

W549 HIGH SEAT

W602 DEER FENCING

This technical note describes the minimum standard of work required in order to receive payments for 'High Seat' and 'Deer Fencing', as specified in your contract. Any variation from the standards set out must be approved by the Welsh Government before work commences.

Deer High Seats

High seats must be commercially made galvanised high seats and should be used in conjunction with Deer Initiative Best Practice Guidelines. For more information on deer high seats, please see the following guidance produced by the Deer Initiative. www.thedeerinitiative.co.uk

Deer Fences

Fences must be carried out to the specifications found in 'Forest Fencing' - www.forestresearch.gov.uk and appropriate to deer species.

Note that where fencing across a Public Right of Way is under consideration, the Contract Holder must seek prior consent from the local Highway Authority (s.147 Highways Act, 1980) prior to constructing any fencing or associated stiles.

Fencing timber must comprise either hardwood or pressure treated softwood. Trees and shrubs must not be used as strainers or fencing posts nor may they be used to support fencing wire, staples or netting.

Where fencing is installed within a Schedule Ancient Monument or Registered Historic Parkland you must seek prior consent.

Fencing timbers, line wire, netting and staples used to construct approved fence lines must always consist of new materials. The standard payments include an allowance for the dismantling, removal and safe disposal of existing derelict fences. All materials and construction standards must also conform to the following detailed specifications in addition to British Standards 1722 and 4102:

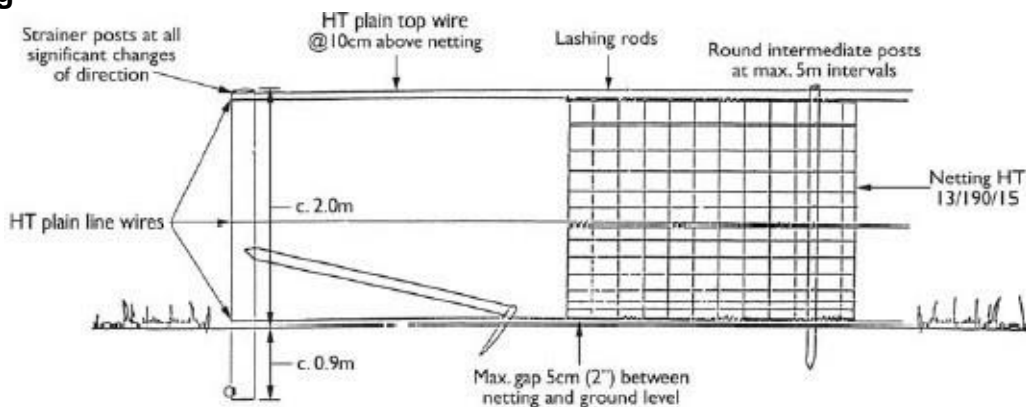
MATERIALS AND CONSTRUCTION - DEER NETTING		
Straining posts	3m x 15cm top diameter minimum	(10ft x 6")
Struts	2.75m x 10cm-13cm top diameter round timber	(9ft x 4-5")
Intermediate posts	2.75m x 8cm-10cm top diameter round post	(9ft x 3-4")
Netting	Either: High Tensile type: HT/13/190/15 Or: Light Weight High Tensile type: LHT/13/190/15 (LHT is particularly suitable for coppice coupe protection)	
Top wire	1 x 12½g high tensile plain wire	
Line wires	3 x 12½g high tensile plain wire	
Staples	4cm (1½") 8g	
Finished height	1.9m - 2m (6ft 4" - 6ft 6")	

Construction

Strainer posts to be situated at change of direction (either horizontal or vertical) or maximum 200m (ca. 600ft) on straight run. They must be dug or driven a minimum 90cm (3ft) into the ground. The strainer struts to be notched and nailed to straining posts stabilised with a sawn rail thrust plate of 50cm x 38cm x 76cm (1ft 9" x 1½" x 3"). Intermediate to be spaced at 5m (16ft 6") intervals maximum.

The netting must be properly strained and fixed to give a maximum gap of 5cm (2") between the bottom of the net and the ground. A single top wire to be set 10cm (4") above the top of the netting. The line wires to be set such that the bottom strand runs along the bottom of the netting; the middle strand runs at a height of 1m (3ft 4") from ground level and the top strand to run along the top of the netting. All line wires to be fixed securely to the netting with pig rings or lashing rods.

DIAGRAM Deer netting



W595 POST AND WIRE FENCING WITH STOCK NETTING

This technical note describes the minimum standard of work required in order to receive payment for 'Post and Wire Fencing with Stock Netting', as specified in your Contract. Any variation from the standards set out must be approved by the Welsh Government prior to starting the work.

Certain works you may be carrying out under your Contract may require permission, consent or a license before they are undertaken. You must ensure that you carry out the works in line with the licenses, consents or permissions.

Fencing timber must comprise either hardwood or pressure treated softwood.

Trees and shrubs must not be used as strainers or fencing posts, nor may they be used to support fencing wire, staples or netting.

Fencing timbers, line wire, netting and staples used to construct approved fence lines must always consist of new materials. The standard payments include an allowance for the dismantling, removal and safe disposal of existing derelict fences. All materials and construction standards must also conform to the following detailed specifications in addition to British Standards 1722 and 4102.

Post and Wire with Stock Netting

All stock netting must be protected by galvanizing and at least one line wire must be used above the top of the netting.

The distance from the ground to the top wire must be no less than 1.05m. In cases where there is heavy pressure from sheep or cattle, a second line wire on top of the netting as well as an additional wire at the bottom should be added. The top wires of any fencing erected next to public access routes must consist of plain wire or an additional line of plain wire must be affixed to the outside of the posts closest to the route in question.

Straining posts must be a minimum of 12.5cm cross section and at least 2m long of which 1m must be below ground level, unless otherwise agreed with the Welsh Government. Straining posts must be placed at either end of the fence line and at centres of 100m or less, as well as at every horizontal or vertical change of direction.

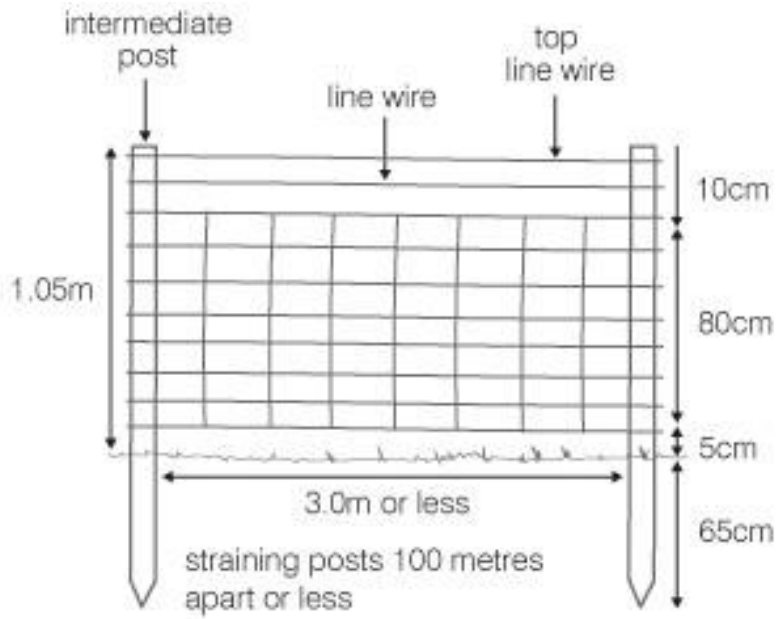
Straining posts must be strutted at each end of the fence line and at all changes of slope and direction. Struts must have a top diameter of at least 6.5cm and must be supported with either a base plate or a suitably positioned intermediate post.

Intermediate posts must not be less than 6.5cm diameter (round posts and sawn timber) and at least 1.7m long. Half round posts are acceptable provided they measure at least 6.5cm from the mid point of the sawn side to the mid point of the round side.

Intermediate posts must be set at centres of 3m or less. All wire must be affixed to the posts with galvanized staples with the distance from the ground to the top wire no less than 1.05m.

All netting and wire must be affixed to the posts with galvanized staples.

Diagram of Post and Wire with Stock Netting



W600 TIMBER FIELD GATES (SOFTWOOD)

This technical note describes the minimum standard of work required in order to receive payment for 'Timber Field Gates (Softwood)', as specified in your Contract. Where there are local traditional methods or styles which vary from this standard these can be used, but any significant variation must be approved by the Welsh Government prior to starting the work.

Timber field gates and supporting posts must be constructed of pressure treated softwood. Second hand materials may only be used in exceptional circumstances and these must always be approved in advance by the Welsh Government.

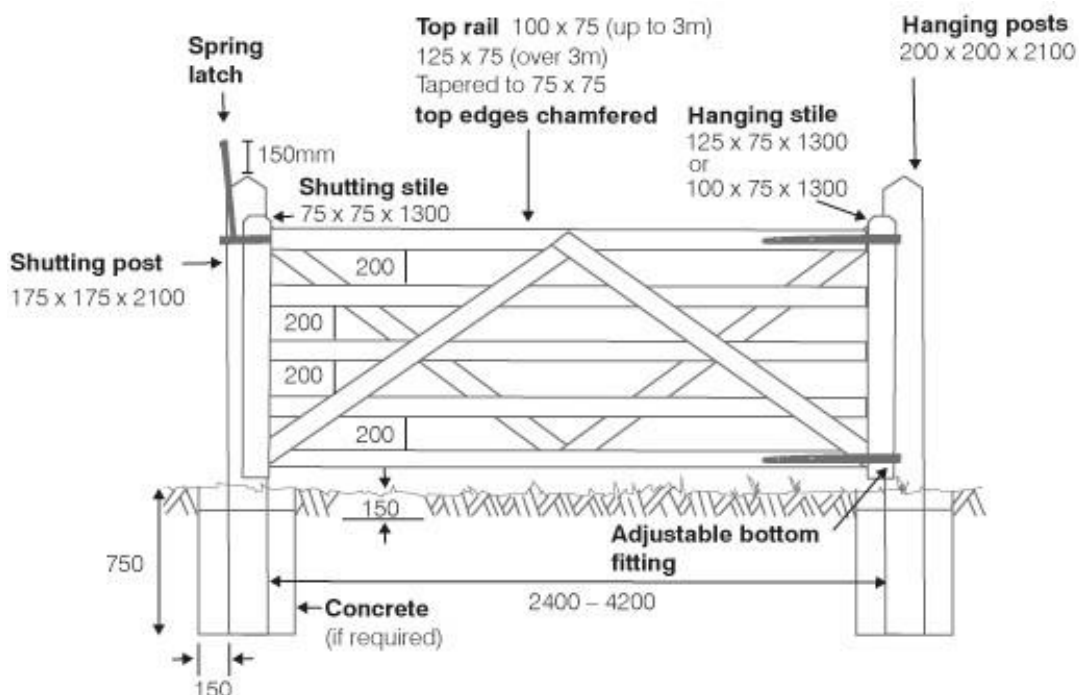
All timber field gates must conform to the specifications set out overleaf in addition to those of British Standard 3470:

Timber field gates must be at least 2.4m and no more than 4.2m wide. Any openings greater than 4.2m must have two leaves. Timber field gates must be constructed from members cut to the sizes illustrated in the table below.

All timber field gates must be hung on timber gate posts unless otherwise agreed with the Welsh Government. All posts must be at least 2.1m long. Hanging posts must be at least 200mm x 200mm in cross section whilst shutting posts must be at least 175mm x 175mm. All gateposts must be set correctly into the ground, using concrete if necessary and fitted with appropriate hangings and latches.

Hanging posts and shutting posts must not be used as straining posts for fencing. A short length of split timber should be used to form a horizontal strut between the gate post and adjacent straining post.

Example of Timber Field Gate (Softwood)



W615 - W632 RE-STOCKING

This technical note describes the minimum standard of work required in order to receive payments for new planting and re-stocking options:-

- W615** - Basic Re-stock >20ha >350m
- W618** - Basic Re-stock >20ha ><250 and 350m
- W619** - Basic Re-stock <5ha <250m
- W631** - Re-stocking: Broadleaves - PAWS etc
- W632** - Re-stocking: Broadleaves - All other sites

Check the contract schedule to determine which option applies to your contract. You must also refer to the detailed re-stocking requirements forming part of this contract which are either shown at the start of this section 'Technical Specifications for Capital Works' or included in the contract schedule.

Restocking is the replanting of previously felled areas with new trees and shrubs.

Timing

The planting season traditionally runs from 1st October to 30th March. At higher altitudes, restocking can be extended into April. The Scheme will have allocated a calendar year for completion. Restocking can be scheduled straight after felling or a few years later; this depends on the site but is a good idea to complete the restocking before rank vegetation develops.

Ground Preparation

Trees can be planted without any site preparation if the site is very clean but generally some work will be beneficial. Removal/redistribution of brash after felling may be required. There may be a thick layer of conifer needles or vegetation; this should be disturbed to expose the soil to allow restocking of the whole site. If the area is wet, then drainage and/or raised planting mounds may need to be created to allow restocking. On small sites these operations can be done by hand but a tracked excavator is generally the most practical machine for these operations on large sites. It is critical that any dense vegetation is controlled before restocking as it is easier and cheaper to do before, rather than after restocking.

Tree Species

The species and percentages of trees to be planted will be specified in your contract, if any clarification is required then you should contact Welsh. Factors such as different soil types and tree growth characteristics are taken into account when selecting species. When planting mixtures, different tree species should be planted throughout the restocking area in single species groups of 5-25 trees. Group size should also be taken into account.

Due to Ash dieback disease (Chalara fraxinea), no ash should be included in any planting mix for either woodlands or when establishing or restoring hedgerows. For slower growing species such as oak - plant a group of sufficient size to ensure that the trees are not shaded out by faster growing species.

Buying Trees

When buying large quantities of trees, a specialist tree nursery will be the best place. For the woodland elements of the scheme, transplants will be used rather than whips or standards.

Nursery trees come in different forms;

Bare Root - trees are lifted from the ground with bare roots and packaged together in bundles. Bare rooted stock are the most regularly used for restocking, but need to be stored and handled carefully.

Cell Grown (Plugs) - grown in plastic trays which create a narrow plug of fine roots and soil. These trees allow the planting season to be extended at either end as the roots can grow within the soil plug and avoid damage during planting.

Pot Grown - grown in an individual plant pots and are usually reserved for larger trees and some shrub or ornamental species such as holly. These are more expensive and bulky but flexible like cell grown plants.

Tree Size

Available sizes are generally between 10 and 60cm in height. Nurseries classify trees in different bands for example 20-40cm or 40-60cm. For most restocking, a robust tree with a good root system of size 40-60cm will be suitable.

Tree Handling

Try to be on hand when plants arrive so that you can ensure they are in good physical condition.

Keep the roots covered at all times before planting to prevent damage and drying out. Whilst cold is unlikely to be harmful, hot sun and any form of drying such as an east wind, can very quickly cause damage or kill the plants. If immediate planting is not possible, dig a trench before delivery and store plants in this with the roots covered so they are kept moist and cool. Protect the plants from animals, including rabbits and hares.

Tree Spacing

For restocking, tree numbers will be expressed as a figure/Ha:-

1600 trees/Ha = 2.5m spacing between trees (Only 632 - Restocking: Riparian zones) 2,500 tree/Ha = 2m spacing between trees (All restocking operations).

Planting native broadleaved species can be have more varied spacing, closer in some parts and wider in others, as long as the overall tree density is the same.

If your site includes un-mappable open ground, tree spacing should be reduced to take this into account and ensure you have the specified number of trees required per hectare.

Tree shelters

Larger areas of restocking, especially conifer restocking, are usually planted without any further

protection Most restocking sites have rabbits, hares and voles and it is advisable to protect broadleaves with tree shelters to prevent damage. There are many different types of tree guards available, from light spiral guards secured with canes, to solid plastic shelters which require stakes and ties. Tree shelters can boost the early growth of trees, make maintenance easier and ensure the trees are not damaged by mammals or bracken.

Protection against Livestock

Restocking sites must be protected from domestic animals and deer by using appropriate boundary fencing

Protection against Insects

Insect browsing can occur on new planting sites, but is less common and doesn't usually need to be considered.

On restocking sites the large pine weevil (*Hylobius abietis*) is the most common pest of young trees. It breeds in the stumps of conifers, but is quite mobile and feeds on trees and vegetation of many types. Losses can be substantial if the conditions are right, so a control strategy needs to be in place.

Expert advice should be sought if a problem is likely. There are a range of physical, biological and chemical controls available. The most practical is likely to be over spraying of the trees with an approved insecticide, possibly supplemented by using trees pre-treated with insecticide at the nursery. There are obvious environmental issues related to the use of insecticides and these need to be balanced against the other objectives. Only properly chemical licensed products can be used and applied by qualified operators.

Maintenance of trees and shrubs

Until the trees have grown large enough to grow on without intervention, they will need to be maintained to ensure 100% survival of the trees. The most important period is the three years after planting, but in poorer conditions or with ineffective maintenance it can stretch out to five or more years. The better the quality of the initial planting, protection and maintenance, the more likely that the trees will establish quickly.

Replacement trees (Beating Up)

A restock site should be assessed for losses towards the end of the summer annually. Any dead trees should be replaced in the following autumn or spring. Look for any pattern to the losses, in terms of particular areas and species. If losses are greater than 10-15% and there is no obvious cause, you should consult your Woodland Advisor for advice.

Weeding

Weed control around trees is crucial, as competition for water and nutrients is most damaging when trees have yet to develop extensive root systems. Restocking before weeds have re-established strongly, can minimise the work required.

Tall vegetation like bracken or bramble can cause physical damage to the trees and cutting by hand or mechanically is normally required, although some overall spraying of bracken is possible. Cutting or strimming of grass simply makes it more vigorous. Spot weeding with a suitable chemical is the most effective method of control. Only properly licensed chemical products can be used and applied by qualified operators. In some instances plastic, cardboard or woven mats can be used where chemical weed control is not possible, such as organic farms.

Guards and Shelters

These need to be checked regularly to make sure they are secure. Vegetation will often grow up into tubes and guards and tubes need to be kept in contact with the ground to avoid rabbits and small mammals' access to the stems. Although many products are biodegradable, they can have a negative effect on the growth and stability of the trees if left and should be removed as soon as they are not required.

W615 BASIC RE-STOCK > 20ha > 350m

You must also refer to the detailed re-stocking requirements forming part of this contract which are either shown at the start of this section 'Technical Specifications for Capital Works' or in the Contract Schedule.

This technical note describes the minimum standard of work required.

Restocking Requirements

A minimum of 10% of compartment area must be planted with broadleaved tree species.

The remaining area of the compartment (maximum of 90%) can be planted with broadleaved species, conifer species or a mixture of both. There must be a minimum of two different species planted with no one species exceeding 65% of the compartment.

The area of shrub species (e.g. hazel) within the compartment should not exceed 10%. Shrub cannot contribute towards the minimum area of broadleaved tree species to be planted.

A minimum of 2500 stems per hectare must be planted and be alive at the end of the 10 year maintenance period or canopy closure has been achieved.

W618 BASIC RE-STOCK > 20ha >< 250 and 350m

You must also refer to the detailed re-stocking requirements forming part of this contract which are either shown at the start of this section 'Technical Specifications for Capital Works' or in the Contract Schedule.

This technical note describes the minimum standard of work required.

Restocking Requirements

A minimum of 10% of site area must be planted with broadleaved tree species.

The remaining area of the compartment (maximum of 90%) can be planted with broadleaved species, conifer species or a mixture of both. A minimum of three different tree species must be planted, with no one species exceeding 65% of the compartment.

The area of shrub species (e.g. hazel) within the compartment should not exceed 10%. Shrub cannot contribute towards the minimum area of broadleaved tree species to be planted.

A minimum of 2500 stems per hectare must be planted and be alive at the end of the 10 year maintenance period or canopy closure has been achieved.

W619 BASIC RE-STOCK <5ha < 250m

For restocking compartments where more than 50% of the compartment is located below 250 metres above sea level (e.g. 1.4 ha (54%) of a compartment is below 250 metres and 1.2 ha (46%) is above 250 metres).

You must also refer to the detailed re-stocking requirements forming part of this contract which are either shown at the start of this section 'Technical Specifications for Capital Works' or in the Contract Schedule.

This technical note describes the minimum standard of work.

Restocking Requirements

A minimum of 10% of compartment area must be planted with broadleaved tree species.

The remaining area of the compartment (maximum of 90%) can be planted with broadleaved species, conifer trees or a mixture of both. There must be a minimum of three different tree species planted, with no one species should exceeding 65% of the compartment.

No more than 40% of the compartment can be planted with Sitka Spruce.

The area of shrub species (e.g. hazel) within the compartment should not exceed 10%. Shrub cannot contribute towards the minimum area of broadleaved tree species.

A minimum of 2500 stems per hectare must be planted and be alive at the end of the 10 year maintenance period or canopy closure has been achieved.

W631 RE-STOCKING: NATIVE BROADLEAVED TREES

For restocking (replanting) of previously felled compartments with a mixture Native Broadleaved Trees species.

This Capital Works option requires the whole site to be planted with a mixture Native Broadleaved Trees species. The mix should be site native and largely conform to habitat types listed at section 7 of the Environment (Wales) Act 2016 ([Wales Biodiversity Partnership website](#)). These reflect previous Habitat Action Plan types such as upland oak woods and lowland mixed deciduous woodland. However local conditions may necessitate some variation from these. Further information on species mix for these habitats can be found at on the [Forest Research website](#).

You must also refer to the detailed re-stocking requirements forming part of this contract which are either shown at the start of this section 'Technical Specifications for Capital Works' or in the Contract Schedule.

This technical note describes the minimum standard of work required.

Restocking Requirements

This Capital Works option requires the woodland compartment to be planted with a mixture of Native Broadleaved Trees species which must be appropriate to the area.

The area of shrub species (e.g. hazel) within the compartment should not exceed 20%.

W632 RE-STOCKING: BROADLEAVES – ALL OTHER SITES

For restocking (replanting) of previously felled compartments with a mixture native broadleaved trees and non native broadleaved trees.

You must also refer to the detailed re-stocking requirements forming part of this contract which are either shown at the start of this section 'Technical Specifications for Capital Works' or in the Contract Schedule.

This technical note describes the minimum standard of work required.

Restocking Requirements

A minimum of 80% of the site must be planted with native broadleaved trees species.

The remaining 20% can be planted with either native or non native broadleaved trees species.

The area of shrub species (e.g. hazel) within the compartment should not exceed 20%.

A minimum of 2500 stems per hectare must be planted and be alive at the end of the 10 year maintenance period or canopy closure has been achieved.

W654 BRAMBLE/SCRUB CONTROL - HAND KNAPSACK SPRAYING

This technical note describes the minimum standard of work required in order to receive payment for control of 'Bramble / Scrub Control - Hand Knapsack Spraying', as specified in your Contract.

Bramble is a very common, successful, native species that occurs in a wide variety of habitats throughout Britain including woodlands, heaths, dunes, mires and grassland. Several features may explain the success of bramble: it can survive long periods in the seed-bank; spreads vigorously by vegetative growth; is semi-evergreen, in mild winters the leaves persist on first year canes; can be spread long distances by birds. In favourable conditions it can grow to produce dense thickets that can have adverse competitive effects on other vegetation.

Where agreed with the Welsh Government, chemical control may be carried out using a knapsack sprayer. This method should not be used in areas where scrub or bramble exceeds waist height as coverage and ultimately control, will be impaired.

The use of any chemical other than Glyphosate should be agreed beforehand with the Welsh Government and in all cases a chemical must have a label recommendation for use on bramble and for the intended method of application. All manufacturers label recommendations regarding application of the herbicide, should be strictly adhered to.

Use of Herbicides

In all cases the herbicide used must have a label recommendation for your intended use, and for the intended method of application.

You are advised to follow the recommendations in the 'Green Code' (Approved Code of Practice for the Safe Use of Pesticides on Farms and Holdings, MAFF, 1998).

W663 RHODODENDRON CONTROL (UNDER 1.5m TALL)

W670 RHODODENDRON CONTROL (OVER 2.5m TALL)

W671 RHODODENDRON CONTROL (BETWEEN 1.5 TO 2.5m TALL)

This technical note describes the minimum standard of work required in order to receive payment for 'Rhododendron Control - Under 1.5m Tall, Over 2.5m Tall and Between 1.5 and 2.5 m Tall', as specified in your Contract. Where there are local traditional methods or styles, which vary from this standard, these may be used, subject to receiving prior approval from the Welsh Government for any significant variation.

Rhododendron (*Rhododendron ponticum*) is an attractive shrub when in full flower and was widely planted in many gardens in the past. It is also an extremely invasive plant, and can rapidly colonise a range of habitats including woodlands, heathlands and bogs. Having around 20,000 seeds per gram, they are easily spread by the wind. Very few native birds or animals live within dense stands of rhododendron and most plants are unable to survive and flourish underneath the dense and heavily shaded canopy. Removal of rhododendron is often essential if further habitat damage is to be prevented.

Capital payments are available to cover the cost of rhododendron control where an agreed management plan has been drawn up. The payment is designed to cover the cost of the initial clearance of the site followed by herbicide treatment of re-growth in subsequent years, or initial stem treatment followed by subsequent spot treatment of any shoots missed. In addition, it is likely that seedlings will appear for several years following the initial clearance. These will need to be pulled by hand to prevent re-establishment.

Control Methods

An effective programme of control is likely to involve a combination of the following methods, depending on the site and size of plants.

Cutting

Plants that are taller than 1.5 metres and areas where the rhododendron is too extensive to spray with herbicide, should be cut down to a stump of no more than 10cm high and herbicide applied to the cut stumps on the same day as severance, ideally within a few hours. The cut material should be stacked and left to rot, or burnt. Any fire should be sufficiently far away from standing trees to avoid any possibility of the crown and bark being scorched.

At certain times of year the cut-stump treatment is not effective. The method should be avoided between early February and mid-April (when sap is rising) and also between mid-August and late October.

After a period of 18 to 24 months or when there is sufficient re-growth, this should be sprayed as outlined below (see spraying with herbicide). Any re-growth should be sprayed again the following year.

Stem Treatment

Stem treatment, or stem injection is a very simple and effective method, especially for large few-stemmed bushes with stems of 3cm or more diameter. This involves drilling 8 to 12mm diameter holes as near as vertically possible at the base of each stem. Multiple holes at 10cm intervals are

needed if the stem is large. The holes should be sufficiently deep to take 1ml of herbicide solution.

The herbicide used should be 20% aqueous solution of glyphosate (Roundup Biactive or equivalent) with a strong vegetable dye. Large bushes should be dosed with 50% aqueous solution of roundup. Each hole should be filled using a suitable applicator, such as a spot gun or veterinary injector. All treated plants should be marked with spray paint or a suitable method for identification, to avoid missing or double treatment. For optimum effect, due to sap rise, treatment should not take place between March and early June.

This treatment must be followed up by manual cutting once the bush is dead. Any re-growth after 12 to 18 months should be sprayed as outlined below.

Follow up treatment (Spraying with Herbicide and Hand Pulling)

Whichever method used, follow up treatment is needed. Seedlings can survive in the soil for 3 to 5 years. Therefore, after the initial removal/treatment, a second spraying and hand-pulling visit is essential.

Plants under 1.5 metres high and where it is possible to reach all of the leaves with a knapsack sprayer may be treated with an appropriate herbicide. It is essential that the spray covers all of the foliage on both sides. A second application may be necessary.

Spraying can take place throughout the year, but March to October is optimal. Spraying should not be carried out in windy conditions or if rain is expected within 10 hours.

In all cases the herbicide used must have a label recommendation for use on rhododendron and for the intended method of application. All manufacturers label recommendations should be strictly adhered to. Follow the recommendations in the 'Green Code' (Approved Code of Practice for the Safe Use of Pesticides on Farms and Holdings, MAFF 1998).

Any plants that are small enough (60cm or less) can be pulled up by hand and either be collected and disposed of safely or if left on site, to avoid re-rooting, have all the soil knocked off the roots and left in a stable position off the ground to dry out.

W666 SCRUB CLEARANCE (MECHANICAL)

This technical note describes the minimum standard of work required in order to receive payment for 'Scrub Clearance - Mechanical', as specified in your Contract. Where there are local traditional methods or styles which vary from this standard these can be used, but any significant variation must be approved by the Welsh Government prior to starting the work.

Payment can be made towards the cost of scrub clearance where it has been agreed and included in your Contract.

Scrub consists of woody shrubs or trees such as hawthorn, willow, gorse and birch which are pioneer or opportunist species. Scrub needs to be controlled and/or removed where it threatens to replace more valued wildlife habitats, causes damage to archaeological remains, or obscure routes used for public access.

Whilst capital payments are available for scrub clearance, many areas of scrub are also of significant landscape and wildlife value in their own right.

Scrub Cutting and Removal

To protect nesting birds you must not clear scrub in the bird nesting season 1 March to 31 August. You must seek advice from the Welsh Government if protected species such as badger are likely to be present.

Cut scrub at ground level leaving no protruding stumps. Alternatively remove small seedlings by pulling. Removal of large stumps followed by bulldozing is not acceptable. The burning of standing scrub is only to be attempted following agreement from the Welsh Government.

When carrying out partial scrub clearance (on the edge of a heath land or when breaking up a dense stand of scrub into smaller blocks), ensure that the scrub edges retain a natural and uneven appearance. Small bays and other sheltered locations are particularly valuable for butterflies and other wildlife.

Cut material should be removed from the site unless the Welsh Government agrees otherwise or the work is being undertaken to manage a woodland. In such circumstances, cut material should be stacked carefully under the remaining scrub patches where it can be left to decay and provide additional cover for wildlife. Alternatively, cut material may be burned in previously agreed locations well away from standing scrub and trees.

Use of Herbicides

After cutting, many species will respond by sending out new shoots rather than being killed outright. This growth may be controlled by grazing pressure or by mowing, but it may be necessary to treat either the cut stump or the bushy re-growth with a suitable herbicide.

Any chemical used must have a label recommendation for treating scrub (either re-growth or cut stumps) and for the intended method of application. All manufacturers label recommendations regarding application of the herbicide should be strictly adhered to.

Follow the recommendations of the 'Green Code' (Approved Code of Practice for the safe use of Pesticides on Farms and Holdings, MAFF 1998).

Scrub Clearance on Archaeological Sites

Archaeological features such as barrows, forts, deserted medieval villages or even simple boundary banks are often best preserved under a cover of grass or heath. A light grazing or mowing regime is all that is required to maintain this cover. You should ensure that earthworks are not disturbed and that a cover of grass or heath is quickly re-established.

W697 FELLING YOUNG LARCH (CLEARANCE SAW)

Felling helps protect a site and the wider environment by:

- containing a disease and preserving as many trees as possible on a site
- preventing a disease spreading from an infected site to others
- allowing a site affected by pests or disease to adapt, by felling affected trees
- making space to grow trees that might resist the disease
- protecting the environmental and public benefits on a site as a whole – for example, as habitats for wildlife or for the production of timber

You must fell trees on a site that are infected with phytophthora ramorum if you get a Statutory Plant Health Notice that tells you to do so. You may also need to fell surrounding trees and shrubs. The Statutory Plant Health Notice will specify what you need to do and when you need to do it.

Before you start work, you need to get these permissions if they are relevant to your site:

- apply for consent from NRW for work on or near a site of special scientific interest (SSSI)
- apply for consent from Cadw for work on or near a scheduled monument
- apply for a licence to disturb protected species
- apply for consent from the local council for work on a tree protected by a tree preservation order (TPO)

You will need to apply for a felling licence from NRW if you are felling trees outside of the Statutory Plant Health Notice boundary.

This technical note describes the minimum standard of work required in order to receive payment for 'Felling young larch – clearance saw', as specified in your Contract.

A clearance saw is similar to a brushcutter with a fixed blade, and a long handle allowing smaller trees to be cut at the base without bending down.

Payment can be made towards the cost of felling young larch where it has been agreed and included in your Contract.

Young larch consists of trees less than 25 years old. The grant is limited to larch unless felling of such material is absolutely necessary on sites to allow for the safe clearance of the larch within the Statutory Plant Health Notice area. Additional trees and shrubs removed for operational or economic reasons will not be eligible for support.

You must not fell trees unless you have a Statutory Plant Health Notice or have a felling licence.

If you have received a Statutory Plant Health Notice, you must follow the instructions it gives you. For example, it might tell you:

- whether to fell a specific species or to treat it chemically

- what time of year to fell or treat
- how you must prepare the ground
- how you should cut trees or scrub – manually (with a clearing saw or chainsaw) or by machine (using a tractor fitted with a cab, or with flail if clearing scrub)

Your Statutory Plant Health Notice will say whether the felled trees must be destroyed on site or can be moved. It will also give any conditions you must meet before trees can be moved. Whether you can move any part of the tree off site will depend on the:

- type of pest or disease
- the species of tree
- the setting (inside or outside of a woodland)

Heterobasidium annosum (formerly *Fomes annosus*) is a serious and persistent threat to British woodlands, particularly to coniferous stands. Larch stumps pose one of the highest risks of infection. Therefore we strongly recommend that stump treatment is undertaken on all larch felling sites. This is particularly important if it is intended to replant with other conifers. Current Forest Research guidance is available for risk-based stump treatment.

W698 FELLING YOUNG LARCH (MECHANISED EQUIPMENT)

Felling helps protect a site and the wider environment by:

- containing a disease and preserving as many trees as possible on a site
- preventing a disease spreading from an infected site to others
- allowing a site affected by pests or disease to adapt, by felling affected trees
- making space to grow trees that might resist the disease
- protecting the environmental and public benefits on a site as a whole – for example, as habitats for wildlife or for the production of timber

You must fell trees on a site that are infected with *phytophthora ramorum* if you get a Statutory Plant Health Notice that tells you to do so. You may also need to fell surrounding trees and shrubs. The Statutory Plant Health Notice will specify what you need to do and when you need to do it.

Before you start work, you need to get these permissions if they are relevant to your site:

- apply for consent from NRW for work on or near a site of special scientific interest (SSSI)
- apply for consent from Cadw for work on or near a scheduled monument
- apply for a licence to disturb protected species
- apply for consent from the local council for work on a tree protected by a tree preservation order (TPO)

You will need to apply for a felling licence from NRW if you are felling trees outside of the Statutory Plant Health Notice boundary.

This technical note describes the minimum standard of work required in order to receive payment for 'Felling young larch – mechanised equipment', as specified in your Contract.

Mechanised equipment includes use of machinery other than a clearance saw.

Payment can be made towards the cost of felling young larch where it has been agreed and

included in your Contract.

Young larch consists of trees less than 25 years old. The grant is limited to larch unless felling of such material is absolutely necessary on sites to allow for the safe clearance of the larch within the Statutory Plant Health Notice area. Additional trees and shrubs removed for operational or economic reasons will not be eligible for support.

You must not fell trees unless you have a Statutory Plant Health Notice or have a felling licence.

If you have received a Statutory Plant Health Notice, you must follow the instructions it gives you. For example, it might tell you:

- whether to fell a specific species or to treat it chemically
- what time of year to fell or treat
- how you must prepare the ground
- how you should cut trees or scrub – manually (with a clearing saw or chainsaw) or by machine (using a tractor fitted with a cab, or with flail if clearing scrub)

Your Statutory Plant Health Notice will say whether the felled trees must be destroyed on site or can be moved. It will also give any conditions you must meet before trees can be moved. Whether you can move any part of the tree off site will depend on the:

- type of pest or disease
- the species of tree
- the setting (inside or outside of a woodland)

Heterobasidium annosum (formerly *Fomes annosus*) is a serious and persistent threat to British woodlands, particularly to coniferous stands. Larch stumps pose one of the highest risks of infection. Therefore we strongly recommend that stump treatment is undertaken on all larch felling sites. This is particularly important if it is intended to replant with other conifers. Current Forest Research guidance is available for risk-based stump treatment.

W669 INVASIVE PLANT SPECIES CONTROL

This technical note describes the minimum standard of work required in order to receive payment for control of 'Invasive Plant Species Control', as specified in your Contract. This includes species such as 'Japanese Knotweed', 'Himalayan Balsam' and 'Giant Hogweed'.

Exotic plants such as 'Japanese Knotweed', 'Himalayan Balsam' and 'Giant Hogweed' were introduced to Britain in the 19th Century, mainly for ornamental reasons. These have now become widespread, creating problems by overwhelming native species and in some cases causing physical damage to stream sides and river banks.

'Japanese Knotweed' is by far the most common and invasive of these species. It is a swift growing perennial plant, which overruns other vegetation and can cause severe damage to embankments, walls and paving. Dense growths can be 2m high in summer whilst in winter the plant dies back to leave an unsightly mass of dead brown stems.

The plant spreads in three main ways:

- By underground stems (rhizomes) from which new shoots arise and spread into the surrounding soil.
- By movement of pieces of rhizome in the soil during earth moving operations. Fly tipping of soil and builder's rubble is a major cause of the plant's rapid spread over large parts of the country.
- By the erosion of soil on riverbanks and the movement of stems and rhizomes downstream to new sites.

It is essential that the spread of 'Japanese Knotweed' is controlled and the plant prevented from establishing itself within previously clear areas.

In general, 'Japanese Knotweed', 'Himalayan Balsam' and 'Giant Hogweed' can all be controlled by similar methods. Treatment involves a combination of mechanical and chemical techniques. Purely mechanical methods such as cutting, pulling and grazing may be preferred in certain circumstances but such work cannot be funded as part of the capital works programme unless all details are agreed in advance by the Welsh Government.

A systematic work program to ensure that the control is effective may need to be agreed. You should take extra care when treating 'Giant Hogweed' as the plant can cause severe skin irritation.

Working Methods

Payment includes provision for initial cutting plus three treatments with a suitable chemical. The method and timing of treatments varies slightly for each species.

Japanese Knotweed

- During the winter preceding your intended chemical treatment, clear all the dead plant material from the area to be treated.
- Chemical control works best on Japanese Knotweed when it is around a height of 1.5m. Plants any higher than this should be cut back to ground level using a grass mower or brush cutter and allowed to re-grow to a suitable height for treatment. (This will take around 3 - 4 weeks).

- Spray or weed-wipe with an appropriate herbicide between May and September.

Himalayan Balsam

- Apply an appropriate herbicide in late spring and before the end of June. It is important to do this before the plants have flowered and set seed.

Giant Hogweed

- Apply an appropriate herbicide from March onwards, when the plant is between 0.5m and 1.5m high.
- Plants taller than 1.5m should be cut down and allowed to re-grow to a height of 0.5m - 1.5m before being sprayed. Suitable protective clothing should be worn when working near Giant Hogweed. All cuttings must be destroyed as the plant can cause skin irritation.

Use of Herbicides

In all cases the herbicide used must have a label recommendation for your intended use, and for the intended method of application. All manufacturers label 'Follow the recommendations in the Green Code' recommendations, should be strictly adhered to. Approved Code of Practice for the Safe Use of Pesticides Application using weed wipes is recommended, as this (on Farms and Holdings, MAFF 1998) avoids spray drift, but spray application using a knapsack sprayer with nozzle control is also acceptable.

When working near watercourses, use an herbicide which is approved for this use and follow the manufacturer's instructions.