



LONG LANE WOODLAND CREATION

Specification

OFFICIAL

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Section 1: Woodland Design and Planting Mix

The Contractor will be required to supply and plant two different woodland planting mixes one for heavy (clay) soils and the other for light (sandy) soils, though a majority of species are common to both.

Details of the size of compartments and name of the mix assigned to each of these are given in Tables WPM LL 1a and WPM LL 1b below.

The distribution of compartments is shown on Drawing number CEFW/WPC/LL/05 (Woodland planting compartments at Long Lane Farm, part 1 of 4)

Table WPM LL1a - Long Lane Farm - new native woodland planting mix for heavy (clay) soils

		Numbers				Compartment and area (ha)															Total (no.)	
			Spacing between rows	Spacing within rows	Plants (per ha)	LL 1A	LL 1B	LL 1C	LL 1D	LL 1E	LL1F	LL 2A	LL 2B	LL 2D	LL 3A	LL 3B	LL 3D	LL 4A	LL 4C	LL 4D		
<i>Total area (ha)</i>						0.51	0.81	0.63	0.51	0.54	0.33	1.00	0.40	0.73	0.84	1.11	0.14	0.36	0.37	0.59	8.87	
<i>Allowance for open space @30% (ha)</i>						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<i>Net planting area (ha)</i>					2500	0.51	0.81	0.63	0.51	0.54	0.33	1.00	0.40	0.73	0.84	1.11	0.14	0.36	0.37	0.59	8.87	
Common	Scientific	%	m	m																		
Pedunculate oak	Quercus robur	15	2	2	375	191	304	236	191	203	124	375	150	274	315	416	53	135	139	221	3326	
Sessile oak	Quercus petraea	10	2	2	250	128	203	158	128	135	83	250	100	183	210	278	35	90	93	148	2218	
Downy birch	Betula pubescens	10	2	2	250	128	203	158	128	135	83	250	100	183	210	278	35	90	93	148	2218	
Silver birch	Betula pendula	5	2	2	125	64	101	79	64	68	41	125	50	91	105	139	18	45	46	74	1109	
Scots pine	Pinus sylvestris	10	2	2	250	128	203	158	128	135	83	250	100	183	210	278	35	90	93	148	2218	
Small-leaved lime	Tilia cordata	10	2	2	250	128	203	158	128	135	83	250	100	183	210	278	35	90	93	148	2218	
Sycamore	Acer pseudoplatanus	10	2	2	250	128	203	158	128	135	83	250	100	183	210	278	35	90	93	148	2218	
Rowan	Sorbus aucuparia	5	2	2	125	64	101	79	64	68	41	125	50	91	105	139	18	45	46	74	1109	
Common whitebeam	Sorbus aria	5	2	2	125	64	101	79	64	68	41	125	50	91	105	139	18	45	46	74	1109	
Hazel	Corylus avellana	5	2	2	125	64	101	79	64	68	41	125	50	91	105	139	18	45	46	74	1109	
Blackthorn	Prunus spinosa	5	2	2	125	64	101	79	64	68	41	125	50	91	105	139	18	45	46	74	1109	
Holly	Ilex aquifolium	5	2	2	125	64	101	79	64	68	41	125	50	91	105	139	18	45	46	74	1109	
Common walnut	Juglans regia	5	2	2	125	64	101	79	64	68	41	125	50	91	105	139	18	45	46	74	1109	
Total		100			2500	1275	2025	1575	1275	1350	825	2500	1000	1825	2100	2775	350	900	925	1475	22179	

Table WPM LL1b - Part 1b. Long Lane Farm - new native woodland planting mix for light (sandy) soils

						Compartment and area (ha)				
			Spacing between rows	Spacing within rows	Plants (per ha)	LL 2C	LL 2E	LL 3C	LL 4B	Total
Total area (ha)						0.32	0.87	0.70	0.66	2.55
Allowance for open space @30% (ha)		0				0.00	0.00	0.00	0.00	0.00
Net planting area (ha)					2,500	0.32	0.87	0.70	0.66	2.55
Common	Scientific	%								
Pedunculate oak	Quercus robur	10	2.0	2.0	250	80	218	175	165	638
Sessile oak	Quercus petraea	15	2.0	2.0	375	120	326	263	248	956
Silver birch	Betula pendula	10	2.0	2.0	250	80	218	175	165	638
Downy birch	Betula pubescens	5	2.0	2.0	125	40	109	88	83	319
Field maple	Acer campestre	10	2.0	2.0	250	80	218	175	165	638
Scots pine	Pinus sylvestris	10	2.0	2.0	250	80	218	175	165	638
Hornbeam	Carpinus betulus	10	2.0	2.0	250	80	218	175	165	638
Small leaved lime	Tilia cordata	10	2.0	2.0	250	80	218	175	165	638
Holly	Ilex aquifolium	5	2.0	2.0	125	40	109	88	83	319
Beech	Fagus sylvatica	5	2.0	2.0	125	40	109	88	83	319
Sweet chestnut	Castanea sativa	5	2.0	2.0	125	40	109	88	83	319
Wild cherry	Prunus avium	5	2.0	2.0	125	40	109	88	83	319
Total		100			2,500	800	2,175	1,750	1,650	6,379

Commented [TO1]: Whereas the second table is showing areas to 2 decimal places

Section 1: Distribution of Compartments:

Drawing CEFW/WPC/LL/05 - Woodland planting compartments at Long Lane Farm Part 1



All dimensions to be checked on site. Measured dimensions to be read in preference to scaling from the drawing. BCAL accepts no responsibility for any unauthorised amendments to the drawing and does not permit unauthorised copying of the drawing. This drawing is copyright and remains the property of BCAL unless otherwise agreed.

Revision	By	Description	Date
P-04	SG	Package for tender	09/08/2023
P-05	JW	Updated following TO & NB comments	15/08/2023
P-06	JW	TENDER ISSUE	09/10/2023

- New native woodland planting for heavy (clay) soils: LL Field 1
Total Area 3.33 ha
Total trees 8,325
- Grassland open space (Unplanted): LL Field 1
Total Area 1.14 ha
- Existing Hedgerow
- Existing Woodland

FOR TENDER

Client: **The Mersey Forest / Cheshire East County Council**

Project name: **Woodland Creation - Long Lane**

Drawing title: **Woodland planting compartments at Long Lane Farm - Part 1 - Fie** Scale @ ISO A3

Drawing number: **CEFW/WPC/LL/05/Part1** Revision: **P-06**

bcal 19 Old Hall Street
Liverpool
L3 9JQ
tel. 0151 242 6161
www.bcalandscape.co.uk

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Drawing CEFW/WPC/LL/05 - Woodland planting compartments at Long Lane Farm Part 2



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Revision	By	Description	Date
P-04	SG	Package for tender	09/08/2023
P-05	JW	Updated following TO & NB comments	15/08/2023
P-06	JW	TENDER ISSUE	09/10/2023

- New native woodland planting for heavy (clay) soils: LL Field 2
Total Area 2.13 ha
Total trees 5,325
- New native woodland planting for light (sandy) soils: LL Field 2
Total Area 1.19 ha
Total trees 2,975
- Grassland open space (Unplanted): LL Field 2
Total Area 0.98 ha
- Existing Hedgerow
- Existing Woodland

FOR TENDER

Client
The Mersey Forest / Cheshire East County Council

Project name
Woodland Creation - Long Lane

Drawing title
Woodland planting compartments at Long Lane Farm - Part 2 - Fie

Drawing number
CEFW/WPC/LL/05/Part2

Scale @ ISO A3
Revision
P-06

bcal

19 Old Hall Street
Liverpool
L3 9JQ
tel. 0151 242 6161
www.bcalandscape.co.uk

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Drawing CEFW/WPC/LL/05 - Woodland planting compartments at Long Lane Farm Part 3



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Revision	By	Description	Date
P-04	SG	Package for tender	09/08/2023
P-05	JW	Updated following TO & NB comments	15/08/2023
P-06	JW	TENDER ISSUE	09/10/2023

- New native woodland planting for heavy (clay) soils: LL Field 3
Total Area 1.98 ha
Total trees 4,950
- New native woodland planting for light (sandy) soils: LL Field 3
Total Area 0.70 ha
Total trees 1,750
- Grassland open space (Unplanted): LL Field 3
 Total Area 1.18 ha
- Existing Hedgerow
- Existing Woodland

FOR TENDER

Client
The Mersey Forest / Cheshire East County Council

Project name
Woodland Creation - Long Lane

Drawing title
Woodland planting compartments at Long Lane Farm - Part 3 - File

Drawing number
CEFW/WPC/LL/05/Part3

Revision
P-06

Scale @ ISO A3

bcal

19 Old Hall Street
Liverpool
L3 9JQ

tel. 0151 242 6161
www.bcalandscape.co.uk

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Drawing CEFW/WPC/LL/05 - Woodland planting compartments at Long Lane Farm Part 4



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Revision	By	Description	Date
P-04	SG	Package for tender	09/08/2023
P-05	JW	Updated following TO & NB comments	15/08/2023
P-06	JW	TENDER ISSUE	09/10/2023

- New native woodland planting for heavy (clay) soils: LL Field 4
Total Area 0.34 ha
Total trees 850
- New native woodland planting for light (sandy) soils: LL Field 4
Total Area 0.61 ha
Total trees 1,525
- Grassland open space (Unplanted): LL Field 4
Total Area 0.88 ha
- Existing Hedgerow
- Existing Woodland

FOR TENDER

Client
The Mersey Forest / Cheshire East County Council

Project name
Woodland Creation - Long Lane

Drawing title
Woodland planting compartments at Long Lane Farm - Part 4 - Fie

Drawing number
CEFW/WPC/LL/05/Part4

Scale @ ISO A3

Revision
P-06

bcal

19 Old Hall Street
Liverpool
L3 9JQ

tel. 0151 242 6161
www.bcalandscape.co.uk

BCA Landscape is a limited company registered in England and Wales.
Registered number: 10875322

Section 2: Tree Stock Specification

Planting Stock

Planting stock requirements are summarised in Table PSS below and this contains details of the form, size and girth of trees and shrubs to be obtained.

Trees and shrubs are to be supplied to the exact specification given in Table PSS.

Type

The specification for the supply of planting stock is for cell grown plants.

The specification includes reference to bare rooted plants as a contingency only, in the event of cell grown plants of a species being unavailable.

Species

The species composition of the woodland mixes and plant spacings within these are given in Tables WPM LL1a and WPM LL1b – see Section 1 - Design and Mix. These tables also give a breakdown of stock requirements for each individual compartment with the number of trees and shrubs of each species calculated based on their percentage within the mix and planting density.

Origin

All trees and shrubs are to be home grown from indigenous British seed and, where available, from local provenance's (local seed zones 304/302). Suppliers are to be notified of this in purchasing plants.

Condition

- Plants must be in a healthy condition and demonstrate strong balanced growth with a well-defined leading shoot (with terminal bud) and must be furnished with lateral branches as appropriate to species and age.
- Plants shall contain a high proportion of fine fibrous roots.
- Plants shall be substantially free from pests, diseases and discoloration (especially yellowing in pine) and will be undamaged.
- Plants with badly malformed stems, slight girth, 'J' roots, asymmetric or undeveloped root systems included within bundles will not be used.
- Cell grown plants with inferior quality, torn or squashed plugs will be rejected. Roots will be dispersed evenly within the plug with tips visible on the extremities; wind pruned plants grown on racks above the ground are to be favoured in ordering stock.
- Plants with plugs which are prone to crack or crumble when allowed to support their own weight or on which the upper portion of the plug is incohesive will be rejected.
- All cell grown plants will be 1-year old seedlings and trees and shrubs which have been 'held back' in the nursery and carry 1.5 to 2 seasons growth will be rejected.

Size

All stock is to be graded to the sizes specified prior to dispatch from the nursery. It should be noted that some of the sizes specified fall between conventional grading classes. The plants supplied shall be of 'true height' with a terminal bud on the leading shoot. Plants shall not have been cut back.

Omissions, substitutions, alterations

- No omissions, substitutions or alterations (including those to the volume of cells or the undercutting of bare rooted plants) may be made in place of the species and

specification given in Table PSS without the written permission of the Supervising Officer.

Additional Costs associated with supply of stock

The Contractor shall not be entitled to pass on any additional costs resulting from the use of stock from more expensive sources and/or transport and handling which are necessitated at any time during the term of the Contract.

TABLE PSS: PLANT SUPPLY SPECIFICATION

Name		Plant requirements by scheme (no.)		Total requirement (no.)	Specification		
Common	Scientific	Part 1a. Long Lane Farm - new native woodland planting mix for heavy (clay) soils	Part 1b. Long Lane Farm - new native woodland planting mix for light (sandy) soils		Plant form	Plant height (cm)	Root collar diameter (mm)
Beech	Fagus sylvatica		319	319	1yr CGP 175-200cc	30-40 cm	8.0 mm
Blackthorn	Prunus spinosa	1,109		1,109	1yr CGP 175-200cc	30-45 cm	7.0 mm
Common walnut	Juglans regia	1,109		1,109	1yr CGP 175-200cc	30-40 cm	8.0 mm
Common whitebeam	Sorbus aria	1,109		1,109	1yr CGP 175-200cc	30-45 cm	8.0 mm
Downy birch	Betula pubescens	2,218	319	2,537	1yr CGP 175-200cc	30-40 cm	7.0 mm
Field maple	Acer campestre		638	638	1yr CGP 175-200cc	30-45 cm	7.0 mm
Hazel	Corylus avellana	1,109		1,109	1yr CGP 175-200cc	20-30 cm	8.0 mm
Holly	Ilex aquifolium	1,109	319	1,428	1yr CGP 200-350cc	30-40 cm	7.0 mm
Hornbeam	Carpinus betulus		638	638	1yr CGP 175-200cc	30-45 cm	7.0 mm
Pedunculate oak	Quercus robur	3,326	638	3,964	1yr CGP 175-200cc	30-45 cm	8.0 mm

Rowan	Sorbus aucuparia	1,109		1,109	1yr CGP 175-200cc	30-45 cm	8.0 mm
Scots pine	Pinus sylvestris	2,218	638	2,856	1yr CGP 110-175cc	15-20 cm	6.0 mm
Sessile oak	Quercus petraea	2,218	956	3,174	1yr CGP 175-200cc	30-45 cm	8.0 mm
Silver birch	Betula pendula	1,109	638	1,747	1yr CGP 175-200cc	30-40 cm	7.0 mm
Small-leaved lime	Tilia cordata	2,218	638	2,856	1yr CGP 175-200cc	30-45 cm	8.0 mm
Sweet chestnut	Castanea sativa		319	319	1yr CGP 175-200cc	30-45 cm	8.0 mm
Sycamore	Acer pseudoplatanus	2,218		2,218	1yr CGP 175-200cc	30-45 cm	8.0 mm
Wild cherry	Prunus avium		319	319	1yr CGP 175-200cc	30-45 cm	8.0 mm
Total		22,179	6,379	28550			

Section 03: Plant supply and care of stock

The Contractor will supply trees and shrubs for all planting on the site and this will include stock which is required for replacing failures at the end of the first, second, and if necessary third growing seasons.

Nurseries

- Planting stock will be purchased from nurseries supplying UK grown plants.
- The contractor is responsible for ensuring that plants supplied conform to the following British Standards: BS 3939-1:1992, BS 3936-4:1984, BS 3936-5:1985 or latest revisions of these standards.

All waste will be disposed of in accordance with ENVIRONMENTAL PROTECTION ACT 1990.

PACKAGING AND LABELLING OF PLANTING STOCK (TREES AND SHRUBS)

PP140: COMBINATION OF BARE ROOTED SEEDLINGS/TRANSPLANTS, ROOTED CUTTINGS AND CELL GROWN PLANTS

- Plants will be packed with the shoots facing the same way.
- The foliage of plants, whether dead or alive, shall be dry when packed.
- Bundles of bare rooted plants will be tied using string or twine which will be tightened sufficiently to hold the plants together without damage to the stems of plants.
- The maximum number of plants in a bundle shall be 50.
- Bags will be tied closed during transport and the boxes of lids sealed.
- All bare rooted plants will be packaged in reversible co-extruded white (outside)/ black (inside) polythene bags.
- Each batch of plants will be clearly labelled, at source, to provide easy and adequate identification. Details will include the name of plant, origin, type, age, height and dates of lifting and grading. The label must also allow the person grading the plants to be identified.

TRANSPORTATION AND DELIVERY OF PLANTS TO THE SITE/CONTRACTORS PREMISES

PP510: DELIVERY TO THE CONTRACTORS PREMISES

- Planting stock will be delivered to the Contractor's premises.
- All planting stock shall be transported in closed lorries or containers. Bags and boxes will be loaded so as to avoid breakage or crushing through self-weight.
- The temperature shall be maintained below 10°C throughout transportation.
- Plants will be delivered within a maximum of 72 hours of dispatch with a clear chain of custody operated.
- Where transportation is given over to a third party the packaging shall be augmented as a precaution against poor handling and control in conditions.
- Bags and boxes of trees and shrubs shall not be thrown or dropped in the course of loading and unloading vehicles.

INSPECTION, APPROVAL AND PROCEDURE FOR REJECTION AND REPLACEMENT

PP600: MANDATORY INSPECTION UPON DELIVERY TO OBTAIN APPROVAL BEFORE USE

The S.O will be given no less than 5 business days advance notice by the Contractor of the date and expected time of the delivery of planting stock from nurseries and will be contacted by text message or email to confirm as soon as plants are delivered and ready for inspection. The Contractor shall endeavour to co-ordinate deliveries from different suppliers to allow a single inspection to take place. Planting stock will be inspected by the S.O within 48 hours of delivery. Planting will not commence until the S.O has confirmed that the trees and shrubs supplied comply with the specification given in Table PSS and that the alterations to the form and size of plants and / or species are as previously advised. The S.O reserves the right to instruct that trees and shrubs planted without being first approved are removed and disposed of.

The Contractor shall provide the S.O with delivery or dispatch note details at the time of inspection to confirm that the quantities stated in Table PSS have been supplied. If stock for other sites is supplied concurrently, the Contractor shall indicate the precise number of plants allocated under this Contract.

On examination, should any or all of the plants prove to be unsatisfactory, the Contractor shall replace at his own cost, the whole of the affected batch. Replacement stock must be approved by the S.O before it is planted. Plants which do not comply too the specification will be returned to the nursery (with proof shown on request) or held at the Contractor's premises until completion of the planting. Planting will commence within 48 hours of inspection by the S.O. In the event that not all species are available (including as a result of rejection of plants by the S.O) the Contractor will be required to leave suitably marked gaps (paint spots, pegs or canes) in the planting to infill with the missing species. If this is necessary care shall be taken not to compromise the planting design and obtain the full representation of species throughout compartments

The specification attempts purposely to obtain bare rooted plants with the most favourable root to shoot ratio. A danger in obtaining stock to the minimum size graded is that suppressed and inferior trees and shrubs may be included. Batches of trees and shrubs containing all but a very small number (<5%) of underdeveloped trees, either in terms of girth or root mass, will be rejected. Only in exceptional circumstances will the regrading of material prior to use be permitted. Bundles of bare rooted plants and trays of cell grown plants will contain plants representing all sizes within a height category. Those comprised purely of plants at the uppermost limit of a range or exceeding the maximum height stipulated will be rejected. No pruning of any plants (including that of roots) will be undertaken unless specified.

UPKEEP OF PLANTS PRIOR TO USE

PP710: COMBINATION OF BARE ROOTED SEEDLINGS/TRANSPLANTS, ROOTED CUTTINGS AND CELL GROWN PLANTS

- On receipt, the contractor will check to ensure the root systems of all trees and shrubs are moist and plants watered as necessary.
- Bare rooted plants are to be dipped, with bundles removed from bags to enable this, and surplus water allowed to drip free before there replacement into bags.
- Cell grown plants are to be watered using a fine spray and plants are not to be subsequently left in standing water.

- The contractor will check the condition of plants daily during storage and carry out additional watering as necessary.
- The contractor will store plants under cover with the tops of bags rolled down to leave stems exposed and retied above the root collar to prevent sweating.
- Plants will be handled with the utmost care at all times.
- Bags are to be stored in an upright position and boxes stacked no greater than two high.
- Plants will not be subjected to temperatures in excess of 10°C or extremes variation in temperature likely to cause overheating, or wind / draughts likely to cause drying out prior to use.
- The Contractor will be required to take onto site a 'water butt', a watering can with fine rose and a supply of clean water to dip bare rooted plants and spray cell grown plants which have become dry in the course of storage after sorting and transportation to site.
- The maximum permitted period of temporary storage at the Contractors premises prior to planting will be 14 days.
- The Contractor shall arrange for split orders and accept part deliveries where planting over a more extensive period is programmed. Each new delivery of stock shall be subject to inspection.

PLANTING ORGANISATION AND RECORD KEEPING

PP800: SORTING OF PLANTS ON A 'COMPARTMENT BY COMPARTMENT' BASIS AND RECORD KEEPING

- Trees and shrubs are to be sorted for use on an individual 'compartment by compartment' basis according to the details presented in Tables WPM LL 1a and WPM LL 1b (see Section 01 - Design and Mix) in at the Contractor's own premises.
- Bundles and packs of plants will be retied and relabelled before being replaced in their original bags or boxes.
- Care shall be taken not crush or squash plants during repackaging and additional bags and boxes will be obtained to facilitate this. These will be clearly labelled with the relevant compartment number.
- Planting stock will be taken to site on a daily basis and under no circumstances are trees and shrubs to be left out on site unplanted overnight.
- The transportation of stock other than that required to meet immediate (i.e. daily) needs will not be permitted.
- The Contractor shall maintain an accurate record of plants used in each woodland compartment and reconcile the actual quantities used to those quantities given in Tables WPM LL1a and LL1b (see Section 01 - Design and Mix) 'Running totals' will be given in tabular form which show for each compartment the number and species of surplus plants.
- These will be reallocated for use in compartments where a shortfall occurs as instructed by the Supervising Officer.
- Unused plants will be taken from site, watered, retied, relabelled, repackaged and stored separately from those sorted for use in remaining compartments.
- In the event of trees and shrubs remaining unused when planting, please report unused tree numbers and species to S.O. The S.O may advise for the trees to be either lined out on site at a location agreed with the S.O or supplied in good condition to the S.O for use elsewhere. Please see the pricing schedule (clause ??) for payment rates to the Contractor. However, it must be recognised that no payment will be made for plants which are rendered useless by delays to the

planting. No payment will be made for plants which remain unused for whatever reason as of the 1st April 2024.

- The Contractor shall obtain within 10 business days of receipt of planting stock, confirmation in writing of the seed origin for all trees and shrubs supplied and provide this to the Supervising Officer for record keeping.

TRANSPORTATION OF PLANTS WITHIN THE SITE AND PROTECTION PRIOR TO USE

PP900: ON ROAD VEHICULAR ACCESS ONLY WITH USE OF OFF-ROAD VEHICLES PROHIBITED

- The site does not have metalled tracks suitable for the use of road vehicles, which shall include vans and 4x4 wheel drive 'off road' vehicles. To prevent the risk or soil damage these will be prohibited from driving (including turning) on fields.
- The Contractor will be permitted to use an all-terrain vehicle (ATV) or track laying carrier (up to a maximum unladen weight 2.0 tonnes) to distribute materials.
- The Contractor will be permitted to drive the equipment along the headlands within fields i.e. within 1.0 m of hedgerows, woodland edges and fence lines.
- Traversing through fields, including along open grassland rides between planting blocks will not be permitted.
- The Contractor will carry out a risk assessment specifically for the use of the all-terrain vehicle (ATV) or track laying carrier prior to commencement on site.
- **Regardless of the outcome of the risk assessment the maximum speed limit on site will be 10 mph and the carrying of passengers will be prohibited.**
- The Supervising Officer reserves the right to withdraw permission for the use of an all-terrain vehicle (ATV) or track laying carrier in the event of the full requirements of the specification not being met.
- The Contractor will not be permitted to claim for additional payment for the added expense of not having access to equipment to distribute materials in this event.

Section 04: Tree shelters and ancillary items

All waste will be disposed of in accordance with ENVIRONMENTAL PROTECTION ACT 1990.

INDIVIDUAL PLANT PROTECTION AGAINST HARES AND RABBITS (750 mm)

PP1305: SUPPLY AND ERECT 750 mm TREE SHELTER WITH 105-73 mm TOP OPENING DIAMETER AND SINGLE TIMBER STAKE SUPPORT

- Tree and shrubs will be individually protected.
- Tree shelters will be made from degradable polypropylene and have twin-wall circular construction with strengthening bars and a single line of laser perforations.
- Shelters will be 0.75 m tall with a circular opening diameter in the range 73-105 mm.
- Shelters will be supplied in nests.
- All shelters will be light green in colour.
- Supporting stakes for tree shelters shall be of tanalised sawn softwood 0.9 m long and four way pointed with a top cross section of 25 mm x 25 mm.
- Shelters will be secured to the stake at two intermediate points by means of pre-fitted releasable nylon ratchet clips.

ERECTION OF TREE SHELTERS

- The contractor shall erect tree shelters on the same day that trees are planted.
- The supporting stake will be placed in front of the shelter facing the prevailing wind direction.
- The stake will be driven into the ground to a depth of approximately 30cm to finish squarely upright so that the top of the stake 30 mm above the upper tie when fixed.
- A measuring stick or ruler will be employed when driving the stakes to ensure consistency. Supporting stakes will be erected at planting positions prior to planting to avoid the possibility of damage to the root systems.
- Stakes which are split, broken or have large knots liable to cause breakage will be replaced with undamaged items.
- Plants will be pruned using secateurs as necessary to ensure that the tree shelters fit over them without damage.
- Care will be taken during installation of the shelter to prevent trapping branches beneath the base or the leading shoot between the shelter wall and the tie.
- The bottom of the shelter will be embedded into the soil, using a twisting motion and applying gentle pressure, to a depth of 15 mm below the ground surface.
- The ratchet ties will be tightened only once the shelter has been correctly positioned.
- Upon completion trees will be set in an upright position and not lean heavily against the shelter walls.
- The Contractor will reserve the tree shelters with the maximum aperture for the protection of holly and beech.

ADDITIONAL REQUIREMENTS

PP1920: PRESERVATION OF TIMBER

- Softwood timber supporting stakes shall have been debarked and seasoned to a moisture content of 25% or less before it is treated.
- Timber shall have been vacuum pressure impregnated in accordance with BS 4072:1999 and BS 5589:1989 using a preservative with a CBA formulation (copper boron azole) e.g. Tanalith E (Arch Timber Protection) or similar approved by the S.O.
- The preservative used shall be permitted for amenity use under the UK Control of Pesticides Regulations (COPR 1986).
- The treatment facility and process shall possess UKAS accreditation for the preservation of timber – under the UK Highway Agency's Highway Sector Scheme 4.

Section 05: Planting Methods

All waste will be disposed of in accordance with ENVIRONMENTAL PROTECTION ACT 1990.

PP1025: NOTCH PLANTING OF A COMBINATION OF BARE ROOTED AND CELL GROWN TREES AND SHRUBS (SCREEF VEGETATION)

The use of mechanised equipment for planting will not be permitted.

Planting Method: Cell Grown Trees

- Conventional tapered planting spades or serrated planting spears may be used for planting cell grown trees.
- The cell is to be inserted held vertically upright and the ground is to be closed using light pressure, applied by the toe / ball of the planter's foot only.
- The maximum care is to be taken to ensure the cell is not crushed during the firming up.
- The top of the cell will be covered by 25 mm of soil and loose soil 'dragged back' to infill any depression that is left to leave a slightly domed surface a minimum of 300 mm diameter around the plant.
- Any trees and shrubs with stems which are broken or scuffed during planting will be replaced with undamaged items.

Planting Method: Bare rooted stock

- Bare rooted stock will be notch planted.
- The notch must be either an 'L' or 'T' with the planting spade inserted to sufficient depth to allow the root system to hang freely and completely within the soil.
- Opening a single slot will not be permitted.
- The root system will be placed and fed carefully in the slot by hand, shaken lightly and withdrawn slightly to spread the roots.
- The notch is then to be enclosed tightly around the tree or shrub to remove air pockets.
- The tree must be firm, upright and planted with the nursery mark 25 mm below the surrounding soil surface to allow for settlement.
- Loose soil will be 'dragged back' to infill any depression that is left as a result of firming up to leave a slightly domed surface a minimum of 300 mm diameter around the plant.
- No 'pruning' or 'knotting' of roots will be permitted.
- Trees and shrubs are to be removed from planting bags immediately before planting and are under no circumstances to be temporarily placed on the soil surface.

Planting within compartments

- Planting will be undertaken with cord lines and / or surveying poles used to set out planting rows so as to ensure the correct spacing is maintained between adjoining rows and also within rows.
- The Contractor will be required to meet in full the costs of supplying any additional plants and planting ancillaries required to complete the planting within a compartment/s in the event of planting at a density in excess of that specified.
- Permission for lifting and replanting of trees and shrubs will be at the discretion of the Supervising Officer. The cost of respacing will in this event if borne entirely by the Contractor.
- It will be the Contractor's supervisor's responsibility to ensure the required spacings are consistently adhered to.

- Planting will be entirely complete in all previous woodland compartments before work on a new compartment commences.

PLANTING MIXTURE DESIGN

PP1000: INTIMATE MIXTURES

The following woodland planting type/s will be planted as group mixtures:

- New native woodland planting mix for heavy (clay) soils
- New native woodland planting mix for light (sandy) soils

Details of the plant spacing between rows and within rows are given in Tables WPM LL 1a and WPM LL 1b - see Section 01 Design and Mix.

- The Contractor shall plant trees and shrubs as an intimate mixture.
- Trees contained within the mixture will be planted as an intimate mix of single plants, pairs and threes of each species which is entirely random, with all species distributed throughout each compartment.
- The Contractor will be expected to adhere to instructions by the Supervising Officer regarding planting within areas containing distinctive soil types or offering abnormal drainage conditions.
- Shrubs within the mixes, including hawthorn, blackthorn, hazel and holly will be targeted towards edge and / or planted to form embayments.
- Planting will be carried out in sinuous not straight lines that run at an oblique angle to the dip of the slope.
- The Contractor shall maintain the correct spacing and plant position within rows but will avoid planting into standing water or any significant seepage of water by offsetting trees relative to the planting row or extending or reducing the spacing for individual plants as necessary. The Contractor shall revert to type as soon as drainage conditions allow.

Section 06: Firming Up and Replacement of Failures

All waste will be disposed of in accordance with ENVIRONMENTAL PROTECTION ACT 1990.

FIRMING UP

PP1705: TREES AND SHRUBS WITH INDIVIDUAL PLANT PROTECTION SUPPORTED BY TIMBER STAKES

The Contractor will be required to firm up trees and shrubs fitted with tree shelters supported by timber stakes.

All species will require firming up.

Trees and shrubs will be carefully firmed up, under appropriate ground conditions, 2-3 weeks after planting.

- Hollows around plants resulting from settlement and depressions caused by poaching of soil at the time of planting will be backfilled.
- Soil will be excavated from beyond planting positions (i.e., more than 1000 mm diameter of trees and shrubs) generously deposited where needed and thoroughly broken up to remove any clods or turfs using the cutting edge of a spade.
- The surface will on completion be even and not liable to pond water especially around plant stems.
- Trees and shrubs which have settled to lean heavily on the walls of tree shelters, have adventitious roots showing or cell grown plants (if used) with exposed plug tops will be excavated from the soil with the utmost care to minimise root damage and replanted.
- Where attention to trees and shrubs is required the stake and tree shelter will be removed whole and later refitted ensuring the stake is firm.
- The general security of tree shelters will be determined and as part of the firming up operation with checks will be made to ensure that stakes remain sound and upright, that ratchet ties are secure and the base of shelters is firmly embedded within the soil.
- Adjustments will be made, and any replacement items supplied as necessary.
- These items will be replaced at the Contractors own expense as part of this inspection and not recharged as 'damaged' items under the maintenance schedule, as will subsequently be the case, unless attributable to malicious damage.

REPLACEMENT OF FAILURES

PP1800: RESPONSIBILITY FOR THE REPLACEMENT OF FAILURES

- The Contractor is required to attain a minimum take of 95% at the end of the second growing season.
- Each planting compartment will be beaten up to 100% stocking density at the end of the first and second growing season, irrespective of whether this percentage target has already been attained.
- The Contractor will replace failures at the end of the third growing season only at the direction of the S.O.
- The Contractor will be entirely responsible for replacing losses due to natural failure including drought.
- There is no provision for watering under this contract; the Contractor may carry out this operation at his own expense to reduce losses though no guarantee is given as to there being an available water supply on site.
- The Contractor will not be held responsible for losses of plants over and above the first 2.5% due to the following agents: deer, horses and voles, accidental damage caused by a third party or malicious damage.

- Where a proportion of losses exceeding this threshold are thought to be attributable to these causes the S.O and Contractor will determine the proportion of losses due to these as against natural losses using sample plots.
- This will be undertaken as an exercise in advance of the clearance of planting positions.
- This information will be used to calculate the number of trees and shrubs in each compartment for which the Contractor is liable to replace at his own expense (which will include the first 2.5% of losses due to the excluded agencies) once all planting positions have been cleared in each compartment and total losses quantified.
- The S.O may instruct the Contractor to simply replace this number of trees and shrubs which will dispersed evenly through each compartment or alternatively pay for the additional plants required to complete the stocking.
- This will be based on a flat rate of £1.50 per tree or shrub, which will not increase year on year. Such plants will be supplied and planted identically to those for which the Contractor is liable in accordance with the specification. No payment will be made for screening off of vegetation from planting positions where trees and shrub have been lost due to horses, deer and voles, accidental damage caused by a third party or malicious damage.

PP1810: REPLACING FAILURES WHERE TREES AND SHRUBS ARE INDIVIDUALLY PROTECTED

- The Contractor is required to determine precisely the numbers requiring replacement in each compartment and hedgerow in any year during September.
- As part of this exercise each shelter will be checked to determine whether the tree or shrub it contains is living or dead.
- Where the plant is obscured by weed growth within the shelter this will be pulled free cleanly by hand without damage to the tree or shrub inside.
- Where the weed/s cannot be uprooted the ties will either be loosened or cut (depending on whether these are releasable) so allowing the shelter to be removed and refitted without disturbing the supporting stake.
- The Contractor shall make allowance in the price submitted under this item for the use of additional nylon ratchet ties to replace those which cannot be reused.
- Shelters containing dead trees will be marked with a fluorescent paint spot.
- An end of year report to be received by the 1st October in any year will give details of failure numbers (by species) for each individual compartment.
- The S.O will compile a schedule for beating up based upon this information and his own observations. These details will be forwarded before the 31st October in any year to enable the Contractor to order stock. The S.O reserves the right to amend the proportions of species to be used for beating-up. The changes are likely to result a net reduction in the number of species used with the focus on the best performing species.
- The prices entered for individual species for the original planting in the Bill of Quantities will be used as the basis for determining whether the changes made have a net increase or decrease on the costs of supplying replacement plants for a particular planting mix. However, the objective of the S.O shall be to make only changes which are cost neutral.
- The replacement planting programme shall be completed by the end of November in any year.
- All replacement plants will be supplied to the original specification and the procedure for inspection and start time after receipt of plants shall remain unchanged.
- Staked shelters containing dead trees and shrubs will be removed intact and ties loosened or cut (depending on whether these are releasable) before the items are set aside for reuse. This will be carried out on the same day as the beating up.
- All vegetation within planting positions (i.e. 1,000 mm diameter of trees and shrubs in woodland planting mixes) will be cleared to expose a clean soil surface using a spade or mattock and care shall be taken not to create a significant depression (>15 mm) in the course of this exercise.
- Arisings will be 'scraped off' and deposited at the outer edge of the planting position. All replacement plants will be planted in a pit 250 mm wide x 250 mm long x 300 mm deep in order to fully break up any crusting of the surface and relieve compaction.
- Stones larger than 100 mm will be removed from the material prior to backfilling.
- Supporting stakes will be re-driven into the ground prior to excavating the pit and the shelter refitted onto the plant on completion as per the original specification.

The cost of replacing failures will be entered in the Bill of Quantities and this shall cover all of the elements identified above including the removal of weed growth from shelters necessary to identify failures, the supply and fitting of additional nylon ratchet ties to replace those which cannot be reused, replacement of stakes and shelters damaged during removal and refitting. These will not be paid for as 'repairs' under the maintenance schedule.

Section 07: Woodland Maintenance: Pre-Planting

All waste will be disposed of in accordance with ENVIRONMENTAL PROTECTION ACT 1990.

PRE-PLANTING PHYSICAL VEGETATION MANAGEMENT

WM100: CUTTING OF GROUND VEGETATION USING A COMBINATION OF TRACTOR MOUNTED OR TOWED FLAIL MOWER AND MOTORISED STRIMMER OR BRUSHCUTTER – CUTTINGS LEFT IN SITU

If and when instructed, the Contractor will cut ground vegetation in woodland compartments prior to planting.

- The Contractor should assume that the vegetation will compose of grasses and a mixture of annual and perennial broadleaved weeds including, but not necessarily restricted to, stinging nettle, redshank, fat hen, spear thistle or creeping thistle, curled dock, broadleaved dock and common ragwort.
- It can also be assumed the vegetation height shall not exceed 600 mm.
- The contractor will top the vegetation using either agricultural silage / haymaking machinery or horizontal-axis flail mowers. This will be mounted or towed on a tractor, ATV or specialised equipment fitted with any one or a combination of the following devices to minimise soil compaction: wide 'high flotation' tyres, dual tyres, reduced tyre inflation pressure, tyre tracks, bogey system, rubber or steel tracks.
- The vegetation will be cut to a height of 50 - 100 mm.
- Cuttings will remain in situ and be dispersed evenly over the ground surface.
- The contractor will use motorised trimmers or brushcutters to cut vegetation hard up to tracks, fences, banks and around obstructions and within drainage ditches
- The contractor will remove vegetation cut down by strimmer in the base and sides of ditches and place tidily and regularly on the bank alongside.
- Before each cut, the Contractor will remove stones and other obstructions that would impede cutting to the specified height and which could damage equipment and repeat this after each cut in the event of new objects being exposed.
- Stones (including brick and masonry) will be placed with care inside the fence line of the nearest planting compartment.

WM110: CUTTING OF GROUND VEGETATION USING MOTORISED STRIMMER OR BRUSHCUTTER – ARISINGS LEFT IN SITU

If and when instructed the contractor will cut ground vegetation in woodland compartments and along hedgebanks (if constructed) prior to planting.

- The operation may be carried out to control vegetation growth on areas which are too steep for the safe operation of tractor towed or mounted equipment and which have either been comparatively recently soiled and seeded (within 6-24 months) or are undisturbed and contain unmanaged non-woody vegetation and are proposed for planting.
- The Contractor should assume that the vegetation will compose of grasses and a mixture of annual and perennial broadleaved weeds including, but not necessarily restricted to, stinging nettle, redshank, fat hen, spear thistle or creeping thistle, curled dock, broadleaved dock and common ragwort.
- Strimming may also be required where exceptionally tall weed growth (> 600 mm) occurs.
- The contractor will cut ground vegetation to a height of 50-100 mm using a motorised strimmer or brushcutter.
- Cuttings will remain in situ and be dispersed evenly over the ground surface.
- The contractor will use motorised trimmers or brushcutters to cut vegetation hard up to tracks, fences, banks and around obstructions and within drainage ditches
- Vegetation cut down by strimmer in the base and sides of ditches will be removed by the contractor and placed tidily and regularly on the bank alongside.
- The Supervising Officer (S.O) will specify the extent of strimming along hedgebanks (if constructed).
- This may be confined to a strip running parallel to the hedgebank top or side or extend to include the entire area contained within any fence lines including any associated ditch.
- The extent and width of the treatment area will be extrapolated or measured (if necessary) to calculate payment due.
- Before each cut, the Contractor will remove stones and other obstructions that would impede cutting to the specified height and which could damage equipment and repeat this after each cut in the event of new objects being exposed.
- Stones (including brick and masonry) will be placed with care inside the fence line of the nearest planting compartment.

It should be noted that the rate entered in the Bill of Quantities for this operation will not be applied to incidental strimming which forms 'part and parcel' of any fully mechanised vegetation cutting operation.

PRE-PLANTING 'FOLIAR ACTING' HERBICIDE APPLICATION

WM200: USE OF PRE-PLANTING 'FOLIAR ACTING' HERBICIDES

If and when instructed, the Contractor will apply pre-planting 'foliar acting' herbicides to control weed growth in woodland compartments and along hedgebanks (if included) prior to planting.

Choice of Herbicides:

- The Contractor should make recommendations for the use of herbicides for consideration by the S.O.
- It is the Contractor's responsibility to ensure that the active ingredients listed in any herbicide used possesses approval for use in forestry.

Application:

- Herbicides will be applied via spot application in 1000 mm diameter circles, band application along planting rows in a 1000 mm width (using hand held equipment and by mechanised equipment) and overall application (using hand held equipment and by mechanised equipment).
- Application rates will be adjusted to reflect the composition and growth stage of weeds present within each compartment or hedgerow at any particular time and therefore often be adjusted downwards from the recommended dosage.

WM205: SPOT APPLICATION BY HANDHELD EQUIPMENT OF 'FOLIAR ACTING'

HERBICIDE DURING LATE SUMMER/AUTUMN (ACTIVE INGREDIENT AND SPOT DIAMETER ACCORDING TO INSTRUCTION)

If and when instructed, the Contractor will apply 'foliar acting' herbicides to control weed growth in woodland compartments prior to planting.

- This operation will be instructed only when trees and shrubs are to be individually protected with shelters and / or guards.
- The Contractor will be required to set out the planting positions prior to applying herbicide and mark these using a timber stake or bamboo cane depending on which means of support is specified.
- This will be carried out between 4-8 weeks ahead of the planting.
- Where there is a high risk of malicious damage the Contractor may use fluorescent paint spots to mark plant positions.
- Pre-planting 'foliar acting' herbicide/s will be applied by handheld equipment.
- The Contractor will be permitted to use a CDA applicator as an alternative to a knapsack sprayer where the herbicide instructed for use is formulated for this equipment.
- Where the herbicide concerned is not available the Contractor shall revert to the use of a knapsack sprayer.
- Herbicides will be applied accurately with the stake, cane or exceptionally paint spot at the centre.
- The diameter of treated area will be as instructed, either 1000 mm or 1200 mm.
- Work will be undertaken methodically to ensure all planting positions receive one treatment.
- The Contractor shall employ a robust system of identifying areas in which work is completed paying particular attention to marking the boundary of areas which are complete and incomplete whenever work is suspended or interrupted.
- Records of herbicide applications (product/s, active ingredient and concentration, quantity used and net application rate) shall be compiled by the Contractor who will provide a written record to the S.O for the preceding month at monitoring visits.

WM210: BAND APPLICATION BY HANDHELD EQUIPMENT OF 'FOLIAR ACTING' HERBICIDE DURING LATE SUMMER / AUTUMN (ACTIVE INGREDIENT AND BAND WIDTH ACCORDING TO INSTRUCTION)

If and when instructed the Contractor will apply 'foliar acting' herbicides to control weed growth in woodland compartments prior to planting.

Handheld band application of herbicide will be instructed either where ground is too steep for the safe operation of mechanised equipment, there is no access for machinery into compartments or soils are considered particularly susceptible to structural damage.

- The Contractor will be required to set out each planting line prior to herbicide application using cord lines and / or surveying poles.
- The Supervising Officer will advise on the orientation of rows and these may be straight or sinuous and will normally run at an oblique angle to the dip of the slope.
- Pre-planting 'foliar acting' herbicide/s will be applied by handheld equipment.
- The Contractor will be permitted to use a CDA applicator as an alternative to a knapsack sprayer where the herbicide instructed for use is formulated for this equipment.
- Where the herbicide concerned is not available the Contractor shall revert to the use of a knapsack sprayer.
- Herbicides will be applied accurately to the centreline of the planting row.
- The width of treated band will be as instructed, either 1000 mm or 1200 mm.
- Work will be undertaken methodically to ensure all planting rows receive one treatment.
- The Contractor shall employ a robust system of identifying areas in which work is completed paying particular attention to marking the boundary of areas which are complete and incomplete whenever work is suspended or interrupted.
- Records of herbicide applications (product/s, active ingredient and concentration, quantity used and net application rate) shall be compiled by the Contractor who will provide a written record to the Supervising Officer for the preceding month at monitoring visits.

WM215: BAND APPLICATION BY MECHANISED EQUIPMENT OF 'FOLIAR ACTING'

HERBICIDE DURING LATE SUMMER / AUTUMN (ACTIVE INGREDIENT AND BAND WIDTH ACCORDING TO INSTRUCTION)

If and when instructed, the Contractor will apply 'foliar acting' herbicides to control weed growth in woodland compartments prior to planting.

Mechanised application of herbicide will be instructed only where machinery can be operated safely without risk of damage, there is adequate access for machinery into compartments and soils are not considered at serious risk of structural damage.

- The Contractor will be required to set out each planting line prior to herbicide application using cord lines and / or surveying poles.
- The Supervising Officer will advise on the orientation of rows, and these may be straight or sinuous and will normally run at an oblique angle to the dip of the slope.
- Pre-planting 'foliar acting' herbicide/s will be applied by mechanised spraying equipment mounted on a tractor, ATV or specialized equipment fitted with any one or a combination of the following devices to minimize soil compaction: wide 'high flotation' tyres, dual tyres, reduced tyre inflation pressure, tire tracks, bogey system, rubber or steel tracks.
- Herbicides will be applied accurately to the centreline of the planting row. The width of treated band will be as instructed, either 1000 mm or 1200 mm.
- Work will be undertaken methodically to ensure all planting rows receive one treatment.
- The Contractor shall employ a robust system of identifying areas in which work is completed paying particular attention to marking the boundary of areas which are complete and incomplete whenever work is suspended or interrupted.
- Records of herbicide applications (product/s, active ingredient and concentration, quantity used and net application rate) shall be compiled by the Contractor who will provide a written record to the S.O for the preceding month at monitoring visits.

WOODLAND MAINTENANCE: POST PLANTING

POST-PLANTING PRE-EMERGENT 'SOIL ACTING' HERBICIDE APPLICATION (WITH 'FOLIAR ACTING' HERBICIDE IN CERTAIN TANK MIXES)

WM300: USE OF POST PLANTING PRE-EMERGENT 'SOIL ACTING' HERBICIDES

If and when instructed the Contractor will apply pre-emergent 'soil acting' herbicides to control weed growth in and amongst newly planted trees and shrubs in woodland and hedgerows (if planted).

The need for chemical control of herbaceous vegetation within each individual planting compartment and any lengths of hedgerow will be determined and agreed with the Supervising Officer in the course of monthly monitoring visits.

Assessments will be based on the weed species present, their growth stage and the species of trees and shrubs planted.

A minimum of 10% of the total number of trees and shrubs within a compartment will be deemed to require attention under each instruction.

- The Contractor should make recommendations for the use of herbicides for consideration by the S.O.
- It is the Contractor's responsibility to ensure that the active ingredients listed in any herbicide used possesses approval for use in forestry.

Application:

- Herbicides will be applied via spot application in 1000 mm diameter circles, band application along planting rows in a 1000 mm width (using hand held equipment and by mechanised equipment) and overall application (using hand held equipment and by mechanised equipment).
- Application rates will be adjusted to reflect the composition and growth stage of weeds present within each compartment or hedgerow at any particular time and therefore often be adjusted downwards from the recommended dosage.

WM305: SPOT APPLICATION BY HAND HELD EQUIPMENT OF 'SOIL ACTING' HERBICIDE TO DORMANT TREES AND SHRUBS IN WOODLAND (ACTIVE INGREDIENT AND SPOT DIAMETER ACCORDING TO INSTRUCTION)

If and when instructed the Contractor will apply 'soil acting' herbicides to control weed growth in woodland compartments after planting.

- Trees and shrubs may or may not be individually protected with shelters and / or guards.
- Post-planting 'soil acting' herbicide/s will be applied by handheld equipment.
- The Contractor will be permitted to use a CDA applicator as an alternative to a knapsack sprayer where the herbicide instructed for use is formulated for this equipment.
- Where the herbicide concerned is not available the Contractor shall revert to the use of a knapsack sprayer.
- Herbicides will be applied accurately with the tree or shrub at the centre of the treated circle.
- The diameter of treated area will be as instructed, either 1000 mm or 1200 mm.
- Herbicide will be applied up to the stem of plants, below any canopy.
- While tree and shrubs maybe over sprayed care will be taken to avoid direct application onto evergreen species, notably pine (if planted).
- Planting positions which are cleared of vegetation and awaiting replacement plants will be treated.
- Work will be undertaken methodically to ensure all trees and shrubs, or where instructed those of a particular species, receive one treatment.
- The Contractor shall employ a robust system of identifying areas in which work is completed paying particular attention to marking the boundary of areas which are complete and incomplete whenever work is suspended or interrupted.

Records of herbicide applications (product/s, active ingredient and concentration, quantity used and net application rate) shall be compiled by the Contractor who will provide a written record to the Supervising Officer for the preceding month at monitoring visits.

WM310: BAND APPLICATION BY HANDHELD EQUIPMENT OF 'SOIL ACTING' HERBICIDE TO DORMANT TREES AND SHRUBS IN WOODLAND (ACTIVE INGREDIENT AND BAND WIDTH ACCORDING TO INSTRUCTION)

If and when instructed the Contractor will apply 'soil acting' herbicides to control weed growth in woodland compartments after planting.

Handheld band application of herbicide will be instructed either where ground is too steep for the safe operation of mechanised equipment, there is no access for machinery into compartments or soils are considered particularly susceptible to structural damage.

- Trees and shrubs may or may not be individually protected with shelters and / or guards.
- Post-planting 'soil acting' herbicide/s will be applied by handheld equipment.
- The Contractor will be permitted to use a CDA applicator as an alternative to a knapsack sprayer where the herbicide instructed for use is formulated for this equipment.
- Where the herbicide concerned is not available the Contractor shall revert to the use of a knapsack sprayer.
- Herbicides will be applied accurately along the planting row.
- The width of treated band will be as instructed, either 1000 mm or 1200 mm.
- Trees and shrubs maybe over sprayed but care will be taken to avoid direct application onto evergreen species, notably pine (if planted).
- Planting positions which are cleared of vegetation and awaiting replacement plants will be treated.
- Work will be undertaken methodically to ensure all planting rows receive one treatment.
- The Contractor shall employ a robust system of identifying areas in which work is completed paying particular attention to marking the boundary of areas which are complete and incomplete whenever work is suspended or interrupted.

Records of herbicide applications (product/s, active ingredient and concentration, quantity used and net application rate) shall be compiled by the Contractor who will provide a written record to the Supervising Officer for the preceding month at monitoring visits.

WM315: BAND APPLICATION BY MECHANISED EQUIPMENT OF 'SOIL ACTING' HERBICIDE TO DORMANT TREES AND SHRUBS IN WOODLAND (ACTIVE INGREDIENT AND BAND WIDTH ACCORDING TO INSTRUCTION)

If and when instructed the Contractor will apply 'soil acting' herbicides to control weed growth in woodland compartments after planting.

- Trees and shrubs may or may not be individually protected with shelters and / or guards.
- Mechanised application of herbicide will be instructed only where machinery can be operated safely without risk of damage, machinery can traverse between planting rows, there is adequate access for machinery into compartments and soils are not considered at serious risk of structural damage.
- Tree and shrubs within planting rows shall not be 'straddled' in the course of application.
- Pre-planting 'foliar acting' herbicide/s will be applied by mechanised spraying equipment mounted on a tractor, ATV or specialised equipment fitted with any one or a combination of the following devices to minimize soil compaction: wide 'high flotation' tyres, dual tyres, reduced tyre inflation pressure, tire tracks, bogey system, rubber or steel tracks.
- The Contractor will stipulate the precise equipment proposed for use and may be required to demonstrate the suitability of equipment selected on a trial area.
- Herbicides will be applied accurately along the planting row.
- The width of treated band will be as instructed, either 1000 mm or 1200 mm.
- Trees and shrubs maybe oversprayed but care will be taken to avoid direct application onto evergreen species, notably pine (if planted).
- Planting positions which are cleared of vegetation and awaiting replacement plants will be treated.
- Work will be undertaken methodically to ensure all planting rows receive one treatment.
- The Contractor shall employ a robust system of identifying areas in which work is completed paying particular attention to marking the boundary of areas which are complete and incomplete whenever work is suspended or interrupted.

Records of herbicide applications (product/s, active ingredient and concentration, quantity used and net application rate) shall be compiled by the Contractor who will provide a written record to the Supervising Officer for the preceding month at monitoring visits.

POST-PLANTING POST-EMERGENT 'FOLIAR-ACTING' HERBICIDES

WM400: USE OF POST-PLANTING POST-EMERGENT 'FOLIAR ACTING' HERBICIDES

If and when instructed the Contractor will apply post-planting post-emergent 'foliar acting' herbicides to control weed growth in and amongst newly planted trees and shrubs in woodland and hedgerows (if planted).

The need for chemical control of herbaceous vegetation within individual planting compartments and lengths of hedgerow will be determined and agreed with the Supervising Officer in the course of monthly monitoring visits.

A minimum of 10% of the total number of trees and shrubs within a compartment will be deemed to require attention under each instruction.

Choice of Herbicides:

- The Contractor should make recommendations for the use of herbicides for consideration by the S.O.
- It is the Contractor's responsibility to ensure that the active ingredients listed in any herbicide used possesses approval for use in forestry.

WM410: SPOT APPLICATION (UNGUARDED) BY HAND-HELD EQUIPMENT OF 'FOLIAR ACTING' HERBICIDE TO GROWING TREES AND SHRUBS IN WOODLAND OR DIRECTED APPLICATION TO WEEDS (ACTIVE INGREDIENT AND SPOT DIAMETER ACCORDING TO INSTRUCTION)

If and when instructed the Contractor will apply 'foliar acting' herbicides to control weed growth in woodland compartments.

- This item will be selected for use where trees and shrubs are individually protected with shelters and/or guards or where the active ingredient contained within the herbicide used are selective and the trees and shrubs are therefore at risk of only slight injury if their foliage comes into contact with herbicide.
- Post-planting 'foliar acting' herbicide/s will be applied by handheld equipment.
- The Contractor will be permitted to use a CDA applicator as an alternative to a knapsack sprayer where the herbicide instructed for use is formulated for this equipment.
- Where the herbicide concerned is not available the Contractor shall revert to the use of a knapsack sprayer.
- Herbicides will be applied accurately with the tree or shrub at the centre of the treated circle. The diameter of treated area will be as instructed, either 1000 mm or 1200 mm. Herbicide will be applied up to the stem of plants, below any canopy.
- Trees and shrubs will not be directly over sprayed to minimise contact with herbicide.
- Work will be undertaken methodically to ensure all trees and shrubs or where instructed those of a particular species, receive one treatment.
- The Contractor shall employ a robust system of identifying areas in which work is completed paying particular attention to marking the boundary of areas which are complete and incomplete whenever work is suspended or interrupted.
- The S.O may instruct that herbicide application be directed towards target weed species rather than planting positions.

Records of herbicide applications (product/s, active ingredient and concentration, quantity used and net application rate) shall be compiled by the Contractor who will provide a written record to the S.O for the preceding month at monitoring visits.

WM420: BAND APPLICATION (UNGUARDED) BY HANDHELD EQUIPMENT OF 'FOLIAR ACTING' HERBICIDE TO GROWING TREES AND SHRUBS IN WOODLAND (ACTIVE INGREDIENT AND BAND WIDTH ACCORDING TO INSTRUCTION)

If and when instructed the Contractor will apply 'foliar acting' herbicides to control weed growth in woodland compartments.

- This item will be selected for use where trees and shrubs are individually protected with shelters and / or guards or where the active ingredient contained within the herbicide used are selective and the trees and shrubs are therefore at risk of only slight injury if their foliage comes into contact with herbicide.
- Post-planting 'foliar acting' herbicide/s will be applied by handheld equipment.
- The Contractor will be permitted to use a CDA applicator as an alternative to a knapsack sprayer where the herbicide instructed for use is formulated for this equipment.
- Where the herbicide concerned is not available the Contractor shall revert to the use of a knapsack sprayer.
- Herbicides will be applied accurately along the planting row.
- The width of treated band will be as instructed, either 1000 mm or 1200 mm.
- Herbicide will be applied up to the stem of plants, below any canopy.
- Trees and shrubs will not be directly over sprayed to minimise contact with herbicide.
- Work will be undertaken methodically to ensure all trees and shrubs receive one treatment.
- The Contractor shall employ a robust system of identifying areas in which work is completed paying particular attention to marking the boundary of areas which are complete and incomplete whenever work is suspended or interrupted.

Records of herbicide applications (product/s, active ingredient and concentration, quantity used and net application rate) shall be compiled by the Contractor who will provide a written record to the S.O for the preceding month at monitoring visits.

WM425: APPLICATION BY HAND-HELD EQUIPMENT OF 'FOLIAR ACTING' HERBICIDE TO CONTROL VEGETATION OUTSIDE PLANTING POSITIONS AFTER SPOT APPLICATION (ACTIVE INGREDIENT ACCORDING TO INSTRUCTION)

If and when instructed the Contractor will apply 'foliar acting' herbicides to control weed growth in woodland compartments.

- Trees and shrubs may or may not be individually protected with shelters and / or guards.
- The application of herbicide to control vegetation outside planting positions will only be instructed where spots can be clearly discerned and usually 2/3 weeks after spot application of herbicide when the chemical has taken fully.
- The utmost care shall be taken where trees and shrubs are not individually protected, and the herbicide used is not selective.
- Post-planting 'foliar acting' herbicide/s will be applied by handheld equipment.
- The Contractor will be permitted to use a CDA applicator as an alternative to a knapsack sprayer where the herbicide instructed for use is formulated for this equipment.
- Where the herbicide concerned is not available the Contractor shall revert to the use of a knapsack sprayer.
- Herbicides will be applied to treat all vegetation beyond planting positions which will either be 1000 mm or 1200 mm in diameter.
- Herbicides will be applied accurately to the entire ground surface.
- Work will be undertaken methodically to ensure all vegetation receives one treatment.
- The Contractor shall employ a robust system of identifying areas in which work is completed paying particular attention to marking the boundary of areas which are complete and incomplete whenever work is suspended or interrupted.

Records of herbicide applications (product/s, active ingredient and concentration, quantity used and net application rate) shall be compiled by the Contractor who will provide a written record to the S.O for the preceding month at monitoring visits.

WM430: APPLICATION BY HAND-HELD EQUIPMENT OF 'FOLIAR ACTING' HERBICIDE TO CONTROL VEGETATION BEYOND PLANTING ROWS AFTER BAND APPLICATION (ACTIVE INGREDIENT ACCORDING TO INSTRUCTION)

If and when instructed the Contractor will apply 'foliar acting' herbicides to control weed growth in woodland compartments.

- Trees and shrubs may or may not be individually protected with shelters and / or guards.
- The application of herbicide to control vegetation outside planting positions will only be instructed where planting rows can be clearly discerned and usually 2/3 weeks after band application of herbicide when the chemical has taken fully.
- The utmost care shall be taken where trees and shrubs are not individually protected, and the herbicide used is not selective.
- Post-planting 'foliar acting' herbicide/s will be applied by handheld equipment.
- The Contractor will be permitted to use a CDA applicator as an alternative to a knapsack sprayer where the herbicide instructed for use is formulated for this equipment.
- Where the herbicide concerned is not available the Contractor shall revert to the use of a knapsack sprayer.
- Herbicides will be applied to treat all vegetation beyond planting rows which will either be 1000 mm or 1200 mm in width.
- Herbicides will be applied accurately to the entire ground surface.
- Work will be undertaken methodically to ensure all vegetation receives one treatment.
- The Contractor shall employ a robust system of identifying areas in which work is completed paying particular attention to marking the boundary of areas which are complete and incomplete whenever work is suspended or interrupted.

Records of herbicide applications (product/s, active ingredient and concentration, quantity used and net application rate) shall be compiled by the Contractor who will provide a written record to the S.O for the preceding month at monitoring visits.

POST PLANTING PHYSICAL VEGETATION MANAGEMENT

WM500: REQUIREMENT FOR POST PLANTING PHYSICAL VEGETATION MANAGEMENT

If and when instructed, the Contractor will carry out post planting physical vegetation management in and amongst newly planted trees and shrubs in woodland and hedgerows (if planted).

The need for physical control of herbaceous vegetation within each individual planting compartment and any lengths of hedgerow will be determined in the course of monthly monitoring visits.

Assessments will be based on the possibility of suppression to planted trees and shrubs, the risk of chemical damage from herbicide dripping off overhanging vegetation onto trees and shrubs, the need to meet legal obligations as a landowner / occupier of land and the need to maintain a high-quality visual appearance.

The Bill of Quantities contains several possible items (WM/520, WM/525) for the cutting of vegetation between planting rows (using hand-held equipment and by mechanised equipment) and the cutting down of vegetation between planting positions.

WM520: CUT DOWN INTER-ROW VEGETATION USING A COMBINATION OF MINI TRACTOR MOUNTED OR TOWED FLAIL MOWER AND MOTORISED STRIMMER OR BRUSHCUTTER

If and when instructed, the Contractor will cut inter row vegetation in woodland compartments.

- Trees and shrubs may or may not be individually protected with shelters and / or guards.
- This item will be instructed only where planting rows can be clearly discerned, and planting positions are well defined either by means of previous chemical or physical weed control.
- The Contractor should assume that the vegetation will compose of grasses and a mixture of annual and perennial broadleaved weeds including, but not necessarily restricted to; stinging nettle, redshank, fat hen, spear thistle or creeping thistle, curled dock, broadleaved dock and common ragwort.
- It can also be assumed the vegetation height shall not exceed 600 mm.
- Mowing of inter row vegetation using a mini tractor will be instructed only where machinery can be operated safely without risk of damage and is able to traverse between planting rows in at least one direction.
- Other requirements include adequate access for machinery into compartments and soils which are not considered at serious risk of structural damage.
- The vegetation will be cut to a height of 100-120 mm.
- This will be carried out using a horizontal axis flail mower mounted or towed on a mini tractor or mini-ATV capable of traversing between planting rows without encroaching on the planting positions themselves (i.e. within a radius of 500 mm).
- All ground vegetation within compartments will be cut including any unplanted ground and headlands.
- Cuttings will remain in situ and be dispersed evenly over the ground surface.
- Motorised trimmers or brushcutters will be used to cut vegetation between trees and shrubs within planting rows, hard up to tracks, fences, banks and around obstructions and within drainage ditches.
- Vegetation cut down by strimmer in the base and sides of ditches will be removed and placed tidily and regularly on the bank alongside.
- Before each cut, the Contractor will remove stones and other obstructions that would impede cutting to the specified height and which could damage equipment and repeat this after each cut in the event of new objects being exposed.
- Stones (including brick and masonry) will be placed with care inside the fence line of the nearest planting compartment.
- Grazing of animals by livestock of any kind as a means of controlling ground vegetation growth will not be permitted.

WM525: CUT DOWN VEGETATION INTER-ROW VEGETATION USING A MOTORISED STRIMMER OR BRUSHCUTTER

If and when instructed, the Contractor will cut inter row vegetation in woodland compartments.

- Trees and shrubs may or may not be individually protected with shelters and / or guards.
- This item will be instructed only where planting positions are well defined either by means of previous chemical or physical weed control.
- The Contractor should assume that the vegetation will compose of grasses and a mixture of annual and perennial broadleaved weeds including, but not necessarily restricted to; stinging nettle, redshank, fat hen, spear thistle or creeping thistle, curled dock, broadleaved dock and common ragwort.
- Strimming will be carried out where the row spacing is too close to allow the use of 'ride on' mowing equipment or exceptionally tall weed growth (> 600 mm) occurs.
- Strimming will also be instructed where ground is too steep for the safe operation of mini tractors, there is no access for machinery into compartments or soils are considered particularly susceptible to structural damage.
- The vegetation will be cut to a height of 100-120 mm. This will be carried out using a motorised strimmer or brushcutter.
- Cuttings will remain in situ and be dispersed evenly over the ground surface.
- All ground vegetation within compartments will be cut including any associated unplanted areas and headlands along with edges up to tracks, fences, banks and around obstructions, and within drainage ditches.
- Vegetation cut down by strimmer in the base and sides of ditches will be removed and placed tidily and regularly on the bank alongside.
- Before each cut, the Contractor will remove stones and other obstructions that would impede cutting to the specified height and which could damage equipment and repeat this after each cut in the event of new objects being exposed.
- Stones (including brick and masonry) will be placed with care inside the fence line of the nearest planting compartment.
- Grazing of animals by livestock of any kind as a means of controlling ground vegetation growth will not be permitted.

It should be noted that the rate entered in the Bill of Quantities for this operation will not be applied to incidental strimming which forms 'part and parcel' of any fully mechanised mowing operation.

VEGETATION MANAGEMENT

WM600 FORMATIVE TREE PRUNING

If and when instructed, the Contractor will carry out formative tree pruning.

- This operation will be carried out to reduce the incidence of socketing, stimulate growth or improve the shape of plants.
- Pruning will be carried out by hand using sharp secateurs to a bud to produce a clean angled cut.
- Cuts shall be above and sloping away from an outward facing healthy bud, angled so that water will not collect on the cut area.
- The branch bark ridge or branch collar shall be used as a pruning guide with care taken not to cut flush to the stem or to leave a 'stub'.
- Damaged, dead and diseased wood will first be removed, followed by healthy wood, to leave a well-balanced plant in good condition.
- Trees which have been damaged by animal browsing will be pruned to leave a favoured lateral shoot to emerge as a leader.
- Trimmings will be cut into lengths not exceeding 300 mm but allowed to remain on site to decay. These will be placed in tidily in regularly spaced piles with cut lengths facing the same way.
- Attention will be focussed on a comparatively small number of comparatively slower growing species likely to be more susceptible to damage by wild and / or trespassing domestic animals.
- Work will be undertaken methodically to ensure all individuals of the tree species to which the instruction relates are pruned.
- The Contractor shall employ a robust system of identifying areas in which work is completed paying particular attention to marking the boundary of areas which are complete and incomplete whenever work is suspended or interrupted.
- The Contractor will not be entitled for formative pruning which is required at the time of planting, including cutting back of willows, and removal of side shoots to permit the fitting of tree shelters.

TOP DRESSING TREES AND SHRUBS WITH FERTILISER

WM700: REQUIREMENT FOR THE USE OF FERTILISER TO TOP DRESS TREES AND SHRUBS

If and when instructed, the Contractor will top dress trees and shrubs in woodland and hedgerows (if planted) with fertiliser.

- The need for fertiliser application within each individual planting compartment and any lengths of hedgerow will be determined in the course of monthly monitoring visits.
- Assessments will be based on the visual symptoms of deficiency and disorders aided by foliar analysis if appropriate.
- The Contractor may make recommendations for the use of fertilisers for consideration by the Supervising Officer.
- These may or may not be accepted after evaluation as to the likely effects on nutrition in the context of the soil type and due consideration of the likely cost benefit.
- Attention will be focussed on a subset of species especially after the first growing season. These will most often be slower growing whose performance appears to be adversely affected by nutrient deficiency and / or disorder.
- The S.O may instruct that an agreed problematic part of a compartment be top dressed and where this is the case this area concerned will be highlighted on a plan exert enclosed with a work instruction.

WM705: SUPPLY OF FERTILISER FOR TOP DRESSING TREES AND SHRUBS

The following requirements will be met in supplying fertiliser/s for top dressing.

- It is the Contractor's responsibility to ensure that the use and meaning of prescribed names, descriptions of materials, limits of variation, the manner of marking and labelling material and fastening of packaged material comply fully, where applicable, (i.e. excepting products derived from waste materials) with the requirements of 'The Fertiliser Regulations 1990' (Statutory Instrument 1990 No. 887).
- Only fertilisers designated for use as an EEC fertiliser shall be obtained.
- The nutrient content shall be expressed as a percentage by weight of the following: N, P₂O₅ (P), K₂O (K) or MgO (Mg) as applicable.
- Inorganic fertiliser will be supplied in granular form (excepting ammonium nitrate which will be prilled).
- Controlled release inorganic fertilisers will be coated with a slowly permeable surface layer.
- Granules and prills will be 2-3 mm in diameter.
- Organic fertilisers will be supplied as granules 1-5 mm in diameter or pellets 5-15 mm long.
- The fertiliser will contain only small quantities of dust which are insufficient to affect spreading characteristics and present only slight odour.
- The fertiliser will not be 'caked' or congealed' and material which has been wetted due to split, torn or otherwise damaged packaging will be rejected and replaced.
- Fertilisers will be handled with care to avoid damaging to packaging and stored under dry conditions to avoid deterioration.
- Any additional advice or recommendations of the manufacturer or supplier regarding handling and storage will be adhered to.
- All packaging material will be removed by the Contractor for disposal off site. All waste will be disposed of in accordance with ENVIRONMENTAL PROTECTION ACT 1990.

WM710: APPLICATION OF FERTILISER TO TREES AND SHRUBS (COMPOSITION AND APPLICATION RATE ACCORDING TO INSTRUCTION)

If and when instructed, the Contractor will carry out top dressing of fertiliser.

- Trees and shrubs may or may not be individually protected with shelters and / or guards.
- Fertilisers will be dispensed from a robust accurately calibrated vessel and spread in a complete circle 100 mm in width at a radius 100 mm from the stem of the plant.
- Any accumulations will be dispersed evenly across the ground surface.
- Care shall be taken to avoid contact of the fertiliser with the stem or foliage of plants.
- All packaging material will be removed by the Contractor for disposal off site. All waste will be disposed of in accordance with ENVIRONMENTAL PROTECTION ACT 1990.
- Work will be undertaken methodically to ensure all individuals of the tree species to which the instruction relates are fertilised.
- The Contractor shall employ a robust system of identifying areas in which work is completed paying particular attention to marking the boundary of areas which are complete and incomplete whenever work is suspended or interrupted.

INDIVIDUAL PLANT PROTECTION REPLACEMENT

WM900: REQUIREMENTS FOR REPLACEMENT OF INDIVIDUAL PLANT PROTECTION ITEMS

If and when instructed, the Contractor will replace individual plant protection items fitted to trees and shrubs in woodland and along hedgerows (if planted).

- The need for replacement of items within each individual planting compartment and any lengths of hedgerow will be determined in the course of monthly monitoring visits.
- Additional call for the replacement of items may be identified by the Supervising Officer between site visits and further instructions issued accordingly.
- The S.O will identify shelters and / or guards requiring attention by marking these using fluorescent paint spots.
- The approximate location will be indicated on a plan extract together with an eight-figure national grid reference.
- The Contractor shall whenever attending site be in possession of a minimum of 12 each of shelters and/or guards and the same number of supporting stakes and or canes together with replacement nylon ties in order to rapidly replace damaged items howsoever caused.
- The Contractor will replace items which are identified as being required in the course of attending site to carry out other woodland maintenance operations but will notify the Supervising Officer retrospectively by email within 24 hours with an inventory of the items used and confirmation of the likely cause of damage (if attributable). An eight-figure national grid reference and the compartment or hedgerow reference will also be given. Replacement items will be marked with a discrete fluorescent paint spot.
- Replacement items will be supplied to the same specification as originally used.
- Where the manufacturer no longer produces the shelter concerned the Contractor shall supply an item equivalent in height, opening diameter/s, colour, fastening and construction from within the current range.
- Damaged items will be removed without inflicting further damage to trees and shrubs.
- Shelters and / or guards will be re-fitted as per the original specification.
- The Contractor will recover, store and reuse any salvageable items found on the site.

WM905: SUPPLY AND FIT REPLACEMENT TREE SHELTER OR GUARD

If and when instructed, the Contractor will supply and fit replacement tree shelters or guards.

The contractor will be responsible for:

- supply of replacement items
- fitting of replacement items, including pruning of trees and shrubs to remove snapped branches or stems and / or allow refitting (if necessary)
- removing and properly disposing (or recycling) of damaged materials

WM920: SUPPLY AND FIT REPLACEMENT TIMBER STAKE

If and when instructed, the Contractor will supply and fix replacement timber stakes.

The contractor will be responsible for:

- Supply of replacement items, including nylon ties.
- Fitting of replacement items, including pruning of trees and shrubs to remove snapped branches or stems and / or allow refitting (if necessary).
- Backfilling of any holes
- Removing and properly disposing of damaged materials
- Stakes shall be tanalised if originally specified as treated timber.

REMOVE SHELTER AND/OR GUARDS FROM TREES AND SHRUBS AND DISPOSE OF MATERIALS APPROPRIATELY

WM1100: REMOVE SHELTER AND/OR GUARDS FROM TREES AND SHRUBS AND DISPOSE OF MATERIALS APPROPRIATELY

If and when instructed, the Contractor will be required to remove, collect up and dispose of spent shelters and/or guards, together with the means of support, fitted to trees and shrubs.

The need for the removal of these items will be determined in the course of monthly monitoring visits.

Removal of shelters and/or guards:

- The S.O may instruct that all shelters and / or guards fitted to trees and shrubs within a compartment are removed or the operation is confined to trees and shrubs contained within a specific area, possibly prone to malicious damage.
- Where this is the case, the area concerned will be highlighted on a plan exert enclosed with a work instruction.
- The S.O may alternatively require shelters and / or guards to be removed in a piecemeal fashion as individual tree species or a subgroup of species cease to benefit from the protection afforded and the possibility of damage by constriction and chaffing grows.
- The Contractor will be required to identify the distribution of these species as an integral part of the operation to remove shelters and / or guards.
- The Contractor will remove the shelter or guard without damage to the tree or shrub.
- Products which do not have in built lines of weakness to assist in breakdown during degradation or are too young for this process to have advanced significantly will be cut away from trees and shrubs with the utmost care so as not to damage bark.
- Where the S.O has instructed pruning or coppicing these operations will be carried out as an essential part of the process of removing items.
- Plants will not be extensively pruned to facilitate the removal process.
- Supporting stakes and canes will be pulled up once the shelter or guard has been removed.
- The presumption shall be to remove these items whole but where these have rotted off above ground level or snapped the Contractor shall cut off the item concerned flush to the soil surface so as to ensure it presents no danger.
- The Contractor shall bundle up all whole and parts of items for removal off site.

Machinery and Equipment:

- The permission of the S.O will be sought before skips are brought to site.
- Mechanised recovery of spent planting ancillaries will be permitted across open areas within the site to reach compartments but only at times when soils are not considered at serious risk of structural damage.
- A tractor and trailer combination or specialised equipment (not a loading device) will be used, and this will be fitted with any one or a combination of the following devices to minimize soil compaction: wide 'high flotation' tyres, dual tyres, reduced tyre inflation pressure, tire tracks, bogey system, rubber or steel tracks.

- Access of mechanised equipment into compartments will be at the discretion of the S.O and dependent on there being adequate gated access for machinery, no limitation being presented that may affect safety and the width between planting rows being sufficiently wide to permit use of a mini tractor or mini-ATV without encroaching on the planting positions themselves (i.e. within a radius of 500 mm). Where these requirements are not met the Contractor shall use wheelbarrows or 'hand ball' bundles.

Disposal:

- The Contractor should seek to recycle products in the first instance.
- Where recycling is not practicable, the Contractor shall dispose of spent planting ancillaries (whole or parts of shelters, guards, stakes, canes and ties) immediately after their removal 'off site' in a correct and responsible manner.
- The Contractor is responsible for ensuring that methods of disposal meet the requirements of the Environmental Protection Act (EPA) 1990 and the Control of Pollution (Amendment Act) 1989.
- The site will be left in a clean, tidy condition on completion, free of any broken plastic fragments and ties.
- Tree shelters and / or guards which have been dislodged and are strewn within compartments will be collected up as 'part and parcel' of the operation but count towards the total number removed.
- Work will be undertaken methodically to ensure all shelters and / or guards fitted to trees and shrubs covered by each instruction are removed.
- The Contractor shall employ a robust system of identifying areas in which work is completed paying particular attention to marking the boundary of areas which are complete and incomplete whenever work is suspended or interrupted.

ADDITIONAL REQUIREMENTS

WM1200 FOLIAR ANALYSIS

A provisional sum has been allocated under the contract for foliar analysis. Samples of foliage will be collected to determine concentrations of plant nutrients in order to identify deficiencies or disorders. Sampling will be carried out by the S.O and the samples sent to a specialised laboratory. The S.O will be responsible for procuring these services.

The laboratory will be requested to invoice the Contractor directly for the analysis carried out and the Contractor will issue a purchase order number for this purpose based on a fixed price quotation obtained by the S.O. The costs will be recharged against the Contract. The Contractor will be permitted to recharge 110% of the net invoice price (deducting VAT if this can be recovered) to cover the costs of administration. The Contractor shall ensure that the supplier's payment terms are strictly adhered too on each and every occasion. Where results are passed by the laboratory to the Contractor these will forwarded to the S.O without delay.

It should be noted that the Contractor will be charged for analysis carried out to prove the cause of death amongst trees and shrubs where the testing confirms the suspicion that herbicide application is responsible.

WM1205 SOIL ANALYSIS (PLANT NUTRIENTS INCLUDING PH AN ELECTRICAL CONDUCTIVITY)

A provisional sum has been allocated under the contract for soil analysis. Soil samples will be collected to determine chemical properties in order to attempt to identify factors responsible for vegetation failure. Sampling will be carried out by the S.O and the samples sent to a specialised laboratory. The S.O will be responsible for procuring these services.

The laboratory will be requested to invoice the Contractor directly for the analysis carried out and the Contractor will issue a purchase order number for this purpose based on a fixed price quotation obtained by the S.O. The costs will be recharged against the Contract. The Contractor will be permitted to recharge 110% of the net invoice price (deducting VAT if this can be recovered) to cover the costs of administration. The Contractor shall ensure that the supplier's payment terms are strictly adhered too on each and every occasion. Where results are passed by the laboratory to the Contractor these will forwarded to the S.O without delay.