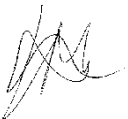



**Asbestos Handpicking Process  
Fixed Soil Treatment Facility, Exeter  
Treatment Facility**

October 2025



# DOCUMENT CONTROL SHEET

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## 1. INTRODUCTION

This document provides a detailed description of the process of asbestos handpicking to be undertaken at the Exeter Fixed Soil Treatment Facility extension (EFST). The site is currently operated as a hazardous and non-hazardous waste treatment facility, treating imported hazardous and non-hazardous soils and soil-like materials. The site currently accepts a wide range of contaminants within soils and utilises various methods of treatment specific to the contaminants. This document covers asbestos handpicking only, to be undertaken within the current site boundary, as shown on '**E7555UK.D12 – Asbestos Picking Layout**', included in Appendix A..

A summary of the BAT requirements for asbestos treatment, with short descriptions of the measures to be used in compliance at the Exeter Treatment Facility extension is enclosed as Appendix B.

Only soils containing visible fragments of chrysotile asbestos cement, or other non-licensable ACM fragments, will be accepted for treatment. A CAR (2012) risk assessment is undertaken prior to operations to determine the probable licensing status. Soils containing CAR (2012) licensable asbestos, typically a mass quantification  $>0.1\%$ . Robust pre-acceptance procedures and acceptance testing during initial quarantine of received soils will ensure that this is robustly enforced.

The purpose of asbestos handpicking is to manually remove visible fragments of asbestos within the soil matrix, in order to reduce the hazardous classification of the soils to non-hazardous or inert. In some cases, this may also require further treatment to reduce concentrations of other contaminants, as described in the other documents in this submission. The resulting asbestos waste will be segregated and stored temporarily in accordance with the requirements of CAR (2012), before being disposed of as hazardous waste by onward consignment to an appropriately licensed facility. The segregated asbestos will represent a minute fraction of the incoming hazardous soil volume, whilst by removing asbestos from the soil matrix the remaining soil volume will be diverted from landfill, increasing the proportion of suitable soils to be used as part of restoration projects.

The risk of release of asbestos fibres from chrysotile asbestos cement is low, but soil containing visible fragments of asbestos is classed as hazardous irrespective of loose fibre

concentration within the soil. By removing the visible fragments of asbestos from the soil matrix the residual classification will be reduced to non-hazardous or inert (possibly following a further stage of treatment if contaminants are present), enabling the reuse of the vast majority of the incoming material.

Currently in the UK there are limited disposal options for asbestos containing soils, especially in the Southwest. By providing a treatment option in the region, UKRL will vastly reduce the unsustainable movement of material to the midlands for treatment and vastly reduce the disposal of asbestos containing soils to landfill.

In general terms, asbestos handpicking undertaken at the site will be undertaken in the phases described below:

- Pre-acceptance procedures.
- Acceptance procedures.
- Processing of material through an enclosed picking line.
- Material verification and disposal.

## 2. EQUIPMENT

Table 1 below describes the onsite equipment that will be used to undertake the removal of asbestos fragments from the soil matrix.

*Table 1: Equipment to be used during asbestos handpicking*

Equipment	Activity
30t rear tipping dump trucks	<ul style="list-style-type: none"> <li>• Transport of material to treatment area.</li> <li>• Movement of material to storage areas following successful treatment.</li> </ul>
20 tonne 360° excavator, fitted with riddle bucket	<ul style="list-style-type: none"> <li>• Formation of quarantined stockpiles.</li> <li>• Loading of material into the picking station for processing.</li> <li>• Loading of material following successful treatment.</li> </ul>
Mobile enclosed picking station (Kiverco Mobile PS122 Mobile Picking Station)	<ul style="list-style-type: none"> <li>• Asbestos handpicking along a conveyor line within and enclosed unit with clean air control.</li> <li>• HVAC air control with HEPA filtration units</li> </ul>
Decontamination unit	<ul style="list-style-type: none"> <li>• Decontamination of asbestos operatives following each shift.</li> </ul>
Dust suppression unit (Corgin mobile dust suppression units)	<ul style="list-style-type: none"> <li>• Dampen down the soils in storage to mitigate dust emissions.</li> </ul>
Interlocking concrete blocks	<ul style="list-style-type: none"> <li>• Formation of quarantined areas to store material prior to treatment.</li> </ul>
Lockable Asbestos waste skips	<ul style="list-style-type: none"> <li>• Offsite disposal of asbestos waste.</li> </ul>

<p>Asbestos waste bags</p>	<ul style="list-style-type: none"> <li>• Storage of asbestos waste prior to placement in skip.</li> </ul>
<p>LDPE sheeting and fabric tarpaulins</p>	<ul style="list-style-type: none"> <li>• To cover the material during quarantine and post-treatment to reduce potential dust spoiling.</li> </ul>
<p>Dust monitoring equipment e.g. Turnkey DustMate monitor</p>	<ul style="list-style-type: none"> <li>• Monitor dust levels throughout the process</li> </ul>

### 3. ACCEPTANCE PROCEDURES

#### 3.1 Pre-Acceptance Procedure

The pre-acceptance procedure for wastes to be imported into the planned extension are described in further detail in document **E7555UK.MAP.01**.

Where removable asbestos is identified for potential treatment at pre-acceptance, all available information will be reviewed by competent UKRL personnel including laboratory analysis of the fragments of asbestos, soil analysis including identification and indicated quantification of microscopic soil asbestos, and the physical properties of the material. If deemed necessary, a site visit will be undertaken by a UKRL engineer to visually assess the material for suitability of manual segregation and confirm the type of asbestos present.

The above factors, most notably the asbestos type, will determine its suitability for asbestos handpicking. In addition, if the asbestos content is assessed during pre-acceptance as licensed asbestos (in accordance with the Control of Asbestos Regulations, 2012) then the material will not be acceptable for import into site. The geotechnical properties of the soil will also influence the suitability for handpicking - if the material is a granular, this is more favourable for removing fragments as opposed to cohesive material. An assessment of material suitability will be made at pre-acceptance stage and will not be accepted if deemed unsuitable for treatment by the methods described here.

If the soils contain other contaminants other than asbestos, a combination of treatment methods may be considered, e.g. Asbestos handpicking then bioremediation.

Once its suitability for import into site and treatment via asbestos handpicking has been confirmed, appropriate documentation will be completed consisting of a waste information form and a treatment quotation prior to import into site. The site manager will confirm sufficient capacity is available within the quarantined areas and the treatment areas prior to import into site.

#### 3.2 Acceptance Procedure

In addition to the general acceptance procedures, for soils containing asbestos fragments, all lorries will be sheeted to avoid spillages and prevent any potential asbestos fibre emissions. If the material is dry, then it will be dampened down prior to loading into the

wagon for transportation. Confirmation that all HSE and EA pre-notifications have been duly submitted will be required to be produced before material is accepted.

A segregated area within the site quarantined area, within the enclosed building, will be constructed in advance of consignment to accommodate the entire incoming material, using interlocking concrete blocks. On arrival the drivers will be directed to the holding bay in the quarantine area and will slowly tip the material in the designated area as directed by the banksman. The Site Manager or a designated operative will maintain a watching brief to ensure that the received load matches the description from the pre-acceptance stage. Samples of any unexpected inclusions may be taken at this stage to test for asbestos and other contaminants. Composite and stratified sampling will be undertaken of the imported soils to confirm the asbestos categorisation applied during the pre-acceptance phase. A wider suite of analysis will also be included for waste classification purposes. Sampling records will be incorporated into the material tracking system. Sampling procedures follow the British Standards of ISO18400. The material will remain in quarantine until the laboratory results have been received confirming suitability for treatment as defined in the pre-acceptance phase.

In the event of non-conformance, where laboratory results indicate fibres in soil quantifiable above <math>0.1\% \text{ wt/wt}</math> the material, or unsuitable types of asbestos are encountered within the soil matrix (e.g. lagging), then the material will be rejected from site and removal arranged at the Consignors/Producers cost, which will be a stipulation of our terms.

The material will be tipped in the designated quarantined area under supervision of a qualified banksman. The holding location of the material is indicated in drawing E7555UK.D12 – Asbestos Picking Layout (included in Appendix A). The quarantined area will be situated on the impermeable concrete slab. The stockpiles will be sheeted using LDPE sheeting and/or dust suppression used to dampen down the material during tipping and stockpiling in order to minimise dust spoiling and potential asbestos fibre release. A dust suppression system, consisting of spray bar running around the internal perimeter of the building, will be in constant operation during the tipping and subsequent relocation of stockpiles. Furthermore, the building will be depressurised with appropriate abatement systems as described in further detail in section 5.1 of this report, in alignment with BAT requirements for the treatment of asbestos contaminated soils.

Concrete blocks will be utilised to form separate quarantined areas for the appropriate segregation of imported material according to its chemical constituents, source and proposed treatment method. This will ensure no cross contamination will occur, which is key when dealing with asbestos contaminated soils. The concrete blocks can be easily moved using machinery which allows the volumes of the bays to be adjusted accordingly depending on current import volumes.

A stockpile sign will also be erected detailing the asbestos content and type, type of the soil and the tracking number.

## 4. PROCESSING OF MATERIAL THROUGH THE PICKING STATION

Once the material has been verified as suitable for treatment, the material will be processed through the enclosed picking station, in the exclusion zone area, to remove visible fragments of asbestos. It should be noted that under no circumstances will asbestos contaminated material be mechanically screened prior to the handpicking phase.

### 4.1 Movement of Material from Quarantined Area to Treatment Area

The material will be transported to the treatment area using the loading shovel. All operatives will be trained to asbestos work Category B standard as a minimum, to enable non-licensable works. The UKRL site manager will ensure the material is dampened down and the dust suppression system is in operation prior to transport and RPE is to be worn by all operatives as described in detail in Section 6.0. The loading shovel bucket will only be part loaded to reduce any risk of spillages, and if any occur then the material will be scraped up and transported to the treatment area and the area inspected by the Site Manager to ensure that all asbestos is removed. All material movements will be controlled by a suitably qualified banksman and in accordance with the site traffic management plan, presented in Appendix D.

Once the material is moved from quarantined area to the treatment area the excavator will form a stockpile at the front of the picking station, in order to load the material into the picking station as described below. This will all be undertaken within the depressurised enclosed building.

The treatment area will be appropriately demarcated using barrier fencing, including the erection of appropriate warning signs to clearly identify that it is a designated area for asbestos works and that only authorised personnel should enter whilst these works are underway. No welfare or office facilities shall be located within the working area. No drinking, eating or smoking is permitted within the working area.

## 4.2 Handpicking of Asbestos ACM

Asbestos picking will be carried out in a controlled environment, within an enclosed picking unit, fitted with replaceable air filtration (HEPA) units. The specification of the enclosed picking unit is presented in Appendix C. The mobile enclosed picking unit will be professionally cleaned and tested for any residual asbestos on completion of each processing job. The material will be loaded into the picking station feed hopper in a slow and controlled manner, minimising the drop height. Once into the hopper, the material will fall onto a moving conveyor belt powered by a dedicated diesel generator and pass the material through the picking station unit.

The conveyor belt will pass the material through an enclosed cabin whereby asbestos Category B trained staff will manually remove visible inclusions of asbestos from the soil matrix. Operatives will be fitted with disposable coveralls and face fit respirators. Site operative numbers will exceed the requirements of the picking line by at least two times and shifts will be limited to 4 hours, whilst operatives will be regularly rotated through the shift on an hourly basis to ensure potential exposure times remain of short duration.

The operatives will place the fragments in asbestos waste bags (double bagged and swan neck tied) and place these into the lockable asbestos waste skip at the end of each shift. The excavator will load the material in a slow manner, to maximise the surface area of material on the conveyor belt to ensure any asbestos fragments within the soils are easily identified by the operatives. The conveyor belt will also be set to an appropriate speed by an internal control, set by the asbestos operative team leader, to ensure a thorough inspection of the soil is undertaken. The Category B trained staff will stand in a row, each re-inspecting the previously inspected area of belt, to ensure a thorough check of the material is undertaken and to minimise the likelihood of unidentified asbestos fragments passing through the picking station.

In addition, any deleterious material will be removed by the operatives and dropped down the chutes which lead to appropriate skips. Such material may be fragments of metal, plastic or rubber.

### 4.3 Post Treatment Verification and Storage

Once the material has passed through the picking station, it will drop off the end of the belt to form a stockpile. Water spray unit will keep the drop zone damped down to prevent possible dust or fibre releases. The treated soil will be spread out in thin layers by an excavator before making up to the clean stockpile, to allow Category B asbestos trained site supervisors or managers to visually inspect the material and to remove any residual fragments that may have been missed through the picking station, in that unlikely event.

This verified material will be cleared using the loading shovel and stockpiled in a suitable quarantine bay, constructed using interlocking concrete blocks outside of the enclosed building. Three bays will be constructed to have a capacity of 250m<sup>3</sup> each. This material will be sampled by the UKRL site engineer using stratified, composite sampling to ensure that the tested sample is fully representative of the incoming material. Following damping down where required, samples will be manually collected from six locations within the post-picking stockpile (with the help of an excavator where required), selected to give representative lateral and vertical coverage. Two batches of three samples will be combined in polythene rubble sacks, the sacks closed with ties and the samples tumbled by hand to completely mix the contents. The bags will be carefully opened and subsamples of the contents of each bag will be collected using a trowel, transferring these to the approved laboratory sampling containers for dispatch under chain of custody. Sampling will be carried out in the stockpile bays and containers will be wiped clean before packing. All consumable equipment will then be bagged as asbestos waste. For a 250m<sup>3</sup> batch, this will result in a sampling frequency of 1/125m<sup>3</sup>, or higher where the batch is less than 250m<sup>3</sup>.

Quarantined material will continue to be dampened down and sheeted over using polythene sheeting to await offsite disposal to a suitably licensed facility as non-hazardous or inert waste, depending on confirmation of absence of visible asbestos and confirmation of residual waste classification upon completion of the picking work.

Upon receipt of the verification samples, the material will be classified in accordance with 'WM3 - Guidance on the Assessment and Classification of Waste'. Material will then be transported to the intended onward destination or consigned for further treatment where applicable. This will be pre-defined during the pre-acceptance phase.

In such instances where the imported material is co-contaminated, further treatment following asbestos handpicking using either bioremediation or soil washing may be necessary. Following the asbestos handpicking process the material will be subjected to the sampling described above. Material will only be subjected to further treatment providing the pre-acceptance, acceptance, and post-treatment laboratory analysis record loose fibre concentrations below the quantifiable limit. If suitable, the material will be transported to the existing site for further treatment, permitted under license number EPR/LP3939TS.

## 5. CONTROL AND MITIGATION MEASURES

UKRL will implement strict control and mitigation measures to reduce the risks of airborne, or water borne asbestos fibres, in accordance with CAR 2012 and CAR-Soil. This will start at the pre-acceptance stage with characterisation of the material and rejection of high-risk soils containing loose fibres above the hazardous threshold or un-suitable types of asbestos (e.g. lagging).

### 5.1 Abatement Systems

As previously mentioned, the enclosed building where the storage and treatment operations will take place, will be depressurised in accordance with BAT requirements for the treatment of asbestos contaminated soils. The negative pressure system will be connected to a filtration system consisting of HVAC filters, HEPA filters and a Granulated Activated Carbon (GAC) filter to prevent the release of dust particulates, asbestos fibres and volatile organic compounds (VOCs).

### 5.2 Use of Picking Station Within the Enclosed Building

As previously mentioned within Section 4.0, the asbestos handpicking will be undertaken within an enclosed picking station to further prevent the migration of potential asbestos fibres off-site during the handpicking process. The unit will have suitable air extraction through a stack, which will be fitted with a HEPA filter in accordance with BAT requirements. At the end of each asbestos picking operation, the unit will be professionally cleaned, and air tested to ensure there will not be an accumulation of residual fibres between each picking operation. This is a secondary level of protection, considering the picking station will be situated within the depressurised enclosed building as described in the Section 5.1.

### 5.3 Personal Protective Equipment

Specialist protective equipment will be worn by all operatives involved in the processing of asbestos contaminated material including the asbestos operatives within the picking station and the dump truck operators. The excavator driver will not be required to wear the specialist protective equipment provided the cab door and windows are shut at all times. The excavator cab is fitted with particulate air filtration.

The specialist protective equipment is detailed below:

- Fitted FFP3 half-face masks with dust filter – must be face fitted and certification provided to UKRL.
- Type 5 disposable coveralls.
- Disposable shoe covers.
- EN 388 level 4/5 puncture proof gloves

The above equipment is to be worn in conjunction with normal PPE such as hard hats and safety boots. All operatives must be clean shaven and have 'face fit' test certification provided to UKRL before commencement of works, matched to the individual mask serial number.

#### **5.4 Decontamination Procedure**

At the end of every shift when working with asbestos, the operatives must follow the decontamination procedure to ensure all PPE is appropriately disposed of and any potential asbestos fibres do not leave the working area.

Used PPE will be double bagged in UN certified asbestos waste bags and disposed of as hazardous asbestos waste. This involves the use of a decontamination unit consisting of separate 'clean' and 'dirty' compartments. At the end of each shift operatives will enter the 'dirty' compartment where they will remove their disposable coveralls and place into asbestos waste bags, which will then be double bagged and disposed of in the asbestos waste skip. Leaving their masks on, they will then move into the 'clean' compartment where they will put on clean clothes before leaving the working area. Filter units used in the FFP3 masks will be replaced at the end of every shift, with the used filters placed into the asbestos waste bags along with the other asbestos waste. The masks will be wiped down following each decontamination procedure and the wipes placed into the asbestos waste bags.

The decontamination unit will be professionally cleaned, and air tested on a job-to-job basis to ensure no residual asbestos fibres build up within the unit.

The mobile picking station will undergo decontamination. The HEPA filter will be cleaned by a licensed contractor. A deep clean of the mobile picking station will be undertaken and validated through a certificate of cleanliness, included in Appendix E.

## 6. AIR MONITORING

In order to monitor airborne dust levels and potential asbestos air release to ensure compliance with the Control of Asbestos Regulations 2012, various forms of monitoring will be undertaken at the site as described below.

### 6.1 Dust Deposition Monitoring

Particulate monitoring is undertaken using five automated dust monitoring kits (four at boundary points, one in the working area), calibrated and serviced in accordance with the manufacturer's guidance and set to report total particulates, PM10, PM 2.5, and PM1 as required. Occupational exposure monitoring is carried out in the work zone at a safe distance from ongoing operations and a minimum of 1m from the source. 10-minute averaged readings are taken at operator head height, and these will be used to compare to the 15min TWAs (therefore a conservative measure). Offsite dust monitoring is undertaken upwind and downwind of source using a handheld dust monitor periodically when necessary.

On-point monitoring is carried out, during active operations, with 5-minute averaged readings reported. Where 2h TWA thresholds continue to be exceeded, an assessment of the calculated 8-hour TWA and a rolling review will be instituted to determine whether further actions are necessary. Hand-held dust monitoring of airborne particulates at the distance of the sensitive offsite receptors (nearest residential properties to the south and east of the site) will be carried out during active operations at least weekly. During periods of noticeably higher dust emissions this may be increased too daily. Weekly (or daily) dust monitoring totals will be regularly averaged and reviewed for potential exceedances of the annualised average figure. Readings at the site boundary will be calculated net of upwind measurements, based on the wind direction recorded each day by the on-site weather station. Weather conditions, including windspeed and precipitation will also be recorded at the site on a continuous logging basis, using a digital logging weather station. See document '**E7555UK.DEMP.01**' for a more detailed report regarding dust management.

### 6.2 Airborne Asbestos Monitoring

During asbestos handpicking works asbestos air monitoring will be undertaken by a specialist sub-contractor to directly monitor levels of airborne fibres. This will be undertaken

using actively pumped samples being collected through a pumped deposition monitor, with on-site inspection and fibre counts under a vehicle mounted phase contrast microscope, to provide near real time monitoring.

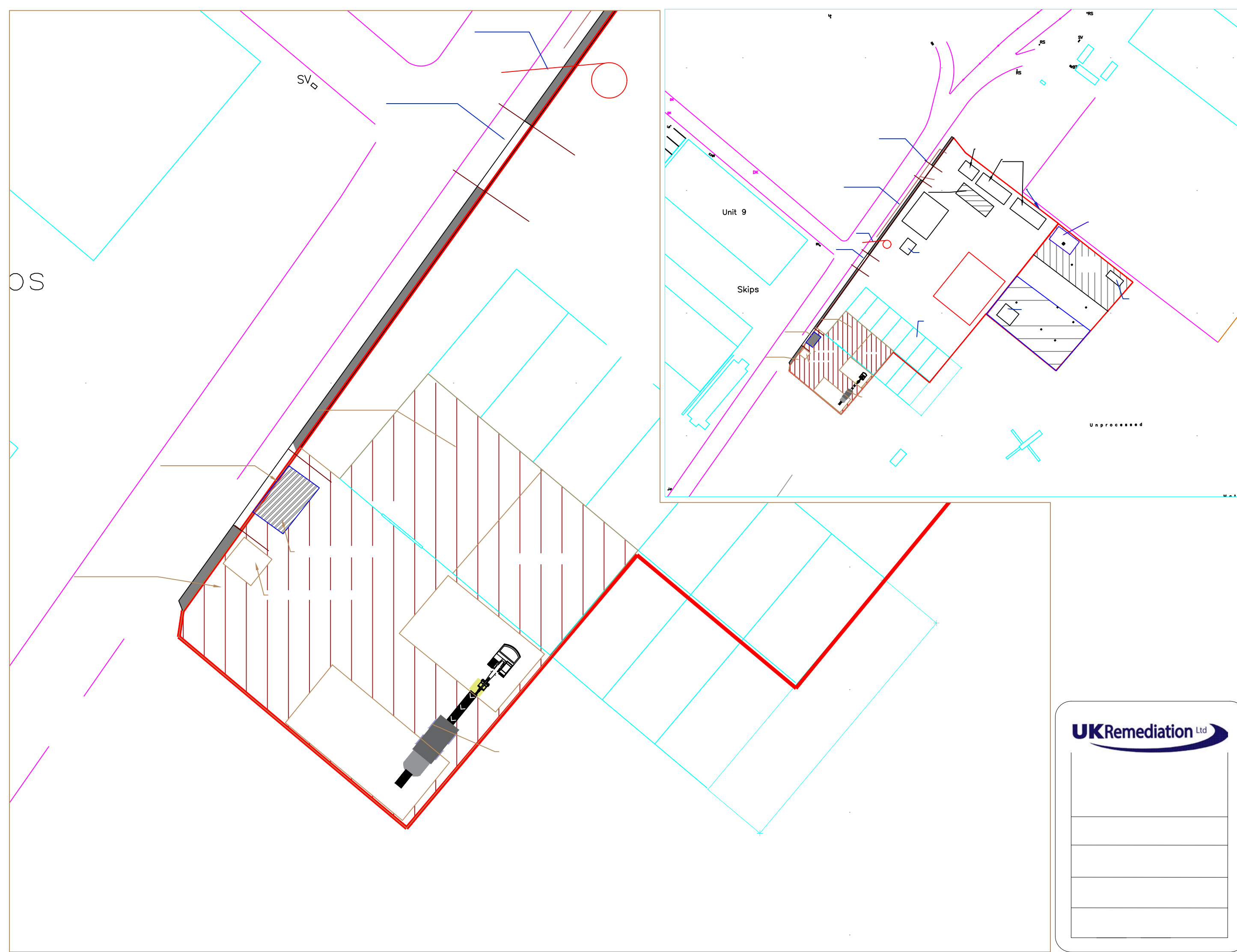
Samples will be collected at four locations around the perimeter of the working area (within the enclosed building) to establish if there are any fibres emissions migrating outside to the wider site. Furthermore, two samples will be obtained from within the working area and personal monitors will be placed on operatives within the picking station. These will be sampled at the end of monitoring event and sent to the lab for analysis, for additional confidence that the safe control limit of 0.1 fibres per cubic centimetre has not been exceeded (Control of Asbestos Regulations 2012). If this control limit is approached, works will stop, and additional mitigation measures will be implemented and working methodologies reviewed. Monitoring will be undertaken for a minimum of two days at the start the treatment of any one source of material. If results record levels below the safe control limit, then the monitoring frequency will be reduced to 2 days per week. Daily monitoring will be resumed if airborne fibres are detected.

## 7. LEGISLATIVE COMPLIANCE

The risks associated with the works and the mitigation measures required, will be in accordance with the JIWG guidance on working with asbestos contaminated soils, which is an interpretation of the overarching Control of Asbestos Regulations 2012. The worksheet presented in Appendix A will be utilised by a competent person during the pre-acceptance phase to assess the likelihood of treatment works to be classed as non-licensable works. It is envisaged that the majority of treatment works will be classed as non-licensed, due to the acceptance of non-friable asbestos within soils. In the case of non-licensed works, an ASB NNLW1 notification will be submitted to the HSE, Category B asbestos operatives will be utilised to handpick the asbestos under non-licensed conditions as described in this report.

## 8. CONCLUSION

UK Remediation has long experience in the operation of soil treatment facilities and onsite treatment of asbestos contaminated soils in particular. Material imported into site will be subjected to a rigorous pre-acceptance procedure, with confirmatory material testing applied prior to treatment and all accepted quarantined until confirmatory test results are received. Potential for fibre release will be controlled and monitored thoroughly in accordance with BAT requirements for the treatment of asbestos contaminated soils. A full auditable trail detailing the material source, testing, treatment volumes and subsequent reuse of material will be maintained and electronic copies made available to all stakeholders.



**UKRemediation Ltd**


# ASBESTOS PICKING PROCESS

