



RECEIVED

- 5 OCT 2015

PLANNING

**RECOMMENDATIONS FOR
JAPANESE KNOTWEED REMEDIATION**

Dunton Environmental Ltd.
Unit 1 Tamebridge Industrial Estate
Aldridge Road
Perry Barr
B42 2TX

Telephone: 0121 3564360

Fax: 0121 3561274

www.duntonenvironmental.co.uk



committed to
CSCS



Environment
Agency
License No: 14884/03/06



smas*
Safety Management & Safety Ltd.

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



CONTENTS

TERMS OF REFERENCE	- 3 -
PROPOSAL STRUCTURE	- 3 -
SCOPE OF WORK	- 3 -
JAPANESE KNOTWEED & UK LEGISLATION	- 4 -
JAPANESE KNOTWEED ISSUES ON DEVELOPMENT SITES	- 5 -
SURVEY METHODS	- 7 -
SURVEY LIMITATIONS	- 7 -
JAPANESE KNOTWEED REFERENCES	- 7 -
LIST OF AVAILABLE OPTIONS	- 8 -
Option 1: EXCAVATION AND REMOVAL TO LANDFILL – TIPPING	- 8 -
Option 2: ERADICATE – IN SITU SPRAYING PROGRAM	- 10 -
Option 3: ERADZION8 – RAPID TREATMENT PROGRAM	- 13 -
Option 4: EXCAVATION AND ONSITE BURIAL	- 17 -
Option 5: ROOT BARRIER INSTALLATION	- 18 -
PROJECT OUTPUTS	- 18 -
MONITORING AND COMPLETION	- 18 -
DEVELOPMENT OF METHOD STATEMENTS	- 18 -
VALIDATION SAMPLING AND REPORTS	- 19 -
RESPONSIBILITIES AND COMMUNICATIONS	- 19 -
HEALTH & SAFETY	- 19 -
COSTS & TERMS	- 19 -
SCHEDULE OF INSURANCES	- 20 -
ACCREDITATIONS AND QUALIFICATIONS	- 20 -
CODE OF CONDUCT	- 20 -
WARRANTY OF WORKS	- 21 -
WARRANTY CONDITIONS	- 22 -
APPENDIX I – CONFIRMATION OF ORDER	- 24 -
APPENDIX II – TERMS OF BUSINESS	- 25 -

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



TERMS OF REFERENCE

The information provided by the Client will be utilized in any future Dunton Environmental reports and it is assumed that Dunton Environmental has been given legal privilege to use this information.

Dunton Environmental cannot however be held responsible for any errors, inaccuracies or misrepresentation of data within the previous information.

PROPOSAL STRUCTURE

The proposed remediation of the Japanese knotweed would be undertaken by Dunton Environmental Ltd.

Dunton Environmental undertakes investigations and provides remedial advice on ground and groundwater contamination across a broad range of sites.

Dunton Environmental is a privately owned company, operating nationally from its headquarters in Birmingham. The company specializes in remediation work and consulting for the Ministry of Defence, Architects, Consultants, and major building and civil engineering companies.

Dunton Environmental offers a complete fixed price remediation solution for all soil recycling needs. Our range of products and services can be tailored to fulfil a specific role in any project for any Client.

The company provides a full project "buildability" service, before the project arrives on site with the use of IT and the skills of the staff, so that there is effective communication with designers, consultants and Clients.

SCOPE OF WORK

All proposed works are to be undertaken in accordance with the guidelines provided within the following regulations, acts and publications.

- *Health and Safety at Work Act 1974*
- *Control of Pollution Act 1974*
- *Wildlife & Countryside Act 1981*
- *Food and Environmental Protection Act 1985*
- *Control of Pesticide Regulations 1986*

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



- *Control of Waste Regulations 1991*
- *Environmental Protection (Duty of Care) Regulations 1991*
- *The Control of Substances Hazardous to Health Regulations 1994*
- *Groundwater Regulations 1998*
- *The Environment Agency guidance document: Code of Practice for the Management, Destruction and Disposal of Japanese Knotweed, Version 2, September 2006*

The Client should understand that the identification of the Japanese knotweed impacted areas is to be based on all reasonable endeavours to identify the maximum extent of the infestation at the time of the operations using current best practice.

All site service information should be forwarded to Dunton Environmental prior to the instigation of the proposed remedial works. It is assumed for costs purposes that there are no services or obstructions within the operational area.

It is assumed that the Client or their agent will inform Dunton Environmental in writing of the safety measures required and operational limitations for working within the condemned buildings before any work is undertaken on site.

JAPANESE KNOTWEED & UK LEGISLATION

Japanese knotweed (*Fallopia japonica var japonica* (Houtt.)) is an upright, shrub-like herbaceous perennial plant widely considered the most invasive alien plant found in Britain today. Introduced in the 1850s as an ornamental plant, it has spread throughout the UK and Europe.

During late spring the rhizome system of Japanese knotweed starts to produce new shoots, which on emergence appear like asparagus. The shoots grow particularly rapidly, becoming more bamboo-like and fleshy green red tinged in colour, and may reach 2 metres by the end of May and exceed 3 metres by the end of August. Mature leaves are light green and heart shaped; in late August the plant produces clusters of small cream sterile flowers. Japanese knotweed dies back after the first frosts each year, leaving only dead brown hollow canes as an above ground indication of its presence underground. The rhizome network, a type of modified root system, can extend to a depth of up to 3 metres underground; limited academic research suggest the rhizome may extend 7 metres from the visible perimeter of the stand above ground.

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



Without the presence of male plants in the UK, Japanese knotweed is unable to set viable seed. Propagation is therefore principally by vegetative means alone. As little as one gram of rhizome or 5 grams of green stem material has been found to be sufficient for a new plant to propagate. It is suggested that all plants found in the UK and Europe can be regarded as clones of the original female plants introduced.

If left uncontrolled, Japanese knotweed growth will readily damage structures such as drains, foundations, walls, tarmac and concrete surfaces, and can spread rapidly to seriously degrade local ecology by out-competing native plants whilst providing very poor habitat for native fauna.

Japanese knotweed is listed under Schedule 9 of the Wildlife and Countryside Act (HMSO 1981), where it states that it is an offence to plant or otherwise cause this plant to grow in the wild. According to the Environmental Protection Act (HMSO 1990) and the Environmental Protection (Duty of Care) Regulations (HMSO 1991), cut knotweed material and soil containing rhizomes must be disposed of as controlled waste, in accordance with Duty of Care, if it is to be removed from its site of origin (in some instances, this may be classified as special waste). Additionally, Article 8(h) of the UNCED Rio Earth Summit Convention on Biological Diversity ties the UK to the eradication of alien species, such as Japanese knotweed. It is also affected by the UK's Non-Native Species Policy.

An offence under the Wildlife and Countryside Act can result in criminal prosecution, whereas infringement of the Environmental Protection Act can result in enforcement action being taken by the Environment Agency, which can result in an unlimited fine. A third party can also be held liable for costs incurred from the spread of knotweed across adjacent landowners' properties. Case law shows that these costs can be significant.

If charged with committing an offence under the Wildlife and Countryside Act, it is a defence against prosecution to prove that all reasonable steps were taken and all due diligence exercised in avoiding committing the offence.

It is the aim of Dunton Environmental to protect Clients from prosecution, enforcement action and liability claims by recommending appropriate treatment strategies and by obtaining relevant approvals for carrying out Japanese knotweed remediation works.

JAPANESE KNOTWEED ISSUES ON DEVELOPMENT SITES

There are two main sources of guidance for the treatment of Japanese knotweed on development sites. These are produced by the Environment Agency (EA 2006) and the Welsh Development

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



Agency (WDA 1998). Both documents are intended to give advice to contractors and developers and there is usually some flexibility in the suggested control measures if expert consultants are available to monitor and coordinate their implementation.

The main generic guidance offered by these reference documents is that Japanese knotweed rhizomes can grow laterally 7 m from the edge of the main group of stems and to a soil depth of 3 m.

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



SURVEY METHODS

A walkover survey of the site was undertaken in order to identify all of the Japanese knotweed stands present on the site and their coverage. An assessment was also made of the likely source of invasion, the prevention of re-invasion back onto the site and features present which may affect Japanese knotweed control.

SURVEY LIMITATIONS

The above ground vegetation of Japanese knotweed dies back over winter, leaving dead remains of previous year's growth remaining standing until they decay or are removed. Although these remains are an indicator of previous growth patterns and the underlying distribution of knotweed rhizome material, they may not be a good indicator of future growth, particularly where knotweed stands have previously been treated with herbicides.

It is therefore recommended that any sites surveyed during the winter months (November to March included) are re-surveyed during the growing period in order to establish the condition of the plants and likelihood of future growth. Alternatively, winter surveys may be augmented with a rhizome viability survey, whereby rhizome material is collected and incubated under ideal conditions to determine whether the samples are capable of producing fresh growth.

It is possible that as a result of vehicle / people movement and stems being cut and moved on site prior to the Japanese knotweed survey, that the full extent of knotweed material on site could not be identified during survey. It is suggested that the knotweed impacted areas and their surroundings **would benefit from an invasive plant survey in May**, when new season above ground material is present.

JAPANESE KNOTWEED REFERENCES

Environment Agency (2006). *The Knotweed Code of Practice: Managing Japanese Knotweed on Development Sites*. Environment Agency, Bristol.

WDA (1998). *The Eradication of Japanese Knotweed*. Welsh Development Agency, Cardiff.

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



LIST OF AVAILABLE OPTIONS

Option 1: EXCAVATION AND REMOVAL TO LANDFILL – TIPPING

Removal of all impacted material to licensed controlled landfill represents the safest methodology in terms of a very low likelihood of knotweed re-infestation, and also represents the quickest option in terms of time taken to achieve eradication of knotweed from site. However, it is often the most costly option. Under the current E.A. Knotweed Code of Practice, it is recommended that all knotweed impacted soil material from 7m laterally (around) each visible knotweed plant and to 3m in depth is removed; Dunton Environmental can achieve considerable savings in terms of arising material to be disposed by providing expert guidance during trial pit surveys and during excavations to safely and verifiably ensure that the minimum amount of material is removed; Dunton Environmental estimates that the E.A. guidance can be safely reduced to 2.5m laterally from the peripheral growth and 1.5 to 2m in depth.

All Japanese knotweed impacted arisings must be disposed of at a suitably licensed or permitted landfill waste disposal facility. The site operator must be informed that there is live Japanese knotweed within the material to be received. Waste soil containing Japanese knotweed is classed as special waste but may be hazardous if active herbicide is present in the soil. It is therefore recommended that before works are undertaken it is confirmed with the landfill operator in writing that they are willing and able to take the anticipated quantity of Japanese knotweed infected material.

All knotweed impacted material must be transported from the site using a registered carrier or a carrier exempted from registration by the Controlled Waste Regulations Act 1991. Waste transfer Duty of Care notices must be completed and signed giving a written description of the waste sufficient to enable the receiver to handle the waste in accordance with their duty of care under law.

All transport off site should follow a predetermined route from the site to the landfill facility specified agreed with the Dunton Environmental ecological works manager. All haulage vehicles should be fitted with sheets or tarpaulins capable of fully covering / containing the impacted material carried; sheets are to be used and secured before any vehicle is allowed to leave the site.

All haulage vehicles should be thoroughly cleaned of impacted material on completion of works, using stiff brushes and / or hand operated pressure washer as required. It is understood that a pressure washer is available at the Client's preferred landfill site. Cleaning should be conducted either on a hard surface, or over a sacrificial layer of HDPE plastic sheet as previously described, or at site of

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



disposal i.e. on contaminated land at the landfill site; all solid cleaning waste must be disposed of either on site within infested areas to be treated with herbicide, or be removed from site by a licensed carrier as controlled waste to a licensed landfill facility.

Dunton Environmental will be responsible for obtaining and maintaining the necessary Duty of Care notices for transport of Japanese knotweed material: these must be kept for a period of three years following completion of works. Copies of all Duty of Care notices must be provided to Dunton Environmental and the Client on completion of works.

Speed / phasing of the removal operation is dependent upon the number of 360 diggers / licensed wagons devoted to the operation per day (determined by the Client under current agreements), although it is recommended that the ratio of supervisory consultant to 360 digger onsite does not exceed 1:2 to maintain optimum site safety and knotweed containment / site hygiene protocols.

Rigorous containment protocols developed for the safe handling of Japanese knotweed contaminated material would be specified in the form of working Method Statements provided to all contractors and strictly adhered to in order to minimize the possibility of spreading of impacted material.

It may be necessary to provide bowser facilities to control dust on site and wheel washing facilities for haulage wagons leaving the loading area to minimize soiling of access roads.

All the prices would exclude the following

- Disposal of any fly tipped material screened out via the extraction process or surface pick over.
- Ground support and piling.
- Any site welfare facilities and specific site security measures
- Replacement of any damaged vegetation following herbicide treatment
- No provision has been made for the costs associated with the accommodation, disconnection and/or diversion of any existing services. It is understood that the Client will arrange for any diversions and disconnections of existing services as necessary
- A suitable portable water supply and foul connection is assumed to exist within the site

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



Option 2: ERADICATE – IN SITU SPRAYING PROGRAM

The process is described below:

The 'Eradicate' system is a range of cultural and chemical methods which significantly increases the effectiveness of the herbicidal treatment method, to the extent that complete eradication can usually be achieved within one growing season of the treatment programme commencing allowing Dunton Environmental to provide the Client with a specified a site access date as part of the methodology.

The service that Dunton Environmental offers is based on a sound understanding of the ecology and biology of the plant and the site. The method targets weaknesses in the plants physiology and it is essential that all elements of the treatment programme be carried out strictly in accordance with the treatment protocol. Trained specialists carry out all work and all work is routinely closely monitored to ensure the treatment is on programme and effective. During the eradication process strict control of the site and all activities will be carried out by Dunton Environmental in consultation with the Client.

The actual Eradicate process on site involves the following steps.

- Clearance of surrounding vegetation and setting it aside for disposal off site by the Client.
- Winter clearance and careful removal of surface knotweed and disposal off site at a licensed facility if required
- Spring fertilization if required
- Record survey of the site area
- Application of the herbicide protocol to the active plants rhizome mass within the soil matrix. Normally carried out over 3 separate visits.
- Disposal off site of dead knotweed growth
- Selected sampling of the treated rhizomes for analysis and validation
- 12 month monitoring program.
- Final report and guarantees

All the prices would exclude the following

- Disposal of any fly tipped material screened out via the extraction process or surface pick over.
- Any site welfare facilities and specific site security measures
- Replacement of any damaged vegetation following herbicide treatment

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



- No provision has been made for the costs associated with the accommodation, disconnection and/or diversion of any existing services. It is understood that the Client will arrange for any diversions and disconnections of existing services as necessary

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



Selections of herbicides which may be used during the process are listed below, with the relevant MAPP numbers:

Agritox 50	07400
Asulox	13175
Blaster	13267
Depitox	13258
Roundup Biactive	10320
Timbrel	05815
Tordon 101	05816
Tordon 22K	05083

Payment terms for 1 year program:

- 45% after first spray
- 65% after second spray
- 95% after third spray
- 100% after issue of final report and warranty

Payment terms for 2 years program:

- 30% after first spray Year 1
- 55% after second spray Year 1
- 65% after third spray Year 1
- 70% winter clearance Year 1
- 75% after fourth spray Year 2
- 85% after fifth spray Year 2
- 95% after sixth spray Year 2
- 100% after issue of final report and warranty

A minimum of 7 days notice is required to begin work.

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



Option 3: ERADZION8 – RAPID TREATMENT PROGRAM

The process is described below:

EradZion8

Dunton Environmental's EradZion8 system acts to reduce the effective size of the rhizomes within the soil matrix to prevent further propagation whilst applying a high dosage of our specially formulated herbicides to the rhizomes itself. This completely alters the soil environment to stunt any residual growth and eradicate the knotweed from the soils.

Over several year of application, Dunton Environmental have developed fast acting herbicidal treatment protocols to enable the eradication of Japanese knotweed within one growing season. Traditionally, our herbicide application has been introduced by spraying directly onto the plants leaf, to enable uptake. In our years of application, our observations have shown three results which have allowed us to develop EradZion8. The first is that Japanese knotweed rhizomes will not propagate easily when less than a certain length and diameter, the second is that with high dosages of our herbicidal formulae applied directly onto the rhizome, growth can be neutralised, and thirdly, in certain soil environments, Japanese knotweed growth is stunted.

The actual EradZion8 process on site involves the following steps.

- Clearance of surrounding vegetation and setting it aside for disposal off site by the Client.
- Careful removal of surface knotweed vegetation and disposal off site at a licensed facility
- A restricted excavation of the main root crowns and their disposal off site at a licensed facility
- The establishment of a quarantine lay down and treatment area on site.
- A controlled excavation of the soils that is impacted with Japanese knotweed rhizomes and stockpiling of the soils in the quarantine area for treatment.
- Record survey of the excavation area
- Mechanical reduction of the rhizome mass within the soil matrix
- Application of the herbicide protocol to the rhizome mass within the soil matrix
- Addition of selected products to alter the soil environment to further render the soil unable to support plant growth
- Selected sampling of the treated rhizomes for analysis and validation
- Stockpiling of treated soils for the Client to enable reuse of the soils on site by the Client, to be set 500mm below the final ground level
- 12 month monitoring program.

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



- Final report and guarantees

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



The following should be provided by the Client

- Disposal of any fly tipped material screened out via the extraction process or surface pick over
- Demolition of surrounding structures necessary to gain access to the knotweed
- Any site welfare facilities and specific site security measures
- Ground support and piling if required.
- Any specific site security measures
- Replacement of any damaged vegetation following herbicide treatment
- No provision has been made for the costs associated with the accommodation, disconnection and/or diversion of any existing services. It is understood that the Client will arrange for any diversions and disconnections of existing services as necessary
- A suitable potable water supply and foul connection is assumed to exist within the site
- Backfill after completion of treatment

Selections of herbicides which may be used during the EradZion8 process are listed below, with the relevant MAPP numbers:

Agritox 50	07400
Asulox	13175
Blaster	13267
Depitox	13258
Roundup Biactive	10320
Timbrel	05815
Tordon 101	05816
Tordon 22K	05083

All of these herbicides are safe for use in areas beyond 10m from any open water course. Once the soils have been treated they should be reused on site below a suitable growth medium.

Payment terms:

- 40% after excavation
- 95% after treatment
- 100% after issue of final report and warranty

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



A 14 days notice is required to begin work.

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



Option 4: EXCAVATION AND ONSITE BURIAL

On-site burial or encapsulation would involve excavation of all Japanese knotweed impacted material to the full extent of the rhizome and encapsulating the contaminated material within a buried cell.

Excavation and encapsulated burial on site permits all impacted material to remain on site, representing a considerable saving of costs associated with transport and disposal to landfill.

Consideration must be made for the burial of the large quantity of arising material in terms of placing the burial pit(s) within developed and non-developed areas and the prevailing hydrological conditions of the burial site(s), i.e. necessity of dewatering works during burial, etc. Encapsulated knotweed material does not require herbicidal treatment. Consideration must be given to the placing of the arisings from the burial pit excavations. Arisings from the burial pit should be sited in a temporary stockpile in an agreed area on site for disposal or use on site to make up levels, etc. Arisings from the burial pit excavation may be used to make good the site of excavation of impacted material or used to make up levels elsewhere on site.

Prior to the excavation of the Japanese knotweed, a burial pit should be prepared on the site to receive the contaminated material. This would involve the removal of an approximate calculated volume of material. The pit prepared for the cell formation would therefore cover an area of a calculated m². These dimensions would allow for approx. ½ m of clean backfill to cover the burial cell.

To create the cell, the pit would be lined with a root barrier, allowing enough material along the edges to provide an overlap. The cell would then be filled with the knotweed infested soil. The upper face of the barrier capsule would then be put in place and the cell would be sealed. The arisings from the burial pit would be used as backfill to restore ground levels.

The speed of the encapsulation operation is dependent upon the number of 360 diggers / licensed wagons devoted to the operation per day (determined by the Client under current agreements), although it is recommended that the ratio of supervisory consultant to 360 digger onsite does not exceed 1:2 to maintain optimum site safety and knotweed containment / site hygiene protocols. It should be noted that site of the burial pit should be clearly delineated by the Client's engineers on site before the commencement of works.

Rigorous containment protocols developed for the safe handling of Japanese knotweed contaminated material would be specified in the form of working Method Statements provided to all contractors and strictly adhered to in order to minimize the possibility of spreading.

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



Option 5: ROOT BARRIER INSTALLATION

A specialist geotextile membrane would be used for the formation of the root barrier to prevent re-infestation by Japanese knotweed rhizome (root) or shoot material into the Client's site.

A 3m deep trench would be excavated and the membrane would be placed in the trench with 200m showing at the top. The Barrier will be installed in accordance with the manufacturer's guidelines. The soils would be then backfilled into the trench.

Dunton Environmental will act to supervise and validate all impacted material excavations, laying / forming of barrier, and management of the site with regard to the root barrier installation, from breaking ground to satisfactory completion of works.

PROJECT OUTPUTS

The outputs from the project would be the verifiable control and eradication of Japanese knotweed from the site and the prevention of future knotweed encroachment onto the site from neighbouring areas.

MONITORING AND COMPLETION

Dunton Environmental will carry out post-control monitoring and inspect the site for any Japanese knotweed re-growth. This would be undertaken during the growing season, three months after the completion of the knotweed remediation works.

When the Japanese knotweed remediation works have been completed, Dunton Environmental will issue the Client with a validation report which details the works undertaken and the results.

DEVELOPMENT OF METHOD STATEMENTS

Method statements for the processes involved in remediation works will be developed by Dunton Environmental and would be dispatched to the Client prior to the instigation of any site works. The objectives of the proposed method statements are:

- 1) To provide background information on the site characteristics.
- 2) To set out the requirements of the Enabling Works Contracts.
- 3) To document responsibilities to ensure that all required tasks are undertaken.

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



4) To document how achievement of the remediation program objectives are to be demonstrated.

Method statements for the processes involved in remediation works will be developed by Dunton Environmental and would be dispatched to the Client prior to the instigation of any site works. It is assumed for the purpose of this proposal that the method statements would be agreed by the Client or its agents within one week of the receipt of the relevant documentation.

VALIDATION SAMPLING AND REPORTS

Following completion of reportable works Dunton Environmental will issue a Validation Report to the Client, to include where possible images recording the process and satisfactory completion of remediation of Japanese knotweed.

RESPONSIBILITIES AND COMMUNICATIONS

Dunton Environmental will be responsible for noting progress of work and advising on appropriate action in the event of unforeseen circumstances, and for accepting completion of the remediation works as described. Dunton Environmental will undertake validation recording / sampling and interpretation of data. Dunton Environmental will be responsible for reporting the results of the validation program, and for consultation, as required, with the regulatory agencies if so required.

All applicable safe working requirements / procedures should be forwarded to Dunton Environmental prior to the instigation of the proposed remedial works.

HEALTH & SAFETY

All works are to be undertaken in accordance with the Dunton Environmental Health and Safety Policy and within the framework of a site specific COSHH and Health and Safety plan.

A full copy of the Dunton Environmental Terms and Conditions (Appendix II) applicable to the works are attached to this statement.

COSTS & TERMS

Costs as indicated are exclusive of VAT and are valid for a period of 60 days from the date of issue.

Dunton Environmental will require written instruction from the company to whom invoices will be addressed.

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



Stage payments will be required within 14 days of the date of invoice. Invoices will be raised in accordance with schedule as they are completed. Retention is not to be withheld.

We reserve the right to charge interest and penalties at 5% per calendar month, or part thereof, for any late payment. We also reserve the right to temporarily postpone treatment if payments are overdue, and this could jeopardise the programme of work and guarantee provisions.

SCHEDULE OF INSURANCES

Employer's Liability Insurance to £ 10 million.

Public Liability Insurance to £ 5 million.

Professional Indemnity Insurance to £ 5 million.

ACCREDITATIONS AND QUALIFICATIONS

- ✓ **SMAS**
- ✓ **Accredited by CHAS**
- ✓ **Constructionline**
- ✓ **Safe Contractor**
- ✓ **Environment Agency**
- ✓ **British Safety Council**
- ✓ **Citation Health & Safety**
- ✓ **RG Wilbrey Health and Safety Consultants**

CODE OF CONDUCT

Dunton Environmental will:

1. Undertake work for Clients diligently, impartially and honestly to a high professional standard
2. Only accept work which they are qualified and competent to complete
3. Be courteous at all times
4. Act to the highest standards of integrity and professionalism

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



5. Comply with all aspects of the law, especially that relating to health and safety and environmental protection
6. Ensure that advice and recommendations are based upon thorough impartial consideration of all pertinent facts and circumstances and on opinions developed from reliable relevant experience and recognised published information
7. Support and promote initiatives and best practice that improve the environment and sustainability
8. Inform the Client immediately of any personal or company self interest which may conflict with that of the Client
9. Shall not take any discounts, commissions or gifts as an inducement to show favour to any person or body
10. Respect the confidentiality of information gained in the course of any commission and shall not use this information for personal or company benefit or in a way that may damage the reputation of the Client.

WARRANTY OF WORKS

- 1.) Dunton Environmental will design carry out and complete such treatment of Japanese knotweed as Dunton Environmental sees fit (subject to clause 5 below) to ensure that the eradication will be successful in the specific locations in which Dunton Environmental will carry out treatment works and will monitor as a watching brief service and which are described in the contract, providing that the programme of application as advised by Dunton Environmental is adhered to ("the treatment").
- 2.) If there is any evidence that the treatment has not been successful despite the above, Dunton Environmental undertakes to take such reasonable further steps as shall be necessary, to eradicate the Japanese knotweed.
- 3.) If the Client requires greater insurance cover than the above, it must in its own interests arrange such cover.
- 4.) Dunton Environmental does not accept any liability for the emergence of any Japanese knotweed that has been introduced from offsite sources or which was grown outside the specific locations during the period of the treatment or for the period of this Warranty by the actions of a third party or by, for example, fly tipping or knotweed entering the site via an adjoining waterway.
- 5.) This Warranty does not confer any rights other than expressly set out above and does not cover any claims for consequential loss or damage.

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



- 6.) Dunton Environmental issues the Warranty and any claims under the Warranty shall be made against Dunton Environmental for breach of professional duty. If Japanese knotweed re-grows in the specific locations treated by Dunton Environmental, then Dunton Environmental undertakes to retreat the specific locations using all reasonable methods, unless the cause of the regrowth is due to the actions of a third party as per clause 5.
- 7.) Dunton Environmental confirms that Dunton Environmental has professional indemnity insurance covering its liabilities under the contract with a limit of indemnity of not less than £5,000,000 (five million pounds) for any occurrences arising out of each and every event. Dunton Environmental will maintain such insurance at all times until two years after the completion of the treatment provided such insurance is available in the United Kingdom on commercially reasonable rates and terms. When reasonably requested, Dunton Environmental will provide documentary evidence that the insurance required under this Guarantee is being maintained.
- 8.) Dunton Environmental accepts liability only for specific locations treated by Dunton Environmental and Dunton Environmental accepts no liability for Japanese knotweed brought to the Site after the Treatment has been completed, or that may grow in an area outside of the original specific locations.
- 9.) Subject to the terms set out above, this Warranty shall remain valid for a period of **two years** from completion of the Treatment.

WARRANTY CONDITIONS

The warranty is conditional on the following

- Eradication carried out 100% under Dunton Environmental control and to detailed Dunton Environmental methodology.
- A detailed site survey to identify and map at a suitable scale consistent with the site to show all knotweed infestations, and any trees or shrubs of ecological value that should be protected from the eradication treatment works. Survey to identify any potential watercourses or other factors that would affect methodology.
- Complete Health and Safety audit of site
- Historical record of all ground works over the last twenty four months
- Agree with Client that the plan accurately reflects extent of all knotweed on site, and agree course of action for any boundary issues with adjacent landowners. Plan to form basis of site control document. This to be used in conjunction with proposed site development plan.

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



- All proposed works on site during the eradication period to be notified to Dunton Environmental prior to commencement. This to include all proposed site activity and any local authority and utility works. It is the sole responsibility of the Client to keep Dunton Environmental informed of any potential disturbance of the site in any way whatsoever.
- Site security to be the sole responsibility of the Client and should be consistent with any recommendations made by Dunton Environmental
- All fly tipping subsequent to contract and GPS map being agreed with Client to be disposed of at discretion of Dunton Environmental in approved manner at additional cost to Client. Disposal to be organised at cost by Dunton Environmental and to be charged as incurred
- Dunton Environmental to approve source and importation of any topsoil onto site and to agree any significant change in ground levels to be carried out post site treatment.
- Force majeure to be in place for period of eradication process covering fire, flood, rain, wind sleet, hail etc. and any weather related or manmade factors that could affect timing and effectiveness of eradication methodology in any way whatsoever
- Dunton Environmental to monitor site for a period of two years post treatment during the knotweed growing season and post that time as appropriate or as notified by Client.

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



APPENDIX I – CONFIRMATION OF ORDER

Please complete and return by fax or post.

For the attention of

Description

Undertake work in accordance with Dunton Environmental proposal reference Job No.

Other items

Any limitations outlined in the proposal and the payment conditions are hereby understood and accepted by the Client.

Invoice address, if different from the proposal address:

Name

Company

Street

Town

County

Postcode

Tel

Fax

Authorised by:

On behalf of:

Signature:

Purchase Order No:

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



APPENDIX II – TERMS OF BUSINESS

DUNTON ENVIRONMENTAL

1. Scope of Terms of Business

All work carried out by or at the responsibility of the Company (a "Project") for the person, firm or company commissioning the work (the "Client") is subject to these Terms. These Terms may be varied or excluded (in whole or in any part) by any proposal or tender ("Proposal") submitted by the Company to the Client or by subsequent express agreement in writing signed on behalf of the Company and the Client, but not otherwise.

The Proposal shall, unless otherwise stated therein, remain valid for 30 days from the date of the Proposal.

2. Commencement and Completion of Work

2.1 Unless otherwise stated in the Proposal, the appointment of the Company shall commence from the date of the Company's acceptance of the Client's purchase order, or from the time when the company shall have begun to perform for the Client any of the services specified in the Proposal, whichever is the earlier. The Client will co-operate with the company in all reasonable ways and will make freely available or place at the Company's disposal all facilities and personnel reasonably required by the Company to carry out the Project including (without limitation) where appropriate:

- Access to the Project site (the "Site")
- Services (electricity, water etc.) at the Site.
- Visas and permits for personnel and equipment to enter and leave the Client's country and site.
- Licences or permits for the work to be undertaken at the site.
- Office (and telephone and fax) at the Site.
- Site security.
- Assistance in arranging accommodation local to the site.
- Medical facilities on or near the Site.
- Information on special hazards or risks at Site or in relation to the Project material.

2.2 The Client shall (a) provide the company with all the data (presently or subsequently in the possession of the Client) relating to the Site and the Project (and the Client represents and warrants to the Company that having made due enquiry all such data is accurate to the best of the Client's knowledge), (b) accurately indicate and mark for the Company the location of all property boundaries, easements, utilities and site conditions of which the Client has knowledge; (c) retain ownership of and take full responsibility for the generation, treatment, disposal and transport of any and all Hazardous Substances.

2.3 The Company shall not be obliged to work at the Site in dangerous, unhealthy or unsafe conditions.

2.4 If the Company is delayed in the Project by any act or default of the Client or any other party or by individual disputes or any cause beyond the reasonable control of the Company, including (without limitation) war, armed conflict, civil disturbance, act of God, explosion, accident, act of Governmental agencies or failure of third party suppliers, the completion of the Project shall be extended by a reasonable period and the Company shall be paid for any additional reasonable costs incurred attributable to the delay.

2.5 The Company shall make reasonable endeavours to supply the Results as defined below on the date agreed, but this date will be taken as a guideline for time planning purposes only. Time is not of the essence unless specifically agreed in writing with liquidated damages for late delivery fully defined before commencement of the Project.

3. Business Associates

The Company shall take all reasonable steps to meet the wishes of the Client in the use of the Client's business associates but reserves the right to employ, discharge or replace at any time any business associate in carrying out the Project. References in the Proposal to the utilisation of a particular person as a business associate shall imply only that the company intends at the Proposal date to employ or retain such person but shall not imply that contractual arrangements have been made for such employment or retention for the entire contract period.

4. Company Personnel

It is a condition of contract that the Client will not approach or contact, with the intention of employing or retaining, any employee of the Company engaged on or connected with the Proposal or the Project without the prior agreement of the Company. This restriction is to apply at all times during the project and for a period of 6 months following completion of the Project.

5. Disbursements to Third Parties (not applicable to fixed price contracts)

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



A 10% charge may be made on all disbursements made by the company associated with the contract in order to cover administrative costs. The disbursements include but are not limited to subcontractors, freight and packing charges, out of pocket expenses and travel and accommodation expenses away from the normal place of business of the Company's personnel incurred in carrying out the Project.

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



6. Techniques

The Company intends to employ methods, procedures, techniques, personnel and sources of information set out in the Proposal but reserves the right to vary these as necessary or desirable in order to achieve the aims of the Project.

7. Care, Diligence and Contractual Limitations

7.1 All survey findings, forecasts, statements of opinion and recommendations in the Proposal or in any letter or report (the "Results") submitted by the Company to the Client on the work carried out under a Project are made in good faith, and on the basis of the information before the Company at that time. The Company warrants that it shall in the discharge of the services agree to be performed by the Company, exercise all the reasonable skill, care and diligence normally provided by a professional person or firm in the performance of services similar to those provided for the Client and under the same terms and circumstances. All other warranties whether express or implied, statutory or otherwise are hereby excluded. If in the performance of these services the Company has discretion exercisable as between the Client and a contractor, the Company shall exercise this discretion fairly.

7.2 In so far as the Results are based on observations, data and/or materials supplied by the Client or obtained by the Company from a third party the Company assumes no responsibility and makes no warranty or representation as to their correctness. All samples, material, data and other information supplied by or on behalf of the Client will be accepted by the Company at the Client's risk. The Company will exert reasonable efforts to ensure their safety and security in a manner consistent with the Company's safety and security policy for its own property.

The Client shall inform the Company in writing prior to supply of such items to the Company of any special or hazardous features associated with such items. The Client shall indemnify the Company at all times against any costs, claims, demands and expenses (including without limitation legal expenses on an indemnity basis) arising from the Client's failure to comply with the provisions of Clause 7.2.

7.3 The Client acknowledges and accepts that the contract price does not contain a premium sufficient to cover the Company's risk of unlimited liability in respect of the project and that a limitation on the Company's liability is therefore reasonable. Without prejudice to Clauses 7.4 and 7.5 the Company shall be liable to the Client for such direct losses of the Client as are attributable directly to the Company's defective work, limited to an amount equivalent to two times the cost of service (Clause 9) up to a maximum of £20,000 subject to other limits specifically agreed in writing. The Company shall have no further liability to the Client, its servants or agents in connection with the performance of services or supply of goods, by the Company under this agreement.

7.4 The Company shall have no liability to the Client under contract or otherwise (including negligence or breach of statutory duty) for any consequential or indirect loss or damages. The term consequential shall include, but is not limited to, loss or reduction in profits, increased costs of production or increased costs of Site investigation or development arising from defective work by the Company or incorrect interpretation of Client's data.

7.5 Nothing in this agreement shall restrict the Company's liability for death or personal injury caused by negligence.

7.6 The Company can accept no responsibility for the failure of the Client to follow the Company's advice. The Client is therefore advised to refer back to the Company any Proposal by the Client that would conflict with the Company's advice. The Company will provide advice on the Client's proposals, at standard rates or for an agreed sum.

8. Confidentiality and Intellectual Property

8.1 Except as provided by Clauses 8.4 and 8.5 herein, all material resulting from the Company's performance of the Project, including documents, calculations, maps, photographs, drawings, computer printouts, notes, analytical reports and any other pertinent data are the property of the Company. Ownership of any such material which is unique to the project together with an irrevocable licence in respect of non-unique material shall be the Client's when the Client completes payments and its other obligations under this Agreement. Provided however that the Company shall have the right to retain copies of said materials for archive purposes. All reports and other materials resulting from the performance by the Company of the Project are intended solely for the Client's use in this Project and are not intended or represented to be suitable for use by the Client or third parties on any other Project: such reuse of said materials by the Client or third parties without written permission or adaptation by the Company for the specific purpose intended shall be at the user's sole risk without liability to the Company and the Client agrees to indemnify and hold harmless the Company from all claims, damages and expenses including without limitation legal fees on an indemnity basis arising from such unauthorised reuse.

8.2 Nothing in this Agreement shall create any obligation on the part of the Company to undertake any responsibilities the Client may have under any laws or regulations which may require the reporting or notification to responsible governmental authorities or other third parties of any discharge or release of Hazardous Substances or of any other environmental condition at the Site. However, the Company expressly retains the right to undertake such reporting or notification where it deems such reporting or notification necessary to ensure the Company's compliance with applicable laws or to prevent harm to health, the environment or to property.

8.3 In the event that samples, drilling residues, equipment or other materials generated or used in the course of the performance of the Project, contain or may contain Hazardous Substances, the Company shall, after completion of testing or other related portions of the Project, return such samples or other contaminated materials to the Client or, on prior written request by the Client, and using documentation signed by the Client as generator, have such samples or other contaminated materials transported to a location selected by the Client for final disposal.

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



8.4 Copyright is reserved to the Company in the Proposal, and any material in the Results that has not been generated under the Project. No such material shall be copied or published (in whole or in part) or disseminated to any third party without the prior written permission of the Company.

8.5 The copyright in all drawings, documents and other similar material provided by or on behalf of the Client for the use of the Company in connection with the Project shall remain vested in the originator of such material, but the Client shall ensure that the Company is duly authorised to use such material for all purposes related to the Project.

8.6 Notwithstanding the foregoing conditions, the Company reserves the right to use an outline description of the Project in its promotional literature.

9. Cost of Service.

9.1 Work will be carried out and charged on the basis of time spent unless a fixed budget is agreed in writing. Any time charge contained or referred to in the Proposal shall be for guidance only and relates to the relevant charge at the date of the Proposal only. Invoices will be issued using the fee rates and price schedule in force at the time work is carried out, unless otherwise agreed.

10. Terms of Payment

10.1 Invoices will be rendered according to agreed stage payments and shall be paid (without deduction or set-off) by the Client within 14 days of the date of submission of the invoice by the Company.

Any sums remaining unpaid at the expiry of any such 14 days will bear interest to accrue from day to day at the rate of 5% per month cumulatively on the balance outstanding. Without prejudice to Clause 13, the Company reserves the right to suspend its services hereunder if any invoice is not paid within 14 days of the date of submission by the Company.

10.2 If any item or part of an item of an invoice rendered by the Company is disputed or subject to question, the payment of the remainder of the invoice shall not be withheld on those grounds and the provisions above shall apply to such remainder, and also the disputed or questioned item to the extent that it shall subsequently be agreed or determined to have been due to the Company.

11. Foreign Currency Expenses

Where any expense to be reimbursed by the Client is paid by the Company in a currency other than sterling, it shall be reimbursed in sterling calculated at the official purchase rate of exchange prevailing at the date when the expense was incurred.

12. Taxation Provisions

12.1 The cost of services and expenses incurred will bear a value added tax (VAT) charge at the rate applicable at the date of invoice.

12.2 Non-UK Clients: The Client shall remit all payments free of any taxes, levies or claims or duties arising outside the UK. The Client shall pay in full any taxes, levies or claims due according to the laws of its country or state.

13. Termination or Suspension

13.1 If either party shall become bankrupt, go into liquidation (other than a voluntary liquidation for the purposes of amalgamation or reorganisation only) have a receiver, administrative receiver or administrator appointed over any part of its business or assets, enter into a composition with its creditors become insolvent (the Bankrupt Party) the other party shall be entitled forthwith by notice to the Bankrupt Party to terminate or suspend work under the Contract.

13.2 If the Client fails to pay any sum due hereunder within 14 days of the due date, the Company may by notice to the Client suspend and at the same or a later time terminate the Contract.

13.3 If either party (the Defaulting Party) breaches a material term of the Contract which remains un-remedied for 30 days after service of written notice on the Defaulting Party by the other party specifying such a breach, or if it appears that the Defaulting Party is in breach of a material provision of any statute statutory instrument or has in connection with this Agreement committed an act of default actionable by the other party at common law, the other party may by notice in writing to the Defaulting Party suspend and at the same or a later time, terminate the Contract.

13.4 The Client may terminate the Contract at anytime on 40 days written notice to the Company.

13.5 If the Client terminates the contract under Clauses 13.1 or 13.3 above the Client shall pay to the company only such sums as are due up to the date of the termination. If the Company terminates the Contract under Clauses 13.1, 13.2 or 13.3, or the Client terminates the Contract under Clause 13.4, the Client shall pay to the Company in addition to the foregoing, such sums as are reasonably expended by the Company in bringing the work under the Contract to an end in a prompt but orderly fashion, plus all commitments of the Company and a cancellation fee of 20% of the outstanding contract price. Such sums in aggregate are not to exceed the Contract price where fixed.

13.6 If the contract is suspended under Clauses 13.1, 13.2 or 13.3 and the Company is required to perform any additional work in connection with the resumption of services, the Client shall pay the Company in respect of the performance of such additional work in advance.

14. Interpretation

14.1 These Terms of Business and all documents, arrangements and agreements to which they apply shall be construed and have effect in accordance with the Laws of England.

Unit 1 Tamebridge
Industrial Estate
Aldridge Road
Perry Barr
B42 2TX



14.2 "Hazardous Substances" in this Agreement includes PCBs, asbestos, petroleum, crude oil, natural gas, pollutants or contaminants and includes, without limitation, any substances, wastes, sewage effluents, process effluents, materials, pollutants or contaminants identified or defined in or by the Control of Pollution Act 1974 or the Environmental Protection Act 1990, as amended.

14.3 This Agreement contains the entire Agreement and understanding between the parties hereto with respect to the subject matter hereof and replaces all prior agreements and understandings relating to the said subject matter.

15. For Contracts involving investigative work, The Client acknowledges and assumes the risk that (a) Site conditions may change over time; (b) subsurface conditions of the Site may vary from those encountered in borings, surveys or explorations; (c) although necessary to perform the Project, commonly used exploration methods e.g. drilling, borings or technical excavating involve an inherent risk of contamination of previously uncontaminated soils and waters.

16. For contracts involving remedial, construction related activities, the Client acknowledges and recognises that (a) during the course of the investigation and or remedial work it may be necessary for the Company or its subcontractors to perform drilling, trenching or other excavation on or in the vicinity of the Site containing Hazardous Substances; (b) the activities to be undertaken by the Company under this Agreement involve certain inherent risks with regard to the potential migration of contaminants present on or beneath the surface of the Site and (c) any seal may be imperfect despite normal precautions. The Client further acknowledges that in the course of performance of this Agreement the company may rely upon information supplied by the Client or the Clients contractors, consultants or agents or information available from generally accepted reputable sources without independent verification. The Client assumes these risks and the Company shall be indemnified pursuant to the following paragraph.

The Client shall save, defend, indemnify and hold harmless the Company and its Directors, officers, shareholders and subcontractors from and against any and all suits, actions, legal or administrative proceedings, claims, demands, fines, losses, costs, liabilities, interest and legal fees which either exceeds the limitation of the liability provided for in Clause 7 of the Agreement or results from, arises out of or are in any way connected with (a) breach of any obligation of the Client under this Agreement; (b) negligent acts or omissions of the Client, the Clients employees, agents and subcontractors; (c) existing conditions or any aggravation of existing Site conditions not solely caused by negligent acts of the Company; (d) any generation, treatment, disposal or transportation of Hazardous Substances; (e) any interpretation, materials furnished or services provided by the Client or a third party in connection with the Project; (f) claims made by any person not a party to the Agreement relating to the services performed in compliance with the Agreement or (g) arising out of or in connection with any actual or threatened release, discharge dispersal or escape or exposure or threatened exposure of any person or property to a Hazardous Substance; any obligation to test for, study, monitor, report, clean up, remove, abate, contain treat, neutralise or characterise the quality or quantity of any substance, material, vapour including without limitation any hazardous Substance or otherwise pertaining to activities undertaken by the Company under this Agreement.

23rd April 2015

DTR 15073

St James Group Ltd
Brewery Wharf Project Office
London Road
Twickenham
London
TW1 1AA

Dear Mr David Leich,

RE: JAPANESE KNOTWEED ERADICATION AT TWICKENHAM MOL & HH

Further to your request for proposal for the remediation of the Japanese knotweed at your Twickenham site, please find our costed proposal for your consideration.

The Client had concerns about the presence of Japanese knotweed being present at Twickenham and engaged Dunton Environmental Ltd. as consultants to survey the extent of knotweed previously identified to Dunton as being present on site and recommend a course of action for its safe and effective remediation.

Site Description:

The site is currently being developed

Assessment of Japanese Knotweed on Site:

A walkover survey of the site was undertaken on the 18th of March to investigate the presence of Japanese knotweed.

One area (Stand 1) of Japanese knotweed was identified. However, Dunton was unable to verify if the knotweed was active or not.

Stand	Dimension (x) m	Dimension (y) m	Area m ²
1	5	5	25
Total			25 m ²

Japanese Knotweed Remediation Methodology and Costs

Independent of methodology adopted, it is recommended all Japanese knotweed remediation works are completed before ground works are commenced in order to minimize the risk of cross contamination of cleared / non-infested areas. The attached document details all the possible solutions for eradicating the knotweed on this site. Given the conditions and time constraints we have detailed the most cost-effective solution for you. Please refer to this document for details of each process.

Treatment Proposal

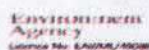
1. Winter Clearance of existing above ground vegetation and offsite removal to a suitable facility - **£1,850.00 excl VAT**
2. 3 Monitoring visits in the 2015 growing season to verify if knotweed is active - **£1,500.00 excl VAT**
3. If knotweed is deemed to be active after monitoring visits, treatment of Knotweed via EradZion8 Rapid Treatment Solution (**To be priced separately and includes a final report and warranty**).
4. If knotweed is deemed to be inactive, final clearance or below ground rhizomes at the end of the 2015 growing season (**Includes final report and warranty**) - **£1,850.00 excl VAT**

Please Note: 14 days' notice is required to begin work.

Should you require any further information, please do not hesitate to contact Dunton Environmental and ask for Nelson.

Yours sincerely,

Mr. Neil Roe
 Director



Site Map and Location



Approximate location of stand 1

Site Image



Stand 1 – Above ground vegetation to be cleared.