



Site Report and Management Plan for Control & Eradication of Invasive Native and Non- Native Species

At
Wallhead Road
Twynyrodyn
Merthyr Tydfil
CF47 0PE

Elcot Environmental Limited | The Nurseries | Kingsdown Lane | Blunsdon | Swindon | Wiltshire | SN25 5DL

T: 01793 700100 E: enquiries@elcotenviro.com W: www.elcotenviro.com

Registered in England Company Number 11230241 VAT No: 290 2265 14

The information contained in this message may be privileged and confidential and protected from disclosure. If you're not the intended recipient, the distribution or copying of this communication is strictly prohibited



Survey carried out by

Peter Whiteside

Assessment & Management Plan prepared by

Isobel O'Grady

Signed

A handwritten signature in blue ink, appearing to be 'P. Whiteside', is shown on a light blue background.

Date: 05.10.2022

Table of Contents

Invasive Native and Non-Native Species.....	4
1. Assessment & Conclusion.....	5
1.1 Current Position.....	5
1.2 Implications of Existing Knotweed in relation to Development Proposals	5
2. Knotweed Management Plan	6
2.1 Objectives.....	6
2.2 Initial Controls.....	6
2.3 Pre-construction start enabling works	6
2.4 Continuing controls during construction	7
2.5 Throughout whole Management period.....	7
3. Standard of Services	7
4. Key elements to the Control of Japanese knotweed by Elcot Environmental Limited	8
5. Japanese Knotweed Method Statement.....	9
5.1 Method Statement for Application of Herbicide (Preliminary and Ongoing)	9
5.2 Method Statement for the Excavation and Hand Sifting of Knotweed rhizome area.....	11
5.3 Method Statement for the burying of de-graded material	13
5.4 Ongoing Monitoring	15
5.5 Measurement of achievement of Eradication	15
5.6 Herbicide treatment of Japanese Knotweed in properties adjacent to site	17
6. Other Invasive Native and Non-Native Species	18
6.1 Management of Mare's Tail.....	18
6.2 Management of Himalayan Balsam.....	20
6.3 Management and Eradication of Giant Hogweed.....	21
6.4 Management of Cotoneaster sub species.....	23
6.5 Management and Eradication of Montbretia.....	24
7. Contractor's Duty of Care Responsibility	25
8. Model Invasive Weed Guarantee (Assignment).....	26

Invasive Native and Non-Native Species

Invasive plants that can cause problems in the UK fall into 2 categories

1. **Plants native to the UK** that are by their invasive nature a nuisance, crowding out ornamental shrub's, blocking waterways, forming habitat locations on cleared sites, and perforating new tarmac footpaths and drives.
2. **Invasive non-native species (INNS)** that, as well as behaving as above, are listed on **Schedule 9 of the Wildlife and Countryside Act** as amended

Survey

A survey for Invasive Non-Native Species (INNS) carried out 15.09.2022 by Peter Whiteside.

Site was generally undisturbed with a small amount of fly tipping from gardens abutting the site. Therefore, at this time in the season with natural growth undisturbed, the INNS plant growth is most visible.

Survey was restricted in some locations by dense impenetrable bramble and in other locations of dense established trees. Approximately 60% of the site was reasonably surveyed. The remainder was prevented by the above.

Conclusion

No Invasive Non-Native Species were seen. Where possible off site, margins were checked with no Invasive non-native species visible. It is considered that there is mostly no invasive non-native species on site.

Management of remaining risk

It is however recommended that clearance of bramble and dense wooded area proceeds with care and these areas are surveyed as work proceeds with bramble being cut back in approximately 1.5m swarth and the next section observed before next pass.

Should an invasive non-native species be identified in this operation, areas to be marked out, together with a safe working margin with a contingency management plan of herbicide treatment in situ if time allows.

Excavation of all plant and plant containing material to be buried on site in location to be agreed, all under the supervision of an invasive weed specialist.

1. Assessment & Conclusion

1.1 Current Position

Surveys to date have not identified the presence of Knotweed on or around the site. The assessment is however limited by approximately 35-40% of the area covered in dense bramble or impenetrable tree and shrub growth

1.2 Implications of Existing Knotweed in relation to Development Proposals

1.2.1 Legal

Section 34 of the Environmental Protection Act 1980 (EPA90) imposes a duty of care on persons concerned with controlled waste. The duty applies to any person who produces, imports, carries, keeps, treats or disposes of controlled waste, or as a broker has control of such wastes. Breaching the duty of care is an offence, with a penalty of an unlimited fine if convicted on indictment.

All material containing Knotweed is controlled waste.

Japanese Knotweed is included in Part II of Schedule 9 of the Wildlife & Countryside Act 1981. Section 14 of the Act states that "If a person plants or otherwise causes to grow in the wild any plant which is included in Part II of Schedule 9, he shall be guilty of an offence".

Anyone convicted of an offence under Section 14 of the Wildlife & Countryside Act 1981, may face a fine of £5,000 and/or 6 months imprisonment, or 2 years and/or an unlimited fine on indictment.

Environmental Agency Code of Practice Version 2 for management of Knotweed requires an acceptable Management Plan to be set up and implemented with management on site the first choice and removal to landfill a last resort.

1.2.2 Practical

Development works will include demolition, excavation and construction of roads and buildings etc., in location of, or in proximity of Knotweed. Unless all relevant Knotweed containing material is identified and removed or otherwise sufficiently managed before commencement of these works, the following risks arise.

- Controlled waste may be removed from site in breach of the above legal requirements.
- Knotweed containing material may be mixed with "clean" material, increasing volumes.
- Knotweed material may be lost on site in existing or new locations and cause damage to new structures
- Sales of completed properties may be prevented as many Mortgage Lenders are currently refusing to provide funds where Knotweed is present, or in proximity to (up to 14 meters) the boundary of the property, unless an acceptable Management Plan together with an insurance backed Warranty is provided by a recognized Knotweed Specialist.

Generally, cost of managing Knotweed material is high, particularly disposing off site to landfill. Spreading and increasing controlled waste has a considerable impact on these costs.

2. Knotweed Management Plan

2.1 Objectives

- Demonstrate intent to provide and record ample duty of care.
- Meet the requirements of the Property Care Association Knotweed Code of Practice.
- Minimise and define the final total cost of Knotweed management.
- Reduce risks of spread of viable Knotweed material by any means as soon as possible.
- Enable construction program to be maintained without above or any further risks.
- Completely eradicate all on site, and any off-site Knotweed which is a threat to the integrity of this plan.
- To provide a permanent documented and photographic record to prove the carrying out of duty of care.
- Provide a satisfactory answer regarding Knotweed issues to any interested third party.
- Cover the site against risk of knotweed return by an insurance backed guarantee.
- Enhance the value of the site.

2.2 Initial Controls

- Identify and set out safe working margin around Knotweed locations, provide marker tape and warning signage.
- Apply systemic herbicide to Knotweed to commence weakening of the plant system, and to reduce viability and risks if accidentally spread, using an appropriate number of visits relevant to terrain and size of Knotweed stands, to ensure a uniform dose to whole of the plant (subject to seasonal constraints).

2.3 Pre-construction start enabling works

- Carefully dig out all material containing Knotweed in areas to be developed, dig limited on boundary by need to retain stability of adjacent fences and property. Treat remaining Knotweed in boundary locations by direct injection of herbicide into rhizome.
- Set aside all dug material in designated re-handling area, sift out and bag rhizome material, remove bagged material from site and incinerate, bury processed material on site in location TBA.
- Surplus clean spoil from the bury cell will be placed in a trimmed stockpile in close proximity to the cell. If it is necessary to relocate spoil to a new location, then extra costs will be incurred.
- Check whole site for any traces of Knotweed previously unidentified, include in Management Plan.

2.4 Continuing controls during construction

- Maintain signage around risk areas, (this will primarily be boundary lines of site in locations of off-site Knotweed).
- Ensure management controls are set up for, and prior to any perceived works inside risk areas, (e.g. fence post hole digging on boundary with retained Knotweed).

2.5 Throughout whole Management period

- Monitor whole site and relevant adjacent boundary areas, treat remaining Knotweed with herbicide.
- Provide a remedy for any other Knotweed issues which may arise.
- Collect documented and photographic records to provide permanent evidence of duty of care and proof of implementation and completion of Management Plan.

Monitoring: Throughout whole management period as per section 5.5

Year	Minimum Visits
1	2
2	2
3	1
4	1

Any additional visits required during or after this time are FOC.

For the purpose of this contract, the definition of eradication and proof of eradication is that both:

- A. Four years (growing seasons min 1st treatment by the end of October for year 1, last visit no sooner than July of year 4) have elapsed since the initial treatment,
- B. AND the last two years of visits have been made with no use of herbicide and no return of Knotweed.

3. Standard of Services

As part of our aim to provide High levels of customer care, Elcot Environmental Ltd is ISO 9001, ISO 14001 and OHSAS 18001 registered, for Quality, Environmental and Health & Safety Standards in the Control and Management of Japanese Knotweed and other invasive weeds

We, in 2004 identified a need to set a benchmark standard (which is now accepted as an industry benchmark) to measure the success of Knotweed controls and to ensure that this is achieved in every contract package we carry out for our clients.

In outline, this is as follows:

1. To achieve and record a history of controls as set out in our site-specific proposals, to the procedures and standards in our ISO 9001 and ISO 14001 documents, for a minimum of four- or five-years dependent on circumstances and control proposals.
2. To achieve and record a history of a minimum of two years with no visible live Knotweed on site and with no herbicide treatment carried out in that time (treatment by herbicide may suppress or conceal live Knotweed).
3. At no further cost to our client *
 - a. To increase the number of visits per year, if required, to maximise controls as soon as possible.
 - b. To extend the monitoring period beyond the minimum years, if required, to achieve item 2.

* *Excludes costs incurred by breach of controls by third parties.*

4. Key elements to the Control of Japanese knotweed by Elcot Environmental Limited

The Environmental Agency recommends combination methods and the use of methods developed by reputable specialists which may go beyond information contained in the Code of Practice.

Elcot Environmental Ltd has developed enhanced combination methods which follow but are developed beyond the guidelines. We have used these methods successfully for more than nineteen years.

Key elements are:

- If time and season permit an initial uniform application of herbicide at the legal maximum rate. This may require two or three visits at 2 – 3 weeks apart on larger stands. This has achieved an apparent 99-100% kill in one season. This concurs with field trials by Nomix Chipman (the herbicide suppliers) in conjunction with the Environmental Agency.
- Provision of expert management to conduct a dig which removes only material containing Knotweed. This regularly produces arisings in the region of 15 – 40% of the Environmental Agency's "worst case" guidelines, (3m deep and 7m beyond visible Knotweed), with the obvious consequential cost savings.
- The dig is operated to slice, rather than scoop material, this ensures that the rhizome mass is reduced to much smaller sections, this reduces the amount of stored energy in any one entity and thus reduces the ability to support regrowth.
- Following the process of digging, the bulk of the rhizomes are removed by hand, bagged up and carted off site for incineration. Although the remaining material must still be treated as controlled waste, the vigour and risk of re-growth is greatly reduced, enabling the material, where practical, to be buried on site with only a shallow cap. Due to the fact that the vegetation has been removed from this material, it can be placed, if otherwise suitable, under car-parking areas etc, subject to further precautions.

A recognition that it is impossible to be certain that a site is entirely clean of Knotweed in the short term is essential (however much money may be spent in the attempt). This issue is addressed by:

- Site-wide monitoring program for several years, with a target of two years with no return, after all other control measures have taken place. Issues concerning Knotweed beyond site boundaries, but in close proximity to the site are also addressed in a suitable manner. This ensures that the entire method demonstrates an ample “duty of care” to deal with all the Knotweed issues relating to the site.

5. Japanese Knotweed Method Statement

5.1 Method Statement for Application of Herbicide (Preliminary and Ongoing)

Herbicide application is by knapsack spraying using a telescopic or extended lance to assist reach high foliage or in difficult terrain. Pressure limitation valve set at one bar and coarse droplet nozzle to reduce drift to a minimum.

Application to be over the target foliage and as much as possible to the underside as well. Foliar application to obtain maximum application to target and minimum collateral application to non-target plants or ground.

Operatives to be qualified to recognised national standards applicable to the works, and extensively ‘in house’ trained to achieve EEL specialist methods and standards and to follow all training guidelines and label recommendations or DEFRA off-label recommendations, where applicable.

Herbicides used from:

1. GLYPHOSATE

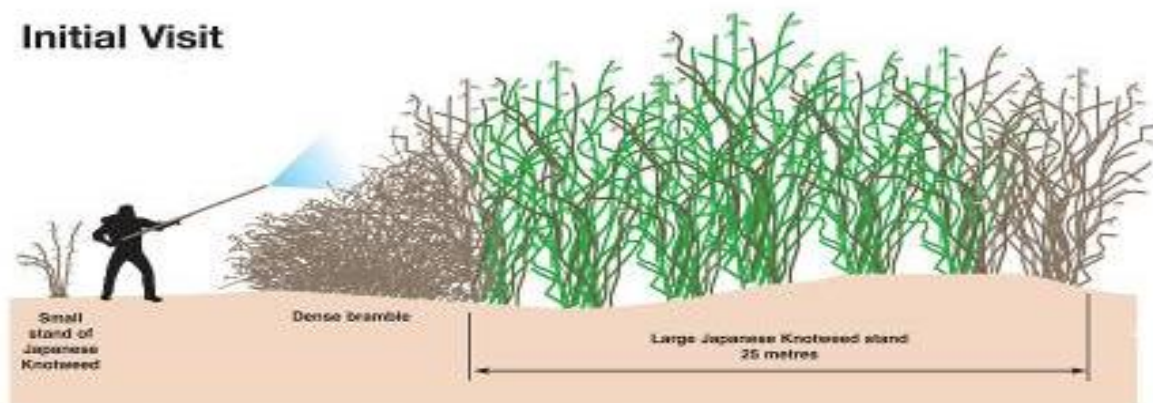
A non-residual herbicide which in certain formulas, may be applied near watercourses (subject to approval from the relevant Environmental Agency Department).

2. SYNERO

A medium-term residual. The most effective herbicide for controlling Knotweed, where conditions allow its use. Care needed due to its ability to damage non-target trees or shrubs. May be applied as an extra control to cleared areas, or as a precaution to floor slabs or road bases.

In conjunction with the above herbicides, adjuvants such as rain-fast additives or surfactants may be used at the manufacturers recommended rates at the operative’s discretion.

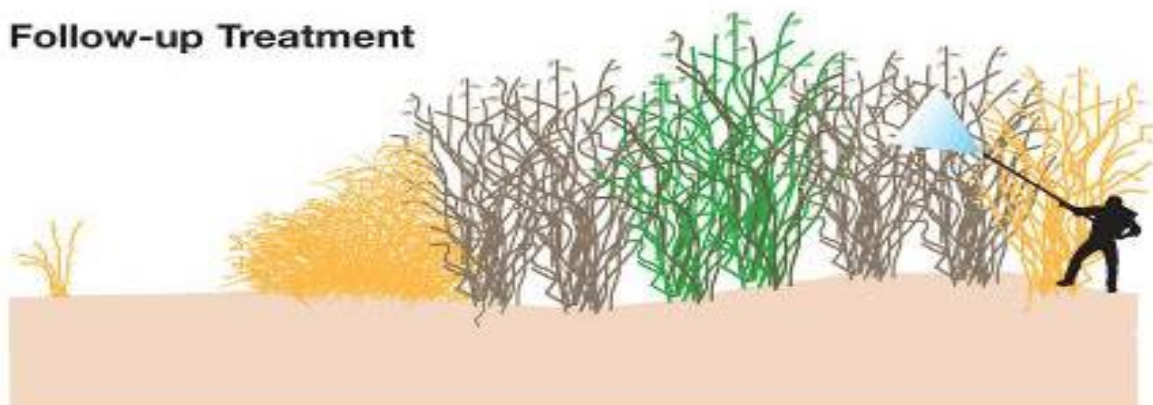
Initial Visit



- Treat all Japanese Knotweed that can be reached without:
 1. Danger to operator (dangerous objects, steep slopes hidden to dense vegetation).
 2. Walking into Japanese Knotweed and breaking off target stems.
 3. Overdosing by trying to reach more than is practical.

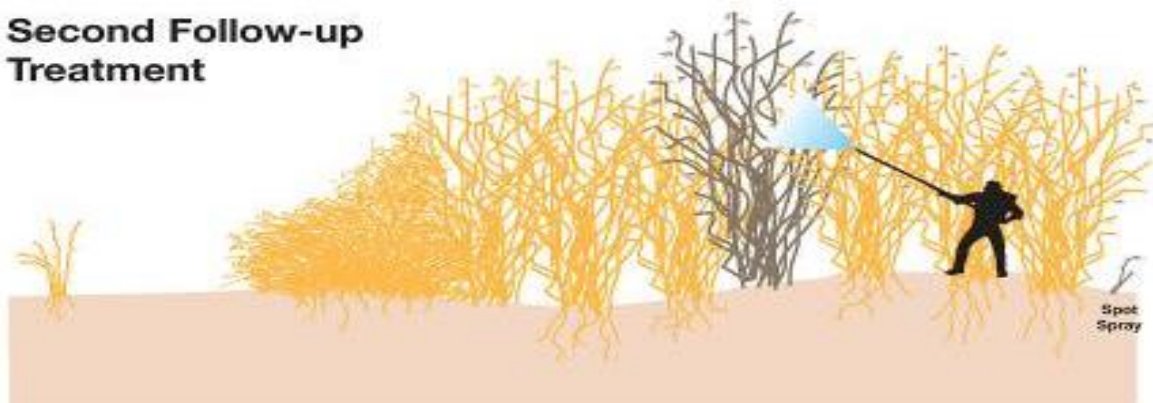
Normally a 3-5 metre band into stand from outside margin.

Follow-up Treatment



- 1. Walk through treated, defoliated Japanese Knotweed.
- 2. Check for, and treat, any patches missed with spot spray.
- 3. Treat next band towards the core of stand.
- 4. Start treatment on previously dangerous to reach parts, through safe defoliated approaches - use fall arrest systems, extra lance extensions as part of safe means of access.

Second Follow-up Treatment



- 1. Walk through treated, defoliated Japanese Knotweed.
- 2. Treat all previously untreated Japanese Knotweed.
- 3. Check for, and spot treat, any new shoots beyond previous boundary.
- 4. Ensure dose does not exceed legal limits.

5.2 Method Statement for the Excavation and Hand Sifting of Knotweed rhizome area

Areas of Knotweed contamination are dug through as set out below. Material is moved to a designated re-handling area and rhizomes and root crowns are manually removed from the material during a sift by a 360° excavator and placed in bags marked “Japanese Knotweed for incineration”. A target of 70-80% by weight, of root being removed, (if material is to be moved to a designated area on site for further controls), or a target of 60-70% by weight, (if area is to be cleared as far as possible and left in site for further controls).

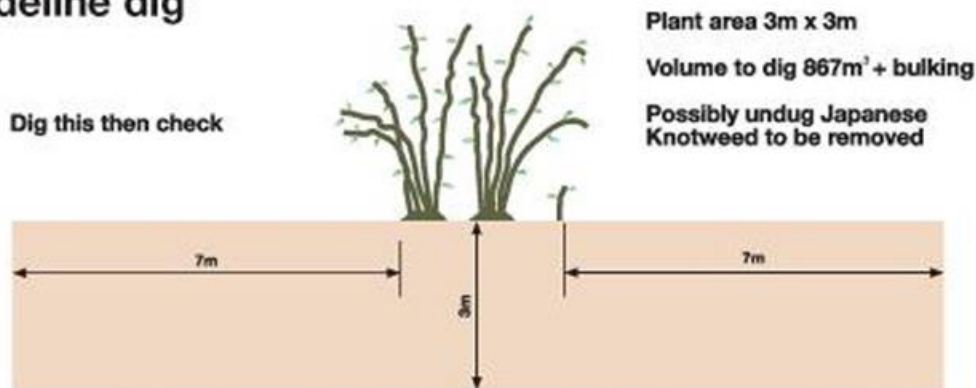
The bagged Knotweed is then taken off site and transported to SN25 5DL using Elcot Environmental Ltd Waste Carriers Licence No: CBDU 54905 for incineration under and exemption from Waste Management Licensing Exemption Ref – WEX 080869.

Limiting amount of arisings by using skilled personnel

Whilst it has been recommended in the past that areas containing Knotweed are excavated to 3m deep and 7m beyond where Knotweed can be seen, this is a “worst case” scenario and if followed blindly, will generally produce vast quantities of previously uncontaminated material. The method used to reduce this is as follows:

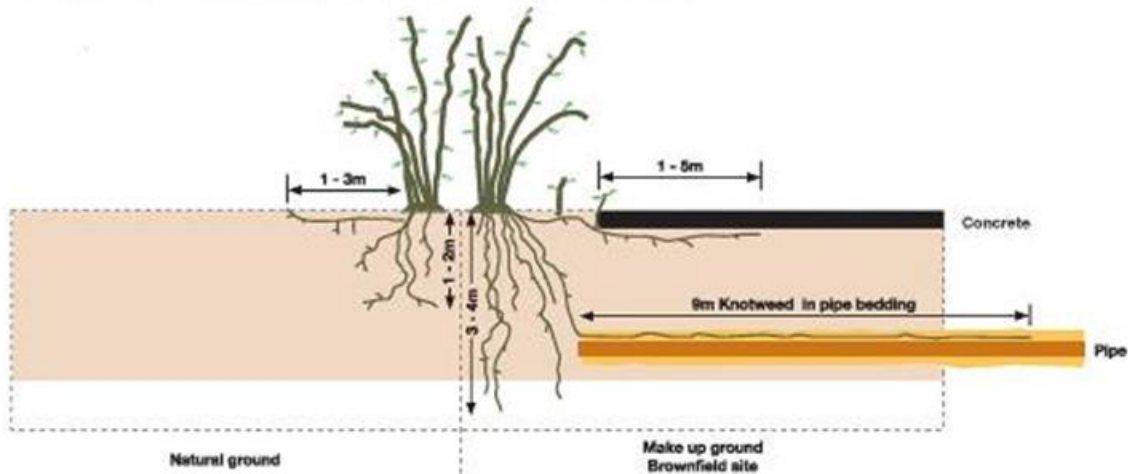
- Wherever possible, dig from inside the contaminated areas to the visible edges and in depth, only as far as Knotweed is visible.
- When an area or section appears to be clean, a careful search of the surface is carried out by skilled personnel. If no rhizomes are perceived, a further approximately 100mm layer is removed and examined and treated as controlled waste.
- If no more Knotweed is found, a further 200 – 300mm of material is loosened and searched. If on this third check no rhizome is found, material is left in site.
- The above stages are attended by a skilled and experienced Dig Manager who will be present not merely on site but will be in the vision line of and directly signal and control the Operator of the excavator and continuously observe the surfaces exposed by excavation.
- This method generally reduces the volume of arisings to some 15 – 40% of the “worst case” scenario, whilst not limiting a particular excavation to any assumed depth or lateral width.
- To avoid spread of contaminated material during excavations, tracks and wheels of machines are cleaned before moving off area. To prevent spillage bags of Knotweed are top tied before moving, stored if required in secure designated area and transported in closed vans.

Guideline dig

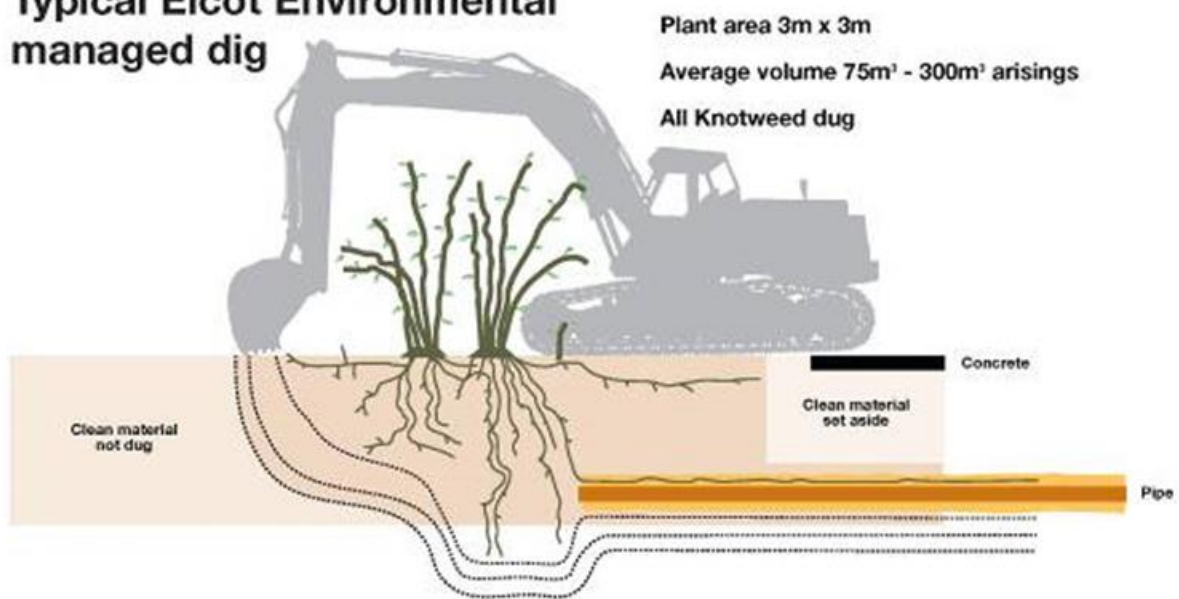


Elcot Environmental experience of Japanese Knotweed below ground habit

Based on numerous full depth digs from 1997-2008



Typical Elcot Environmental managed dig



5.3 Method Statement for the burying of de-graded material

Prior to the excavation, formation of any proposed works to be determined and any location of service runs that may be deeper than formation level. Location and height of fill of controlled waste material is positioned to avoid service runs and to maintain a minimum depth of 500mm below formation level.

Depth of dig will be determined by the safety and practicality specific for site. If material is to be placed under a car park area, suitability of materials is assumed good for this use. Due to the fact that vegetative material i.e., Knotweed rhizomes and if required for the purpose, any other roots etc, will be picked out of this material settlement due to decomposing vegetation will not be a problem.

If material is to be placed in a proposed car park area, this will be compacted in a manner to be specified by yourselves, which is acceptable for ground engineering purposes, for the application.

If, however, material is to be placed in a proposed soft landscape area, material will be compacted by bucket and machine as fill proceeds.

All due care will be taken to avoid spillage on the haul route to the fill and entire area will be checked and cleaned prior to capping.

Issues relating to any other containments in otherwise clean (Knotweed free) excavated material from pit, will be dealt with as proposed for main contract. (This material is already on site and the issues already there).

Volume of arisings from managed dig
15 - 40% of unmanaged dig



Sift out rhizomes into bags



Bags to incineration off site

Sifted arisings
to licenced tip



OR



OR

Bury on site

ON SITE



1m
approximately

Compacted as
required for use

Degraded material into
designated area -
temporary or permanent
e.g. landscape bund

5.4 Ongoing Monitoring

The purpose of ongoing monitoring is to achieve and prove to achieve a complete eradication of Knotweed on site and any Knotweed off, but sufficiently close to site to create an obvious threat to the integrity of the on-site treatment.

It is not intended to be a substitute for best practice in earlier, different parts of the Knotweed Management Program, but is recognition that a guarantee to eradicate Knotweed site wide in one year does not prevent Knotweed from re-growing due to a number of fairly obvious reasons.

In most cases the only herbicide application during this period will be knotweed locations on, or off site where this method of control was proposed in the Management Plan.

5.5 Measurement of achievement of Eradication

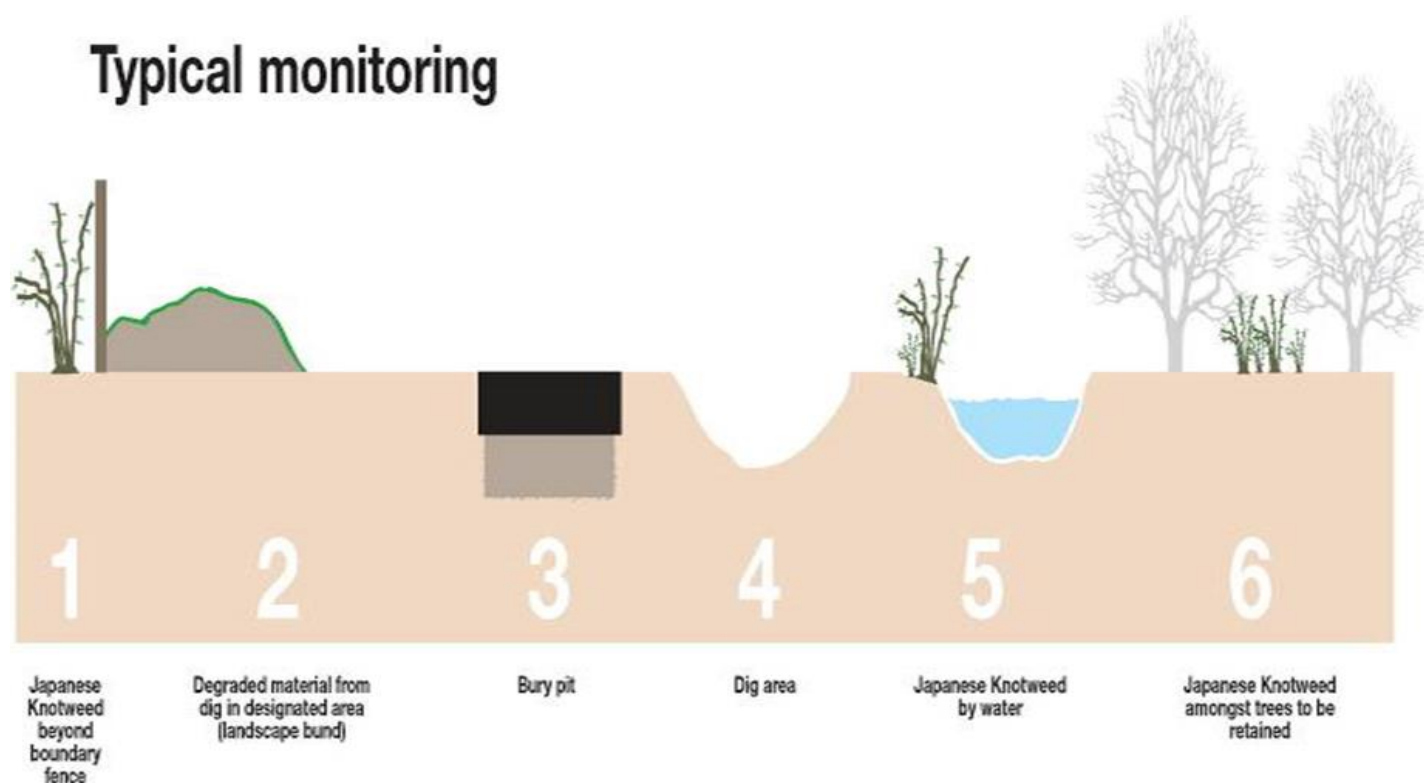
After 26 years of experience of managing Knotweed, comparing the former Welsh Development Agency viability test results and other test measures with hundreds of long-term 4-10 year's plus site wide results, (including sites with construction over unrecognized established Knotweed), we have established a consistent historic record where a combined method of control is applied site wide.

- Established Knotweed does not generally remerge in location more than three years after last record of visible growth.
- Fragments of emerging recently spread Knotweed can be eliminated in one year by herbicide.

Based on this and to provide an optimum margin of safety which is moderated by site specific history, we have set a benchmark measure to achieve standards required by our ISO 9001 and ISO 14001 quality and environmental standards.

"To monitor a site for the longer of 4 or 5 planned years or, 2 years with no treatment and no visible live Knotweed is achieved".

Typical monitoring



	YEAR ONE	YEAR TWO	YEAR THREE	YEAR FOUR
1	Obtain permission from landowner to commence treatment	Spot treatment may be required	Spot treatment may be required	No Knotweed - no treatment
2	Treat at the beginning of the year with residual herbicide. Possibly plant up and end of season.	No Knotweed - no treatment	No Knotweed - no treatment	2 or more years in 4 year plan with no Knotweed - end of scheduled controls
3	Monitor - if no Knotweed, no treatment will be necessary.	No Knotweed - no treatment	No Knotweed - no treatment	
4	Monitor - if no Knotweed, no treatment will be necessary.	No Knotweed - no treatment	No Knotweed - no treatment	
5	Treat with Round-up Biactive, adjacent to water.*	5 - 10% may need re-treatment	1 - 2% may need re-treatment	Possibly 5 years monitoring needed in this context - 3 to treat and 2 to confirm
6	Careful treatment	5 - 10% may need re-treatment	1 - 2% may need re-treatment	

* Obtain approval from Environment Agency

5.6 Herbicide treatment of Japanese Knotweed in properties adjacent to site

It is our view that any responsible proposals to manage Japanese Knotweed on site must also include measures to prevent re-infestation from any Japanese Knotweed that is off site but in close proximity. These measures should take into consideration and as far as practical, provide protection against all the ways which Japanese Knotweed can re-encroach.

Normally this is best dealt with by herbicide application and monitoring.

Other methods such as root barriers on the boundary do not fully prevent the risk of site re-infestation for the following reasons:

- Integrity to root barrier may be difficult to obtain or any given depth may not be sufficient.
- Vigorously growing Knotweed will support persistent attempts of below ground rhizomes to penetrate weaknesses in barrier, in some soil conditions to reach under a barrier at a depth of 3m plus.
- Changes in surface ground levels later may enable rhizomes to grow over top of root barrier.
- Stems or rhizomes may be thrown over boundary fence.

All these situations mean that whilst vertical barriers provide a resistance and delay to re-encroachment, it is more of a psychological “comfort” barrier than an actual comprehensive appraisal and addressing of long-term issues.

Herbicide application will almost immediately slow down growth and metabolism of the plant. Stems and near surface rhizomes are rendered inert quite quickly. Longer term, monitoring and spot spraying will kill the entire plant system, fully preventing the long-term risk of re-encroachment. Costs of including herbicide treatment and monitoring to Japanese Knotweed in adjacent properties, in the on-site program are minimal, often less than 10% of the cost of a root barrier and as can be seen from the above, a far more certain control measure.

Our approach to occupiers of adjacent properties is subject to our client’s preference, but is always discreet and diplomatic.

There is no need to insist on an immediate start to a program of treatment and monitoring. Treatment can include foliar spray to established Knotweed, where desirable non-target shrubs are not present, through to discreet cut down and removal of bulk of foliage, with injections into lower remaining stems.

The herbicides used are extremely target specific and are not harmful to humans or animals, unless the concentrate is taken in impossibly large quantities. Both are rated by the World Health Authority as less harmful to the body than common table salt.

6. Other Invasive Native and Non-Native Species

6.1 Management of Mare's Tail

The Plant

Horsetail or Mare's tail (*Equisetum*) is a perennial weed which will grow in a wide variety of soils; rhizomes can penetrate several meters (but normally half to one and a half meters) below the soil surface. They thrive in poor soils but have no preference for soil type.

The Problem

Very invasive plant, although indigenous to the UK therefore not on schedule 9 of the non-native species, BSI3882:2015 specification for topsoil requires that soil is free of Mare's tail among other pernicious weeds.

The main problem on new construction sites is the ability and likelihood that Mares tail will perforate footpath and other low specification tarmac surfaces.

When in a planted landscape area, it becomes harder to treat with herbicide, with shrubs being more susceptible to the chemicals than the Mare's tail.

Pathways of Spread

- Slow spread of below ground rhizome by natural growth.
- Rapid spread by movement of rhizome containing soils during development or for other reasons.
- Spread by spore during early spring.

Management Outline

Due to the uncontrollable spread by spore which is likely to be from sources both on and off-site it is impossible to commit to permanent eradication of the plant.

Management should focus on minimizing risk of established rhizome masses perforating tarmac and preventing clean topsoil being mixed with soils contaminated with plant material.

Even with these precautions it is impossible to identify extent of recent spore spread, however growth from spore is unable to penetrate tarmac in the first year of growth.

Herbicide:

- Herbicide applications during the growing season April – October will reduce the vigour of established plant masses and destroy new plant growth from spore.
- Spore stop, (not a herbicide but a recent extra tool) a spray on adhesive that with correct timing (around March) can glue the spore heads and reduce spore spread

Excavation and segregation of contaminated topsoil from the remainder of site together with excavation of subsoils and similar segregation with material either buried onsite or placed in permanent bunds for ongoing treatment will if properly managed reduce risks of tarmac perforation. Should circumstances not permit excavation in full vulnerable footpath surfaces can be protected by underlaying a heavy gauge membrane e.g., Terram 3000 or increasing thickness of sub-base tarmac.

Excavation of Mares tail

Excavation will require digging to between approximately 0.5-1.5 m deep, with removal carried out in approximately 100-200mm slices until no more plant material is found. Bio-hygiene controls must be in place during this operation to prevent cross contamination.

6.2 Management of Himalayan balsam

It needs to be understood that:

Himalayan balsam is an annual plant (lives for part of one year only)

The prime means of spread of Himalayan balsam to new locations is by seed thrown from ripe seed pods (From early August) up to 7 m but mostly within 3 m around existing plants, flowing water will carry seeds down stream to new areas both situations provided a primary seed bank on the soil which will produce 1000s of new plants on an ever-increasing area each year. In addition to this a secondary area with occasional plants is formed by seed being transported on feet of animals and humans

Management generally is by herbicide treatment to prevent any new season's plants from producing seed, seed is viable for 1-2 years, and preventing spread of viable seed or seed containing soil.

Legal

All material consisting of or containing Himalayan balsam plant material including seed is classified as controlled waste if removed from site.

Monitoring with Herbicide treatment

Effective herbicide treatment will require 3 visits between April and May using contact and possibly a short-term residual herbicide, with a further 2 visits between June and August to treat any late germination growth. Thorough monitoring for a minimum of 2 seasons to ensure no plant is allowed to produce seed is vital.

Double scrape and stockpile

If time does not allow in situ treatment seed containing soil can be carefully scraped up (double scrape to remove a total of 150mm-300mm depth) and stockpiled, provided any surface growth is treated and prevented from seeding the stockpile can be certified clean after 2 growing seasons.

Dispose of off site

As a last resort scraped material can be disposed of to landfill as controlled waste.

Recontamination from offsite locations

Recontamination from offsite locations is almost inevitable if these sources are present. Particularly on any water course with upstream contamination. However above management will enable construction works on site without contamination issues.

6.3 Management and Eradication of Giant Hogweed

The Plant

Giant Hogweed (*Heracleum mantegazzianum*) is a perennial plant listed as a non-native invasive species under schedule 9 of the Wildlife and Countryside Act. Legislation applies to the movement of the plants or material containing the plants, off site.

Growth is from seed which can be viable for up to 5 years.

Health Hazard

Skin contact with sap from the plant can cause 2nd degree burns, Eye contact can cause permanent blindness.

Pathways of Spread

Spread is primarily by distribution of seed by wind, with further spread by flowing water and by-passing animals and humans. Movement of soils containing seed or plants will introduce the plant to entirely new areas.

Management Outline

Management and eradication of Giant Hogweed is by preventing any new seeding, and prevention of movement of seed or plant containing soils and destruction of the entire plant by treatment with herbicide.

Generally, this is by herbicide treatment to prevent any new season's plants from producing seed, seed is viable for minimum 5 years, and preventing spread of viable seed or seed containing soil.

A program of 3 visits between April and end of May whilst growth is short will reduce risk to operator and is required to ensure growth is under control before flowerheads form. 2 later visits between June and August are required to ensure late emergent or concealed plants are treated. Any flower heads found must be carefully cut bagged and deep buried or incinerated.

Prove up of eradication will require continuation of monitoring with above treatment as required with both a minimum of five years and until two growing seasons without any new emergence has been achieved.

Burial option will be required if development is planned before prove-up of eradication is obtained.

Burial of seed containing material, (Preferably after at least one application of herbicide has been made), with a compacted cap of at least 1 m on site in an identified location which will not be disturbed, will be required if time is not available to achieve prove-up period.

Site specific assessment and issues

Spread risk

Development activities on site may spread material before herbicide treatment can be proved up.

Any off-site upstream locations of Giant Hogweed provide a source of waterborne re-infestation of on-site banks

Site specific method

Obtain consent from the Environment Agency to use herbicide near water.

Carry out an initial application of Glyphosate based herbicide to all plant foliage. This will require several visits to achieve application to all existing and emerging plants, between April and August until 3 full growing seasons passed without regrowth with a further visit in the following year.

Cut and remove flower heads of plants in potential redevelopment area to prevent this year's seeding.

Continue to monitor site until:

Both five growing seasons April – October have passed with any new plants destroyed by herbicide before flowering and seeding and two growing seasons with no new plants found.

Carry out burial option if required.

6.4 Management of Cotoneaster subspecies

Listed on schedule 9 The Wildlife and Countryside Act, 1981

It needs to be understood that:

Cotoneasters are woody shrubs with several hundred different subspecies ranging from ground hugging plants to small trees, many designed into landscape planting schemes, a few are listed as non-native invasive plants, these often hybridize with non-listed plants making certain ID difficult.

This document refers to managing the listed plants and close hybrids.

The prime means of spread of Cotoneaster to new locations is by seed (seed is viable for 1-2 years) from berries after passing through a bird's gut and dumped as garden waste. Localized spreading also occurred through branches in contact with soil re rooting.

Management generally is by herbicide treatment to kill existing plants (if time allows) to prevent any new season's berries and seed and fully removing entire plants together with likely seed containing soil surfaces in and around plants.

Removal from site

All material consisting of or containing cotoneaster plant material is controlled waste if removed from site, and disposal must be to landfill licenced to receive controlled waste.

Bury on site option.

If possible, bury on site with a minimum cover of 2 m to finished ground level may be carried out.

Mortgage risk

Currently the presence, or former presence of listed cotoneaster is not considered a mortgage risk.

6.5 Management and Eradication of Montbretia

The plant

Montbretia (Crocasmia) is a perennial plant listed as a non-native invasive species under schedule 9 of the Wildlife and Countryside Act, legislation applies to the movement of the plants or material containing the plants, off site.

Growth is from corms which divide and produce additional corms each year.

Pathways of spread

Spread is primarily by movement of movement of corms, or soil containing corms to new areas.

Management Outline

Management and eradication of Crocasmia is by preventing spread of corms or soil containing corms and destruction of the entire plant by treatment with herbicide.

Prove up of destruction will require continuation of monitoring with above treatment as required with both a minimum of three years and until two growing seasons without any new emergence has been achieved.

Burial of corm containing material (after at least one application of herbicide has been made) with a compacted cap of at least 1 m on site in an identified location which will not be disturbed will be required if time is not available to achieve prove up period.

Site specific assessment and issues

Spread risk

Development activities on site may spread material before herbicide treatment can be proved up.

Site specific method

Carry out an initial application of Glyphosate base herbicide to all plant foliage

Attend and manage a dig and bury of material containing crocasmia corms and other plant material and certification of clean down of equipment used with arisings from cleanings placed in bury location.

Continue to monitor site until

Both three growing seasons April – October have passed with any new plants dug and removed entirely from site and disposed of by incineration and two growing seasons with no new plants found.

7. Contractor's Duty of Care Responsibility

In engaging Elcot Environmental Limited (EEL) to provide a Knotweed Management Plan (KMP), your company has identified and accepted the need to provide duty of care in managing knotweed issues to minimise costs and avoid risk of prosecutions leading, in the worst case, to unlimited fines and or imprisonment.

EEL have provided a KMP which identifies risks and provides management controls to minimise these risks and enable construction works to proceed on programme.

EEL staff will be present on site at times and will implement and manage certain specific parts of this plan. They will also enact and record duty of care provisions.

However, EEL cannot and do not accept responsibility to control actions of others on site (other than persons who are employed by EEL or directly and specifically under the direction of EEL management at the time).

It is the responsibility of the EEL client to understand, follow, and to ensure that all others present on site understand and follow control measures to maintain best practice duty of care.

In particular to prevent the spread and loss of identification of knotweed containing material:

1. Areas which have been identified as containing or suspected of containing Knotweed should not be:
 - Used to store materials
 - Driven over
 - Dug into
2. Areas in which EEL have buried processed material should not be excavated into, closer than 500mm above top of processed material.

To assist the implementation of these controls, EEL have provided information to identify these areas, as set out in the attached documents. It is the contractor's responsibility to maintain, and if necessary, improve fencing or other demarcation lines.

Should the following occur:

- A breach of control such as points 1 & 2 above, but not limited to these
- Alteration to proposals that would imply the likelihood of a breach
- Any person believes knotweed is discovered elsewhere on site

It is essential to inform EEL by phone (01793 700100) or email (contracts@elcotenviro.com), and where relevant include photos and as much other concise information as is available. If this is done, EEL will provide a remedy for any breach of controls to ensure the maintenance of any contractual warranties.

Failure to inform EEL or to implement remedies may:

- Void EEL contractual warranties
- Increase cost of further remedies
- Incur risk of prosecution for failing to provide duty of care

8. Model Invasive Weed Guarantee (Assignment)



Elcot Environmental Limited Invasive Weed Guarantee (ASSIGNMENT)

Client:

Property:

Report No:

Report Date:

Estimated Completion Date:

Actual Completion Date:

Invoice No: Refer to Eradication Records Summary

Work carried out and covered by this company guarantee to control the following invasive weeds-
Japanese Knotweed (*Fallopia Japonica*)

TERMS OF GUARANTEE

1. Elcot Environmental Limited hereinafter referred to as "The Company" hereby **GUARANTEES** that, save as hereinafter provided or as provided in the Company's standard Terms and Conditions of business applicable at the date of the Client's acceptance, in the event of the person entitled to the benefit of this Guarantee notifying the Company in writing within a period of **TEN YEARS** from the date of commencement of the contract of:
 - (i) any continuance or recurrence of the invasive weed indicated above respectively to the work carried out in the areas identified in the report as the "treatment area"

the Company, upon production of this Guarantee and all original relevant survey reports, quotations, specifications, drawings, plans, completion certificates and receipted invoices, with any amendments thereto issued by the Company (photocopies will not be accepted), will arrange for the land to be inspected at a mutually convenient time upon payment by such person of the Company's then current inspection fee, provided that the continuance or recurrence complained of is of a kind against which the Company carried out control treatment in the area in which such continuance or recurrence has taken place.
2. If upon such inspection it appears to the Company that the treatment carried out by the Company was in any way defective so as to have resulted in re-growth of the invasive weed within the treated areas, the Company will carry out, without further charge, such further treatments as shall to the Company appear to be necessary to control the invasive weed and will reimburse in full the inspection fee paid.
3. This Guarantee does not cover any loss (including consequential loss see 10 below) or damage sustained by the person entitled to the benefit of this Guarantee save as set out in 2 above, whether caused by the Company's negligence or otherwise.
4. This Guarantee shall be of no validity or effect and shall be unenforceable against the Company in any one or more of the following circumstances:
 - (a) where the person entitled to the benefit of this Guarantee does not give written notice of the claim under this Guarantee to be received by the Company within three months from the date upon which the existence of such a claim could, with the exercise of reasonable diligence by a continuous occupier of the affected premises, have been discovered;
 - (b) where all Works advised or recommended by the Company prior to, at the time of, or subsequent to, treatment carried out by the Company were not fully carried out effectively with good and proper materials and in a workmanlike manner by the Client's contractor.
 - (c) where the Client failed to pay the full price, any properly payable additional costs, and any interest due within six months of the date upon which the same fell due;

- (d) where the land and property has not been kept in a good and proper state, so as to detect and prevent tipping or the early detection of growth by invasive weeds.
 - (e) where any recommendation given by the Company has not been complied with, whether such recommendation was given in the Company's report/quotation, or by separate leaflets. This may relate to cutting or pruning, the removal of waste, site clearance or the exclusion of plant materials from areas adjacent to the treatment area.
 - (f) where, subsequent to the completion of treatment by the Company, there has been any disturbance to the works carried out by the Company. This may include excavations in areas where herbicide treatments have been undertaken, where root barriers have been installed or contaminated waste has been subject to burial on site.
 - (g) where invasive plants have been re-introduced adjacent to watercourses or areas that have been subject to flooding, or by tipping or the uncontrolled propagation from adjacent land.
5. This Guarantee is to be read subject to, and is limited by, the Company's standard Terms and Conditions of business current at the date of the Client's acceptance of the Company's offer to carry out the treatment which shall be deemed to be incorporated herein. In the event of any ambiguity or uncertainty arising the Terms and Conditions of this guarantee shall apply.
6. In the event of disposal of the property, being the subject of this Guarantee, this Guarantee shall be assignable by the Client above named, to the new owner in which case the provisions hereof set out at 1-5 above shall apply in respect of that new owners as if the name of that new owner were substituted for any reference to the client PROVIDED THAT
- Within three months of the change of ownership of the property, the new owner shall have:
- (a) given written notice of the change to the Company;
 - (b) paid the Company's then current transfer fee; and permitted the Company's surveyor to inspect the property (so as to discover any defects as might prejudice the works carried out by the Company) if the Company in its absolute discretion so require.
7. For the purposes of this Guarantee and the Contracts (Rights of Third Parties) Act 1999, the person entitled to the benefit of the rights conferred by this Guarantee shall be the owner from time to time of the Property ("the Relevant Third Party") provided always that the Relevant Third Party acknowledges and agrees that its rights under this Guarantee shall be subject to the terms and conditions set out in this Guarantee.
8. The Company shall be entitled in any action or proceedings by any Relevant Third Party to rely on any term in the Guarantee and to raise any equivalent rights in defence of liability as it would have against the Client or any previous Relevant Third Party. Furthermore, the Relevant Third Party agrees that it will be bound by any previous acts, omissions or default of the Client or any previous Relevant Third Party.
9. For the avoidance of doubt, the Client and each subsequent Relevant Third Party acknowledges and agrees that when it is no longer the owner for the time being of the Property, it shall no longer be entitled to the benefit of the rights conferred by this Guarantee and that furthermore, neither the Client, nor any Relevant Third Party shall be entitled to assign or transfer its rights and / or obligations under this Guarantee.
10. All consequential losses are excluded from this Guarantee, and for the purposes of this Guarantee consequential loss means any indirect, special or consequential damages or losses suffered or incurred by the Guarantee holder and for the purposes of this guarantee indirect, special or consequential damages or losses shall include, but not be limited to damages to or losses of data, furniture or equipment, economic loss or damage, damage to or loss of profits, interest, business revenue, anticipated savings, business or goodwill, any losses costs or expenses which are not directly incurred by the Guarantee holder wholly in respect of or which are additional to the remedial work for which indemnity is provided by this guarantee, the costs and expenses of any redecoration, repainting or retiling work, the costs and expenses of removing and/or replacing any cupboards, carpets or other furniture, or any other fixtures or fittings and the incurring of liability for losses or damages of any nature whatsoever suffered by third parties (including in each case incidental and/or punitive damages), even if the Company is advised in advance of the possibility of any such losses and/or damages;
11. In the event of you wishing to make a claim under this guarantee, a fee (at the rate prevailing at the time of the claim) is payable and the following **ORIGINAL** documents must be produced by you:
- (a) Report(s), estimate and any drawings or plans relating to it

- (b) Receipted invoice or proof of payment
- (c) Certificate or letter of completion
- (d) This guarantee

If the claim is justified, your payment will be returned in full. If your claim cannot be processed due to incomplete documentation or you decide not to pursue your claim, then an administration fee (at the rate prevailing at the time of the claim) will be deducted and the balance will be refunded.

12. In the event of a dispute arising under this guarantee as to the amount to be paid or the work to be performed the dispute may by agreement between the parties be referred for determination by an expert chosen by mutual agreement between the parties. If the parties are unable to agree on an expert within 7 days after the request by one party to another or if the expert agreed upon is unable or unwilling to act either party may apply to the General Manager of the Property Care Association for the appointment of a suitably qualified and experienced expert for the dispute in question.

Signature:

Peter J Whiteside

Director

(For and on behalf of the Company)

ELCOT ENVIRONMENTAL LIMITED

The Nurseries, Kingsdown Lane, Blunsdon,

Swindon Wiltshire SN25 SDL

Registered in England and Wales No: 11230241