

**SOUTHERN OFFICE**

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By Email Only (mark.allison@mccarthyandstone.co.uk)

Mark Allison
McCarthy & Stone
2 Genesis Business Park
Albert Drive, Woking
Surrey, GU21 5RW

Our ref: RS/5911_S/CB

Dear Mark:

38-44 London Road, Purbrook, Waterlooville, Hampshire, PO7 5LJ: Japanese Knotweed Survey and Budget Estimate for Japanese Knotweed Eradication Works.

Thank you for inviting Phlorum Ltd to carry out a Japanese knotweed (*Fallopia japonica*) survey at the above site in Purbrook.

As you are aware we carried out a survey on Wednesday 6th May 2015, the weather conditions during the survey were windy, overcast with occasional showers.

The site consists of a roughly rectangular plot of land which is currently split into two; a builders yard to the north and eastern extents, featuring a building in the north west corner of the site, and a large area which is currently used for storing building materials. The southern portion of the site consists of multiple car garages, associated buildings, and gravelled areas to the southern extent of the site.

The site was surveyed as far as was possible, access could not be obtained for the small 'L'-shaped piece of land behind the garage along the southern boundary, however inspection was made through a small window. If any above ground growth has been disturbed or covered, or the below ground growth is dormant, then it is may be impossible to identify these areas in a survey.

One area of Japanese knotweed was identified on the site. This area is shown on the attached Figure 1, and described below:

- **Area 1:** Six scattered Japanese knotweed shoots growing on either side of the interior metal palisade fencing separating the two businesses, covering an area of approximately 9m².

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This paper comes from sustainable forest stocks approved by the FSC

Plate 1: Area 1, small Japanese knotweed shoots growing along the interior metal palisade fencing



Plate 2: Area 1, Japanese knotweed stand



Plate 3: Area 1, Japanese knotweed emerging from under the wooden fencing



Plate 4: Area 1, Japanese knotweed growth from the opposite side of the metal palisade fencing from Plate 2



Plate 5: Area 1, Japanese knotweed growing from the void under the wooden panel fence



Plate 6: Area 1, General storage area on the opposite side of the wooden panel fence to Plate 3,



Plate 7: Area 1, opposite side of the fence to Plate 3 only Buddleia growth visible



All surveys are subject to the conditions on site at the time of the survey. Site surveys are non-intrusive surveys and rely on the visual identification of above ground growth. It is possible that the Japanese knotweed extends under the storage area (shown in Plates 4 and 5) next to the visible shoots.

It is important that the Japanese knotweed growth on site is not disturbed as the greater the surface area of green tissue the more herbicide the plant can absorb. We recommend that the Japanese knotweed areas are fenced-off, and if necessary, signs erected warning people of the dangers. We can provide costs for carrying out this work, if required.

There are several eradication options available for sites depending on: their proposed use; time scale before they are developed; and the budget available. These eradication options include the following:

- **Removal off-site:** this is the quickest but also the most expensive option. The knotweed material is excavated and removed off-site to an appropriate waste facility. We would recommend some herbicide monitoring to ensure that there is no re-growth, but this will not hinder or alter the development of the site.

This option is likely to be the most expensive, so we would recommend considering the potential for other eradication options

- **Burial on-site:** the knotweed growth is excavated and buried on site in a root-membrane encapsulated burial area. Again some herbicide monitoring is also recommended to ensure that there is no re-growth. The depth of the burial area needs to be agreed with the Environment Agency. Issues with this option can include high ground water level and other contaminants in the ground.

This is not considered a possible option for this site, due to insufficient space for a burial area.

- **Landscaping:** the knotweed area is excavated and then moved to another part of the site and formed into a landscaping mound. The resulting knotweed growth is then monitored through a herbicide spraying regime over several years. Although this option does not eradicate the knotweed growth within one year, it is much cheaper than the other options and will enable the development to proceed as planned, provided that the landscaping area is not disturbed during the construction phase.

This is may be a suitable option for this site, depending on the final plans, at this stage however it is not considered further, as sufficient space for the landscape mound may be limited.

- **Pick and sort:** The knotweed area is excavated and then the excavated soil is passed over either a picking station or a soil screen(s). The picked rhizomes (roots) are removed from site as controlled waste, normally at the higher landfill rate, and the remaining material is either buried on site under at least 0.5m of soil, or it is landscaped on site. Again some herbicide monitoring is also recommended to ensure that there is no re-growth.

This may be a suitable option for this site, with the sorted material being buried on site under at least 0.5m of capping, or placed in a landscaping mound. However, if landscaping option above is an acceptable option then we would recommend this over a pick and sort option due to the additional costs required for a picking station.

- **Reduced Excavation:** This involves a reduced excavation often under car parks or roads, initially assumed to be 1m in depth. However, the final depth will need to be agreed with the site engineers. Once the reduced excavation is carried out, a membrane is laid over the base of the excavation area and the car park/road constructed above. Again a herbicide spraying regime is recommended to ensure all growth is controlled. With this option it is important that no other foundations or services go lower than this membrane layer or it will be broken. The excavated soil can either be: removed from site; buried on site; picked and sorted; or landscaped.



This is not suitable for this site as the Japanese knotweed is in close proximity to the proposed building.

- **Herbicide spraying only:** The knotweed growth is controlled by herbicide spraying until there have been two years without re-growth. This is the cheapest but longest option. This option may not be suitable for several sites.

This option is not considered suitable for this site as the Japanese knotweed will need to be excavated in full and removed from the development area.

As a result, the proposed eradication options for the knotweed on site are considered to be the following:

- Option 1: off-site removal.

The costs for these eradication options, based on the knotweed area identified in the site visits are provided below: A pick and sort operation can be considered if the landscaping option is not considered appropriate.

Option 1: Removal Off-site

Task No.	Description:	Cost
1.	Discussions and consultations with the project team to agree a treatment strategy (these are anticipated to take place by email, letter and telephone conversations). Including production of a method statement and liaison with the Environment Agency, if required.	£250
2.	Onsite supervision of works to minimise dimensions of excavations and to ensure that infested materials are not spread across or off the site. Inspection and supervision of cleaning of plant and other equipment that has been contaminated with rhizomes will also take place. These works are anticipated to take three, nine-hour days .	£1,800
3.	Travel and expenses, including mileage, travel time and subsistence.	£465
4.	Site plant including excavator, jet washer and fuel.	£6,252
5.	Disposal of knotweed contaminated waste material to an appropriate waste management facility. This is based on the assumption that there are no other contaminants in the ground. We will need to see a site investigation report, with chemical analysis data, prior to starting. If this is not available, Phlorum can provide these services. This is a fluctuating rate based on present day prices.	£6,750



Task No.	Description:	Cost
6.	Herbicide monitoring of the site. Monitoring visits continued until there have been two years without re-growth. Herbicide monitoring reports will be issued at the end of each year.	£3,250
Total		£18,467

Costs do not include VAT.

Contaminated Waste

If once we have received chemical analysis data for the site, we discover that the excavated knotweed material is contaminated with other substances, such as hydrocarbons or metals/metalloids, then the disposal costs may need to be amended. If this is required then you will be informed immediately.

If there is no chemical analysis data then we can carry out and the soil sampling and get them tested, as an additional cost. There is normally a two week turnaround at a laboratory for this analysis.

Pre-construction Recommendation

If the site is to be affected by site works then we recommend the knotweed is fenced-off and signage is erected to prevent unauthorised access and accidental disturbance of Japanese knotweed soils. A four metre exclusion zone, from the last observable shoot, should be enforced around the knotweed area.

If the construction works are not planned for this year, we recommend that the Japanese knotweed is treated with herbicides on an ad-hoc basis, with at least one visit per year to control the infestation prior to the site works commencing. Our costs for the herbicide treatment are £525 (excl VAT) per visit.

We would recommend the metal palisade fencing which runs across the Japanese knotweed area be removed prior to our arrival.

Any work additional to the above will be charged on a time and expenses basis. Our staff charge rate is £85 per hour for directors, £65 per hour for senior consultants and £50 per hour for consultants and £40 per hour for more junior technical staff; mileage is charged at £0.5 per mile and expenses are charged at cost plus 10%. Time spent travelling in connection with this work is chargeable and has been included in the fee estimates.



Phlorum is an award winning environmental consultancy that prides itself on providing transparent and honest professional services. We are UKAS certified by LRQA for OHSAS18001 (Safety), ISO14001 (Environment) and ISO9001 (Quality). We are also CHAS accredited, members of Constructionline, and Link-up registered leaving you safe in the knowledge that your requirements will be dealt with in a professional manner from start to finish.

Phlorum is a founding member of the Property Care Association (PCA) Invasive Weeds Control section and the working group that produced the Royal Institution of Chartered Surveyors (RICS) guidance on knotweed surveys.

If the scope of works and fee proposal meets your requirements we would be grateful if you could confirm acceptance to the conditions in writing. In the meantime, if you have any queries, please do not hesitate to contact us.

Yours sincerely

A handwritten signature in black ink, appearing to be "CB", with a long horizontal stroke extending to the right.

Chris Butler, MSc, BSc (Hons), AIEMA
Environmental Consultant

