



Advanced Solutions for Aquatic Restoration & Vegetation Management

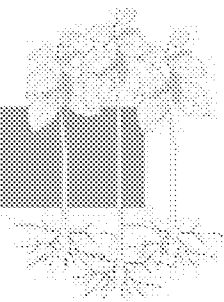
www.ebsford.co.uk



Management of Japanese knotweed, *Fallopia japonica*

Project:
2793 Burndell Road, Yapton.

Project Brief



Ebsford Environmental Ltd were requested by James Hammond of Bovis Homes Souther Counties to prepare a proposal for the management and remediation of Japanese Knotweed at Burndell Road, Yapton.

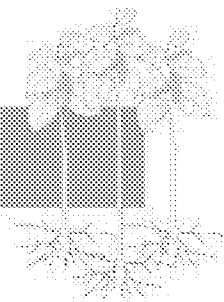
The project brief consists of:

- ❖ Establish extent of invasive non-native plant species listed in Schedule 9 of the Wildlife & Countryside Act (WCA) 1981, as amended
- ❖ Provide removal options.

Discussions and information supplied by the client confirmed:

- ❖ Japanese Knotweed is located within the critical development area.
- ❖ The area affected by the plant is to comprise the main access route into the finished development.
- ❖ 'Wayside' the derelict cottages immediately adjacent to site require survey as they are to be used during the development works. Japanese Knotweed was identified just inside the boundary line of this property associated with JK area 1.
- ❖ Mapping of the Japanese Knotweed recommended to accurately assess extent, potential boundary issues and cost implications.

Survey methodology



The initial survey was conducted on Monday 3rd September 2018 by Sarah King, a certified surveyor of Japanese Knotweed. The survey included walking the site in a methodical manner undertaking a visual search for the above ground foliage of Japanese Knotweed and any other species of consequence as listed within Schedule 9 Part II of the Wildlife & Countryside Act 1981 (as amended) ¹

At this time of year this included searching for old dead canes of the plant relating to the previous seasons growth, crown material, summer foliage and any evidence of recent disturbances which may mask evidence of the plants presence or extent on site.

Where accessible the area immediately surrounding site was also surveyed to identify infestations of invasive weeds which may represent a threat to site in the future. At the time of the survey there was no access to the derelict cottages or associated gardens.

The survey provides a snapshot of the site on the day of the survey and since the only way to identify the presence of the plant is by its foliage, we cannot identify buried rhizome that bears no foliar material either dead or alive.

Any intact material could be considered a controlled waste under the Environmental Protection Act 1990 (as amended)².

¹ Wildlife & Countryside Act 1981: The legislation aims to prevent the planting of Schedule 9 listed plant material in the wild where it then poses a threat to our native biodiversity and ecosystems. With respect to the plants section 14(2) states: *if any person plants or otherwise causes to grow in the wild any plant which is included in Part II of Schedule 9, shall be guilty of an offence.*

²Environmental Protection Act 1990 (as amended): Places a "Duty of Care" on the producer and anyone they employ to dispose of soil or other material contaminated with Japanese knotweed or giant hogweed. The material then becomes a controlled waste which can only be taken to licensed landfill sites, and dealt with appropriately.

Site Survey plan



Approximate survey area.



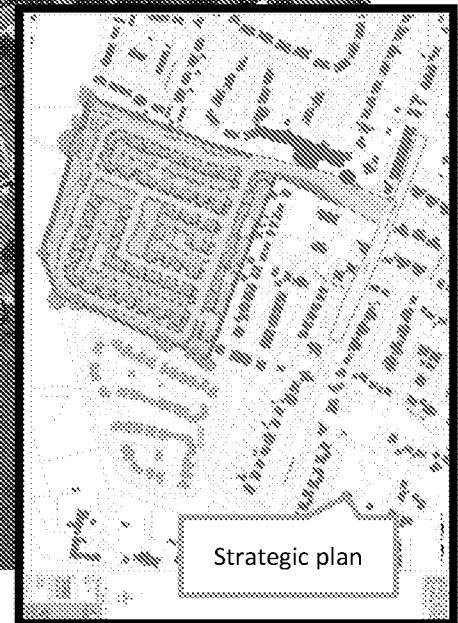
*Approximate Japanese Knotweed affected areas.



Area requiring further survey which was not accessible on the day. (not part of site but to be used as access).

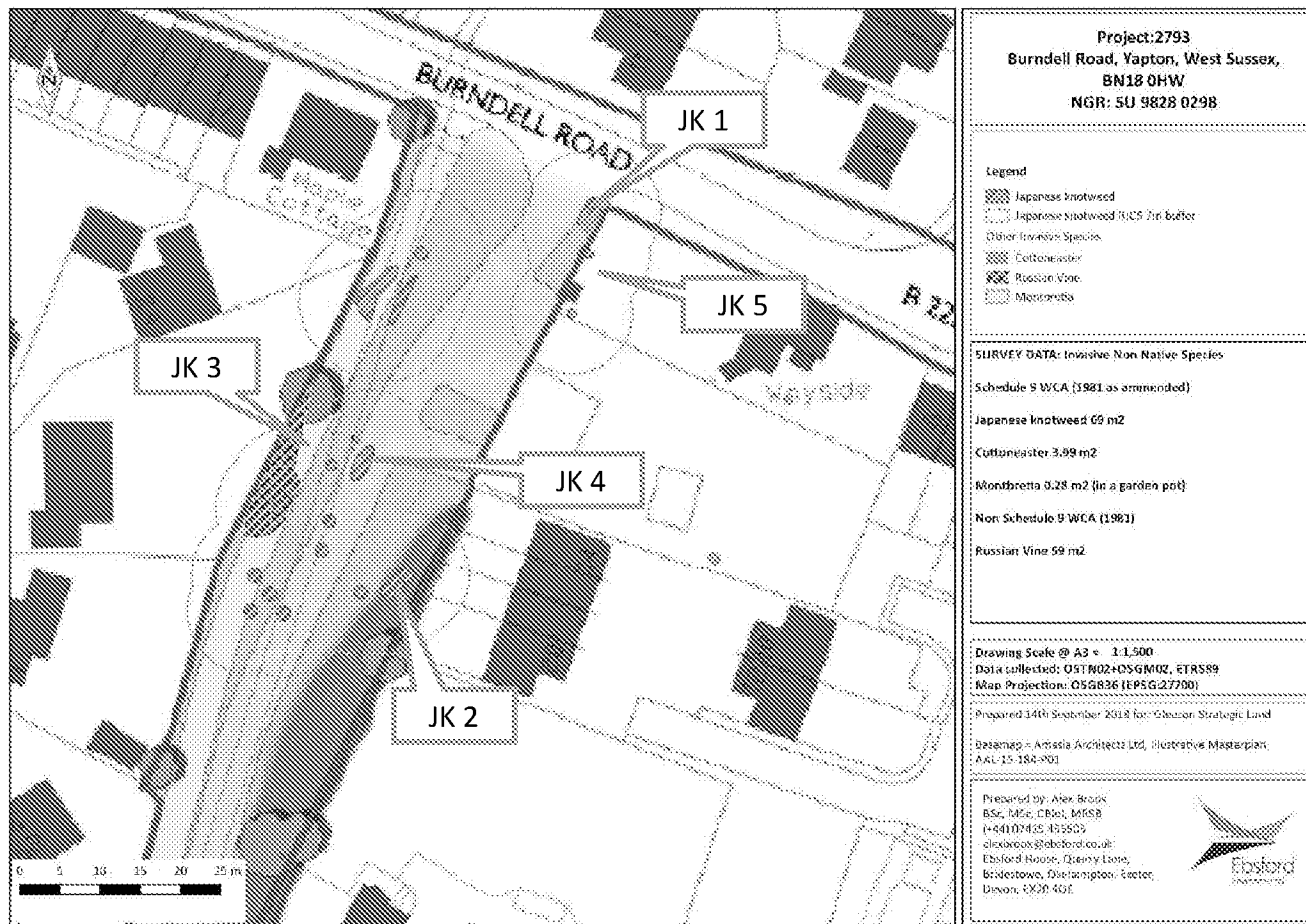


*Mapping the site would allow us to accurately cite the current visible Japanese Knotweed extent and potential extent of the underground rhizome system.



Strategic plan

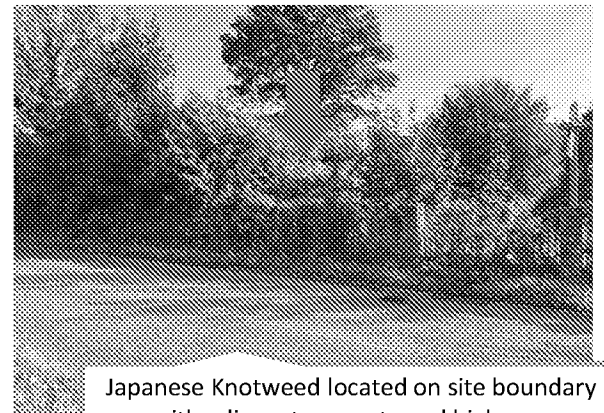
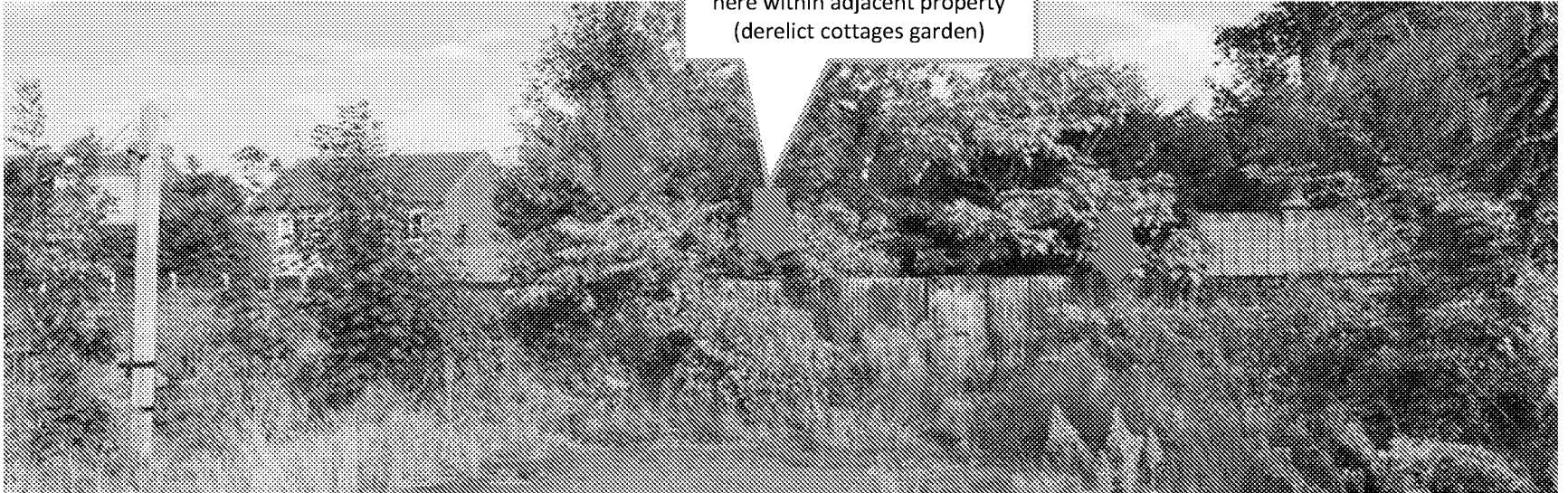
Site Survey plan



Site Photographs – JK area 1.

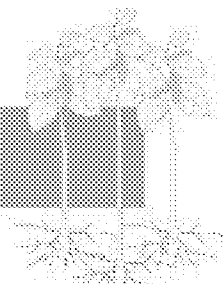


Japanese Knotweed observed here within adjacent property (derelict cottages garden)



Japanese Knotweed located on site boundary with adjacent property and highway.

Site Photographs — JK area 2



Japanese Knotweed located within 7m
of site boundary.

Site Photographs – JK area 3



In several locations, the Japanese Knotweed was growing amongst dense thickets of brambles. It is possible that this dense vegetation is masking the extent of the infestation.

Site Photographs — JK area 3

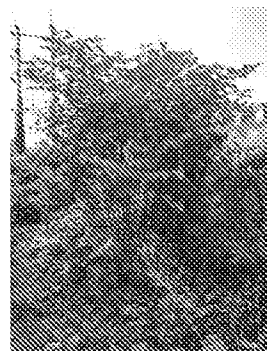
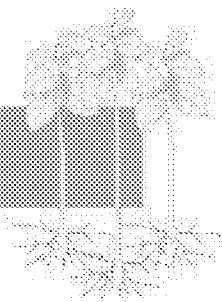


Japanese Knotweed established close to the base of the HV cable poles.



In other areas, around the foot path and rear entrances to properties located adjacent, the Japanese Knotweed has been cut back resulting in smaller sporadic stands of Japanese Knotweed.

Site Photographs — JK area 3



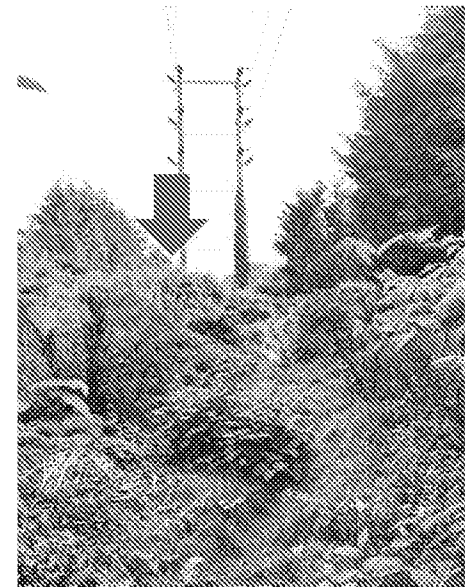
In other areas, around the foot path and rear entrances to properties located adjacent, the Japanese Knotweed has been cut back resulting in smaller sporadic stands of Japanese Knotweed.

Japanese Knotweed frequently observed on and within 7m of site boundary.

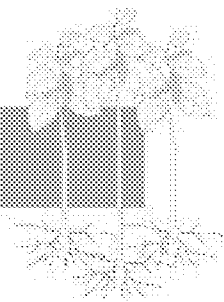
Site Photographs – JK area 4



A small stand of Japanese Knotweed was found to be growing on top of a vegetated bund located within this part of the site. The bund appeared to contain scraped up vegetation, soils and logs, likely resulting from previous clearances of the area. See historic satellite images.



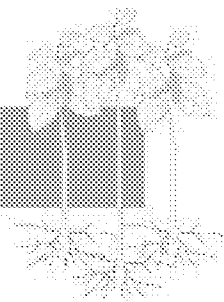
Site Photographs — JK area 4



Historic images captured on 22.04.15 show that the area affected by the Japanese Knotweed was subject to extensive clearance.

It may have been during these works that the Japanese Knotweed was imported onto site, however it is considered more likely that the infestation was already present and that these activities resulted in the widespread distribution of the plant and the sporadic nature now observed,

Site Photographs – Historic uncontrolled works



Historic images captured on 22.04.15 show that the area affected by the Japanese Knotweed was subject to extensive clearance.

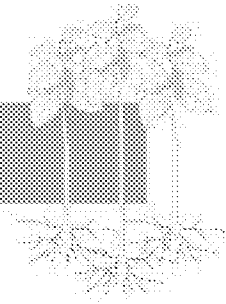
It may have been during these works that the Japanese Knotweed was imported onto site, or, it is considered more likely that the infestation was already present and that these activities resulted in the widespread distribution of the plant and the sporadic nature now observed.

Observations / Recommendations



- ✧ Japanese Knotweed was generally found to be in good condition, average in growth form, height and vigour for the season, other than in areas where the plant has been cut back to facilitate access to the rear gardens of properties located adjacent and to keep the foot path clear.
- ✧ Dense thickets of bramble have the potential to mask the full extent of the infestation.
- ✧ The Japanese Knotweed is widespread within the critical development area.
- ✧ Japanese Knotweed is located on or within 7m of the site boundary within a number of locations.
- ✧ The plant is also located within 7m of the poles supporting the overhead HV cables.
- ✧ The area affected will comprise the main access to the completed development, beneath which HV cables will be buried.
- ✧ Access to this area will be required right from the commencement of works on site.
- ✧ To prevent the spread of the plant, the Japanese Knotweed manage should be of primary concern, being remediated before any other uncontrolled activities take place on site.
- ✧ If time permits, a winter clearance is recommended to remove all vegetation to ground level to allow spring time monitoring and reassessment of the plants full extent.
- ✧ All materials contaminated with Japanese Knotweed, whether dead or alive, are classified as Controlled Waste for off site disposal purposes, in line with current legislation.
- ✧ Herbicidal management of the plant requires the affected area to remain completely undisturbed both during and after the 2 year treatment. As a result this solution is not deemed practical for this site.
- ✧ We therefore recommend a mechanical solution is employed – two options are available:

Recommendations



Option 1 – off site disposal to an appropriately licensed landfill facility.

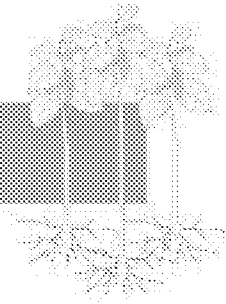
This provides an immediate solution, with no ongoing concerns.

Chargeable on a re measure rate so the project cost is directly reflective of the volume of material which requires disposal.

Option 2 – on site processing to remove viability.

On site processing of soils to remove viability through our unique **Enviroscreen 20-20**, allows for the reuse of the material on site with limited restrictions. It significantly reduces the number of vehicle movements required, and can qualify for **Land Remediation Tax Relief**. This process is also allows for much more leeway with regards to volume / cost.

- ※ Both solutions are backed by an Ebsford 10 year, 5 million PI Warranty, supported by an IBG through either the PCA or INNSA.
- ※ Since it is difficult to accurately calculate the likely volume of contaminated materials prior to mapping we have provided our best estimate price.



Excavation and off site disposal.

Off site disposal provides an immediate solution, removing all Japanese Knotweed contaminated materials from site, providing a Japanese Knotweed free site for development with no ongoing concerns or management other than our routine monitoring of the site.

Soils found to be contaminated with Japanese Knotweed will be excavated under the direct supervision of our Watching Brief. All staff are direct employees of Ebsford and are specially trained and very experienced in this role.

Their expertise is in chasing out the rhizome so that the minimum volume is excavated, but at the same time ensuring all parts of the plant is removed.

Expertise also lies in decontamination items which may be buried and certifying them as Japanese Knotweed free for disposal as general waste or reutilisation on site by the client.

The Watching Brief is also responsible for ensuring the sites biosecurity plan through the works, preventing spread of the plant around or off site and decontamination plant at the end of the works.

Upon completion of the works, a completion report will follow with a summary of the works undertaken, photographs of the work and waste consignment notes to demonstrate duty of care where materials have been removed from site for disposal at an appropriately licensed landfill facility and details of the supporting Warranty.



ENVIROSCREEN 20-20

The system sees material which contains Japanese knotweed rhizomes processed through a mechanical soil separation unit and then manually picked to further remove knotweed. Upon completion only the Japanese knotweed material (Typically <1%) is removed from site, with the three sized processed material being re-engineered into the site. Re engineering works to be undertaken by the client under Ebsford supervision / consultation.

Once the operation begins the screened material will be split in to 3 separate stockpiles, the method of reuse is detailed below:

- **Stockpile 1:** Predominately oversized material such as brick, large stones and concrete blocks. This stockpile might require crushing before reuse on site. Estimated quantity will be 15% - 20% of the total volume screened. **Once processed this material can be reused anywhere on site without restriction.**
- **Stockpile 2:** Material varying in size up to 75-90mm (with small amounts of soil) which will have been handpicked to remove 99.9% of the rhizome material. This processed material will be stockpiled and can be reused on site. **This material can also be reused on site in any location. Estimated quantity of 40% - 50% of volume screened.**
- **Stockpile 3:** Material which will closely resemble topsoil < 20mm in size. There will be small fragments of rhizome, smaller than a biro pen within this material which usually results in a requirement for a cap of 500mm. The rhizome which remains in the material will not be viable from this depth and will simply rot away.

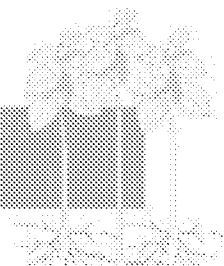
The Enviroscreen 20-20 process has been developed over many years of employing screening technology to the problem of Japanese Knotweed. The process has been undertaken by the staff at Ebsford on projects such as the remediation of the Stratford Olympic Games site, the Commonwealth games site in Glasgow and in Cornwall many thousand tons of soil were screened at Dolcoath for Linden Homes and the Home and Communities Agency.



ENVIROSCREEN 20-20



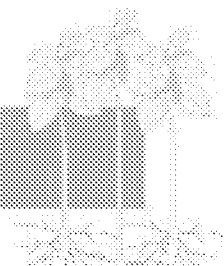
Option 1 – dig and dump – Budget price



All rates are re measurable. 5 days on site.		Rates	Estimated Total
Risks & Methods Statements & pre start meeting.		£500.00	£500.00
Project management and completion / compliance reporting		2% final project sum	£1013.00
Day rate supervision – allow 2 operatives for 5 days		£500.00	£5000.00
Day rate Plant hire			
Operated excavator (restricted reach to work under power cables)		£950.00	£4750.00
Operated dumper		£518.00	£2590.00
Mobilisation		£1000.00	£1000.00
Haulage and disposal of Controlled Waste per 20t load – allow 25 loads		£1196.00	£29,900.00
Boundary barrier supply and install			£1550.00
Welfare unit & subsistence		£2118.00	£2118.00
Herbicidal management of Japanese Knotweed located off site (JK5)		£3250.00	£3250.00
Ebsford 10 year 5 million pound PI Warranty & monitoring program.		4% final project fee.	£2026.00
Independent PCA IBG (Insurance Backed Guarantee)			
Estimated Total			£53,707.
*Subject to soil tests to confirm contamination status and bore hole logs to prove ground conditions.			

* Prices exclude VAT. It is essential that once treatments begin, no further disturbances to the Japanese knotweed occurs. Any 3rd party interference such as cutting down the JK can lead to an increase in eradication timescales and/or costs. Any change to specification or delays on site caused by the client may incur additional costs which will be notified in writing within 7 days. No reduction will be made on projects which are completed inside the estimated timescales unless specifically approved in writing by an authorised representative of Ebsford Environmental within 7 days of project completion.

Contingency items



All rates are re measurable.	Rates	Estimated Total
Contamination sample collection and representative testing	£825.00	£825.00
Goal post supply to protect works in relation to power cables.	£450.00	£450.00
Herras fencing supply and install to roadside curtilage for the duration of our works.	£900.00	£900.00
Liason with power provider to comply with guidance GS6 working within proximity to power lines.	£500.00	500.00
Non invasive vegetation disposal – per green bin.	£2600.00	£4800.00
Backfill	TBC	TBC
Total		£7475.00
*Subject to soil tests to confirm contamination status and bore hole logs to prove ground conditions.		

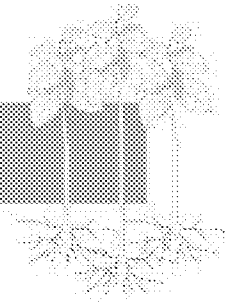
* Prices exclude VAT. It is essential that once treatments begin, no further disturbances to the Japanese knotweed occurs. Any 3rd party interference such as cutting down the JK can lead to an increase in eradication timescales and/or costs. Any change to specification or delays on site caused by the client may incur additional costs which will be notified in writing within 7 days. No reduction will be made on projects which are completed inside the estimated timescales unless specifically approved in writing by an authorised representative of Ebsford Environmental within 7 days of project completion.

Exclusions and exceptions



- Trees must be removed to ground level within works area prior to commencement of our works without ground disturbance.
- Foot path must be diverted prior to commencement of our works.
- Excluded from our price is responsibility for or management of any waste streams other than Japanese Knotweed. Hazardous items or materials, Asbestos, or any supervision, management or disposal relating to such items is excluded.
- Permit to dig and all relating responsibilities are to be supplied by the client.
- Haulage and disposal costs are indicative of Controlled Waste until proven by appropriate testing to be supplied by the client.
- Reinstatement of any physical features which require removal / disturbance in order to facilitate our work to remove Japanese Knotweed or facilitate access to site for our haulage vehicles and or plant are excluded from our prices.
- Any services within 7m of the foliar extent of the plant as indicated within our survey drawings must be decommissioned prior to commencement of works, by the client.
- Site to be secured and appropriate access for plant to be provided by the client.
- Site security remains the responsibility of the client at all times.
- Backfill, mud on the road and traffic management are excluded from our brief.

Summary



The Japanese Knotweed on site has been surveyed and the area due to be developed has been assessed in line with known issues

All available options for treatment have been considered and those deemed suitable presented with full associated costs.

In our professional opinion, due to the unknown unquantifiable volume of rhizome likely to be encountered, we feel that the best way to provide a fixed cost to cover all eventualities would be to utilise the bespoke Enviroscreen 20-20 on site solution.

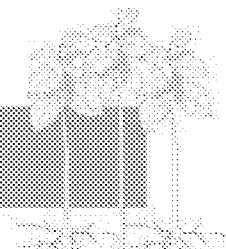
The next steps should our proposal be accepted, would include a full meeting with all parties concerned to discuss the proposal in full, agree a timetable of activities and a start date to commence all required pre-treatment activities.

Consideration should be given to the Land Remediation Tax Relief which would be available to the owner developer of this site in relation to the costs for the Japanese Knotweed treatment. Further advice should be sourced from a qualified accountant or financial advisor

We pride ourselves on open channels of communication at all times and will provide the necessary contacts during all works associated with the treatment to ensure that this is completed to the highest of standards at all times and in line with the agreed activities.

Should you have any further questions or queries with regards to this proposal, please feel free to contact us on the details provided.

Thank you for your interest in Ebsford Environmental and look forward to working with you.



Certificate of Warranty

Job No:



Ebsford Environmental Ltd certifies that the eradication of Japanese knotweed will have been successful, as per the recommendations given in our offer letter and subsequent correspondence relating to this project.

Name of client:

Site Covered:

Start Date:

Eradication Date:

Signed:



Date:

This warranty comes into effect from the eradication date given above for a period of 10 years.

Recommendations and advice given by Ebsford Environmental are covered by £5,000,000 PI insurance; this insurance covers our clients in the event that any of our treatments are deemed to be ineffective.

In the unlikely event this should happen Ebsford Environmental Ltd will commit to:

- Provide a timely and robust methodology for eradication
- Supply all remedial labour and material required FOC as per the original specification
- Rectify any damage caused during the period of treatment/warranty or suitably recompense our clients
- Act within any legislation covering Japanese knotweed
- Provide further warranties and assurances as necessary
- Supply clients with details of relevant insurances upon request and liaise with our providers regarding technical queries as necessary

Specific Exclusions to our warranty include:

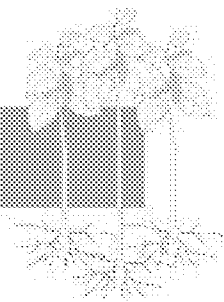
- Third party re-introduction, interference or disturbance
- Any incident deemed to be force majeure, fire or flood

Ebsford Environmental Ltd The Kennels,
The Hootall Estate, Hootall, Walsfield, W14 1AB



www.ebsford.co.uk

What our clients say



"Ebsford have worked exceptionally well on a number of projects giving professional advice not only to give a better outcome but cost effective too. The service turnaround from initial contact to working on site has been quick and effective. Competitive prices across the range of work has helped to get work completed with one company rather than going to two or three companies on one site. Overall an excellent company to work with"

Andrew Willerton – Landscape Architect – Bovis Homes

"Ebsford are a pleasure to have on site – hard working, knowledgeable and professional. Always produce a very high standard of work"

Jon Lane – Senior Contracts Manager – Ground control

"Thomas Armstrong have worked with Ebsford Environmental on a number of recent schemes which have identified Japanese knotweed at a late stage of development. From initial proposals through to practical completion they have offered a professional and no nonsense approach which has ensured we have met development timescales whilst avoiding unnecessary expense."

"We have used the Ebsford Enviroscreen machine now on a number of projects and must write to say how impressed we are with both the Ebsford approach and the machine itself. On every occasion we have found that the system has come in cheaper than alternative solutions, in some cases over 50% whilst allowing us to retain material on site for re-use as part of our development. We will continue to specify this solution as our system of choice and have no issue recommending Ebsford to our contacts."

Alan Finchett – Davies and Davies Properties

"From initial contact to completion of works, Nick Hartley and Ray Holderness of Ebsford have provided a simple, effective and professional solution to a problem which was only identified late in the process. After some research into Japanese knotweed it was refreshing to have the recommendation of a trustworthy contractor who delivered exactly what they claimed. The warranty was provided immediately upon completion and the health and safety of the site teams was without fault. I would have no hesitation in using Ebsford again or in recommending them to other organisations with Japanese knotweed problems".

John Lanagan – Impact Housing



Advanced Solutions for
Aquatic Restoration &
Vegetation Management

www.ebsford.co.uk

