Lucion Services
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Asbestos Remedial Works Specification/Pre Construction Information for:

Horniman Museum & Gardens & Study Collection Centre

For Asbestos:

Licensed Work (LW)

Horniman Museum & Gardens & Study Collection Centre, Dreadnought Building, Greenwich Peninsula SE10 0PG

NexGen Contract ID:	86964	**NexGen Job ID:**	550312
Revision:	2.0	**Client Project ID(if applicable):**	
Specification Author:	Richard Marshall		
Specification Reviewed By:	David Grunnill		
Report Issue Date:	5th December 2022		

PART OF THE Lucion Group

Executive Summary

Building Name - Building Location/s
Horniman Museum & Gardens & Study Collection Centre, Dreadnought Building, Greenwich Peninsula, SE10 0PG

Summary Scope of Work
The Dreadnought Building has been subject to a periodic asbestos reinspection report which has identified a number of asbestos containing materials (ACM's) present within the building. As part of The Horniman Museums ongoing management of asbestos materials on their sites a number of the ACM's have been identified for remedial works. This specification details the requirements of this work. The asbestos reinspection report can be viewed via the below link: https://web.lucion.co.uk/print/reports/520704?s=21479326539dcee4b6ef8f644cca7dcc

Specification Basis
Lucion Services Ltd has prepared this specification exercising the level of skill and care as is reasonably expected of a consultancy with experience in providing such services for similar projects. The specification is based on information obtained within the Lucion Services asbestos survey report (Ref: 520704) and a site visit by Richard Marshall.

Site Specific Considerations
- **The site is an operational storage facility for museum artefacts. As such extreme care is required when working in the building. The removal contractor will be required to demonstrate experience in working in such environments and to design the work in such a manner to minimise any risk of damage or contamination to the artefacts. Any costs incurred by the museum will be passed on to the removal contractor.** - **All staff working on the project will be required to have undergone DBS checks. The same team will be required for the duration of the project.** - **Working hours are 0900-1630.** - **The layout of the building means that venting an NPU to the atmosphere may not always be possible. The enclosure designs will need to factor this in. A full time analyst will be on site to undertake air monitoring.** - **In some areas stored items will be needed to be moved to facilitate the enclosures. The LARC will be required to undertake this but will need to liaise with the museum in doing so.** - **The work needs to be completed in full by 31st March 2023. A full programme of work will be required to be submitted with quotations to allow the site to facilitate access.** - **In some areas the removal contractor will be required to remove asbestos warning stickers although the locations of these is to be confirmed at the time of work.** - **All operatives undertaking the work will be required to adhere the Museums rules for visiting contractors.**

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1.0 Project Particulars

1.1 Project Details

Building:	Horniman Museum & Gardens & Study Collection Centre
Address:	Dreadnought Building, Greenwich Peninsula, SE10 0PG
Location/s:	See task list for details
Employer/ Client:	Horniman Museum 100 London Road Forest Hill London SE23 3PQ Contact: Tim Hopkins thopkins@horniman.ac.uk
Main Contractor:	N/a
Asbestos Consultants:	Lucion Services Ltd Head Office: 7 Halifax Court, Dunston, Gateshead, NE11 9JT Contact: Richard Marshall richard.marshall@lucionservices.com
Information source:	Lucion Services Ltd Asbestos Reinspection Report ref 520704 Site visit by Richard Marshall 16/11/2022
Site Contact:	Adrian Holloway
CDM Arrangements	Asbestos Consultant (AC) is Asbestos Consultant and Principal Designer, LARC is Principal Contractor (and a Designer)

1.2 The Site(s)

Primary Services On-site:

Services	Confirmed on-site	Affected by works
Water	✓	✘
High Voltage Electricity (>1000v)	✘	✘
Low Voltage Electricity (50v to 1000v)	✓	✓
Mains gas supply	✓	✘
Fire and security	✓	✓
Data / telecoms	✓	✘
HVAC	✓	✘

Use of Site:
The site is to be used only for the purposes of executing the works.

Site Visit:
A visit to the site is **mandatory** to ascertain the conditions that prevail prior to completion of the tender submission. The Contractor should be aware that claims for extra payment which arise through lack of site knowledge, visual or otherwise, will not be entertained. The site can be visited by appointment by contacting Lucion Services.

General Site Condition Checklist:

Site facility	Confirmed	Notes
Welfare - WC / washing facility	✓	LARC to provide facilities
Welfare - Canteen / mess facility	✘	LARC to provide facilities
Project - Mains power supply	✓	240v sockets confirmed and client use approved
Project - Mains water	✓	Agreed with client, LARC may use
Project - DCU / Compound	✓	The DCU can be sited in the external carpark
Project - Skips	✓	Skip to be sited in external car park
Project - Isolations /disconnections	✓	To be undertaken by the client appointed contractor. The LARC will be required to detail all isolations required and to liaise with the client to ensure these are in place. The fire detection will be required to remain operational.
Project - Confined spaces	✓	N/a
Project - High Voltage equipment	✓	N/a
Project - Working at Height	✓	LARC to provide safe and suitable means of access to undertake all elements of the work
Project - Fire safety	✓	Existing fire detection will be required to remain operational. LARC to supply additional precautions as deemed necessary by their risk assessment.
Project - Noise permit	✓	N/a
Project - Reinstatement	✓	All reinstatement is to be carried out by the client on completion of the asbestos work
Project - Special requirements	✓	All staff working on the project are required to have DBS checks. Due to the nature of the site extreme care is required when working near artefacts

Programming of Works:

Milestone	Confirmed	Notes
Site working hours	✓	Site hours 09:00 to 16:30
Building closure during work	✓	The building will remain operational during the work. Work areas will need to be segregated at all times
Project commencement date	✘	TBC
Enabling work	✓	Some areas will require decanting of stored items. LARC to undertake after liaising with the client. These items must be handled with care at all times.
LARC start date on-site	✘	TBC
Analytical monitoring requirements	✓	Full time air monitoring is required.

LARC to complete on-site	✘	TBC
Reinstatement work	✓	Not required on this project
Project Completion Pack (PCP)	✓	All completion paperwork will be provided in H&S file on completion

1.3 The Contract

The LARC will be engaged directly by the client in accordance with their contractual obligations. The LARC assigned role, as defined within CDM Regulations 2015, can be found in Section 1.1 Project Details.

Pricing of Specification: Alterations and qualifications to the specification must not be made without the written consent of the client. Tenders containing unauthorised alterations or qualifications may be rejected. Costs relating to the items in the specification or Schedule of Works, which are not priced, will be deemed to have been included elsewhere in the tender.

Contractors All Risk Insurance – injury to persons or property Insurance Cover - £10,000,000.00
Public liability Insurance Cover - £10,000,000.00

Exclusions:

If the Contractor cannot tender for any part(s) of the work as defined in the tender documents he must inform the Client as soon as possible, defining the relevant part(s) and stating the reasons for his inability to tender.

2.0 Assessment of Risk

Control of Asbestos Regulations 2012 Regulation 6: Assessment of work that exposes employees to asbestos.

2.1 Location of Works

Horniman Museum & Gardens & Study Collection Centre
Dreadnought Building
Greenwich Peninsula
SE10 0PG

2.2 Monitoring

Air monitoring shall be required throughout the works and will be undertaken by Lucion Services Ltd, a UKAS accredited laboratory accredited to ISO/IEC 17025 for site sampling of airborne fibres and fibre counting.

If required by Lucion or the Client - The LARC is also to ensure all relevant completion paperwork, including the Waste Consignment Note, is sent to Lucion (**within 5 days of completion**) so that the project may be closed out.

Analytical Attendances Required on this project	
Witness smoke test	✓
Background air-sampling	✓
Leak (enclosure check) air-sampling	✓
Personal air-sampling	✓

Clearance Indicator air-sampling as part of 4-Stage Clearance	✓
Reassurance air-sampling	✓
No air-sampling - contractor to self certify abatement work	✘
Scanning Electron Microscopy (SEM) air-samping	✘

In addition, the area immediately adjacent to the works should be monitored to ensure that no airborne fibre contamination has occurred outside the enclosure. In the event of airborne fibre concentrations above 0.01 f/cm^3 occurring then the following procedures should be adopted.

a) an additional test shall be carried out as soon as possible prior to re-occupation.
b) In the event that a second air test exceeds 0.01 f/cm^3 the area concerned shall be vacated and isolated, measures detailed in Appendix A 1(6) of this assessment will be implemented immediately.
c) If any air test exceeds a fibre concentration of 0.01 f/cm^3, outside the enclosed working area the isolation measure detailed in Appendix A 1(6) of this assessment will be implemented immediately.

2.3 Site Clearance / Certificate Of Reoccupation

Four stage clearances will be undertaken by Lucion Services Ltd, a UKAS accredited laboratory. The clearance testing procedure will be carried in accordance with Asbestos: The analysts' guide for sampling, analysis and clearance procedures (2005) HSG248. It is the sole responsibility of the asbestos removal contractor to ensure the cleanliness of the area in advance of the analysts performing the visual inspection (stage 2 of the 4 stage clearance procedure). Failure to do so may result in a "failure" of the inspection; a chargeable event to be borne by the contractor.

In some instances four stage clearances will not be required based on the category of removal works which can be completed under locally controlled conditions. However, Lucion Services Ltd, a UKAS accredited laboratory will conduct a visual inspection and reassurance air monitoring on completion of the works. This testing procedure will be carried in accordance with Asbestos: The analysts guide for sampling, analysis and clearance procedures (2005) HSG248 and Lucion SErvices TOP02.08 (Procedure for Asbestos Air Sampling) Section 5.8, Non-Licensed removal Works - Visual Inspections (available on request). It is the sole responsibility of the asbestos removal contractor to ensure the cleanliness of the area in advance of the analysts performing a visual inspection. Failure to do so may result in a "failure" of the inspection; a chargeable event to be borne by the contractor.

3.0 Guidance References

See appendix 1 for general guidance information.

4.0 Schedule of Works

4.1 Task Sheets

Task 1: Removal of Asbestos Insulation lagging and environmental clean of -1/007 Basement Store

Location: -1/007 Basement Store

Asbestos materials: Asbestos Insulation - Amosite/Chrysotile

Approximate quantity (or size): 2x lagged pipes each approx 3.5m long, Floor area approx 18m2

Works Required

1. The scope of the work is to remove the pipe insulation from 2no. Pipes and residues to the walls as far as reasonably practicable under fully controlled conditions.
2. Stored items are to be removed by the LARC and taken to an area on site as designated by the client.
3. Following removal of furniture from the work area, any non-removable fixtures should be sheeted out prior to commencement of works.
4. Following construction of the enclosure and a satisfactory integrity check (smoke tests are to be confirmed with the client) the removal work can commence.
5. The large void is to be opened up within the enclosure and cleaned to an arms length before being permanently sealed up with fire retardant batt.
6. Smaller voids are to be cleaned as far as practicable before being sealed with fire retardant batt.
7. Floors are to be pre cleaned and then protected from contamination using 1000 gauge polythene or suitable alternative.
8. The asbestos insulation is to be removed using wet injection, given appropriate time to saturate and minimising any leakage. Care to be taken to ensure the pipework is fully cleaned of residues/debris particularly on hard to clean areas such as bolts and hangers.
9. Walls are to be cleaned of visible insulation residues using hand tools.
10. A thorough, methodical environmental clean should be undertaken to ALL surfaces within the enclosure removing all traces of dirt, debris & dust.
11. On completion of the cleaning work the analyst is to conduct stages 1 and 2 of the 4 stage clearance. On completion of a satisfactory visual inspection the walls are to be encapsulated with two coats of ET150 allowing sufficient drying time between coats.
12. Once the encapsulant is dry and on completion of any further cleaning the analyst is to conduct a 4 stage clearance.
13. All waste generated by the work is to be disposed of as hazardous waste.

Stored items to be removed by the LARC and stored in an area as designated by the client

Room overview

Thermal insulation to large bore pipework

Insulation to small bore pipework

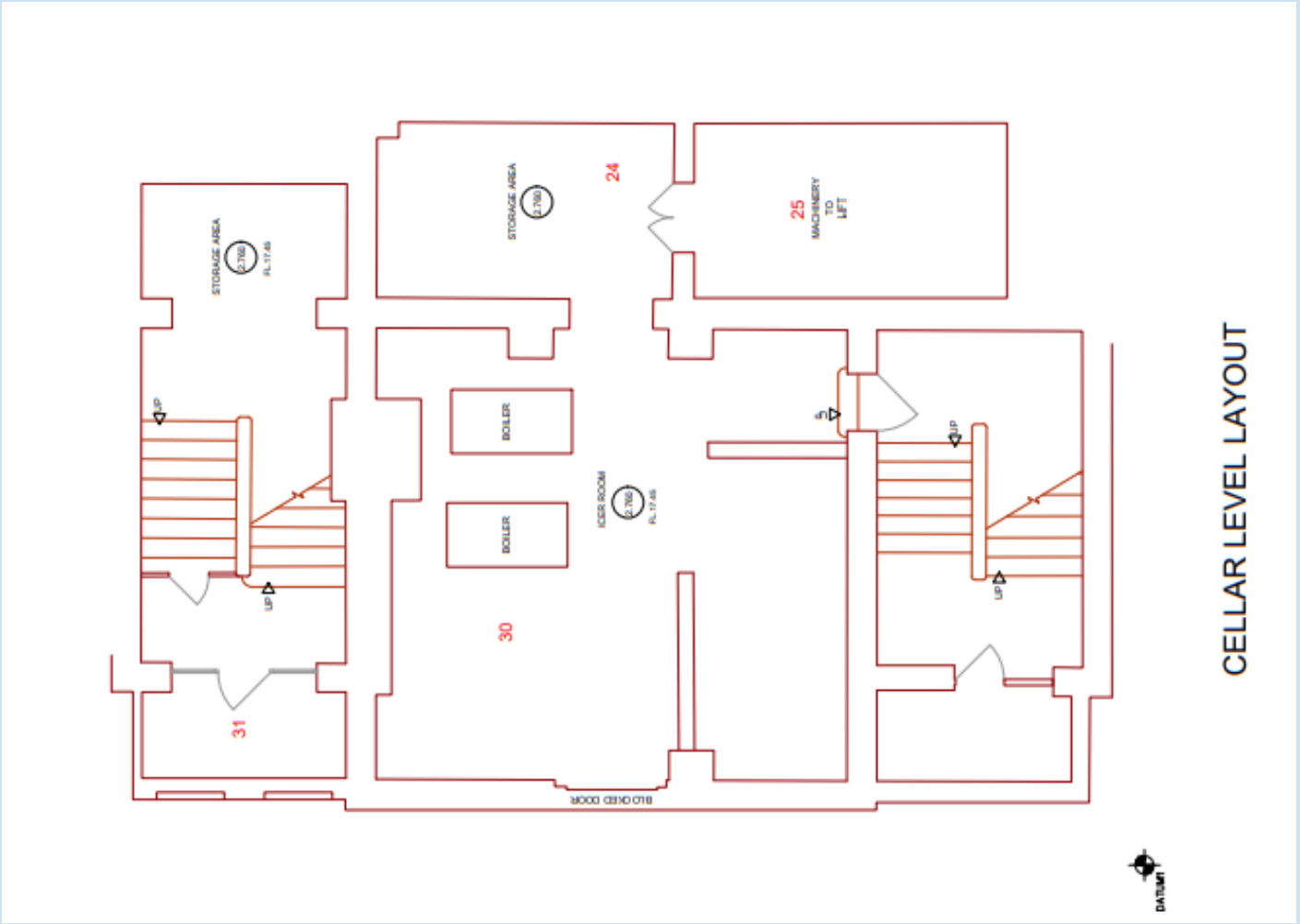
Wall cavities are to be cleaned as far as possible before being sealed with fire retardant batt

Wall cavities are to be cleaned as far as possible before being sealed with fire retardant batt

Additional information related to this work task	
Isolations / disconnections:	All services will remain live during the work
Confined spaces:	N/a
High Voltage cables & equipment:	N/a
Low Voltage cables & equipment:	All cables are to be presumed live unless certified otherwise
Data & Comms cables & equipment:	All cables are to be presumed live unless certified otherwise
Security cameras cables & equipment:	All cables are to be presumed live unless certified otherwise
Working at height / access:	The LARC is to include for all required access equipment to complete the works safely.
Fire safety:	Existing precautions will remain operational. LARC to supply additional precautions as deemed necessary by their risk assessment

Access and egress from the property:	Via main entrance/fire exit
Reinstatement:	N/a
Any other hazards (biological/chemical):	LARC to assess and provide suitable precautions

Plans



Basement level plan

Task 2: Removal of Asbestos Insulating Board panel to 0/002 Pest Control Room

Location: 0/002 Pest Control Room

Asbestos materials: Asbestos Insulating Board (AIB) Amosite

Approximate quantity (or size): Approx 0.5m2, Ceiling height is approx 5m.

Works Required

1. The scope of the work is to remove the AIB panel from the ceiling.
2. The lockers will be required to be removed by the LARC.
3. If the panel can be removed without breakage then the works can be done under suitably controlled conditions however if there is any doubt a full enclosure will be required.
4. All works are to be undertaken using appropriate fibre suppression techniques.
5. A thorough, methodical environmental clean should be undertaken to ALL surfaces within the enclosure/work area removing all traces of dirt, debris & dust.
6. Depending on how the work is carried out the analyst will undertake a thorough visual inspection/ four stage clearance on completion of the works.
7. All waste generated by the work is to be disposed of as hazardous waste.

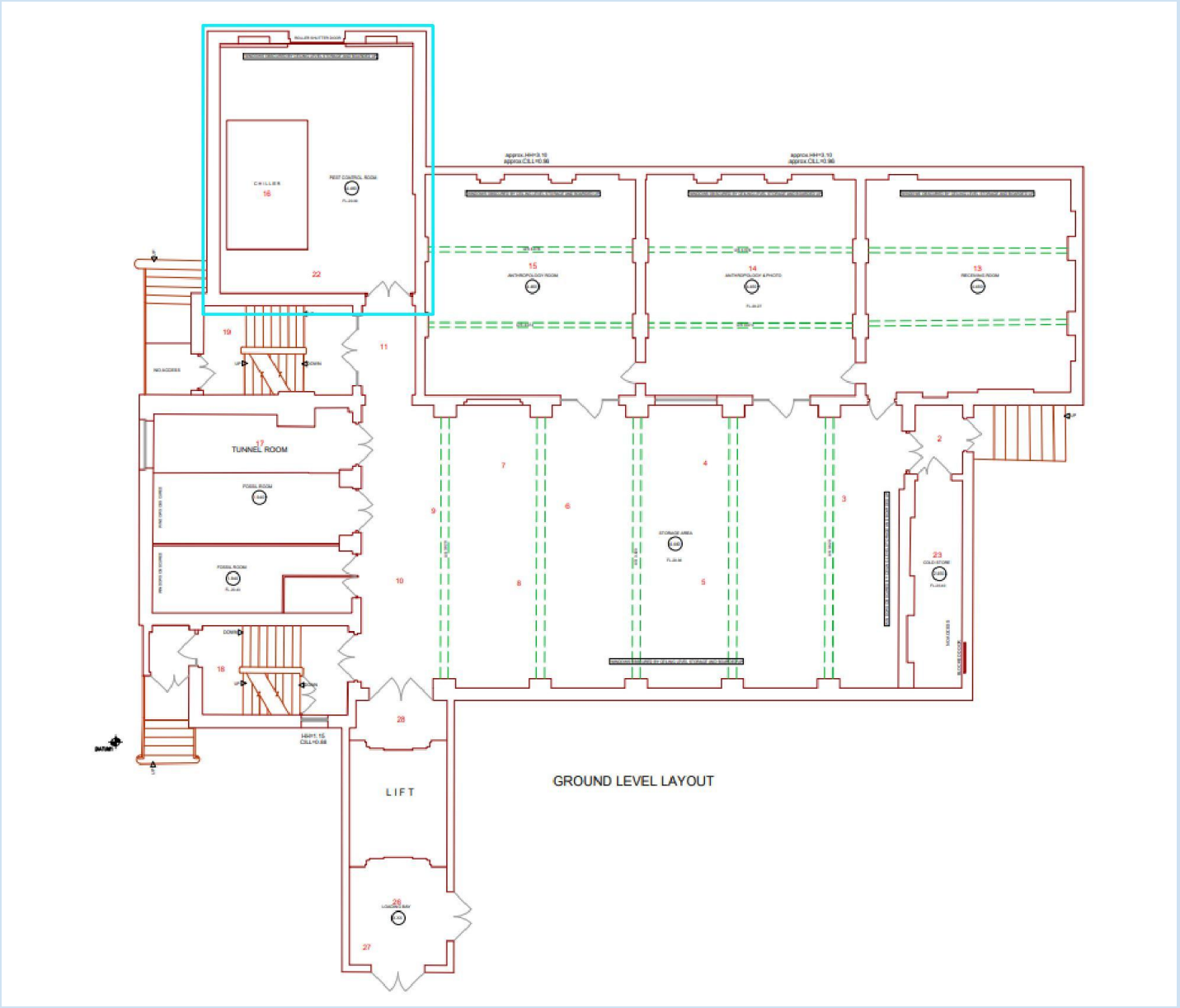
Lockers will require to be moved by the LARC ahead of the work

AIB panel to ceiling

Additional information related to this work task	
Isolations / disconnections:	All services will remain live during the work
Confined spaces:	N/a
High Voltage cables & equipment:	N/a
Low Voltage cables & equipment:	All cables are to be presumed live unless certified otherwise
Data & Comms cables & equipment:	All cables are to be presumed live unless certified otherwise
Security cameras cables & equipment:	All cables are to be presumed live unless certified otherwise
Working at height / access:	The LARC is to include for all required access equipment to complete the works safely.

Fire safety:	Existing precautions will remain operational. LARC to supply additional precautions as deemed necessary by their risk assessment
Access and egress from the property:	Via main entrance/fire exit
Reinstatement:	N/a
Any other hazards (biological/chemical):	LARC to assess and provide suitable precautions

Plans



Ground floor plan showing the work area bordered in blue

Task 3: Encapsulation of Asbestos Insulating Board panel - 0/004 Anthropology Room

Location: 0/004 Anthropology Room

Asbestos materials: Asbestos Insulating Board (AIB) Amosite

Approximate quantity (or size): 0.5m2, Ceiling height is approx 5m.

Works Required

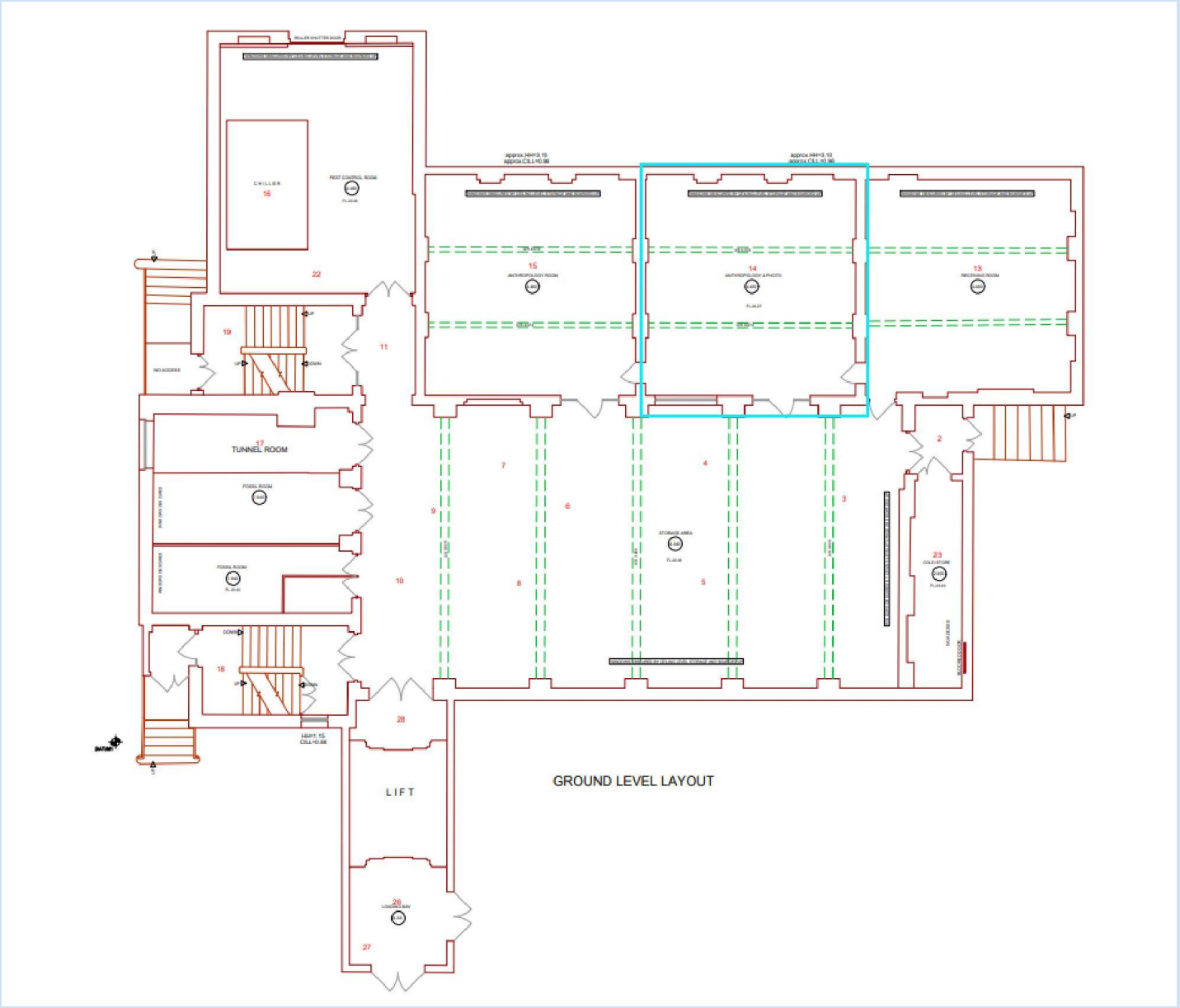
1. The scope of the works is to encapsulate the ceiling mounted AIB panel under suitably controlled conditions.
2. Restrict access to the work area and create a respirator zone.
3. Adjacent surfaces are to be protected from contamination/paint spillage by the use of 1000 gauge polythene.
4. Panel is to be cleaned of settled dust/debris before being encapsulated with two coats of ET150 allowing sufficient drying time between coats.
5. A thorough, methodical environmental clean should be undertaken to ALL surfaces within adjacent areas removing all traces of dirt, debris & dust.
6. Inspection Standard: the analyst will undertake reassurance air monitoring during the work and a visual inspection on completion.
7. All waste generated by the work is to be disposed of as hazardous waste.

AIB panel to be encapsulated

Additional information related to this work task	
Isolations / disconnections:	All services will remain live during the work
Confined spaces:	N/a
High Voltage cables & equipment:	N/a
Low Voltage cables & equipment:	All cables are to be presumed live unless certified otherwise
Data & Comms cables & equipment:	All cables are to be presumed live unless certified otherwise
Security cameras cables & equipment:	All cables are to be presumed live unless certified otherwise
Working at height / access:	The LARC is to include for all required access equipment to complete the works safely.

Fire safety:	Existing precautions will remain operational. LARC to supply additional precautions as deemed necessary by their risk assessment
Access and egress from the property:	Via main entrance/fire exit
Reinstatement:	N/a
Any other hazards (biological/chemical):	LARC to assess and provide suitable precautions

Plans



Ground floor plan showing the work area bordered in blue

Task 4: Removal of Asbestos Insulating Board panel - 0/005 Receiving Room

Location: 0/005 Receiving Room

Asbestos materials: Asbestos Insulating Board (AIB) Amosite

Approximate quantity (or size): Approx 0.5m2, Ceiling height is approx 5m

Works Required

1. The scope of the work is to remove the AIB panel from the ceiling.
2. If the panel can be removed without breakage then the works can be done under suitably controlled conditions however if there is any doubt a full enclosure will be required.
3. All works are to be undertaken using appropriate fibre suppression techniques.
4. A thorough, methodical environmental clean should be undertaken to ALL surfaces within the enclosure/work area removing all traces of dirt, debris & dust.
5. Depending on how the work is carried out the analyst will undertake a thorough visual inspection/ four stage clearance on completion of the works.
6. All waste generated by the work is to be disposed of as hazardous waste.

AIB wall panel

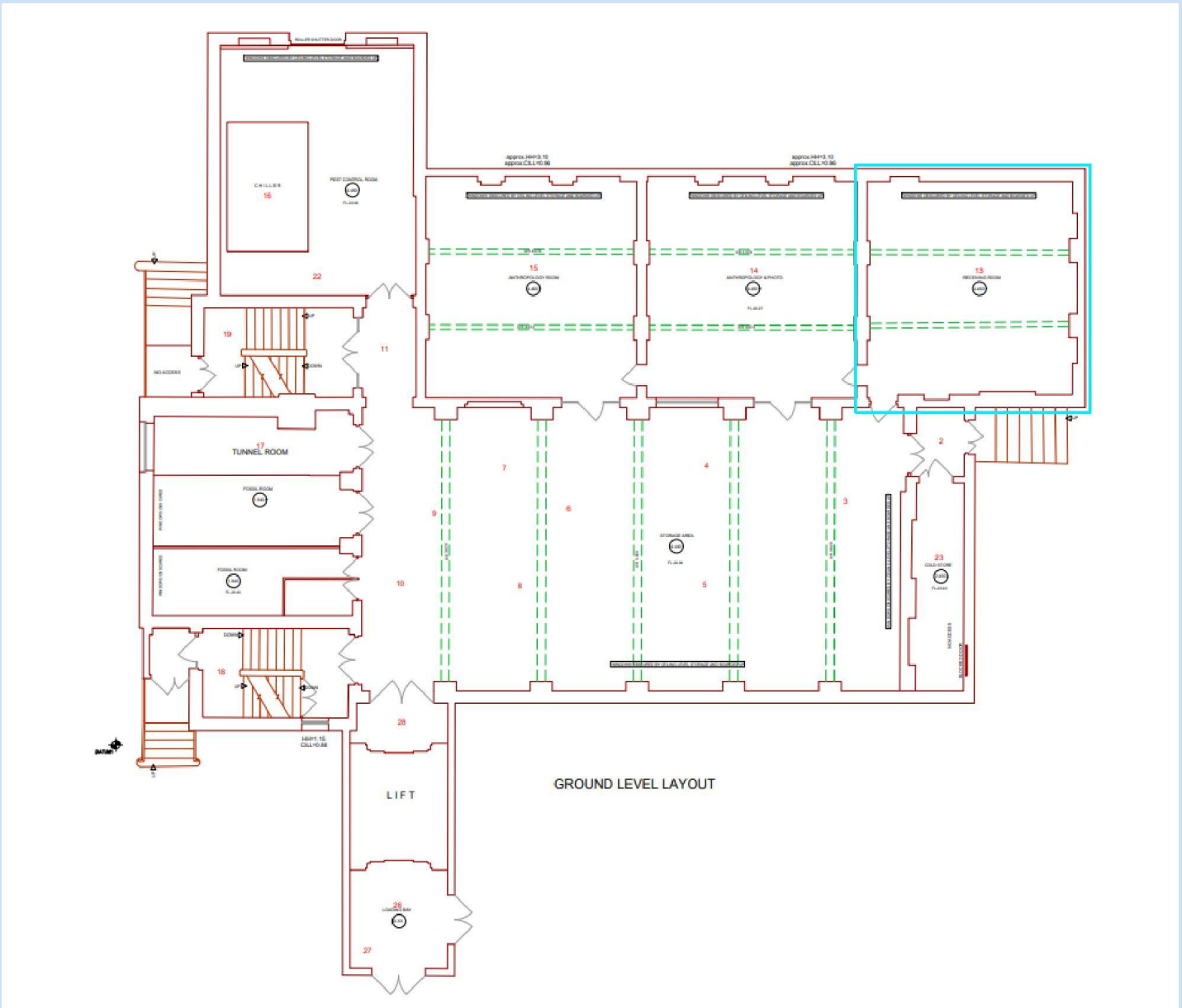
AIB wall panel

Additional information related to this work task

Isolations / disconnections:	All services will remain live during the work
Confined spaces:	N/a
High Voltage cables & equipment:	N/a
Low Voltage cables & equipment:	All cables are to be presumed live unless certified otherwise
Data & Comms cables & equipment:	All cables are to be presumed live unless certified otherwise
Security cameras cables & equipment:	All cables are to be presumed live unless certified otherwise
Working at height / access:	The LARC is to include for all required access equipment to complete the works safely.
Fire safety:	Existing precautions will remain operational. LARC to supply additional precautions as

	deemed necessary by their risk assessment
Access and egress from the property:	Via main entrance/fire exit
Reinstatement:	N/a
Any other hazards (biological/chemical):	LARC to assess and provide suitable precautions

Plans



Ground floor plan showing the work area bordered in blue

Task 5: Removal of stored, bagged presumed asbestos containing materials - 0/007 Cold Store

Location: 0/007 Cold Store

Asbestos materials: Asbestos waste - presumed Crocidolite

Approximate quantity (or size): See photograph below

Works Required

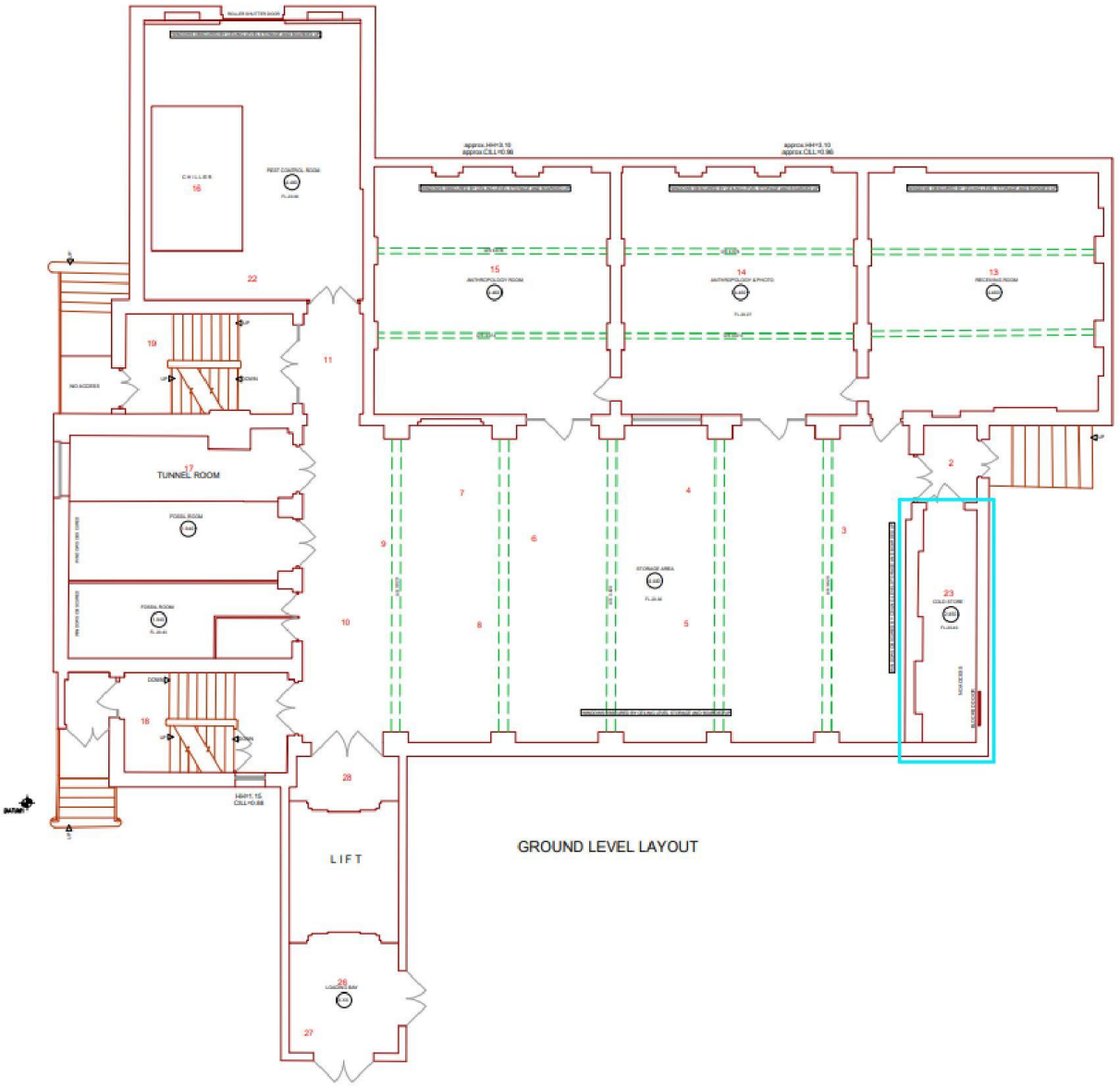
1. The scope of the works is to remove the presumed asbestos waste under suitably controlled conditions.
2. The waste items are to be double bagged in UN approved waste bags before being disposed of as hazardous waste.
3. A thorough, methodical environmental clean should be undertaken to adjacent surfaces at the discretion of the on site analyst.
4. Inspection Standard: the analyst will undertake reassurance air monitoring throughout the work and a visual inspection on completion.

Bagged presumed asbestos waste

Additional information related to this work task	
Isolations / disconnections:	All services will remain live during the work
Confined spaces:	N/a
High Voltage cables & equipment:	N/a
Low Voltage cables & equipment:	All cables are to be presumed live unless certified otherwise
Data & Comms cables & equipment:	All cables are to be presumed live unless certified otherwise
Security cameras cables & equipment:	All cables are to be presumed live unless certified otherwise
Working at height / access:	The LARC is to include for all required access equipment to complete the works safely.
Fire safety:	Existing precautions will remain operational. LARC to supply additional precautions as deemed necessary by their risk assessment

Access and egress from the property:	Via main entrance/fire exit
Reinstatement:	N/a
Any other hazards (biological/chemical):	LARC to assess and provide suitable precautions

Plans



Ground floor plan showing the work area bordered in blue

Task 7, Option A: Removal of AIB door and surround panels - 3/001 Room 3 & 3/009 Lobby

Location: 3/001 Room 3 & 3/009 Lobby

Asbestos materials: Asbestos Insulating Board (AIB) Amosite

Approximate quantity (or size): Approx 5m x 2m

Works Required

1. The scope of the works is to remove the AIB lined door and surround panels under fully controlled conditions.
2. Isolations will be required for the emergency lighting and intruder alarm. No works are to commence until the contractor is satisfied that these have been carried out and relevant isolation certificates are issued. Please note that the fire detection can not be isolated and as such will remain live.
3. The water softening plant will need to be protected from damage and contamination during the work.
4. The enclosure will need to be constructed on both sides of the door.
5. Following removal of furniture from the work area, any non-removable fixtures should be sheeted out prior to commencement of works.
6. Following a successful integrity test of the enclosure the asbestos works can commence.
7. The full door can be removed at the hinge, double wrapped in 1000 gauge polythene and disposed of as hazardous waste.
8. The emergency lighting and intruder alarm is to be unscrewed from the surround panels, cleaned and set aside for re-use.
9. The AIB panels are to be carefully removed using fibre suppression techniques. Controlled breakage will be required around the fire detection cable.
10. Any underlying framework is to be cleaned of any residues using hand tools. Fixing points are to be drilled out with an oversized drill bit whilst shadow vacuuming at source.
11. A thorough, methodical environmental clean should be undertaken to ALL surfaces within the enclosure removing all traces of dirt, debris & dust.
12. Inspection Standard: the analyst will undertake a thorough visual inspection and carry out a four stage clearance on completion of the works. The contractor must ensure that appropriate height access equipment is available within the enclosure to ensure that this can take place.
13. All waste generated by the work is to be disposed of as hazardous waste.

AIB door and surround panels as viewed from 3/001

Water softening plant can not be moved so this will need to be protected from damage during the work

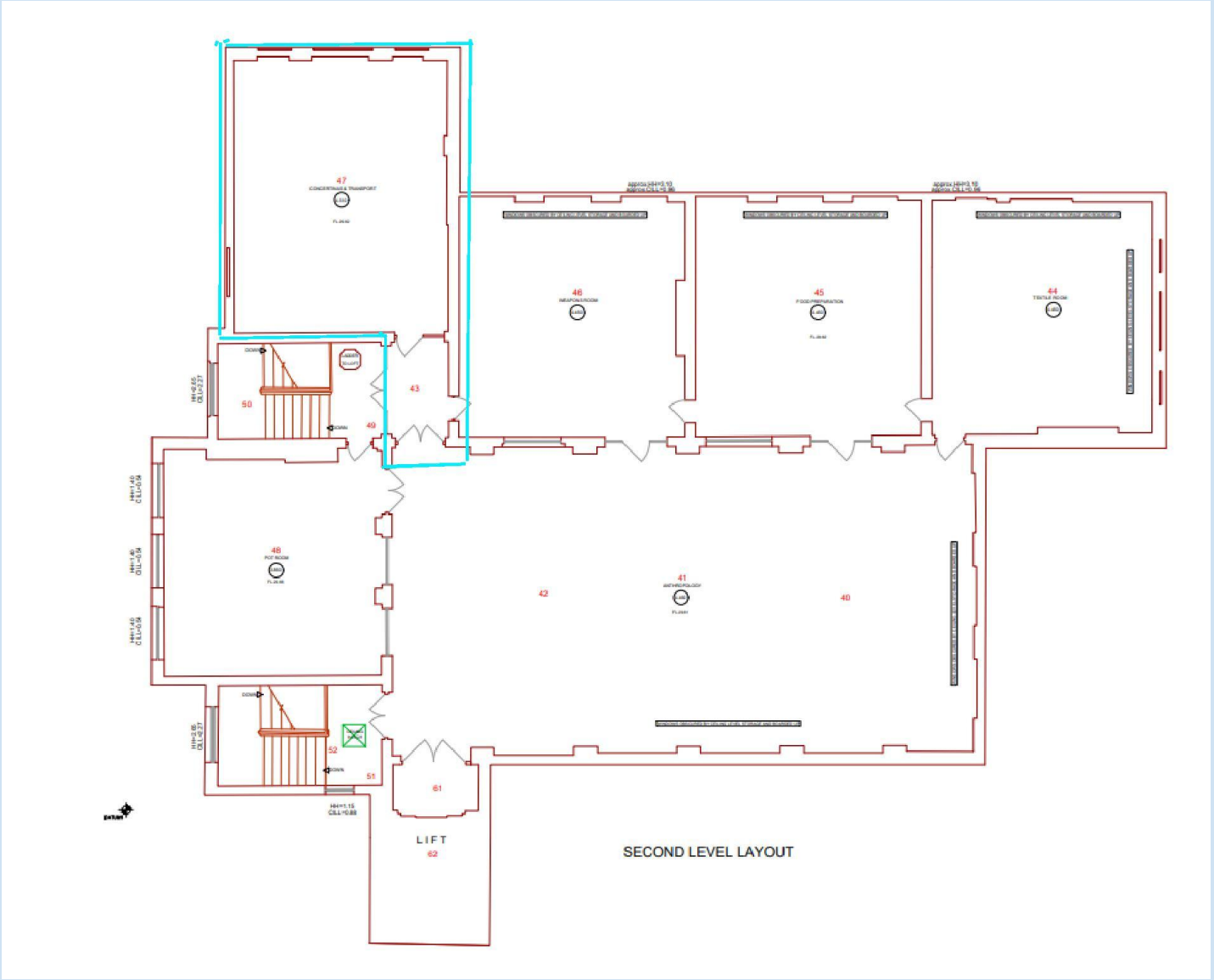
Fire alarm cable cannot be isolated so will have to be protected from damage and the AIB broke around it in a controlled manner

AIB door and surround panels as viewed from 3/009

Additional information related to this work task	
Isolations / disconnections:	Emergency light and intruder alarm will need to be isolated ahead of the work
Confined spaces:	N/a
High Voltage cables & equipment:	N/a
Low Voltage cables & equipment:	All cables are to be presumed live unless certified otherwise
Data & Comms cables & equipment:	All cables are to be presumed live unless certified otherwise
Security cameras cables & equipment:	All cables are to be presumed live unless certified otherwise
Working at height / access:	The LARC is to include for all required access equipment to complete the works safely.
Fire safety:	Existing precautions will remain operational. LARC to supply additional precautions as deemed necessary by their risk assessment
Access and egress from the property:	Via main entrance/fire exit
Reinstatement:	All reinstatement is to be undertaken by the client on completion of the asbestos removal

Any other hazards (biological/chemical):	LARC to assess and provide suitable precautions

Plans



Ground floor plan showing the work area bordered in blue

Task 7, Option B: Removal of AIB door and low level surround panels - 3/001 Room 3 & 3/009 Lobby

Location: 3/001 Room 3 & 3/009 Lobby

Asbestos materials: Asbestos Insulating Board (AIB) Amosite

Approximate quantity (or size): Approx 2m x 2m

Works Required

1. The scope of the works is to remove the AIB lined door and lower level surround panels under fully controlled conditions.
2. No isolations will be required however the fire detection can not be isolated and as such will remain live.
3. The water softening plant will need to be protected from damage and contamination during the work.
4. The enclosure will need to be constructed on both sides of the door.
5. Following removal of furniture from the work area, any non-removable fixtures should be sheeted out prior to commencement of works.
6. Following a successful integrity test of the enclosure the asbestos works can commence.
7. The full door can be removed at the hinge, double wrapped in 1000 gauge polythene and disposed of as hazardous waste.
8. The low level AIB surround panels (up to the height of the door) are to be carefully removed using fibre suppression techniques.
9. Any underlying framework is to be cleaned of any residues using hand tools. Fixing points are to be drilled out with an oversized drill bit whilst shadow vacuuming at source.
10. Any AIB which remains within the enclosure is to be inspected for damage and repaired where necessary by the use of ET150 and silicone mastic.
11. A thorough, methodical environmental clean should be undertaken to ALL surfaces within the enclosure removing all traces of dirt, debris & dust.
12. Inspection Standard: the analyst will undertake a thorough visual inspection and carry out a four stage clearance on completion of the works. The contractor must ensure that appropriate height access equipment is available within the enclosure to ensure that this can take place.
13. All waste generated by the work is to be disposed of as hazardous waste.

Low level AIB door and surround panels to be removed highlighted in blue as viewed from 3/001

Low level AIB door and surround panels to be removed highlighted in blue as viewed from 3/009

Additional information related to this work task

Isolations / disconnections:	N/a
Confined spaces:	N/a

High Voltage cables & equipment:	N/a
Low Voltage cables & equipment:	All cables are to be presumed live unless certified otherwise
Data & Comms cables & equipment:	All cables are to be presumed live unless certified otherwise
Security cameras cables & equipment:	All cables are to be presumed live unless certified otherwise
Working at height / access:	The LARC is to include for all required access equipment to complete the works safely.
Fire safety:	Existing precautions will remain operational. LARC to supply additional precautions as deemed necessary by their risk assessment
Access and egress from the property:	Via main entrance/fire exit
Reinstatement:	All reinstatement is to be undertaken by the client on completion of the asbestos removal

Task 8: Removal of AIB door surround panels and window infill panels - 3/005 Hall 3 & 3/003 007 Room 3/5 pot room

Location: 3/005 Hall3 & 3/003 007 Room 3/5 pot room

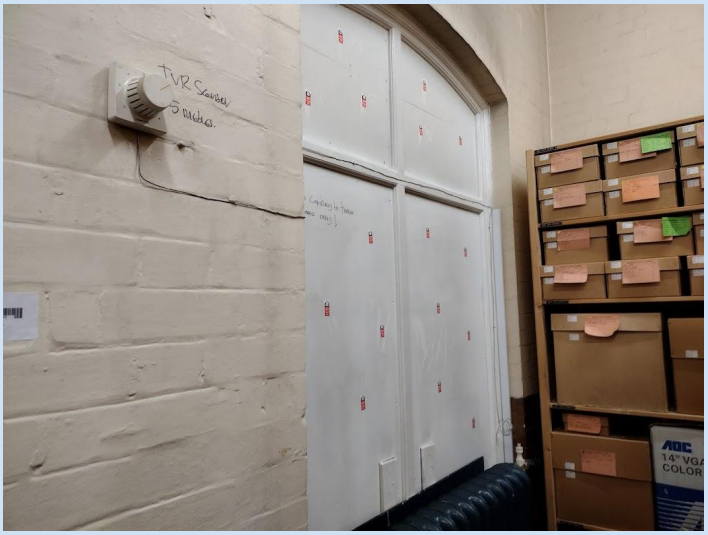
Asbestos materials: Asbestos Insulating Board (AIB) Amosite

Approximate quantity (or size): Door surround panels and 2x window infill panels

Works Required

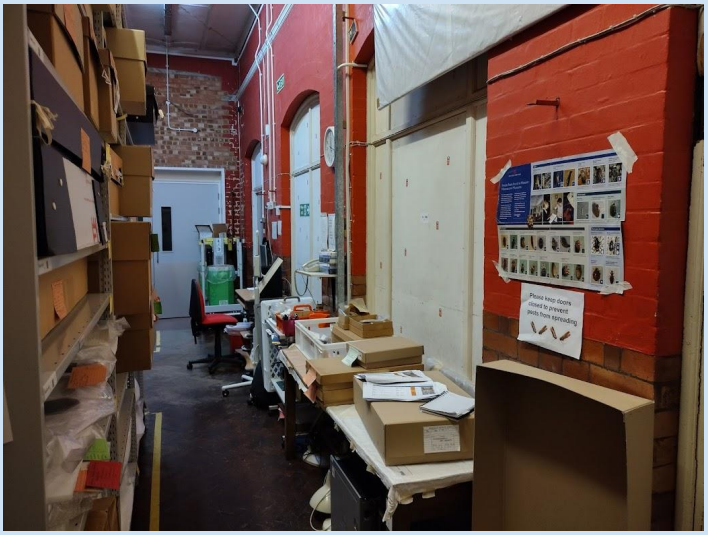
1. The scope of the works is to remove AIB door surround panels and window infill panels under fully controlled conditions.
2. The enclosure will likely need to be formed on both sides of the dividing wall. The racking to the right hand side wall is unable to be moved so the enclosure design will need to factor this in.
3. Isolations will be required for the intruder alarm. No works are to commence until the contractor is satisfied that these have been carried out and relevant isolation certificates are issued.
4. Following removal of furniture from the work area, any non-removable fixtures should be sheeted out prior to commencement of works.
5. Following a successful enclosure integrity test the asbestos removal works can commence.
6. AIB panels to door surround and window infills are to be dampened with surfactant before being carefully removed keeping breakages to a minimum.
7. Any underlying framework is to be cleaned of any residues using hand tools. Fixing points are to be drilled out with an oversized drill bit whilst shadow vacuuming at source.
8. A thorough, methodical environmental clean should be undertaken to ALL surfaces within the enclosure removing all traces of dirt, debris & dust.
9. Inspection Standard: the analyst will undertake a thorough visual inspection and carry out a four stage clearance on completion of the works.
10. All waste generated by the work is to be disposed of as hazardous waste.

AIB door surround panels



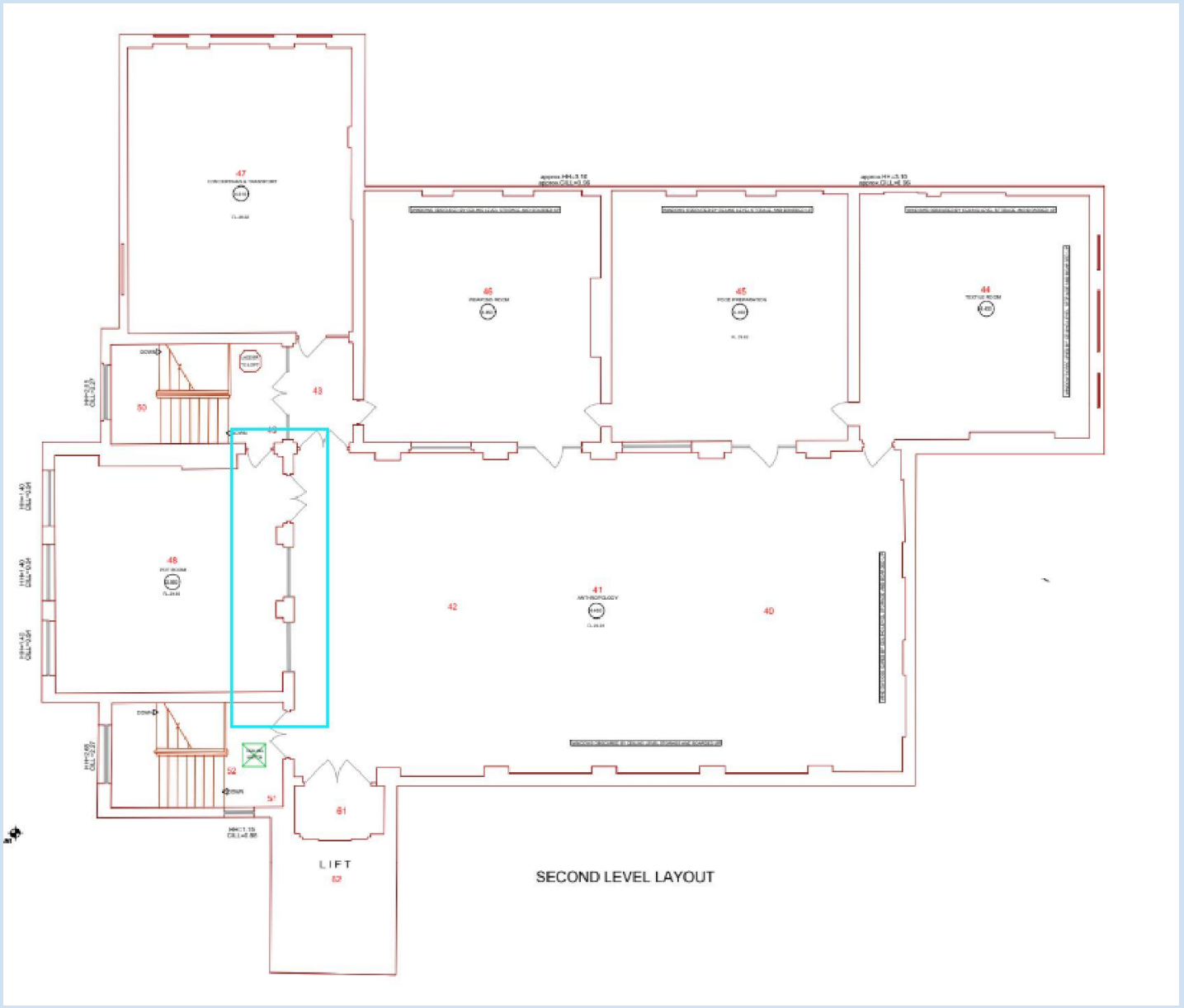
AIB window infill panels

AIB door surround panels as seen from Hall



AIB window infill panels as seen from hall.

Additional information related to this work task	
Isolations / disconnections:	N/a
Confined spaces:	N/a
High Voltage cables & equipment:	N/a
Low Voltage cables & equipment:	All cables are to be presumed live unless certified otherwise
Data & Comms cables & equipment:	All cables are to be presumed live unless certified otherwise
Security cameras cables & equipment:	All cables are to be presumed live unless certified otherwise
Working at height / access:	The LARC is to include for all required access equipment to complete the works safely.
Fire safety:	Existing precautions will remain operational. LARC to supply additional precautions as deemed necessary by their risk assessment
Access and egress from the property:	Via main entrance/fire exit
Reinstatement:	All reinstatement is to be undertaken by the client on completion of the asbestos removal
Any other hazards (biological/chemical):	LARC to assess and provide suitable precautions
Plans	



2nd floor plan showing work area highlighted in blue

Task 9: : Removal of AIB door and surround panels - 3/002 Room 3/3 weapons room

Location: 3/002 Room 3/3 weapons room

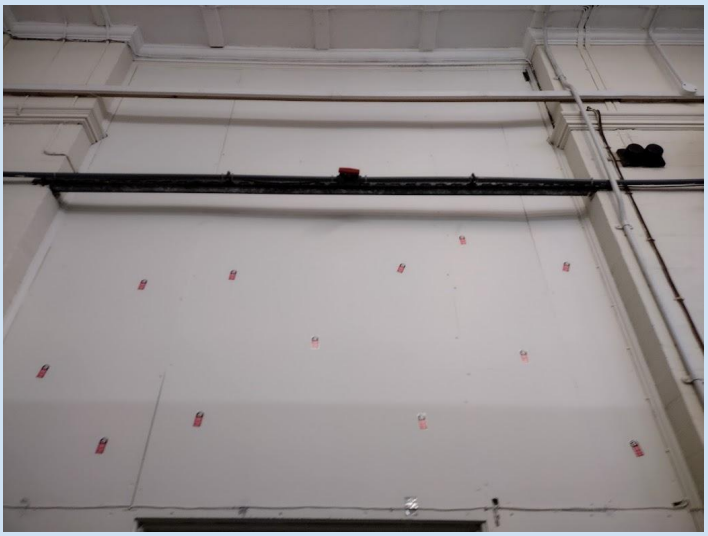
Asbestos materials: Asbestos Insulating Board (AIB) Amosite

Approximate quantity (or size): Approx 5m x 2m

Works Required

1. The scope of the works is to remove the AIB lined door and surround panels under fully controlled conditions.
2. Its is not envisaged that isolations will be required however the LARC will be required to assess and liaise with the client as necessary.
3. The enclosure will likely need to be constructed on both sides of the door however it is believed that the panels on the hall side are timber. This should be verified prior to any work.
4. Following removal of furniture from the work area, any non-removable fixtures should be sheeted out prior to commencement of works.
5. Following a successful integrity test of the enclosure the asbestos works can commence.
6. The full door can be removed at the hinge, double wrapped in 1000 gauge polythene and disposed of as hazardous waste.
7. The AIB panels are to be carefully removed using fibre suppression techniques. Controlled breakage will be required around the fire detection cable.
8. Any underlying framework is to be cleaned of any residues using hand tools. Fixing points are to be drilled out with an oversized drill bit whilst shadow vacuuming at source.
9. A thorough, methodical environmental clean should be undertaken to ALL surfaces within the enclosure removing all traces of dirt, debris & dust.
10. Inspection Standard: the analyst will undertake a thorough visual inspection and carry out a four stage clearance on completion of the works. The contractor must ensure that appropriate height access equipment is available within the enclosure to ensure that this can take place.
11. All waste generated by the work is to be disposed of as hazardous waste.

AIB door and surround panels as viewed from 3/002

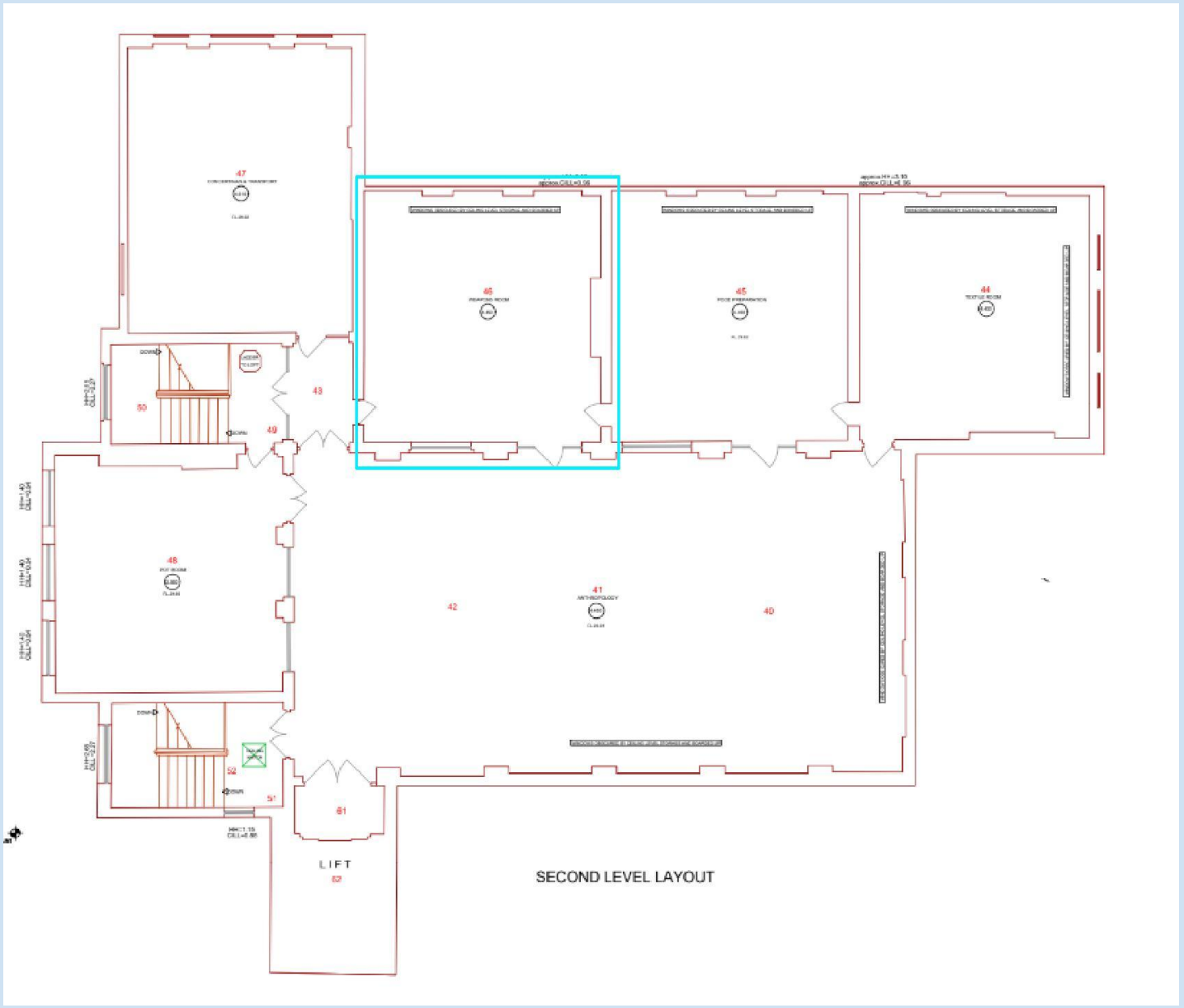


AIB panels above door as viewed from 3/002

Door as viewed from 3/005. These panels are believed to be timber.

Panels above door as viewed from 3/005. These panels are believed to be timber.

Additional information related to this work task	
Isolations / disconnections:	Emergency light and intruder alarm will need to be isolated ahead of the work
Confined spaces:	N/a
High Voltage cables & equipment:	N/a
Low Voltage cables & equipment:	All cables are to be presumed live unless certified otherwise
Data & Comms cables & equipment:	All cables are to be presumed live unless certified otherwise
Security cameras cables & equipment:	All cables are to be presumed live unless certified otherwise
Working at height / access:	The LARC is to include for all required access equipment to complete the works safely.
Fire safety:	Existing precautions will remain operational. LARC to supply additional precautions as deemed necessary by their risk assessment
Access and egress from the property:	Via main entrance/fire exit
Reinstatement:	All reinstatement is to be undertaken by the client on completion of the asbestos removal
Any other hazards (biological/chemical):	LARC to assess and provide suitable precautions
Plans	



Second floor plan showing the work area bordered in blue

Task 10: : Removal of AIB door and surround panels - 3/003/room 3/2 weapons room

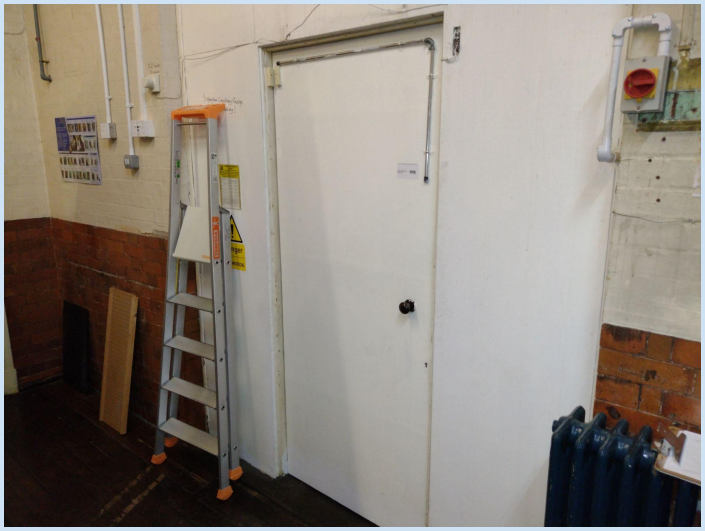
Location: 3/003/room 3/2 weapons room

Asbestos materials: Asbestos Insulating Board (AIB) Amosite

Approximate quantity (or size): Approx 5m x 2m

Works Required

1. The scope of the works is to remove the AIB lined door and surround panels under fully controlled conditions.
2. Its is not envisaged that isolations will be required however the LARC will be required to assess and liaise with the client as necessary.
3. The enclosure will likely need to be constructed on both sides of the door however it is believed that the panels on the hall side are timber. This should be verified prior to any work.
4. Following removal of furniture from the work area, any non-removable fixtures should be sheeted out prior to commencement of works.
5. Following a successful integrity test of the enclosure the asbestos works can commence.
6. The full door can be removed at the hinge, double wrapped in 1000 gauge polythene and disposed of as hazardous waste.
7. The AIB panels are to be carefully removed using fibre suppression techniques. Controlled breakage will be required around the fire detection cable.
8. Any underlying framework is to be cleaned of any residues using hand tools. Fixing points are to be drilled out with an oversized drill bit whilst shadow vacuuming at source.
9. A thorough, methodical environmental clean should be undertaken to ALL surfaces within the enclosure removing all traces of dirt, debris & dust.
10. Inspection Standard: the analyst will undertake a thorough visual inspection and carry out a four stage clearance on completion of the works. The contractor must ensure that appropriate height access equipment is available within the enclosure to ensure that this can take place.
11. The single AIB lined door to the side of the room can be removed by double wrapping in polythene, unscrewing at the hinge and disposing of as hazardous waste. This could be done outside of the enclosure work.
12. All waste generated by the work is to be disposed of as hazardous waste.

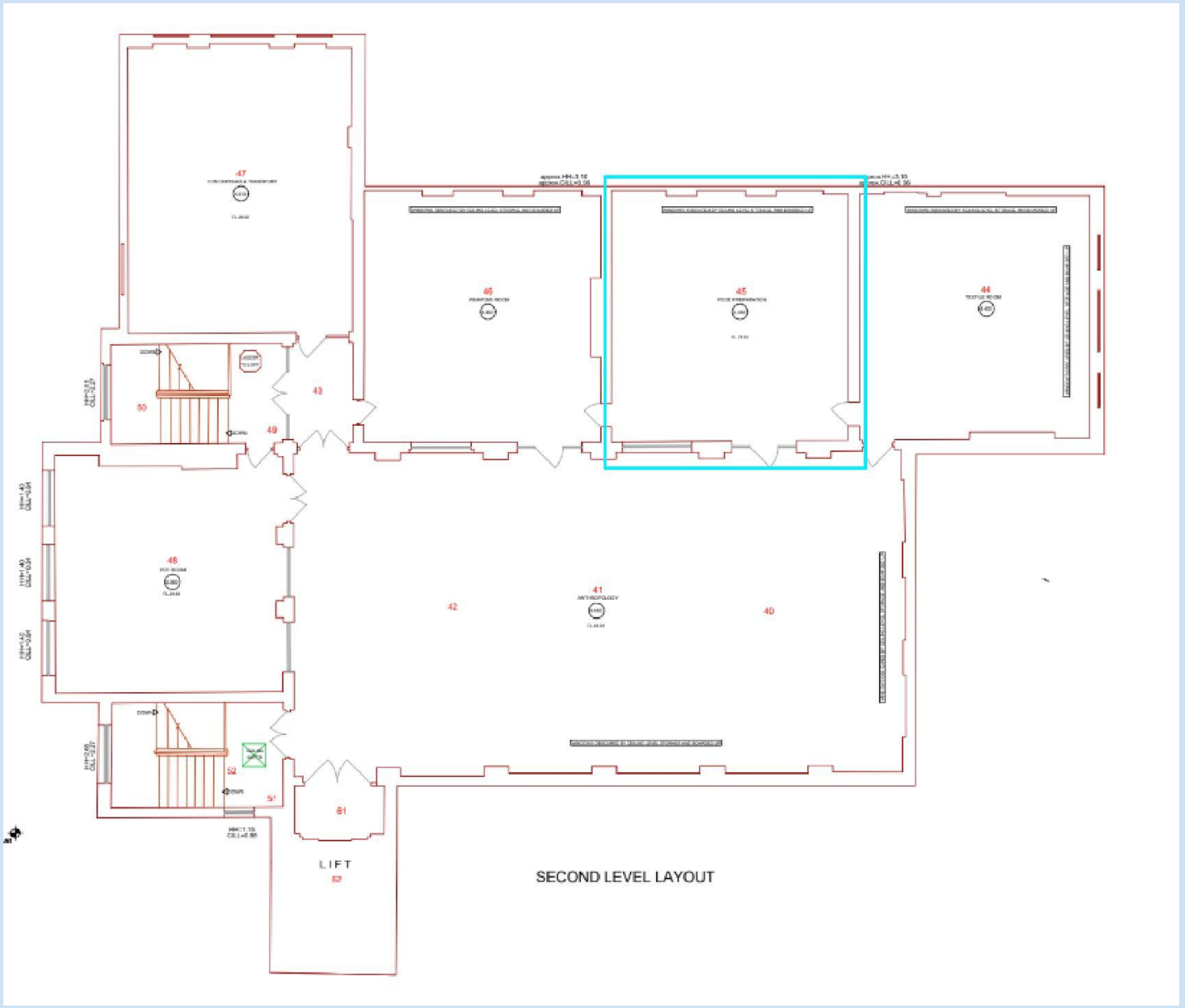


AIB door panel as viewed from 3/003

AIB door surround panels as viewed from 3/003

Single AIB lined door can be removed by wrapping in polythene, removing at the hinge and disposing as hazardous waste

Additional information related to this work task	
Isolations / disconnections:	Emergency light and intruder alarm will need to be isolated ahead of the work
Confined spaces:	N/a
High Voltage cables & equipment:	N/a
Low Voltage cables & equipment:	All cables are to be presumed live unless certified otherwise
Data & Comms cables & equipment:	All cables are to be presumed live unless certified otherwise
Security cameras cables & equipment:	All cables are to be presumed live unless certified otherwise
Working at height / access:	The LARC is to include for all required access equipment to complete the works safely.
Fire safety:	Existing precautions will remain operational. LARC to supply additional precautions as deemed necessary by their risk assessment
Access and egress from the property:	Via main entrance/fire exit
Reinstatement:	All reinstatement is to be undertaken by the client on completion of the asbestos removal
Any other hazards (biological/chemical):	LARC to assess and provide suitable precautions
Plans	



Second floor plan showing the work area bordered in blue

Task 11: : Removal of AIB door and transom panel - 3004/room 3/1 textile room

Location: 3004/room 3/1 textile room

Asbestos materials: Asbestos Insulating Board (AIB) Amosite

Approximate quantity (or size): 1no. Door, Transom panel approx 3m2

Works Required

1. The scope of the work is to remove the AIB lined door and transom panel under fully controlled conditions.
2. Isolations will be required for the intruder alarm. LARC will be required to liaise with the client to ensure this is in place.
3. The enclosure will likely need to be constructed on both sides of the door however it is believed that the panels on the hall side are timber. This should be verified prior to any work.
4. Following removal of furniture from the work area, any non-removable fixtures should be sheeted out prior to commencement of works.
5. Following a successful integrity test of the enclosure the asbestos works can commence.
6. The full door can be removed at the hinge, double wrapped in 1000 gauge polythene and disposed of as hazardous waste.
7. The AIB panels are to be carefully removed using fibre suppression techniques. Controlled breakage will be required around the fire detection cable.
8. Any underlying framework is to be cleaned of any residues using hand tools. Fixing points are to be drilled out with an oversized drill bit whilst shadow vacuuming at source.
9. A thorough, methodical environmental clean should be undertaken to ALL surfaces within the enclosure removing all traces of dirt, debris & dust.
10. Inspection Standard: the analyst will undertake a thorough visual inspection and carry out a four stage clearance on completion of the works. The contractor must ensure that appropriate height access equipment is available within the enclosure to ensure that this can take place.
11. All waste generated by the work is to be disposed of as hazardous waste.

AIB door and transom panels as viewed from 3/004

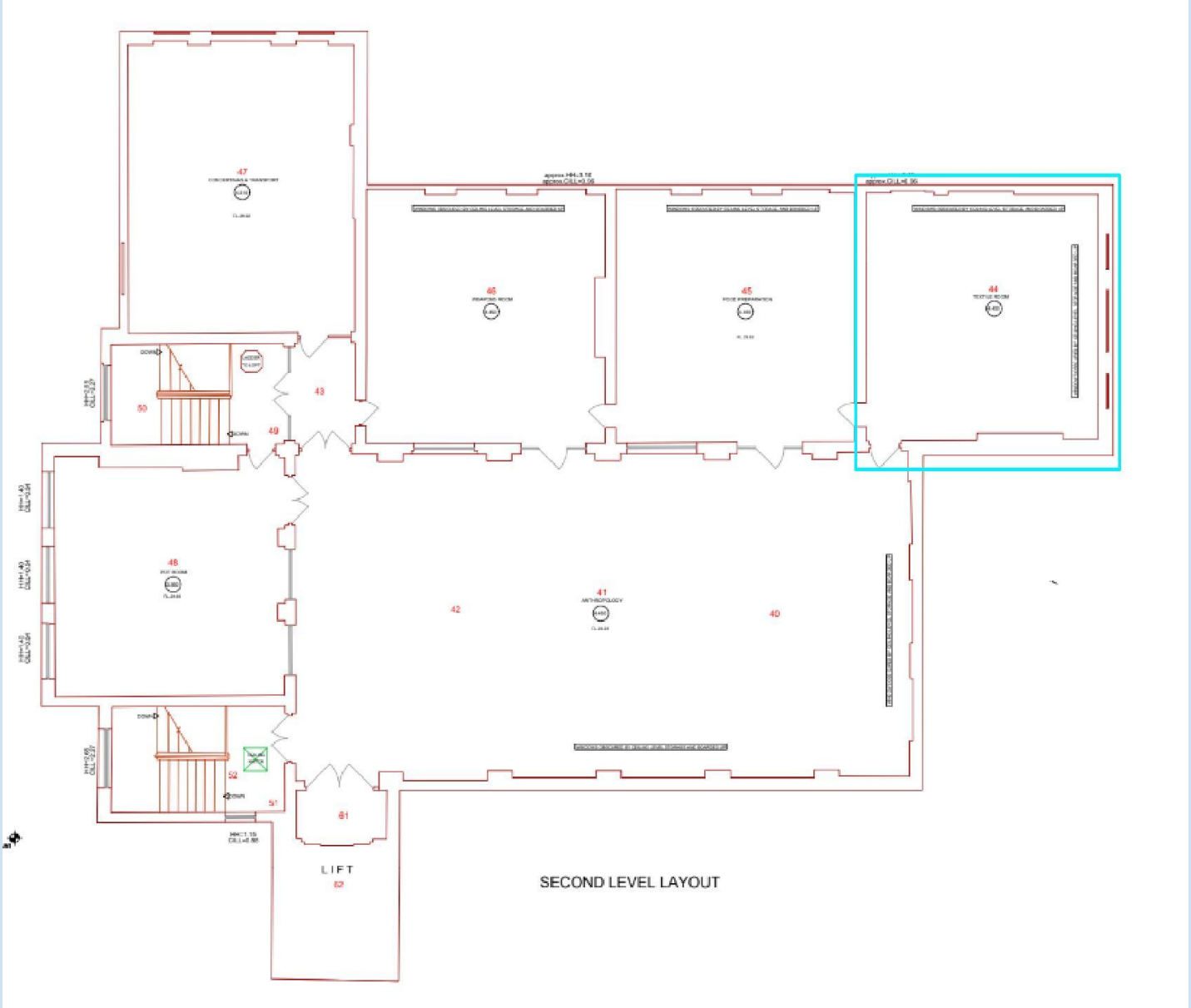
Panels above door as viewed from 3/005

Additional information related to this work task

Isolations / disconnections:	Intruder alarm will need to be isolated ahead of the work
Confined spaces:	N/a
High Voltage cables & equipment:	N/a
Low Voltage cables & equipment:	All cables are to be presumed live unless certified otherwise

Data & Comms cables & equipment:	All cables are to be presumed live unless certified otherwise
Security cameras cables & equipment:	All cables are to be presumed live unless certified otherwise
Working at height / access:	The LARC is to include for all required access equipment to complete the works safely.
Fire safety:	Existing precautions will remain operational. LARC to supply additional precautions as deemed necessary by their risk assessment
Access and egress from the property:	Via main entrance/fire exit
Reinstatement:	All reinstatement is to be undertaken by the client on completion of the asbestos removal
Any other hazards (biological/chemical):	LARC to assess and provide suitable precautions

Plans



Second floor plan showing the work area bordered in blue

5.0 General Notes

5.1 Full decontamination should be carried out under suitably controlled conditions using methods of work to minimise the exposure to the workforce. All ceilings, walls, floors, beams, soffits, ledges, voids, cavities, pipes, unions, hangers, clips, boxing's, trunkings, vessels, abutments and the like are to be **fully cleaned as far as is reasonably practicable.**

5.2 Please note: The Asbestos Removal Contractor can have free use of water and power supplies to undertake the project however, the contractor has to satisfy themselves that their requirements can be met to undertake the execution of the project, any further requirements are to be costed accordingly and they should make allowance for relocation of such facilities as works progress or site needs require.

5.3 Please note: This is a fixed **price** cost and all elements of the work must be obtained during your site visit and included within your submitted price tender. Any factor that may cause costs to increase during the works must be liaised to the client upon discovery.

5.4 The Asbestos Removal Contractor is to ensure that all access scaffolding is erected by a licensed scaffolder where appropriate.

5.5 All works listed above **(and included in section 4.1)** require a thorough methodical environmental clean to ALL surfaces removing all traces of asbestos, debris, dirt and dust. Surfaces to be included but not limited to are: ceiling, walls, floor, pipes, conduits, cables are to be separated and cleaned individually when remaining, hangers, clips, ledges etc.

5.6 Full decontamination includes the removal and disposal of non-cleanable and/or non-asbestos materials such as MMMF lagged pipework to allow for access to areas to undertake asbestos removal works.

5.7 The Asbestos Removal Contractor is to include for the provision of all plant, equipment and consumables, including access scaffolding and safety systems where necessary.

5.8 The Asbestos Removal Contractor to satisfy themselves that all isolations have been undertaken to allow him to commence the works safely.

5.9 The Asbestos Removal Contractor is to allow for all enabling and temporary works necessary to access the areas identified and to undertake the works, including temporary works and the provision of temporary lighting and pumping operations.

5.10 The locations and extent of the asbestos given in surveys is indicative and this scope defines the extent of the works needed. **(Site visit will be required to determine accurate extents)**.

5.11 Any delays incurred through poor standards of cleanliness are to be borne by the Asbestos Removal Contractor. Please note it is the tenderers responsibility to attain a satisfactory level of cleanliness.

5.12 Monitoring: due to enclosed nature of the work areas and impracticality of vision panels; battery operated CCTV in colour with sound capability is to be provided. A colour monitor of adequate viewable size (15" or greater) must also be provided in a viewable environment. Please note adequate lighting must be allowed for in the submitted costs.

5.13 Analytical costs are **NOT** to be included with this tender, as they will be dealt with separately.

5.14 During the course of the works any asbestos related problems are to be reported in accordance with Lucion site reporting procedures.

6.0 Schedule of Costs

		Cost (£)	Duration (Days)
6.0	Preliminary Costs to be itemised		
6.1	Set up of safety health and welfare facilities. Additional costs where the conditions in 5.2 cannot be met (ie. not provided FOC by the individual site) ● Toilet/welfare facilities ● Water ● Power		
6.2	Work costs where relevant, but not limited to: ● Height access equipment ● Consumables ● Labour ● Waste ● DCU ● Welfare facilities ● Plant & equipment ● Isolations ● Specialist contractors (electrician, plumbers and the like) ● Liaison with Asbestos Abatement Consultant should be included, with attendance at site meetings and progress meetings to be included		
6.3	Completion of works as described in Task 1		
6.4	Completion of works as described in Task 2		
6.5	Completion of works as described in Task 3		
6.6	Completion of works as described in Task 4		
6.7	Completion of works as described in Task 5		
6.8	Completion of works as described in Task 6		

6.9	Completion of works as described in Task 7A		
6.10	Completion of works as described in Task 7B		
6.11	Completion of works as described in Task 8		
6.12	Completion of works as described in Task 9		
6.13	Completion of works as described in Task 10		
6.14	Completion of works as described in Task 11		
6.15	All other additional costs required to complete the works not included for in the above.		
	Total		

Appendix A - General Requirements

Section 1:

1. Expected Exposure

Utilising the appropriate control measures as detailed in relevant approved codes of practice may result in fibre levels exceeding 0.01f/cm3 of air (as given in HSE publication Asbestos: The Licensed Contractor's Guide Table 1.1.It is important therefore that precise records are kept for the duration of each work task so that the exposure levels of the individuals involved can be calculated. Air monitoring will be carried out by Lucion Services Ltd, a UKAS registered analytical laboratory at regular intervals for a representative range of jobs and work
methods throughout the duration of the project.

2. Control Measures

For safe access to the asbestos containing areas, the following control measure should be adopted:
a) Ensure that this assessment is brought to the attention of the persons undertaking the works prior to the commencement, and ensure that they are fully conversant with the required procedures for the safe removal and disposal of the asbestos containing materials.
b) Before commencement of the activity, formal consultation by the appointed Contractor may be required with, Trade Union Safety Representatives, the Safety Advisor and relevant Contractors as necessary.
c) Operatives should wear suitable RPE and PPE as deemed necessary by risk assessment and in accordance with the Method Statement / Plan of Work.
d) Ensure employees work in such a manner so as to ensure that asbestos fibres released to the air inside the enclosure is the lowest level that is reasonably practicable, in accordance with Regulation 11 of the 'Control of Asbestos Regulations 2012' and the associated Approved Code of Practice, 'CAR 2012 Managing and Working with Asbestos'. This will involve controlled asbestos removal techniques including wet stripping techniques and vacuum control at source for final cleaning as previously mentioned.
e) Appropriate asbestos warning, respirator zone / asbestos area; signs will be affixed to the enclosure and any access points.
f) The asbestos waste bags shall conform to and display the UN approved packaging guidelines and be marked with the asbestos symbol and the CDG hazard placard as detailed in Asbestos. The Licensed Contractors' Guide (2006) as published by the Health and Safety Executive.

3. Personal Protective Equipment and Respiratory Protective Equipment.

For the access into asbestos contaminated areas as referred to in this Risk Assessment, those involved will need to wear suitable and sufficient Respiratory Protective Equipment (RPE) which is capable of providing protection against the airborne concentrations expected and as referred to in Section 4 of this Risk Assessment.
Reference should be made to the following documents for selection purposes:
Guidance Note HS G 53 'Selection, use and maintenance of Respiratory Protective Equipment, published by the Health & Safety Executive, 1998. Health and Safety Executive Information Document HSE 282/28 Published September 1999 (Revised 2012) Health and Safety Executive Document HSG247 "Asbestos: The licensed contractors' guide" (2006). For respirators other than disposable types the face seal should be checked using a quantitative fit testing regime as detailed in the document OC 282/28 and be formally maintained on a monthly basis and checked by the operative on each day of use, full records of which must be kept for five years. Details of the types of respirators to be used by the Licensed Contractors must be included within the Asbestos Removal Contractors method statement. All personnel involved in operations as described within this risk assessment will be required to wear appropriate personal protective overalls that shall be suitable and sufficient for the conditions that are encountered. Adequate protective clothing must be provided.
The clothing must:
1. Reduce contamination of the body by resisting penetration by asbestos fibres
2. Prevent spread of contamination from the area of work
3. Provide full body protection with close fit at neck, wrists, and ankles, with absence of pockets and slits that could trap asbestos.

4. Training Standard and Documentation

All operatives involved with the asbestos removal works will have undergone training as required by Regulation 10 of the Control of Asbestos Regulations (2012).

5. Removal of Waste

All waste generated in the operations covered by the scope of this assessment will be disposed of as Asbestos Waste in accordance with the Hazardous Waste Regulations 2005 and the Environmental Protection (Duty of Care) Regulations. All Contractors will comply with the requirements of this and all other Legislation and Guidance relating to waste disposal. Contractors shall likewise comply with any subsequent amending legislation.

6. Emergencies

The Contractor must prepare and implement procedures as required by the Control of Asbestos Regulations (2012) Regulation 15, which can be put into effect should an accident, incident or emergency occur which could put people at risk because of the presence of asbestos. In the event that areas outside the work area become contaminated, these areas will be cordoned off until they are decontaminated by persons utilising correct RPE and PPE for likely exposures, and confirmation of this has been established utilising visual inspections and air quality monitoring. Prior to the commencement of removal works, sufficient information is to be made available to the emergency services so that when they are attending a relevant incident they can properly protect themselves against the risks from the asbestos. The Contractor must familiarise himself with the emergency evacuation procedures in force at the establishment without prejudice to the aforementioned.

Section 2:

1 General

1 This document relates to the technical requirements for the forthcoming works as stated in Section 4 (Task Sheets). It also applies to standards of workmanship required to ensure that the works are carried out to an acceptable standard.
2 This Technical Specification shall be read in conjunction with the Risk Assessment, which has been detailed in Section 2 for compliance with Regulation 6 of The Control of Asbestos Regulations 2012. The contractor must however, produce his own risk assessment in advance of commencing work on site.
3 This Technical Specification shall apply to all asbestos containing materials and associated debris detailed in the Schedule of Works.
4 Certain clauses may not, at the time of the tender, be applicable, however they have been included to cater for anticipated circumstances or possible variations to the original tender.
5 In certain circumstances, situations may be encountered which fall out of the scope of this specification. In these instances a new or amended specification and/or risk assessment may be required. In all cases the Client must be consulted and formal approval given prior to any works commencing which are out of the scope of this specification.
6 The appointed Contractor will be required to assess all works prior to the submitting of quotation documents. Any constraints (e.g. confined spaces, working at height) encountered should be brought to the attention of the Client before the commencement of the Contract.
7 The isolation, draining down, and purging of any electric, water or gas supplies respectively, prior to works commencing will be the responsibility of the Asbestos Removal Contractor. The Isolation and draining down of the Tanks will be carried out and/or supervised by a nominated representative from the client organisation.
8 The appointed Contractor will ensure that only authorised personnel are allowed into any part of the premises where asbestos removal works are being undertaken.

2 Analyst

An analyst may not be required to facilitate these works, this is at the discretion of either the contractor or client.

3 Ambient Fibre Concentration

If appropriate the Asbestos Analyst will undertake background air monitoring to establish the presence of any ambient fibre concentrations prior to the commencement of the works.

4 Codes of Work Practice

1 This Specification shall apply to “asbestos coatings”, “asbestos insulating boards”, “asbestos insulation”, “asbestos cement”, “textured decorative coatings” as well as other non-licensed asbestos containing materials as defined in The Approved Code of Practice “CAR 2012 Managing and Working with Asbestos”.
2 Where relevant, the work must be carried out in accordance with this Technical Specification and the statutes, recommendations and guidance contained in the publications listed in Paragraph 4.4 and any other legislation or guidance notes coming into force during the Contract period.
3 The COSHH Regulations shall apply to these works. The appointed Contractor is required to provide the Client with written confirmation and proof of compliance with the Regulations, prior to the commencement of the works. Specifically, the assessment of all materials, chemicals and whatsoever products deemed to be covered by the Regulations that are to be stored and used at the site, which will be the responsibility of the appointed Contractor.
4 The current editions of the following publications should be obtained by the appointed Contractor for reference at his own expense: The Health & Safety at Work Act 1974, The Waste (England and Wales) Regulations 2011, ACOP “Work with materials containing asbestos” 2006 The Hazardous Waste Regulations 2005, Control of Asbestos Regulations 2012, Associated Health & Safety Executive Guidance Notes With any appropriate amendments to the aforementioned documentation.
5 Construction (Design & Management) Regulations 2015 (CDM)
The CDM Regulations shall apply to these works. In absence of an existing appointed Principal Contractor, the appointed asbestos removal contractor shall assume the role of Principal Contractor. The Client retains their duties, and in addition, unless an alternative appointment is made, the duties of the Principal Designer will also be assumed by the Client. If Lucion Services are to be appointed for full time monitoring during these works, it is recommended that [Lucion / Lucion Consulting]assume the duties/role of Principal Designer.

5 Records (General)

All Contractors invited to tender will supply at tender stage: A detailed method statement describing the processes to be employed throughout the operation, with a full assessment of anticipated asbestos exposure levels to site operatives in accordance with Regulation 6 of the Control of Asbestos Regulations 2012 should be provided to Lucion at least 7 days prior to works commencing on site. Insurance certificates (including public liability, employee liability). A duplicate copy of asbestos removal licence (Form ASB2). The above information must be available on site throughout the duration of the works. In addition to this the appointed Contractor must also make available for inspection the following documentation throughout the course of the works. If applicable, a duplicate copy of the Notification (Form ASB5) provided to the HSE under the terms of CAR2012. A company health and safety manual. A general risk assessment for all potential risks (e.g. working at height, manual handling, etc), in accordance with Regulation 3 of the Management of Health and Safety at Work Regulations 1999. A detailed procedure for dealing effectively with a breach in the integrity of enclosures. A detailed procedure for dealing effectively with an injury to a site operative working within the enclosure. A detailed procedure for dealing effectively with the accidental rupture of sealed bags during transit from the working area to the asbestos waste container. A duplicate copy of each site operatives respirator face fit certificates, for all respirators which are to be utilised during the works i.e. full face power assisted and orinasal half face respirator. A duplicate copy of each site operatives medical certificate. A duplicate copy of all maintenance records for plant and equipment in use at the site of work. See item 7 to follow A duplicate copy of relevant training certificates (e.g. operative, supervisor, wet stripping, erection of working platforms etc).
The appointed Contractor shall, without exception, make such documentation available for inspection. A failure to comply with this requirement will result in a suspension of works, which shall be at the appointed Contractors expense.

6 Records (Medical)

The appointed Contractor shall keep a copy on site of the Certificate of Medical Examination for all operatives on site, as issued to each employee by the Doctor appointed by the Employment Medical Advisory Service, under Regulation 22 of The Control of Asbestos Regulations 2012. The records of medical examinations shall be kept for a minimum of 40 years from the date of the examination.

7 Records (Maintenance)

Records shall be kept on site which relate to the maintenance, repair and servicing of all plant, including Respiratory Protective Equipment on site through the works. The maintenance, repair and servicing shall be undertaken in strict accordance with the Approved Code of Practice, “Management and Working with asbestos”.

8 Records (Waste Disposal)

If applicable, The appointed Contractor shall keep copies of all consignment notes furnished in accordance with the Hazardous Waste Regulations 2005. These documents shall be kept in a designated register for a period of not less than 2 years. The Contractor shall, without exception, make copies of all fully completed consignment notes available for inspection and provide copies to the Client for inclusion in the project’s Health and Safety File.

9 Completion of The Works

1 The appointed asbestos removal Contractor will ensure on completion that the area is left clean and tidy to the satisfaction of the appointed Asbestos Consultant and the Client.
2 The appointed Contractor shall remove all non- contaminated temporary works from the site on completion, and make all work disturbed to the satisfaction of the Asbestos Consultant and Client.
3 The appointed Contractor shall clean the works thoroughly inside and out of splashes, stains etc. and ensure that the works are left in an acceptable condition to the Asbestos Consultant and Client on completion.
4 The appointed Contractor shall ensure on completion that the areas specified in this document are encapsulated, boarded up with timber panels and plastic sheeting and completely sealed to the satisfaction of the Asbestos Consultant and Client.

10 Provision of Clothing and Equipment

1 The appointed Contractor shall provide adequate protective clothing and respiratory protective equipment suitable for the methods of work, type and concentration of asbestos encountered.
2 All protective clothing, and other Personal Protective Equipment shall be assessed to ensure suitability for the task in accordance with the Personal Protective Equipment at Work Regulations 2002.

11 Respiratory Protective Equipment (RPE)

1 The Respiratory Protective Equipment for use during the Contract must be suitable for the purpose for which it was designed, and conform to current standards namely HSG53 and HSG L143 guidance documents.
2 The appointed Contractor shall provide the Asbestos Consultant with details, prior to commencing the works, of the type or types of Respiratory Protective Equipment to be used, together with a copy of the maintenance record for each individual set.
3 Full face powered respirators fitted with high efficiency particulate filters (P3) and pre filters can generally be used during works referred to in this Specification. The contractor may need to use an air fed system in some location depending on the concentration of the fibre release. If relevant, half mask orinasal respirators fitted with high efficiency dust filters (P3) will be utilised for movement of waste outside the enclosure.
4 The RPE shall be capable of being worn in a shower.
5 All respirators issued shall be of a suitable size and design to fit the operator properly and comfortably, this will be verified by the production of a quantitative face fit test certificate, which must be available for inspection on site as requested.

12 Maintenance of Clothing and Equipment

1 The appointed Contractor shall make provision for the cleaning, servicing and inspection of respirators.
2 The appointed Contractor shall provide all facilities for protective Clothing including storage and cleaning.
3 For the purpose of this Technical Specification, transit is defined as passage of the removal team, wearing transit coveralls and respirators, from the clean end of the airlock to the hygiene unit and in reverse order when going from the hygiene unit to the airlock. The transit arrangements will be agreed prior to the commencement of the works and reviewed as necessary throughout the Contract. Under no circumstances will the transit procedures be amended without the specific authority of the Client in liaison with the Asbestos Consultant.
4 Suitable quantities of disposable coveralls shall be provided by the Contractor to take into account the duration of the work, cleanliness of working areas etc.
5 The Contractor will provide all necessary protective equipment for suitably trained (electrical or medical) personnel to gain access to the removal area as necessary i.e. in the event of an emergency. Personal Protective Equipment will not be provided for the Asbestos Consultant and his staff to enter the enclosures. The Asbestos Consultants will provide their own RPE.

13 Changing Accommodation

1 The Contractor shall provide and maintain accommodation and washing facilities in accordance with HSG247 ACOPs for employees working with asbestos, appropriate to the methods and protective clothing as defined in this Technical Specification.
2 The facilities to be provided for the entire duration of the works shall comprise a clean area for clothing removal, complete with secure storage facilities for personal clothing. These areas shall be clearly indicated by notices and separated by showering facilities, all in compliance with revised HSG247 Asbestos: The Licensed Contractors' Guide.
3 The facilities shall be laid out in a manner that compels employees to pass from the contaminated area and into the clean area by passing through showering facilities.
4 All surfaces within the facilities will be smooth and easily cleaned. The communicating doors between the showering facilities and the changing areas shall be self closing and self sealing to provide an airtight seal.
5 The facilities will be fitted with air extraction equipment located in the contaminated area. The extraction equipment shall be fitted with high efficiency particulate filters (HEPA) to prevent asbestos fibres escaping from the unit. Waste water from the shower shall be disposed of via a suitable filter.
6 Adequate hot and cold showers and washing facilities, including liquid soap, nail brushes, shampoo and individual dry towels will be provided. Mirrors shall be provided in the clean end of the unit.
7 The facilities shall, where possible, be located in close proximity to the working area to allow access without operatives engaged in asbestos removal having to enter clean areas. Where the facilities are remote from the works, transit arrangements shall apply as defined in Clause 14.
8 The facilities shall be adequately heated, lit (switches at both 'clean' and 'dirty' ends) and have undulating internal air vents so that air can pass through the unit.
9 The decontamination unit shall include facilities for the charging of respirator power packs, and safe storage of operatives street clothes.
10 The use of "buddy vac" procedures is preferable as an initial means of decontamination when operatives leave an enclosure. This type of process should not, however, be regarded as the primary decontamination facility and operatives should still proceed to a separate unit to complete decontamination procedures.
11 The hygiene facilities ('dirty' end) shall be subject to a visual inspection and subsequent clearance monitoring on completion of work. This inspection will be undertaken by staff employed by Lucion Services Ltd. Airborne fibre monitoring may be undertaken within the hygiene facilities at any time throughout the duration of the contract at the Asbestos Consultant's discretion.
12 The Licensed Contractor's personnel utilising appropriate Personal and Respiratory Protective Equipment will clean the hygiene units at the end of each shift.

14 Transit Arrangements

1. The Contractor shall comply with the transit procedures as agreed within the Method statement throughout the course of the contract. No deviation from this method will be undertaken without the express permission of the Client in liaison with the Asbestos Consultant.
2 Where the decontamination unit is not directly attached to the working area, a minimum 3 chamber airlock entry/exit system to the working area shall be provided and shall be of such dimension as to enable the operators to change from contaminated protective clothing to transit clothing. The dimensions of the air lock system will also be adequate to allow the removal of any equipment or fixtures and fittings to be removed from within the enclosures where a separate bagging station has not been deemed practicable.
3 Facilities for vacuum cleaning, and washing down of contaminated working clothes, boots and Respiratory Protective Equipment shall be provided to prevent contamination reaching the 'Clean' end where the transit clothing is stored and donned. Note that a separate facility for decontamination of work boots must be in place if transit shoes are not being utilised. Employees should use the equipment to clean as thoroughly as possible their protective clothing whenever they leave the enclosure.

15 Visitors

1 The Contractor shall provide at all reasonable times, adequate access facilities such as protective clothing and respiratory protective equipment, to enable Safety Advisers, Health and Safety Executive Inspectors and other authorised persons to inspect and examine the works being undertaken. This access shall include access to decontamination units.
2 The Contractor shall not allow other employees or any other unauthorised persons to use the washing and changing facilities provided for operatives carrying out asbestos removal works.

16 Environmental Decontamination Procedures.

1 Under certain conditions, the Client in liaison with the Asbestos Consultant and his site staff may give authority for certain defined works to be undertaken by the use of Shadow Vacuum Cleaning techniques. The use of such a procedure will be permitted when, in the opinion of the Asbestos Consultant and his staff, such an action can be undertaken without the risk of asbestos contamination.
2 If the Asbestos Consultant is satisfied that the appointed Contractor has addressed all aspects and issues relating to a safe working procedure for a specific instance where Shadow Vacuum cleaning is considered appropriate, the Contractor will be advised in writing to proceed.
3 The work area will be demarcated, with No Unauthorised Entry into the Work Area during Work in Progress.

17 Vacuum Cleaning Equipment

1 All vacuum cleaning equipment required shall be supplied by the appointed Contractor and be 'H' type and conform to BS 8520-3 Test certificate copies relating to HEPA filters used in vacuum cleaning equipment shall be present prior to the commencement of any site works.
2 Where it is necessary to empty the vacuum cleaner contents at the site of an asbestos operation, this action shall be carried out within the enclosure. The waste bag from the vacuum cleaner shall be double bagged and disposed of as asbestos waste in standard asbestos waste heavy gauge polythene bags.
3 Whenever cleaning equipment is transported outside the working area, the ends of all the hoses and attachments shall be sealed, including the equipment intake port. The equipment shall be thoroughly cleaned
to ensure that it is free of external asbestos contamination, then bagged and sealed before being removed from the controlled working area.
4 Vacuum cleaning equipment shall be inspected daily for defects when in use and the bags changed when necessary.
5 Vacuum cleaning equipment shall be serviced by a competent person and in accordance with Manufacturer's instructions. Records of maintenance shall be provided prior to commencement of works, and subsequently kept for a minimum period of five years.

18 Personal Safety Precautions

1 Respirator protocol and cleanliness, protective clothing removal etc. shall be complied with on site under the strict control of the Contractor, and where necessary the direction of the Asbestos Abatement Consultant or Analyst.

19 Enclosure of Working Area

1 Unless Clause 16 is applicable, the working area shall be totally enclosed to prevent the migration of airborne asbestos fibres to adjacent areas.
2. The construction of the enclosure will be documented within the Method Statement and agreed prior to the commencement of the project with the Client in liaison with the Asbestos Consultant.
3 The construction of the enclosure shall, at all times, conform to the requirements of "CAR 2012 Managing and working with asbestos"
4 All external openings such as doors, windows, vents and service duct outlets (except those involved in the stripping work) shall be sealed.
5 Fixed unbroken and smooth walls may constitute part of the enclosure. Where these are penetrated by doors or fenestrations, they shall be treated as only the outer skin of the enclosure and all points of ingress shall be sealed.
7 Solvent based spray adhesives will not be used in very confined areas. Where pipes, cables, conduits and ductwork pass through the walls of the enclosure, special care must be taken with seals. Polyurethane foam sealants will not be used in any confined spaces. The risks associated with all substances used must be thoroughly assessed in accordance with the COSHH Regulations.
8 Where appropriate for the proposed work method permanent fixtures, fittings or equipment, shall be pre-cleaned and then protected to prevent the ingress of asbestos dust. These items shall be unsealed for inspection during the final clearance procedures.
9 If the areas are to be split into more than one enclosure, the extent of each enclosure will be agreed in advance taking into consideration any fire exits and security requirements. Further details will be provided once enclosure design has been established.
10 Where voids come to light during the removal of asbestos then the aperture should be sealed immediately.
11 The enclosure(s) on completion of construction will be presented to the Asbestos Consultant/ Analyst for inspection, following a visual seal check by the Asbestos Consultant/ Analyst, the appointed Contractor
will undertake appropriate smoke testing in the presence of the Asbestos Consultant/ Analyst and shall make good any leaks detected, whereupon further smoke testing shall take place until such time that the Asbestos Consultant/ Analyst is satisfied with the complete integrity of the enclosure. In accordance with HSG247 smoke pellets and bombs will not be used to generate smoke. Smoke canisters will be utilised for this purpose.

12 In accordance with the Guidance provided in the HSE ACOP "CAR 2012 Managing and working with asbestos" inspection panels of clear Perspex will be inserted in suitable sections of the enclosure wall including the 3 stage airlock. This will not be obscured at any time. If installation of vision panels is not possible CCTV must be installed with a monitor outside the work area available for inspection at any time.

20 Access

1 Entry and exit from the working area will only be permitted via a minimum 3 compartment 'AIRLOCK' system, of sufficient size and construction to accommodate the number of operatives using it.
2 If a timber framed airlock is constructed then it will be permissible to build the unit using a layer of polythene. On completion of work the inner layer of polythene can then be disposed of as asbestos waste and the whole assembly can then be transported to the next area where a new inner layer of polythene can be added.
3 The entry flaps shall be weighted for self closing and positioned to assist the airflow to the air extraction plant.
4 All waste should be removed from the enclosure via a bag lock system where possible. The construction of the bag lock should conform to that described in paragraph 20.2. It shall be of sufficient size to remove fixtures, fittings and waste etc from the enclosure and should be a minimum 3 stage system.

21 Permit to Work

The removal contractor will have in place a permit to work scheme to undertake but not limited to the following
1. Hot works
2. Confined space working
3. Storage of flammable liquids in containers

22 Negative Pressure Alarms

The HSE expects the contractor to use gauges to ensure that all enclosures maintain an air pressure of 5 Pascals..

23 Air Extraction

Continual negative pressure shall be provided for all work. This will be accomplished by the use of specially designed air movers, incorporating a HEPA filter assembly conforming to BS 8520: Pt 2. A current DOP test certificate shall be held and a copy available on site.
2 The air mover specification shall be calculated in respect to the enclosure size as per guidance on page 80 of the HSG L143 guidance document.
3 The location of the air movers and the air intakes shall be agreed with the Client in liaison with the Asbestos Consultant as part of the formal agreement of the Method Statement and on an on going basis throughout the Contract. Where achievable, the negative pressure unit shall discharge to the atmosphere using a flexible, or similar, ducting, which shall be as far from the airlock as is practicable. In particular circumstances it may be necessary to duct air into the air lock system to minimise turbulence in the building.
4 The direction of airflow shall be from the clean end of the airlock into the working area.
5 Air mover pre filters shall be changed at least daily and disposed of as special waste. The Contractor shall be required to keep a record of filter changes for each negative pressure air extraction unit on the site.

24 Warning Signs

1 Prior to work commencing of the removal of asbestos based materials, the appointed Contractor shall ensure that adequate warning notices are placed on the outside and adjacent to the enclosure, advising personnel that asbestos removal work is in progress.
2 Where shadow vacuuming techniques are to be employed in accordance with Clause 16, a suitable warning notice shall be displayed outside of the working area.
3 The transit route from the three stage airlock structure through to the hygiene unit shall be labelled at intervals.

25 Inspection and Testing Etc.

1 Examination of any enclosures shall follow in accordance with the Approved Code of Practice, "CAR 2012 Managing and working with asbestos"
2 Before the work commences and access is granted to the nominated client supervisor, the appointed Contractor shall notify the appointed Asbestos Consultant staff so that the enclosure, its ancillaries and the decontamination accommodation can be inspected and approved.
3 A smoke test shall be carried out to locate any breaches in the enclosure, prior to any work commencing. Work will NOT commence until the appointed Asbestos Consultant is satisfied with the security and integrity of the enclosure.
4 During the works, the Contractor will visually inspect the enclosure regularly and at least once per day.
5 If an enclosure is to be left overnight, the Contractor shall ensure that the enclosure and decontamination area are made secure.
6 The negative pressure unit shall run continuously as required
7 If the negative pressure units are required for any reason to be switched off at the end of a working shift the units must run for a minimum of 60 minutes following the completion of works for the day, then before the commencement of any asbestos removal, the enclosure area must be checked for leaks and any breaches detected shall be subsequently sealed.
8 When a continuous negative pressure unit has failed or been switched off, the clean area will be checked by air monitoring prior to the commencement of any work. Back up negative pressure units shall be provided as necessary.

26 Asbestos Decontamination and Removal

1 Method Statement Prior to the commencement of the works on the site, the Contractor shall, in accordance with the appropriate legal obligations, prepare and submit a detailed Method Statement for the asbestos removal and abatement works to be undertaken on site. This may be subject to approval/refusal by the AAC. All Method Statements shall take account of this Technical Specification.
2. Programme – An outline program of removal works (timescales per item as minimum) is to be devised and returned with the quotation documents. Any amendments to this plan must only be carried out following permission from the Client.
3. Location of the air lock/bag lock For each enclosure, the location of the airlock or bag lock (where applicable) will be stated within the Method Statement and agreed with the Client in liaison with the Asbestos Consultant.
4. Location of Negative Pressure Units The location of negative pressure units will be agreed with the Client in liaison with the appointed Asbestos Consultant. Further, for each enclosure, a minimum of one back up air mover unit of sufficient size will be available to utilise in the event of a malfunction of any one of the units in use.
5. General All the asbestos removal works shall be conducted in such a manner that the level of generated airborne fibre is kept to a minimum. All asbestos to be removed shall be treated with an approved wetting agent to reduce the release of asbestos fibres.
6. All ledges and surfaces shall be vacuum cleaned using equipment conforming to BS 8520-3.
7. Bags for waste disposal shall comply with the Carriage of Dangerous Goods (Classification, Packaging and Labelling) and Use of Transportable Pressure Receptacles Regulations 2011 (CDG) and of the Control of Asbestos Regulations 2012.
8. Waste shall be double bagged, with both bags separately secured. Bags shall conform to UN standards and be coloured red for the inner bag and clear for the outer.
9. On completion of the asbestos removal, all waste disposal bags, tools and other plant used within the working area shall be thoroughly vacuum cleaned, then passed into the bag lock (where applicable) or air lock system, where they shall be washed and/or cleaned as appropriate.
10. All contaminated waste materials shall be removed from the enclosed area via the 3 stage airlock or the bag lock system (where applicable).
11. All the internal surfaces of the working area, including the air lock system and/or bagging station (where appropriate) shall be thoroughly vacuum cleaned then washed. If the airlock has been constructed as described in paragraph 20.2, the inner layer should be sealed.

27 Air Monitoring (Enclosure Check Monitoring)

1 The requirements for leak air quality testing outside the working area shall be at the discretion of Asbestos Consultant/ Analyst following liaison with the client
2 Should an air sample exceed 0.01 f/cm^3 of air, or the previously determined background level, work shall stop and the cause be investigated and remedied. All sampling and analysis for airborne fibre concentrations will be undertaken in accordance with UKAS accredited procedures and the appropriate HSE Guidance.

28 Air Monitoring (Clearance after Removal)

1 When work is complete, the area shall be thoroughly cleaned. Because controlled wetting methods will have been used, the area shall be allowed to dry before

final decontamination. A thorough visual inspection shall be carried out initially by the Contractor's Supervisor. Subsequently, the area shall be presented for inspection to the Asbestos Analyst.
2 When all parties are satisfied with the standards of cleanliness inside the enclosure, the analyst will undertake airborne fibre monitoring and analysis in accordance with the UKAS accredited procedures and during which time disturbance activities will be carried out to simulate normal activity by way of a brushing action. If this monitoring detects airborne fibre levels in excess of 0.01 f/cm^3 of air then investigations shall be carried out to discover whether this is caused by:
a) Inadequate cleaning.
b) A high background asbestos fibre level unconnected with the work in question.
c) Some other cause.
3 On completion of satisfactory air monitoring with airborne fibre levels below 0.01 f/cm^3, the enclosure will be dismantled.
4 The level of 0.01 f/cm^3 of air should be taken as a transient indication of site cleanliness, in conjunction with a visual inspection, and not as an acceptable permanent environmental level.
5. On the authority of the analyst, the enclosure structure shall then be dismantled following which the whole area shall be re cleaned, re inspected and reassurance monitoring as required carried out.

29 Disposal of Asbestos Waste

1 All asbestos waste shall be disposed of in accordance with The Hazardous Waste Regulations 2005.
2 The Contractor shall transport all bagged waste from the working area, out of the building via a predetermined route to a suitable located sealed, lockable and labelled skip.
3 Where possible, the appointed Contractor shall supply a suitable trolley or other similar transport for conveyance of asbestos waste bags from the work area, in accordance with the Regulation 4 of The Manual Handling Regulations 1992 (As amended).
4 The asbestos waste shall be stored in a suitably labelled and locked container (waste skip), which shall be situated outside of the building, in a location to be agreed with the Client.
5 All waste shall transported to a Licensed Waste Disposal Site by a suitably licenced carrier
6 The appointed Contractor shall be responsible for the safe and satisfactory disposal of the contaminated waste and other materials.

30 Drainage, Electrical and Water Supplies

1. The appointed asbestos removal Contractor should be satisfied that the above facilities are available before commencing work.
2. The contractor is to allow for provision of all water and electrical supplies to undertake the works.

31 Emergencies

1 The appointed Contractor will provide a First Aid Kit and the appointed Supervisor will have appropriate training.
2 Fire extinguishers of a suitable type and number will be present on site throughout the duration of the contract. The location of such extinguishers will be outlined before the commencement of work. The supervisor will have received training on the use of such equipment.
3. The contractor is to prepare a rescue plan where confined space working is being undertaken and lodge a copy with the relevant authorities
4. A contact number for the appointed Contractor and Asbestos Consultant will be provided.

32 Security

1. The appointed Contractor will provide security fencing to ensure that the work area cannot be penetrated and that the hygiene unit(s), waste container(s) and any other ancillary equipment required to complete the contract are adequately secured out of normal working hours.
2. The appointed contractor will ensure that when the work area is left unattended (e.g. at night) it can be adequately secured so as not to offer any form of entry to unauthorised personnel.

33 Protection of Structure

1 The contractor shall suitably support at all time any items of plant, equipment or services. Prior to the removal of any supports to services such as, but not limited to, pipes, cables or ducting the contractor shall provide a suitable replacement so that the integrity or stability of the items of plant, equipment or services are not compromised.
2 The asbestos contractor shall ensure suitable care is taken to prevent unnecessary damage to items of plant, equipment or services. All unnecessary damage to the building fabric, items of plant, equipment or services will be repaired / replaced at the contractor's cost.