1m to grow.

Latin Name	Common Name	Description
Prunus Royal Burgundy	Royal Burgundy	Purple leaves
Acer campestre var Elegant	Field Maple	Autumn colour
Liqustrum lucidum variegata	Chinese Privet	Evergreen
Corylus Columna or Te-Terra Red	Turkish Hazel	Large Green leaves or red leaf

Medium height (12 - 17m)

Requires 20m³ and a minimum width of 2m.

Latin Name	Common Name	Description
Gleditsia tricanthos Variance: Subnurst; Ruby Lace	Honey Locust	Yellow Leaves
Koelreuteria paniculara	Price of India	Flower
Pyrus calleryana chanticleer	Ornamental Pear	Autumn Colour

Large height (17m+)

30m³ and a minimum width of 3m.

Latin Name	Common Name	Description
Fagus sylvatica	Beech	Foliage native
Acer psedopltanus varieties	Sycamore	Draught tolerant
Ginko biloba	Ginko	Pollution tolerant

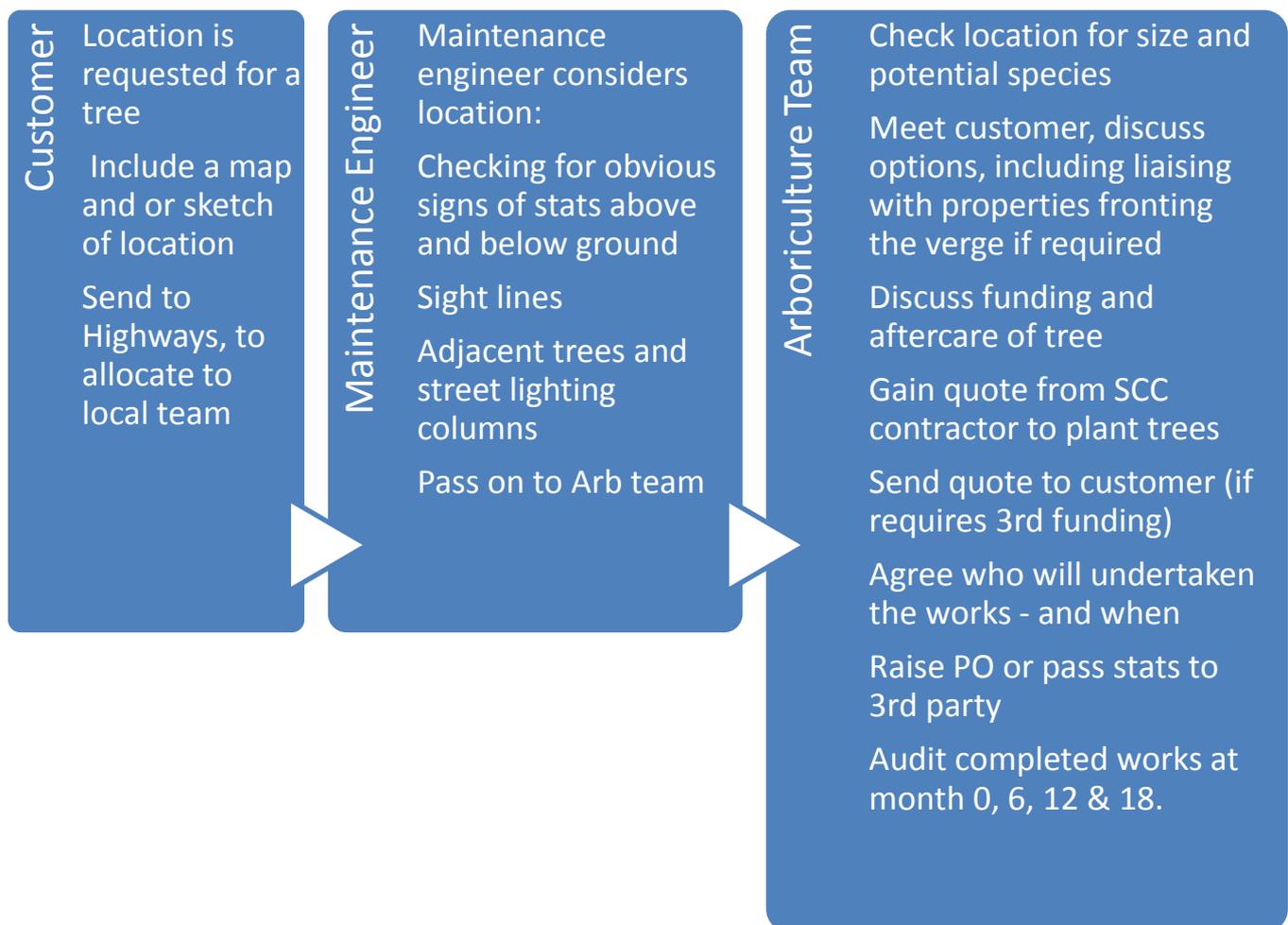
Other options are available for nomination subject to approval from the Arboriculture team and availability from the tree nursery.

Annex B - Process for tree planting

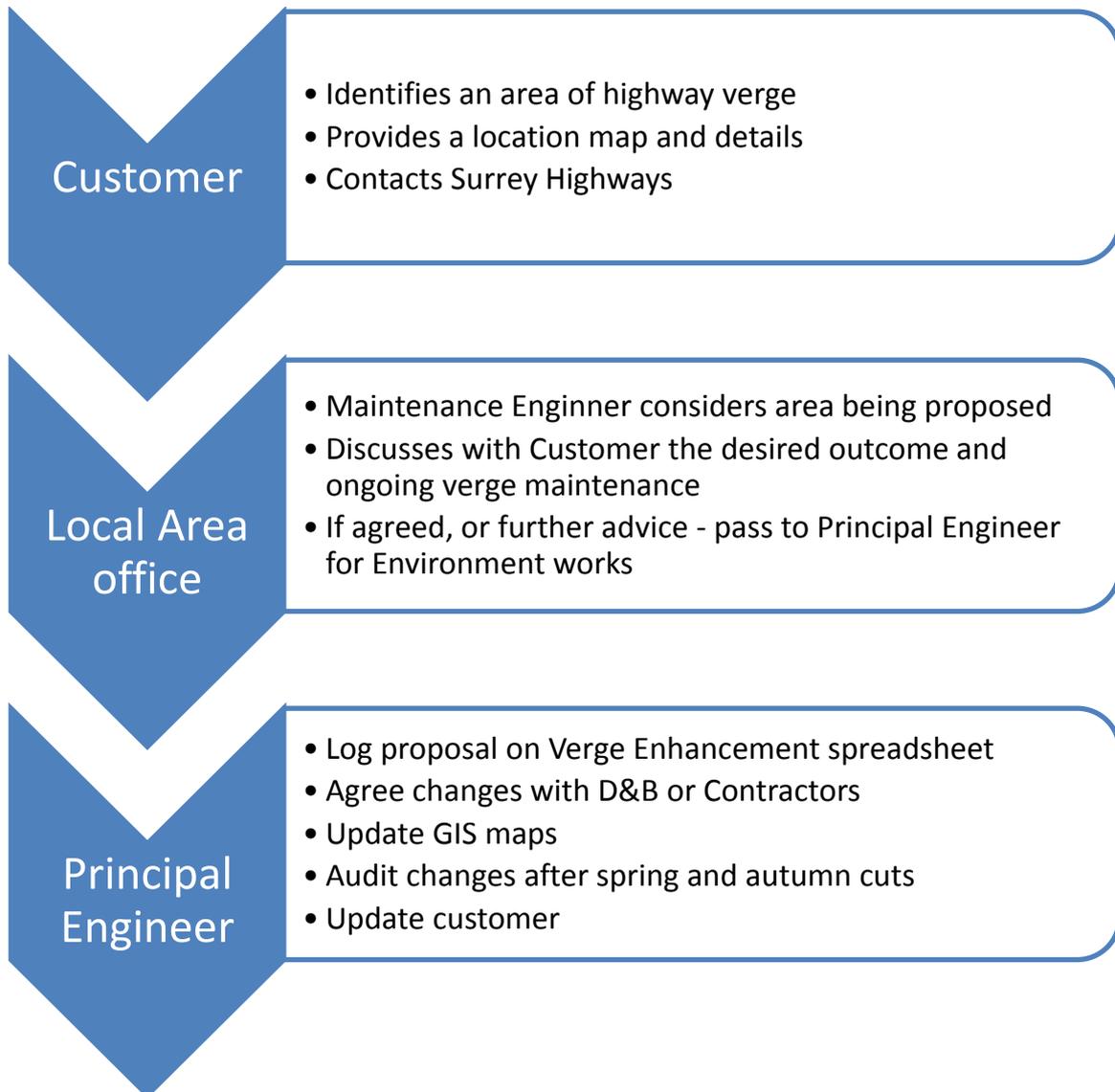
Requests for tree planting can be accepted at any time of the year, however trees will normally be planted between November and December.

Common tree orders need to be placed with the tree supplier by February, the year of planting, in order to secure those trees for that year.

Specific trees may require 2-3 years notice, in order that a nursery can grow and develop them to a suitable size.



Annex C – Process for requesting a variation to the existing verge maintenance regime



Annex D – Alternative solutions to greening our highways

Planting trees where vehicles drive, park or turn

Rafts or crates where tree roots can be protected as they grow. Surfacing (bituminous, blocks or grass) can then be undertaken over the top.

Rain garden tree pits

Trees and their growing area used as a soakaway for highway water.

Trees are planted on the footway, with large (effectively) soakaways under them. Trees help to filter the water.

Green screens

Living Ivy screen fences – thin and take up little space.

Much development is happening in this field and hence this list is not extensive. Other options will be carefully considered if suggested.