Japanese Knotweed Solutions Ltd
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METHOD STATEMENT **April 2016**

SITE: **Brown Edge Road, Buxton**

CLIENT: **Keepmoat**

ACTIVITY: **Phase 1 - Japanese Knotweed excavation & removal of materials to landfill**
Phase 2 – 3 year monitoring & treatment programme

GENERAL

JKSL attended site in February 2016 to assess the extents of the Japanese Knotweed infestations located within the site. Stands were recorded both on and off site and also within the footprint of the proposed development. Therefore JKSL have recommended a combined mechanical & chemical remediation strategy.

Due to the presence of off-site infestations JKSL deem the installation of vertical root barriers necessary, as shown on drawing JK16-1846-01RevA. JKSL will then monitor and treat in-situ areas over a 3 year period (as requested within email dated 18/04/16). The areas of Japanese Knotweed will be assessed upon completion of the final treatment to determine whether additional works are required.

Welfare

JKSL will use welfare facilities provided by Keepmoat or local amenities during each phase of our works.

Access

The site can be accessed via the gateway off Brown Edge Road, Buxton. The majority of the site is enclosed by fencing/walling.

Should access be restricted, JKSL require Keepmoat to supply the access key on the first day of excavation works/prior to commencement.

Parking

Our staff vehicles will be parked along Brown Edge Road, to the south-east of the site. Vehicles can be parked in an alternative area, if specified by client.

Site hours

We have assumed that the site working hours are 08:00 – 17:00 (Monday to Friday).

Staffing levels

JKSL anticipate having a maximum number of 5 employees on site during the mechanical removal works (phase 1).

Our operatives will be appropriately qualified to undertake the task at hand and will have their qualifications on their person at all times.

Our SSSTS qualified Site Supervisors are Pete Whelan, Phil Whelan, Richard Heyliger and Paul Cox.

JKSL key staff members

- Surveyor: Natalie Roberts – 07917 276 825 – natalie.roberts@sltd.co.uk
- Contracts manager: Philip Whelan – 07876 558 164 – phil.whelan@sltd.co.uk
- Site foreman: Peter Whelan – 07796 836 745 – pete.whelan@sltd.co.uk
- Health and safety: Chris Oliver – 0161 723 2000 – chris.oliver@sltd.co.uk
- Emergency out of hours contact: Alexander Dayes – 07795 386 418

Security

Site security for the excavation works (to ensure machinery isn't damaged) has not been included at this stage.

The spraying works must have the necessary warning signs put in place due to the future development having open access to the general public.

Timing

An indicative timetable for the proposed phase 1 & 2 works is outlined below:

Phase 1 – Mechanical excavation & removal of Japanese Knotweed to landfill
Duration: Approximately 4 days *procedure outlined within this document

Phase 2 – 3 year monitoring & treatment programme for in-situ Japanese Knotweed
Duration: Approximately 1 day per visit

Year:	**Indicative spray timetable:**
2016	Initial chemical treatment visit – May 2016 Monitoring / re-application visit – July 2016 Monitoring / re-application visit –September 2016
2017	Monitoring / re-application visit – June 2017 Monitoring / re-application visit – August/September 2017
2018	Monitoring / re-application visit – June 2018 Monitoring / re-application visit – August/September 2018

Preparation

Before attending site all staff will have read and signed the method statement and risk assessment/s.

If necessary all JKSL site staff will be inducted by Keepmoat before works commence. The wagon drivers are not to be inducted as they will technically not be working on the site, merely driving on and off the site.

JKSL's Contracts Manager, Phil Whelan, (or the senior foreman) will conduct a tool box talk on the works after this induction. Phil will also conduct short morning briefings on the day's tasks so that all staff are aware of the tasks ahead.

JKSL resource is scheduled to meet the need of the various activities detailed below.

A pre-start meeting is to be held prior to the commencement of works.

PHASE 1 – EXCAVATION AND REMOVAL TO LANDFILL WORKS

Start Date: Prior to construction phase
Duration: Approximately 4 days

General

It is proposed that the on-site Japanese Knotweed areas, highlighted on drawing JK16-1846-01RevA, will be excavated and removed from site to a licensed landfill facility.

The Japanese Knotweed is within close proximity to and extends over the site boundary. The face of the excavations will be battered at approximately 45degrees to ensure the fence line remains intact.

PPE

Full personal protective equipment will be worn by our operatives at all times. This includes the following:

- High visibility vest or jacket
- Hard Hat (this can be taken off when operating an excavator)
- Steel toe capped boots
- Gloves
- Safety Glasses (only if the work activity requires them)
- High visibility trousers may also be worn at times, although this is not compulsory

Qualifications

Our operatives will be appropriately qualified to undertake the task at hand and will have their qualifications on their person at all times.

Our SSTS qualified person on site will be Pete Whelan or Phil Whelan.

Our excavator operators are Asbestos Aware trained.

Environmental issues

All works will be undertaken in a controlled manner, as set out in this document, to ensure that they do not disperse Japanese knotweed rhizomes throughout the rest of the site.

As our operatives will be working within areas of infestation, an inspection point will be created within close proximity. This will be clearly marked out and lined with geotextile for the inspection and cleaning of all hand tools and equipment.

A foot wash facility will also be installed and used by each operative every time they leave the contaminated area to ensure that no rhizomes are dispersed via muddy boots. This will ensure that cross-contamination doesn't occur and the Wildlife & Countryside Act (1981) isn't compromised.

Full details of JKSL's Clean Site Policy can be made available on request, prior to the commencement of works; however measures taken on site will depend on site conditions, and will be implemented by JKSL Site Foreman.

There are believed, at this stage, to be trees that will be retained with the excavation area, along the north-west boundary (client to confirm). Great care will be taken when carrying out excavation works within the root area. Hand digging may have to be implemented and surface root barriers installed around the roots.

TPO's are to be made aware to JKSL by the client prior to JKSL attending site and commencing works.

Deliveries

JKSL will be arranging for items of plant to be delivered to site, along with the geotextile membrane. All deliveries will be arranged with JKSL's contracts manager Phil Whelan, or the relevant foreman, to escort them safely into the site.

This will also be done when off hiring – a banksman will be positioned on the pavement/in the road halting the wagon until the pedestrians/road users are clear of the entrance.

Wagons will be covered before leaving site, and shall only leave site with the appropriate paperwork (waste transfer notes etc.)

Machinery Security

The excavators and dumpers will be left onsite throughout the duration of works, within close proximity to the contaminated area – site security is to be provided by the client at this time.

Fuel Security

If used, we propose to store the fuel bowser/drums next to the compound area during the day. This will be fitted with a padlock, whereby our site operatives hold the key. JKSL propose to refill all machinery at the end of each working day or when necessary. The fuel will be removed from site each night unless other arrangements are made.

When re-fuelling the machines a 'plant nappy' will be used to contain any potential diesel spills.

Preparation

Full PPE will be worn at all times.

All machinery used on site will be hired in and have all relevant paperwork within the cab or in the possession of JKSL's senior site foreman. All operatives will have relevant qualification details on their persons at all times. All items of plant will be checked daily by JKSL.

The actual excavation area and loading areas (to be arranged with client) will be fenced off and appropriately signed with orange plastic mesh fencing to prevent access by other contractors (where necessary). This will be done first before any other works commence.

At the time of writing the initial document JKSL has not been provided with any service drawing.

Keepmoat is to mark out the boundary line prior to JKSL attending site.

Lining of Loading Area

A loading area will be created within close proximity to the site entrance (or agreed elsewhere with the client prior to commencement). The loading excavator will then be positioned adjacent to this, to minimise damage to road and creating access issues.

The loading area will be lined with geotextile and appropriately signed. Assuming that the geotextile doesn't come in one complete section then it will be welded together following the below methodology.

Transferral of Geotextile

The material will be supplied to site and will be transported to the installation areas by use of the excavator via rolling, it will not be lifted by operatives. These operations will be carried out by/under the supervision of JKSL.

Preparation of Geotextile

The material will be unwrapped of its protective cover immediately prior to works commencing and the roll will be manoeuvred into position by means of site machinery or site operatives. Geotextile will be cut to specific size in-place using a retractable Stanley blade knife.

Welding of Geotextile

Using a 240V petrol generator as a power source with a step-down transformer to provide 110V, the light-weight portable heat wedge welding machine will be manoeuvred to position to heat weld all seams across the specified area to provide a 'one-piece' geotextile cover.

Temperature and speed will be specific to site conditions and test welding will be performed to give optimum seam welds. These test welds are inspected for integrity to inform temperature and speed settings.

When re-fuelling the generator a 'nappy' will be used to contain any potential fuel spills.

Excavation of Root System (Rhizome) on drawing JK16-1846-01RevA

JKSL will be excavating the areas highlighted on drawing JK16-1846-01RevA.

Prior to commencing excavation works JKSL will use a cat-scan to detect any services that may be present onsite. No excavations will commence until a permit to dig has been issued by Keepmoat (depending on the sites working practises).

Our Site Operatives CAT-scan certificates (and other qualifications) are available on request from the Operations Department at JKSL.

The infestations have been individually highlighted on the drawing and the sequencing of the excavation will be determined on site by our contracts manager/senior foreman.

JKSL will prepare the excavation areas on the first day and clear on-site immediate vegetation to facilitate works. The removal of materials off site will then commence in the following days.

A detailed inspection of the ground will be undertaken to determine the location of the Japanese Knotweed in the individual areas. If necessary the excavator will take a shallow scrape over the area, in order to expose the rhizomes more clearly. Once identified these will be highlighted using spray paint or a similar method if deemed necessary.

JKSL will then carryout removal of all rhizomes from the contaminated area highlighted on the drawing, within the designated site boundary, chasing the root structure until fully removed.

Please note JKSL will excavate as close as reasonably practical to the boundary line along the west of the site. However, with the installation of vertical root barriers & in-situ fencing along this section of site, there will be an area graded off from the boundary line.

JKSL recommend Keepmoat off-set any future fencing from this boundary line, to prevent the root barrier being compromised via the excavation & installation of post holes/posts. This 'buffer' will also facilitate better access for JKSL phase 2 treatment works and be more aesthetical.

JKSL follow stringent methods to avoid any spreading of contaminated material across the site during excavation and removal from site. Specifically the excavator used to remove the rhizome, remains in the marked area until completion, upon which the vehicle is fully decontaminated, as is any machinery used to move material or any vehicle that may enter a contaminated zone.

Once each area is fully excavated and the materials have been removed the individual area will be signed off as remediated by Phil Whelan or our foreman. This will also be agreed with a foreman from Keepmoat.

Excavation restrictions

The Japanese knotweed excavations are restricted in places by trees which may be protected. JKSL have allowed excavating up to the site boundary; however Site Operatives will take care if tree roots are discovered, shown on drawing JK16-1846-01RevA. These areas can be hand-dug and then a vertical/surface root barrier installed along this point to prevent Japanese Knotweed migrating back into the remediated areas.

If JKSL excavate up to the boundary line there is a potential that the trees will be lost. Keepmoat should inform JKSL of methodology prior to works commencing and/or gain necessary permissions from neighbouring landowner/s & local authorities if required.

It is assumed that our excavations will not be hampered by underground services.

Transferral of Japanese Knotweed to Loading Area

Vehicles are to move and remain within the site boundary only - JKSL will ensure that the only time machinery leaves the site boundary is when it is to be removed from site or for security reasons.

A 9 ton forward tipping dumper truck will be used to move contaminated material across the site to the loading area. This will not be over-loaded (maximum 75% capacity used) to avoid any cross-contamination issues. This dumper will never drive on contaminated material within the excavation or loading area to avoid rhizomes being caught up on the wheels.

The haul route will be marked out on site and should it deteriorate during the works an alternative route will be used once highlighted and agreed with all parties involved. A loading area near to the site entrance may need to be created by the client, prior to JKSL works commencing.

The machine loading the dumper will sit on contaminated material at the edge of the excavation area. Once this area has been remediated the dumper can enter the area travelling on remediated land working along the infestation. This will be controlled by the excavator driver as well as the dumper driver to ensure that the dumper doesn't travel too far. JKSL will erect a small amount of orange barrier mesh fencing and signs to mark out the loading area/stopping area for the dumpers. This can be moved back across the excavation area as its remediated.

The dumper trucks will follow the designated haul routes marked out by our foreman.

Removal of materials from site

While the above operations are taking place JKSL will be removing the material from site to a landfill in tipper wagons.

The landfill licence and all waste carrier licences will be provided upon request. All waste transfer notes will be provided after the works once the paperwork has been received from the landfill.

It is anticipated that the wagons will be loaded along the north-east boundary of the site by excavators. Dumpers will transfer materials between excavation area and receptor area.

The wagons will enter the site and position themselves off Brown Edge Road, adjacent to the stockpile of materials on the loading area without coming into contact with any contaminated materials. Using an excavator JKSL will then carefully load the waiting wagon.

The loaded wagon will leave site and along Brown Edge Road.

Should any materials be dispersed onto the road via the wheels JKSL's will immediately scrape it up with shovels and brushes then jet wash the area. At the end of the working day this area will be jet washed down to ensure that it is left in the correct way. We have not allowed for a road sweeper, however one can be provided at an additional cost.

JKSL will ensure that the wagons are staggered where necessary thus ensuring that the site, side road and nearby roads do not become clogged up with traffic. Should for some reason such as traffic congestion all the wagons turn up at the same time then they will be asked to wait at a suitable location before being instructed to enter the loading area.

All wagons will be covered and will not leave site until the cover is secured in place.

Wagons may arrive on site at 07:30 some mornings but will be asked to wait on site with their engines off until work commences at 08:00.

Asbestos

Any Site Operative suspecting that they may have encountered asbestos must immediately inform the client's site manager. The site manager shall then investigate any potential discovery of asbestos using their Asbestos Aware training (or using an Asbestos Aware Operative to do so).

Works will be stopped immediately if the discovery of material which contains or is suspected to contain asbestos is confirmed. JKSL's Operations Department shall be informed without delay on 0161 723 2000.

Works shall not be re-commenced until an asbestos risk assessment has been undertaken, a method statement produced by a suitably-competent asbestos professional, and suitable PPE and control measures are in place.

Decontamination of machinery

After each time a machine has been working with materials containing Japanese knotweed rhizomes it will be fully decontaminated.

All cleaning of machinery is undertaken by hand using shovels, spades and stiff brushes – a mobile jet wash is then used to clean off the remaining material. All debris are then collected by hand and disposed of in the receptor area. Care is taken to ensure that the angle of the water is facing downward so as not to disperse small fragments of material any distance.

The cleaning of machinery will also not take place near road gullies – only undertaken at location of excavation site.

Installation of vertical root barrier

Due to the location of the infestations off-site we would anticipate that the rhizomes will extend beneath the ground in certain areas, as highlighted on the project drawings. JKSL have therefore recommended that a vertical root barrier is installed.

Root membranes will be installed on site as a vertical root barrier along the edge of the excavation as highlighted on JKSL drawings to an approximate depth of 2m. The installation depth will depend on the findings of our excavations. This will prevent the rhizomes located on adjacent land from migrating back into the remediated area.

Should re-growth occur then it will regenerate in-between the vertical root barrier and edge of the site where it can be chemically treated accordingly with the 3 year spray programme.

The barrier will protrude approximately 300mm from the surface and be secured in place with wooden pegs and ties. JKSL leave additional geo-text material for landscaping purposes and to ensure all site personnel can visually see where the root barrier has been installed. This can be trimmed once development works are completed.

Please note the root barrier requires covering within 2-4 weeks in order to maintain its integrity.

Backfilling

The excavation areas are to be graded off to a safe batter by JKSL and then backfilled by client afterwards.

JKSL can provide backfill costs, however these were left off the original quotations as we were unaware of the site levels required for the development.

The root barrier requires covering within 2-4 weeks in order to maintain its integrity.

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PHASE 2 – INITIAL TREATMENT & 3 YEAR TREATMENT PROGRAMME

Start Date: May/June 2016
Duration: 1 day + 3 year programme

General

A foliar acting translocated herbicide shall be supplied and blanket sprayed or injected to the in-situ areas of Japanese Knotweed infestations recorded on drawing JK16-1846-01RevA (subject to permissions being obtained from neighbouring land owner).

JKSL shall comply with the Control of Pesticides Regulations 1986 as amended and any relevant code of practice issued by DEFRA regarding the application and usage of pesticides. Application rate and handling of herbicide shall be in accordance with manufacturer's instructions and the Contractor shall use low-pressure nozzles and high volume of spray to minimise drift. Spraying shall be carried out in dry, still weather conditions.

Containers must be removed from site immediately, as soon as they are no longer required.

JKSL will ensure that the herbicide does not drift onto other areas of the site or land adjoining the site. Once permissions have been granted by neighbouring landowner/s the offsite areas (drawing JK16-1846-01RevA) can be sprayed with appropriate herbicide in accordance with the 3 year spray programme quotation.

Supervising operatives will be holders of a current sprayer certificate.

In the event that Ash trees are present on site, JKSL shall check for any signs of spread of Chalara dieback of ash (Chalara fraxinea) and will report to the relevant authorities.

Preparation for spraying

Where necessary JKSL shall install a foot wash for site operatives to use upon leaving site.

Timing

It is intended that spray works, recommended for in-situ infestations, commence within May/June 2016 and repeated over a 3 year period. These areas will be re-assessed upon completion of the final treatment to determine whether further spray works are required.

The exact timing for re-spraying work will be dictated by the growth of the plant, which is subject to weather and ground conditions. It is expected that spraying operations will be ongoing and will be carried out as per the above (page 2).

Health and safety

This method statement should be read in conjunction with JKSL Health and Safety Policy and associated site-specific Risk Assessments, COSHH Assessments and other documents, to be provided to the client nearer commencement of works.

JKSL Site Foreman shall give a full briefing to all JKSL Site Operatives, which shall cover the contents of this pack of works. Any issues raised by Site Operatives should be addressed before the commencement of works. JKSL personnel should comply with the health and safety requirements of both the employer and/or main contractor at all times.

JKSL Site Foreman shall confirm with all JKSL Site Operatives before commencing works that all necessary PPE is in place, in-tact and properly fitted prior to undertaking works.

The areas of off-site Japanese Knotweed are located along an embankment. Care must therefore be taken when undertaking spray works.

Spraying

All materials will be delivered directly to site and controlled by a JKSL HSE Spray Certified representative. Other site personnel should not accept deliveries unless specifically requested to do so by JKSL foreman or senior member of JKSL staff. Signs will be erected to warn the public of the spraying in progress, however JKSL will spray with knapsack sprayer and will avoid possible spray drift at all times.

The correct PPE is to be worn at all times during the spraying, the minimum requirement will be gloves, Wellingtons, full coverall, goggles with face visor.

JKSL will use an injection gun if necessary to protect surrounding foliage or ensure effective treatment in adverse weather conditions.

Injection guns can be used in wet weather as the chemical can be directly injected into the stems of the Japanese knotweed. This method also ensures that the herbicide won't wash away even if it is raining during spraying, as is possible when using a knapsack sprayer. It can also be used in windy conditions where spray drift could be an issue; there is no chance of the chemical becoming airborne. This practice can also be used on stands of Knotweed next to trees and other shrubs to be retained as it eliminates any risk of spray drift.

Decontamination

Upon leaving site JKSL shall ensure the foot wash facility is removed and that all equipment is cleaned within the contaminated area, to prevent cross contamination.

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Author: Natalie Roberts

Position: Surveyor – Japanese Knotweed Solutions Ltd

Dated: 21.04.2016

DECLARATION

I have read and understood the above Method Statement and associated Pack of Works:

Print Name	Date	Signature
(Site Foreman)		

The contents of this Pack of Works have been communicated to me – either by reading the pack of works myself, or by attending a "toolbox talk" from the Site Foreman.

Print Name	Date	Signature