

GENERAL SPECIFICATION NOTES = For Hedgerow planting - implementation + maintenance.

Site preparation: Imported topsoil shall be to BS 3882: 2007: Specification for topsoil and requirements for use, and be of medium texture with a high proportion of loamy material. It shall be free from subsoil, rubbish, roots of perennial weeds and other injurious to plant growth. All topsoil shall be stacked in heaps, not exceeding 2m high. During storage, topsoil heaps shall be kept free from contamination, compaction and weeds. Imported topsoil shall be from an approved source and a sample submitted and analysed/tested at an independent approved laboratory.

Soil Handling: Soil handling shall only take place during the driest parts of the year to prevent compaction of the in-situ soils. Preparation for Topsoil: re-spread Topsoil shall be spread following completion of all hard landscape building works, following a thorough clearance and removal of building debris. The formation levels shall be as follows: Tree pits: 2m x 2m x 1m deep; bottom of pit broken up to a depth of 150- 200mm and scarify sides. Shrub & Hedge trenches and Shrub areas: minimum 0.45m deep.

Root Protection: Area beneath Existing Trees: Cultivation to a depth of 400-450mm for shrub planting to be undertaken by hand using hand tools only to minimise root damage. If significant roots are encountered, these will be left undamaged and dug around; Where new topsoil is required, existing soil shall be removed by hand and backfilled with new topsoil by hand to existing levels.

Backfilling with Topsoil: Tree pits and shrub beds shall be backfilled, in layers, with topsoil thoroughly mixed with planting organic compost and slow release fertiliser shall be used to plant all shrubs and hedges. All finished levels shall be 25mm above adjacent paving. The shrubs shall be shaken during backfilling to avoid air pockets and the soil must be firmed as the hole is filled.

Cultivation: Topsoil shall be cultivated to a minimum of 450mm deep on planting areas to a medium tilth, removing all rubbish, vegetation, perennial weeds, roots, stones over 50mm in any one dimension and raked to even levels.

All hedgerow planting should be carried out in accordance with BS4428:1989, 'Code of practice for general landscape operations (excluding hard surfaces)'. Hedgerow shrubs should either be notch planted or trench planted. Hedge trenches should be dug to a minimum depth of 400mm and width of 600mm, with the plants put into the ground at the same depth at which they had been previously grown in the nursery. All plants need to be well heeled in after planting and watered in during dry weather. Most hedging plants are supplied as bare root specimens, and it is important to make sure that the roots do not dry out, therefore it is advisable to keep them under a moist cloth or in a bucket of water during planting. Hedges should only be planted between November and March, while plants are still dormant. Avoid planting in very cold or wet weather.

PLANTING

Plant Stock and Timing: Plant material shall conform to BS 3936 Part 1: 1992, Part 2: 1990; Part 9: 1998; Part 10: 1990 and BS4043: 1989 and shall be protected at all times in transit to the site. The planting season shall be from 1st October to the 31st March. Planting shall not be carried out during periods of frost, drought, cold drying winds, or when the soil is waterlogged. The planting shall be carried out in the first planting season following practical completion of the hard landscaping. Planting outside the planting season will require adequate watering to ensure establishment.

Planting: All trees, hedges & shrub planting shall be planted upright at the same depth as the nursery soil level and evenly spaced, leaving room for growth. Allow at least 300mm clearance between the rootball and the edge of the pit to facilitate staking/anchoring and to allow adequate amount of backfill around the rootball.

Planting Specification

Hedging should be planted in two, staggered rows at a density of not less than 5 per metre (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.

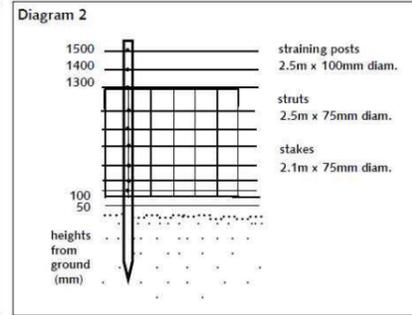
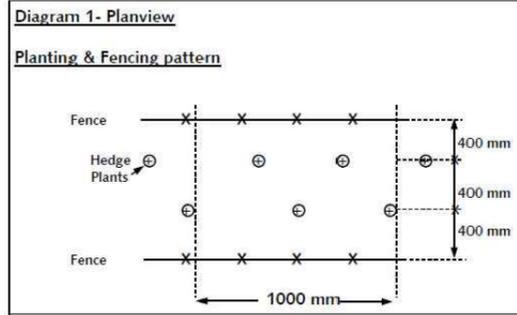
Hedgerow Protection

When planting a new hedge, protection from grazing animals, both livestock and wild animals such as deer and rabbits must be considered. 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). The planted hedgerow should be protected from rodent damage with spiral tree guards or the use of rabbit netting which can be removed once the plants are well established (approx 3-5 years).

Some form of weed control is essential if newly planted trees are to be able to establish, and should be undertaken for at least the first three years after planting. To prevent weed competition an area 1 metre across should be cleared of vegetation in line with the new hedge. You will need to specify the type of weed control to be used.

If properly applied and maintained, mulches can be effective at suppressing weeds. Alternatively, mulch mats or non-herbicide weed control (such as vinegar) may be used. The mulch should be applied and maintained to a minimum depth of 100mm.

Mulching: Prior to the application of mulch, the planting areas shall be completely weed free and watered sufficiently to achieve field capacity. The surface of the planting areas shall be mulched with a layer of Organic Compost Mulch or Fine Composted Bark Mulch composted for 2-4 weeks with a particle size of 0-8mm, to a depth of 50mm, ensuring that the low branches of shrubs and herbaceous plants are not smothered. The mulch shall be topped-up to maintain, after settlement, a depth of not less than 50mm.



IMPLEMENTATION

All tree, shrub planting areas shall be carried out in the first planting season after all the building works and the hard landscaping areas have been set out and completed.

- Deciduous trees and shrubs - Late October to late March
- Herbaceous plants: September/October and March/April
- Container grown plants: At any time if conditions are favorable
- All construction works to be carried out to manufactures recommendations regarding climatic conditions and controls.

AFTER CARE PERIOD

Performance Criteria: All hedges shall have a complete canopy and be managed to form a continuous impenetrable thicket to the desired height by Year 5.

The **Defects Liability Period** shall extend for a min.18-month period commencing at Practical Completion. During the Defects Liability Period maintenance visits shall be carried out, at least monthly from April to September and twice during the dormant season to carry out the following operations to establish healthy growing plants in weed free areas. Maintenance operations shall include: watering, firming-up, pest and disease control, grass cutting, general pruning, weed control, top up mulch and autumn tidying. Replacement Planting. All plants, which have died, are missing or have failed to thrive, shall be noted and replaced with the same size and species as originally planted, in the following planting season.

The **Maintenance Period** shall extend for an 5-year period commencing from Practical Completion. During the Maintenance Period maintenance visits shall be carried out, at least monthly from April to September and twice during the dormant season to carry out the following operations to establish healthy growing plants in weed free areas. Maintenance operations shall include: watering, firming-up, pest and disease control, grass cutting, general pruning, weed control, top up mulch and autumn tidying. Replacement Planting. All plants, which have died, are missing or have failed to thrive, shall be noted and replaced with the same size and species as originally planted, in the following planting season.

Maintenance Operations Years 1-3

- Monthly inspection for wind firming and watering as required ensuring establishment and survival of plant material;
- Pruning shall be directed at maintaining true and even levels as necessary during the growing season, with all arisings removed from site;
- The first cut can commence when all danger of frost has receded. When cutting avoid strong sunlight, best carried out on a dull and wet day;
- The last cut shall commence no later than 4 weeks before the first frost. Annual application of an approved fertiliser in July of 17:17:17, N:P:K at a rate of 30g/M2;
- Maintain the planted area weed free by applying an annual dressing of an approved residual herbicide in the winter months and spot treatment with an approval translocated herbicide during the growing season;
- Remove and replace all dead, dying, diseased or damaged plant material, replacements to be as originally specified within the main landscape contract, or as agreed with management company representative.

Maintenance Operations Years 3-20

- Operations to include the above, plus:
- Maintain top and side of hedges in a rectangular profile using suitable, approved mechanical methods, to true and even levels. Remove any cuttings lodged in the surface of the hedge and rake up and remove all arisings; and
 - Maintain weeds or grass growth at the base of the hedge to a maximum height of 100mm by regular hand cutting or by application of an approved residual herbicide.

Species - Typical rural hedgerow species mix:

Non-indigenous but naturalised species such as Lilac *Syringa vulgaris* and Field Maple *Acer campestre* are added to the inter-planting for their inherent wildlife value and biodiversity potential.

- Main Matrix (Transplants/Quicks): 70% of planting stock Hawthorn *Crataegus monogyna* and Blackthorn *Prunus spinosa*
 - Interplant (Whips/Transplants): 30% of planting stock
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|--------------|------------------------------|
| Hazel | <i>Corylus avellana</i> |
| Holly | <i>Ilex aquifolium</i> |
| Dog Rose | <i>Rosa canina</i> |
| Elder | <i>Sambucus nigra</i> |
| Guelder Rose | <i>Viburnum opulus</i> |
| Spindle | <i>Euonymus europaeus</i> |
| Honeysuckle | <i>Lonicera periclymenum</i> |
| Ivy | <i>Hedera helix</i> |
| Bramble | <i>Rubus fruticosus</i> |

Hedge trimming

It is an offence to take, damage or destroy the nest of any wild bird while that nest is in use or being built, during the bird nesting season (currently defined by the Wildlife Acts 1976-2012 as March 1st to August 31st inclusive), in order to protect nesting birds and eggs/chicks from disturbance, injury or death.

It is therefore best to trim hedges in January or February to avoid the destruction of bird's nests (present from March to August) and also to allow any berry crop to be used by wintering birds (September to December). Trim on a two- or three-year rotation, rather than annually. This ensures that thick nesting cover is available and increases the berry crop and populations of over-wintering insects.

When trimmed, deciduous species tend to respond by producing numerous shoots at the point of cut, which means that hedge trimming can promote faster growth at the tops and sides of hedges and cause the plant to expend less energy at the base where gaps start to appear. Therefore, "A" shaped or "topped A shaped" hedge trimming is best for hedge viability and for wildlife. To trim the hedge it is best to use reciprocating bar cutters which slice through branches. These leave a neater cut, which has a better chance of healing without infection, than hedges cut by a mechanical flail, which damage branches, and result in a shattered, ugly hedge.

Hedges should be cut to an A-shaped profile, with a bushy top for maximum protection from wind. This will encourage the development of a dense hedge. Square cut hedges will put out a twiggy, lateral growth, encroaching on roads and paths. An established hedge will need cutting every two to three years. There is considerable wildlife benefit if maintenance is done in rotation around the farm to ensure that there is growth at all stages. If possible, one side of the hedge should be trimmed at a time.

Where mechanical cutting is required, identify tree saplings to be retained. The vegetation around the saplings should be cleared manually and be clearly marked to alert the machine operator. The preferable method of hedge maintenance is by hand tools. Where this is not practical, particular care should be given to the correct use of machinery. Remember the importance of sharp tools and regular maintenance of equipment. Finger bar cutters with a pair of reciprocating blades are very suitable for trimming young growth. A flail cutter should only be used on soft growth (2-3 years old) of thorny species, and never on heavy woody growth: the resulting ragged ends are unsightly and invite disease. Smooth wood species such as willow, hazel and cherry are not well suited to flail cutting. A circular saw should only be considered for coppicing and must not be used for general hedgerow maintenance.

Fencing wire should not be attached to hedgerow trees and shrubs. Overgrown or neglected hedges with sufficient vigour may be restored by coppicing – selective cutting at ground level to promote bushy regrowth. Hedge-laying involves the part-cutting through of selected stems, bending them over at an angle of 70-80 degrees, and securing the stems. This can be part of the long-term maintenance cycle of a hedgerow and is recommended as a method of hedge-rejuvenation and stockproofing. Gaps in hedgerows that cannot be closed by laying should be planted with hawthorn quicks, blackthorn or other suitable native species at not more than 30cm spacing in prepared ground. The young plants should be cut back to half their height after planting to promote growth.

Do not apply herbicides, pesticides or fertilisers within 1.50m of a hedgerow, as this leads to nutrient enrichment that can adversely affect biodiversity. Where practicable, hedge trimmings should be piled in a non-intrusive manner to provide habitat. If hedge trimmings are to be removed, this must be done immediately after cutting

Long-term management by laying or coppicing:

Although trimming will keep hedgerows in good condition for a number of years, occasional restoration work is necessary to prevent gaps developing or hedges turning into a line of trees. Hedgerow restoration can be performed in the winter by one of the following methods:

- Coppicing (cutting the stems at ground level) is the best method of restoration if the hedge is too overgrown to be laid because the stems are too thick.
- Laying (cutting stems part way through and interweaving them along the hedgeline) has a less drastic effect on wildlife and maintains the character of the landscape, but needs skilled labour.

Monitoring Objectives and Performance Criteria

At the end of the defects liability period (18 months), the overall soft landscape areas shall be in a visually neat and tidy condition and completed to the contract specification prior to handing over to the appointed management company. The management company will inspect all areas of seeding and planting regularly throughout the year, to ensure the landscape management objectives are achieved.

The landscape sub-contractors with responsibility for the site shall record all site visits, maintenance operations undertaken and any other significant events i.e. fire, theft or vandalism of plant materials. This information shall be used to prepare an annual report at the end of each year that will summarise maintenance operations together with an assessment by the contractor of the current state of the site.

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