

Former Royal Mail Sorting Office, Twickenham

Final Report and Warranty of Works for the Treatment of Japanese Knotweed

Ref: DTR12051

For

St. James Group



Soil

Water

Waste

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Land & Water Decontamination

Environmental Consulting

Waste Management

Specialist Environmental Technologies

Accelerated Bio-remediation

Rapid Japanese Knotweed Eradication

Heavy Metal Contamination Treatment

Groundwater Treatment

Materials Recycling

Topsoil & Subsoil Manufacturing



Contents

Contents	2
Executive Summary	3
Site Conditions Prevailing Before Works Commenced.....	3
Treatment Method	3
Methodology Statement	4
Conclusions.....	6
Appendix A (Site Condition Survey).....	7
Appendix B (Spray Reports).....	8
Appendix C (Resources Used).....	9
Appendix D (Health and Safety)	11
Appendix E (Site Plan with Specific Locations)	12
Appendix F (Disposal Ticket).....	13
Appendix G (Insurance Document)	14
Appendix H (Warranty).....	15

Executive Summary

The Employer, St. James Group, appointed Dunton Environmental to eradicate the Japanese Knotweed (JK) in specific locations at The Former Royal Sorting Office, Twickenham. To ensure that the Japanese Knotweed were eradicated quickly and effectively Dunton treated the knotweed with the Eradicate System and excavated and removed the dead stems from the impacted soil where necessary.

After the walkover survey was conducted on 9th May 2012, the Client was contacted by telephone/e-mail with a proposal to use a Picloram based herbicide to treat several specific locations of Japanese knotweed and to excavate the root crowns from the soil and dispose off site to a suitably licensed landfill. This proposal was accepted by the Client and then the specific location was recorded on the site plan.

Four site visits and three applications of herbicide were carried out during the treatment process. On the final visit the crowns were hand excavated and taken away for disposal at a suitably licensed landfill. Following this the remaining soil was checked and validated by Dunton as this area will now form part of the foundation for any proposed development.

The operation to treat the specific locations has been executed with due diligence in accordance with the chosen methodology and has been considered to be successful to minimize re-growth of JK.

Site Conditions Prevailing Before Works Commenced

Stand	Dimension (x) m	Dimension (y) m	Area m ²
1	2	1	2
2	1	1	1
3	1	1	1
Total			4 m ²

Treatment Method

The first wave of chemical treatments of the JK was undertaken using Picloram based herbicide. This herbicide is approved by DEFRA and it is safe to use under the same directions as using Picloram. This herbicide cannot be used within 10 m of a watercourse and it is not target specific – it will affect and cause other plants to be unable to regenerate and thus wither. This special herbicide cannot be used in adverse weather as the spray drift may affect other plants, which is undesirable. This herbicide is a dangerous chemical which is moderately toxic to mammals and irritating to the skin and eyes. It is persistent and highly mobile in the soil, hence the need for it to be applied, handled and mixed as directed on the product label by trained staff holding the relevant qualifications.

The initial chemical treatment was carried out on 22nd August 2012. Following applications were made on the 4th October 2012 and 27th November 2012. The dead Japanese Knotweed stems were removed on the 26th February 2013.

Methodology Statement

In- Situ Spray Treatment

1. Introduction

As identified by Dunton Environmental, there are three specific locations contaminated with Japanese Knotweed on the site. It is very difficult to put an exact time scale on the eradication of the Knotweed as it is a living organism, although we envisage that control would be achieved after two or three treatments.

2. Methodology

2.1 Introduction

Discussion with the Environment Agency (Heaton, 2002) has detailed the current guidelines developed by the EA for control of Japanese Knotweed. The Environment Agency guidelines “Code of Practice for the Management, Destruction and Disposal of Japanese Knotweed” (Environment Agency 2006) detail several options for the control of Japanese Knotweed within a development site.

The recognition of and early appropriate management of Japanese Knotweed can reduce the risk of excessive cost, potential prosecution and prevent physical damage to buildings and hard surfaces. When the Knotweed is identified, a fence needs to be erected to avoid any further contamination and to clearly segregate it from the rest of the site.

The most important element to Japanese Knotweed management for a developer is the early application of an appropriate herbicide prior to any land disturbance.

Herbicide application is most effective between July and September (or until the first frosts cause leaf fall). Application of herbicide in the spring is acceptable but significantly less effective. Herbicides are not effective during the winter dormant stage. Rhizome can remain dormant for a considerable period after re-growth has apparently stopped, and therefore the viability of rhizome would need to be ascertained prior to disturbance. However, treatment with an appropriate herbicide can reduce the vigor of Japanese Knotweed material, even if it were only treated a few

weeks prior to disturbance. If a developer is in a situation where their timescale prohibits effective chemical eradication of Japanese Knotweed, the plant should still be treated, if it is in leaf, at the earliest possible convenience.

2.2 Protecting Operatives

As shown in our site specific operational Risk Assessment, high visibility jackets, steel capped footwear, spray gloves, hard hats and level 3 or better coveralls will be worn while operatives are spraying and a face shield and apron will be worn whilst the mixing of herbicides is taking place. All vehicles that are on the site will carry first aid kits, emergency eye wash facilities and emergency spillage kits.

2.3 Protecting members of the Public

Before any treatment of the plant takes place, signs will be placed around the site to warn members of the public and any site workers that chemical application will be taking place.

3.0 Herbicide Selection

There are two primary questions that must be answered prior to selection of a herbicide for the control of Japanese Knotweed.

1. Is the site within 10 metres of a watercourse or water body?
2. Is the soil from the treated area to be utilised for replanting and if so, how long before landscape will be undertaken utilising this material?

Whenever there is a risk of contamination to a watercourse, choice is limited to formulations of Round-Up Pro-Bioactive which is a formulation of Glyphosate and one of our DEFRA approved mixes. Use of herbicide in or near water requires consultation with the Environment Agency and completion and approval of a WQM (1).

If the site is not close to a watercourse, there is a greater choice of herbicide. Where soil is intended for continued use or immediate reuse for landscaping purposes, a non-residual herbicide such as Glyphosate would be appropriate. In the event that replanting is likely to be delayed for a period of at least six weeks, a formulation containing triclopyr may be considered. If it were the intention to cover the area in a hard surface or delay replanting for at least 6 months, a persistent chemical such as Picloram would be appropriate.

Conclusions

Following herbicide applications carried out by Dunton Environmental, the specific locations contaminated with JK on site were found to be effectively treated in accordance with the chosen methodology. Samples of the treated rhizome fragments were taken and examined for signs that the treatment had been effective.

The operation to treat and remove the JK in the specific locations has been executed with due diligence in accordance with the chosen methodology. This method of controlling JK, by selection of herbicide and application techniques is considered to be one of the most successful chemical treatments available to treat JK. The removal of surface root crowns further aids in ensuring re-growth potential is minimized.

Long term monitoring of this site will continue for a period of 2 years. If there is any evidence of growth in the specific locations, we will return to site and take the appropriate mitigation measures. 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.

Appendix A (Site Condition Survey)

11th May 2012

DTR12051

Mr Brian Orchard
St James Group Limited
26 Bridge Street
Leatherhead
Surrey
KT22 8BZ

Dear Brian

RE: JAPANESE KNOTWEED ERADICATION AT THE FORMER ROYAL MAIL SORTING OFFICE, TWICKENHAM

Further to your request for proposal for the remediation of the Japanese knotweed at The Former Royal Mail Sorting Office, Twickenham please find our costed proposal for your consideration.

The Former Royal Mail Sorting Office, Twickenham and has 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.

The Client Provided the Following Information:

Site Address:

The site is accessed at Royal Mail Sorting Office, Twickenham

Site Description:

The site is a former Royal Mail sorting office that is awaiting development.

Assessment of Japanese Knotweed on Site:

A walkover survey of the site was undertaken on the 9th May 2012 to investigate the presence of Japanese knotweed.

Stand	Dimension (x) m	Dimension (y) m	Area m ²
1	2	1	2
2	1	1	1
3	1	1	1
Total			4 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.

Option 1

If the time is available to treat the knotweed in place **between June & the end of January 2013**, then we recommend that the most cost-effective option is Option 2 – **in-situ spraying**.

Eradicate In-Situ Spraying Program

- Duration: June 2012 to the end of January 2013
- Cost: [REDACTED]

The strategy has been developed based upon a start on site in June 2012. A minimum of 7 days notice is required to begin work.

If access cannot be gained to check for knotweed on the other side of your boundary fence then a root barrier would be required. This would be installed to prevent any offsite rhizomes re contaminating your site post treatment. Alternatively, if access can be gained to the other side of your boundary fence, Dunton will provide an additional proposal to treat any knotweed found, this meaning that the root barrier will not be necessary.

Root Barrier (27 linear metres)

- Duration: 1 week
- Cost: [REDACTED]

Option 2

If the location of the knotweed impacts your development and requires **removal before the end of January 2013**, then we recommend Option 3 which is **our rapid treatment solution**.

EradZion8 Rapid Treatment Program

- **Duration:** 3 weeks
- **Cost:** [REDACTED]

As the Eradzion8 treatment will only eradicate the knotweed stands within your boundary, a root barrier would be required to prevent any offsite rhizomes re-contaminating your site. . Alternatively, if access can be gained to the other side of your boundary fence, Dunton will provide an additional proposal to treat any knotweed found, this meaning that the root barrier will not be necessary.

Root Barrier (27 linear metres)

- **Duration:** 1 week
- **Cost:** [REDACTED]

14 days notice is required to begin work.

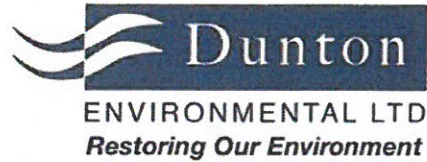
Should you require any further information, please do not hesitate to contact Dunton Environmental and ask for Nelson.

Yours sincerely,

Director

Appendix B (Spray Reports)

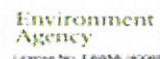
Solutions to every environmental challenge on site
 *Remediation *Soil Recycling *Weed Eradication *Rapid Weed Eradication
 *Large Volume Soil Treatment Plant *Lime Stabilization



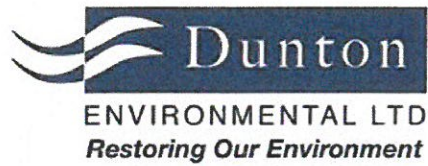
SITE SPRAY REPORT

TREATMENT DETAILS

DATE	22 nd August 2012
NAME	St James Group Limited
JOB NUMBER	DTR12051
SITE ADDRESS	The Former Royal Mail Sorting Office London Road Twickenham
SITE VISIT NUMBER	SPR1
SITE PROGRESS	First herbicide treatment of Japanese knotweed
COMMENTS	Our Operative treated all visible Japanese knotweed on site. No new shoots appeared around the main stand. The knotweed contaminated area remained undisturbed.
NEXT VISIT SCHEDULED	September 2012
NEXT ACTION	Spray treatment 2
SITE SPRAY TECHNICIAN	Malcolm Stubbs
SPRAY PROGRAMME MANAGER	Katherine Anderson
SIGNED BY	
	Lara Roe Director



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SITE PHOTOGRAPHS

Photo 1



Photo 2



Photo 3



Photo 4

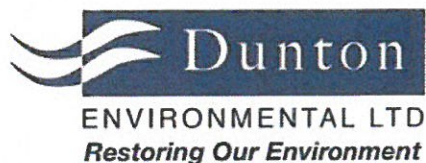


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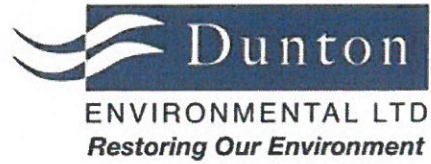
SITE SPRAY REPORT

TREATMENT DETAILS

DATE	4 th October 2012
NAME	St James Group Limited
JOB NUMBER	DTR12051
SITE ADDRESS	The Former Royal Mail Sorting Office London Road Twickenham
SITE VISIT NUMBER	SPR2
SITE PROGRESS	Second herbicide treatment of Japanese knotweed
COMMENTS	Our Operative treated all visible Japanese knotweed on the client's site. No new shoots appeared around the main stand. The knotweed contaminated area remained undisturbed. Please be advised that we still haven't received an instruction to treat the Japanese Knotweed on the council land, so we are unable to spray this area. Without treatment of this stand or the installation of a root barrier we will be unable to guarantee your site due to probable re growth from this area.
NEXT VISIT SCHEDULED	November 2012
NEXT ACTION	Spray treatment 3
SITE SPRAY TECHNICIAN	Malcolm Stubbs
SPRAY PROGRAMME MANAGER	Katherine Anderson
SIGNED BY	
	Lara Roe Director



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SITE PHOTOGRAPHS

Photo 1



Photo 2



Photo 3

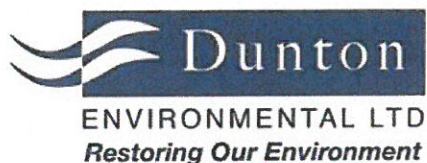


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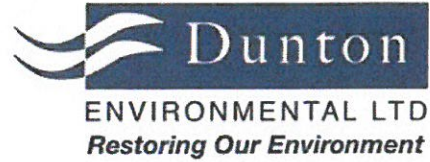
SITE SPRAY REPORT

TREATMENT DETAILS

DATE	27 th November 2012
NAME	St James Group Limited
JOB NUMBER	DTR12051
SITE ADDRESS	The Former Royal Mail Sorting Office London Road Twickenham
SITE VISIT NUMBER	SPR3
SITE PROGRESS	Third herbicide treatment of Japanese Knotweed
COMMENTS	Our operative treated all visible Japanese Knotweed on the client's site. The knotweed has responded well to the series of treatments and we will return in February 2013 to perform the final clearance.
NEXT VISIT SCHEDULED	February 2013
NEXT ACTION	Final Clearance of Japanese Knotweed
SITE SPRAY TECHNICIAN	Malcolm Stubbs
SPRAY PROGRAMME MANAGER	Katherine Anderson
SIGNED BY	
	Lara Roe Director



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SITE PHOTOGRAPHS

Photo 1



Photo 2

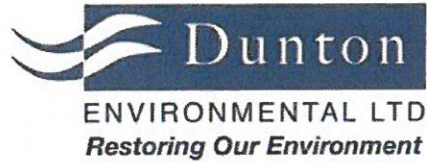


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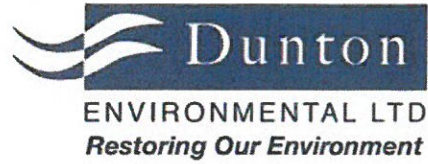
SITE SPRAY REPORT

TREATMENT DETAILS

DATE	26 th February 2013
NAME	St James Group Limited
JOB NUMBER	DTR12051
SITE ADDRESS	The Former Royal Mail Sorting Office London Road Twickenham
SITE VISIT NUMBER	SPR4
SITE PROGRESS	Final clearance of Japanese Knotweed on the clients site
COMMENTS	<p>During this visit the treated Japanese Knotweed vegetation was removed along with the surface root crowns, these were excavated by hand and were removed from site to a licensed land fill.</p> <p>As the additional stands that were discovered on the neighboring site are less than 8m away from the clients site Dunton will be unable to provide a guarantee for the treated stands unless a root barrier is installed as per the quotation issued on 21st November 2013. Please feel free to contact me should you wish to proceed with the root barrier installation.</p>
NEXT VISIT SCHEDULED	May 2013
NEXT ACTION	Monitoring Visit
SITE SPRAY TECHNICIAN	Malcolm Stubbs
SPRAY PROGRAMME MANAGER	Katherine Anderson
SIGNED BY	
	Lara Roe Director



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SITE PHOTOGRAPHS

Photo 1



Photo 2



Photo 3



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MONITORING REPORT

TREATMENT DETAILS

DATE	9 th November 2015
NAME	St James Group Ltd
JOB NUMBER	DTR12051
SITE ADDRESS	The Former Royal Mail Sorting Office London Road Twickenham
SITE VISIT NUMBER	SPR5
SITE PROGRESS	Monitoring Visit
COMMENTS	During this visit we inspected all areas of the site that were previously treated by Dunton and can confirm that no above ground evidence of Japanese Knotweed was found during our investigation.
NEXT VISIT SCHEDULED	N/A
NEXT ACTION	N/A
SITE SPRAY TECHNICIAN	Andy Bourne
SPRAY PROGRAMME MANAGER	Jennifer Williamson
SIGNED BY	
	Lara Roe Director



Appendix C (Resources Used)



Plant

- Trimmers, shears
- Spraying equipment

Labour

- 1 Specialist spraying supervisor

Materials

- Waste skips for JK disposal
- 1200g polythene

Selections of herbicides which may be used during the Eradicate 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.

Welfare

- By the Client

PPE

- Coveralls – prEN13892-1 – lightweight disposables
- Rubber apron – For handling concentrates
- Gloves – EN374, nitrile, 300mm long, 0.4mm thick and unlined
- Boots – water and chemical proof with steel toecaps and mid-soles
- Face shield – EN166
- Ear Defenders – EN352
- FFP3 face masks
- Hard hats
- Hi-Vis Clothing – EN471 when working near traffic

Key Personnel

- Project Director from Dunton – Neil Roe
- Contracts Manager from Dunton – Tony Sadla
- Spray supervisor – Malcolm Stubbs