Chichester Station

Management Survey
Asbestos Report - Copy 1

September 2010

N-29773 / B070909NA1 / Issue No. 02

Survey report re-issued after re-visits in order to survey areas of no access and undertake semi- intrusive project specific investigations

Address of Site:	Nexus Metro Station, Laygate, Chichester, South Shields, South Tyneside, NE33 4AB	**Project Manager:**	Neil Williamson
Date(s) of Survey:	07 Sep 2009, 03 Jun 2010, 07 Sep 2010	**Redhill Analysts Project No:**	N-29773

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Guide to the Use of Redhill Analysts' Surveys

This instruction sheet must be read before gleaning information from the survey.

Failure to use the information provided in the survey correctly may result in incorrect information or assumptions being obtained.

The following procedures should be adopted when identifying asbestos within a room or area;

The introduction and limitations of method should be read.

This should be carried out in order to identify general areas within the building that were not accessed, or general areas or materials that may contain an asbestos content which are not shown on the drawings or within the asbestos register. These may include areas such as electrical equipment and materials such as asbestos fuse linings within electrical switchgear.

All areas of no access should be considered as containing asbestos until proven otherwise.

The area or room should be located on the drawings provided.

A check should be made of all surrounding areas to ensure work carried out within the specified area does not affect asbestos elsewhere within the building.

For example an asbestos firebreak above an entrance door between two rooms may only be reported once. It is therefore essential that all adjacent areas are checked within this report. Rooms above and below and external to the specified area should also be considered.

The specified area or room should be located within the Asbestos Register.

Findings will be listed for a room generally if either asbestos or probable asbestos has been identified. (With the exception of general areas outlined within the introduction and limitations of method).

If asbestos is identified then a recommendation has been given and an assessment made.

Hazard Risk Assessment

Before undertaking any works on areas that contain asbestos or before changing the areas designated usage a risk assessment should be carried out to ascertain the possibility of exposure to asbestos.

Conclusions and Actions

A list of the relevant actions and an indication of the urgency can be found within the Executive Summary.

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1.0 Executive Summary

The brief for these works was to carry out a standard Management Survey (as defined in HSG 264) for the presence of asbestos containing materials within the following locations:

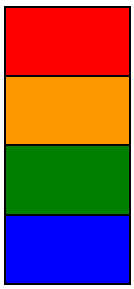
All previous areas of No Access locations, inclusive of Nexus project specific semi-intrusive investigations.

The following sections summarise the locations where asbestos has been identified and any locations that were inaccessible during the survey works. Further details relating to these can be found in Sections 3 and 4 of this report.

1.1 Asbestos Materials Identified

Building	Floor	Location	Item Description	Risk Assessment Score	Recommendation
Chichester Metro Station	Ground Floor	Location ID:007: Relay Room	Floor tiles	10	Manage
Chichester Metro Station	Ground Floor	Location ID:008: LV Room	Floor tiles	10	Manage
Chichester Metro Station	Ground Floor	Location ID:002: Lift Motor Room Lobby	Floor tiles	9	Manage
Chichester Metro Station	Ground Floor	Location ID:004: C & S Room	Floor tiles	9	Manage
Chichester Metro Station	Ground Floor	Location ID:009: Lobby Area	Floor tiles	8	Manage
Chichester Metro Station	Ground Floor	Location ID:010: Lift Machine Room	Floor tiles	8	Manage
Chichester Metro Station	First Floor	Location ID:001: Station Concourse	VE panels	7	Manage
Chichester Metro Station	Ground Floor	Location ID:006: Station Platform 2	VE Panels	7	Manage
Chichester Metro Station	Ground Floor	Location ID:001: Station Platform 1	VE panels	6	Manage
Chichester Metro Station	Ground Floor	Location ID:003: Lift Motor Room	Floor tiles	6	Manage

Key to colour coded Recommendations indicating level of Urgency;



High Risk	(Total Score = 19 - 24)	Immediate attention required
Medium Risk	(Total Score = 13 - 18)	Actions recommended should be carried out within 3 months.
Low Risk	(Total Score = 8 - 12)	Actions recommended should be carried within 6-12 months.
Very Low Risk	(Total Score = 0 - 7)	Materials should be managed on an annual basis

The risk assessment scores detailed within this report should be used as a means of prioritising work. The recommendation given is largely based on reducing the material assessment parameters, e.g. through encapsulation or removal. When deciding on prioritisation and the required action, full consideration should also be given to controlling the priority assessment parameters, e.g. through restricting access etc.

The above should be used as guidance only and the Management Plan should be consulted for a comprehensive guide to managing the risks from asbestos.

1.2 Rooms / Locations - No Access Gained

No access has been gained into the following locations:			
Building	**Location**	**Comments**	**Photograph**
Chichester Metro Station	First Floor; Location ID:007-Newsagent Kiosk (Whole location)	Outside scope of works	

1.3 Rooms / Locations - Limited Access Gained

Limited access has been gained into the following locations:			
Building	**Location**	**Comments**	**Photograph**
N/A			

N.B - Asbestos should be presumed to be present within all locations not accessed until a further assessment can be undertaken.

1.4 Non asbestos materials identified

Building	Floor	Location	Sample Number	Item Description	Photograph
Chichester Metro Station	Ground Floor	Location ID: 001: Station Platform 1	001	Internal panel to extinguisher dry riser	
Chichester Metro Station	Ground Floor	Location ID: 004: C & S Room	008	Debris within floor duct	
Chichester Metro Station	Ground Floor	Location ID: 006: Station Platform 2	007	Internal panel to extinguisher dry riser	
Chichester Metro Station	Ground Floor	Location ID: 009: Lobby Area	009	Debris within floor duct	

Building	Floor	Location	Sample Number	Item Description	Photograph
Chichester Metro Station	First Floor	Location ID: 001: Station Concourse	003	Internal panel to extinguisher dry riser	
Chichester Metro Station	First Floor	Location ID: 003: Staff Mess Area	004	Sink pad	
Chichester Metro Station	Mezzanine Level (above First Floor)	Location ID: 001: Ceiling Void	005	VE Panels to ceiling fascia	
Chichester Metro Station	Mezzanine Level (above First Floor)	Location ID: 001: Ceiling Void	006	Ceiling Void soffit	

2.0 Introduction

The purpose of a Management Survey, as defined within the HSE publication *HSG 264 Asbestos: The Survey Guide* is to locate, as far as reasonably practicable, the presence and extent of any suspect asbestos containing material (ACM) in the building which could be damaged or disturbed during normal occupancy, including foreseeable maintenance and installation. The survey will assess the condition of the ACMs and their likelihood to release fibres into the air if they are disturbed.

The inspection and testing was conducted between 21:00pm - 04:30am minimising any disruption to the occupiers as far as practical. It should be noted that occupied buildings place certain restrictions on the scope of the survey in respect of access and sampling strategy.

This survey has been commissioned by Tyne & Wear Transport Executive Operating as Nexus and is subject to copyright and protected by copyright law.

Each section of this report focuses on one or two aspects; no section should be taken and read as a stand-alone document. It is imperative that each section is read in conjunction with each other.

Initial Observations

A type 2 survey was carried out to the station, public areas and all staff areas.
Chichester station is on the South Shields line, and was purpose-built for the Metro.

Scope/Extent of Survey: All previous areas of No Access locations, inclusive of Nexus project specific semi-intrusive investigations.
Building use: Rail Station
Construction Type: Brick and Concrete
Date of construction: 1980s

Note: It should be borne in mind that this survey is not suitable for permitting safe refurbishment or demolition works where a further assessment and, if necessary, a Refurbishment and Demolition survey, should be carried out prior to any works commencing.

3.0 Methodology and Limitations of Method

The survey has been undertaken in accordance with the HSE publication *HSG 264 Asbestos: The Survey Guide*. The survey involves a thorough visual examination of all building materials, as far as reasonably practicable with representative samples taken to confirm the location and extent of any ACMs. Once materials have been found to contain asbestos other similar materials used in the same way in the building can be strongly presumed to contain asbestos.

Although every care has been taken to identify all asbestos bearing products within the areas surveyed, this survey does not include those areas where obtaining a sample would cause undue damage to the integrity and security of the building, risk the safety of our operatives or where access could not be gained. Asbestos should be assumed to be present within areas any areas not surveyed until a further assessment can be carried out.

Dust samples will be taken from areas where contamination is suspected but random dust sampling has not been undertaken.

Analysis under Polarised Light Microscopy of textured coating samples may not always reveal the presence of asbestos due to the non-homogeneous nature of asbestos within such coatings; this can lead to a large variance in the probability of identifying asbestos within any sample collected. Identification and sampling of materials beneath any textured coating is limited to the specific location of the textured coating sample point. It should also be noted that asbestos may exist in paint with no obvious textured appearance. Random sampling of such paint is not carried out routinely by Redhill Analysts unless specifically requested.

A limited inspection only has been carried out of pipework concealed by overlying non-asbestos insulation. Inspection of pipework has been restricted primarily to the insulation visible. The presence of debris to pipework, which is not readily visible or would require removal of insulation, was considered outside the scope of this survey.

No plans were provided to Redhill Analysts prior to the commencement of the survey. Plans have been drawn up on site by the surveyors, who have designated room names or numbers. These drawings may not be accurate and should not be used for scaling purposes. Redhill Analysts cannot be held responsible for areas not surveyed due to a lack of knowledge of their presence, or for asbestos installations not identified, where the provision of suitable, accurate plans would have aided their identification.

Materials have been referred to as Asbestos Insulation Board or Asbestos Cement based upon their asbestos content and visual appearance alone. Water absorption testing, as detailed within L143, has not been carried out unless stated otherwise.

Where asbestos gaskets to pipe flanges have been identified it is not practical to trace these throughout the length of pipework within the property. All such gaskets are presumed to contain asbestos.

Unless specifically identified within the report, no responsibility can be accepted by Redhill Analysts Ltd, for non-systematic use of asbestos within the property.

Unless specifically identified within the report, no responsibility can be accepted by Redhill Analysts Ltd, for stored or portable items of asbestos.

This survey does not constitute a contaminated land investigation.

Material extents are approximations only, assigned by the surveyor at the time of the survey. It should be noted that such extents may be for specific, visible amounts of the asbestos item and not for the complete amount. As such, the stated extents should not be used as a basis of any Scope or Specifications of Works for that item.

A representation of all materials suspected of containing asbestos were sampled and analysed in accordance with our documented in-house methods, *Asbestos: The analysts' guide for sampling, analysis and clearance procedures*, HSG 264 and in line with our UKAS accreditation. Those materials not sampled have been extrapolated from similar samples. These samples are indicated within the Register with an X preceding the sample number. Redhill Analysts are accredited by UKAS for surveying.

It should be noted that this report is not intended as a scope of works for asbestos removal and that a detailed technical document could be provided upon request.

Recommendations contained within this report are based upon a combination of the Material and Priority Assessment. Should any changes occur to the usage of a location then a revised assessment should be undertaken. It should be noted that the recommendation is based on controlling the material score and that consideration should also be given to controlling the priority score through actions such as restricting access etc.

Management Survey Caveats (the below details acceptance of caveat or provision for access)		
Caveat	**Client acceptance**	
Access provided up to 3 metres only	Yes	
No access will be made into structural components of the building fabric	Yes	
No access will be made into concealed locations where access is not readily available without destructive means or where specialist access equipment will be required.	Yes	
Occupied Locations or Locked rooms [Note: Rooms not accessible at the time of the survey will be reported and may be excluded from the survey. Further fees may be required for additional visits.]	Access to be pre-arranged	
Limited Access - locations will be detailed as limited access should full access not be able to be made to all areas of a location	Client should be aware of the need to remove stored items or furniture that may inhibit full access to all areas of the property.	
No access will be made above or beyond materials that would require destructive access.	No	
Lift shafts accessed?	No	
Health and Safety - As part of a standard Management survey the following locations will be automatically excluded from the survey scope. Should access be required into any of these locations then please ensure that these are indicated at the time of quotation		
Limitation	**Limitation Accepted**	**Comments**
Confined Spaces	Yes	NA
Loft spaces without walkways or safe access	No	NA
Beyond asbestos installations	Yes	No Access
Plant and Equipment	Yes	Yes
Electrical Switchgear	Yes	Live - Escorted
Glazing	NA	NA
Electrical substation	Yes, Visual inspection within floor ducts	Escorted
Other Information Provided by client	No Access to Line side and live equipment / services	

Note: If any activities are to be undertaken within the above areas then a further survey and assessment should be carried out prior to these works.

4.0 Asbestos Register

4.1 Summary of Buildings

Findings and Recommendations for ACMs identified are found as follows:	
Building	**Section No.**
Chichester Metro Station	4.3.1

4.2 Rooms and Locations - No Asbestos Containing Materials Identified

No asbestos has been identified in the following locations:		
Building	**Floor**	**Location**
Chichester Metro Station	Ground Floor	Location ID:001a: Station Platform 1 - Canopy
Chichester Metro Station	Ground Floor	Location ID:005: Lift Shaft
Chichester Metro Station	Ground Floor	Location ID:006a: Station Platform 2 - Canopy
Chichester Metro Station	Ground Floor	Location ID:011: Lift
Chichester Metro Station	First Floor	Location ID:002: Staff Lobby Area
Chichester Metro Station	First Floor	Location ID:003: Staff Mess Area
Chichester Metro Station	First Floor	Location ID:004: Gentlemans Toilet
Chichester Metro Station	First Floor	Location ID:005: Ladies Toilet
Chichester Metro Station	First Floor	Location ID:006: Cleaning Cupboard
Chichester Metro Station	First Floor	Location ID:008: Lift
Chichester Metro Station	First Floor	Location ID:009: Lift
Chichester Metro Station	Mezzanine Level (above First Floor)	Location ID:001: Ceiling Void
Chichester Substation	Ground Floor	Location ID:001a: OPS Room
Chichester Substation	Ground Floor	Location ID:002: HV Room
Chichester Substation	Ground Floor	Location ID:003: LV Room
Chichester Substation	External	Location ID:001: Transformers

4.3 Asbestos Register

4.3.1 Chichester Metro Station

4.3.1.1 Ground Floor

Sample No.	Location	Item Description	Item Extent	Analysis	Material Assessment				Priority Assessment				Risk Assessment Score	Comments and Recommendation	Photograph
					Product Type	Condition	Treatment	Asbestos Type	Occupancy	Likelihood of Disturbance	Human Exposure Potential	Maintenance Activity			
Presumed	Location ID: 001: Station Platform 1	VE panels	Throughout	SP: Amosite	2	0	2	2	0	0	0	0	6	All VE panels have been presumed to contain asbestos based on historical positive identification from other locations. Unable to access at time of survey due to multiple intrusive removals. Manage	
A267578/ 001	Location ID: 001: Station Platform 1	Internal panel to extinguisher dry riser	4m²	NAD	-	-	-	-	-	-	-	-	N/A		

4.3.1.1 Ground Floor

Sample No.	Location	Item Description	Item Extent	Analysis	Material Assessment				Priority Assessment				Risk Assessment Score	Comments and Recommendation	Photograph
					Product Type	Condition	Treatment	Asbestos Type	Occupancy	Likelihood of Disturbance	Human Exposure Potential	Maintenance Activity			
A267579/ 002	Location ID: 002: Lift Motor Room Lobby	Floor tiles	2m²	Chrysotile	1	1	0	1	2	2	1	1	9	Manage	
XA267579 /As 002	Location ID: 003: Lift Motor Room	Floor tiles	4m²	SP: Chrysotile	1	1	0	1	0	1	0	2	6	Manage	
XA267579 /As 002	Location ID: 004: C & S Room	Floor tiles	25m²	SP: Chrysotile	1	1	0	1	2	2	1	1	9	Manage	

4.3.1.1 Ground Floor

Sample No.	Location	Item Description	Item Extent	Analysis	Material Assessment				Priority Assessment				Risk Assessment Score	Comments and Recommendation	Photograph
					Product Type	Condition	Treatment	Asbestos Type	Occupancy	Likelihood of Disturbance	Human Exposure Potential	Maintenance Activity			
A302812/ 008	Location ID: 004: C & S Room	Debris within floor duct	8m²	NAD	-	-	-	-	-	-	-	-	N/A		
Presumed	Location ID: 006: Station Platform 2	VE Panels	Throughout	SP: Amosite	2	0	2	2	0	1	0	0	7	All VE panels have been presumed to contain asbestos based on historical positive identification from other locations. Unable to access at time of survey due to multiple intrusive removals. Manage	
A267584/ 007	Location ID: 006: Station Platform 2	Internal panel to extinguisher dry riser	4m	NAD	-	-	-	-	-	-	-	-	N/A		

4.3.1.1 Ground Floor

Sample No.	Location	Item Description	Item Extent	Analysis	Material Assessment				Priority Assessment				Risk Assessment Score	Comments and Recommendation	Photograph
					Product Type	Condition	Treatment	Asbestos Type	Occupancy	Likelihood of Disturbance	Human Exposure Potential	Maintenance Activity			
XA267579 /As 002	Location ID: 007: Relay Room	Floor tiles	10m²	SP: Chrysotile	1	1	0	1	2	2	1	2	10	Manage	
XA267579 /As 002	Location ID: 008: LV Room	Floor tiles	10m²	SP: Chrysotile	1	1	0	1	2	2	1	2	10	Manage	
XA267579 /As 002	Location ID: 009: Lobby Area	Floor tiles	2m²	SP: Chrysotile	1	1	0	1	2	1	1	1	8	Manage	

4.3.1.1 Ground Floor

Sample No.	Location	Item Description	Item Extent	Analysis	Material Assessment				Priority Assessment				Risk Assessment Score	Comments and Recommendation	Photograph
					Product Type	Condition	Treatment	Asbestos Type	Occupancy	Likelihood of Disturbance	Human Exposure Potential	Maintenance Activity			
A302813/ 009	Location ID: 009: Lobby Area	Debris within floor duct	8m²	NAD	-	-	-	-	-	-	-	-	N/A		
XA267579 /As 002	Location ID: 010: Lift Machine Room	Floor tiles	6m²	SP: Chrysotile	1	1	0	1	1	1	1	2	8	Manage	

4.3.1.2 First Floor

Sample No.	Location	Item Description	Item Extent	Analysis	Material Assessment				Priority Assessment				Risk Assessment Score	Comments and Recommendation	Photograph
					Product Type	Condition	Treatment	Asbestos Type	Occupancy	Likelihood of Disturbance	Human Exposure Potential	Maintenance Activity			
A267580/ 003	Location ID: 001: Station Concourse	Internal panel to extinguisher dry riser	4m²	NAD	-	-	-	-	-	-	-	-	N/A		
Presumed	Location ID: 001: Station Concourse	VE panels	Throughout	SP: Amosite	2	0	2	2	0	1	0	0	7	All VE panels have been presumed to contain asbestos based on historical positive identification from other locations. Unable to access at time of survey due to multiple intrusive removals. Manage	
A267581/ 004	Location ID: 003: Staff Mess Area	Sink pad	.5m	NAD	-	-	-	-	-	-	-	-	N/A		

4.3.1.3 Mezzanine Level (above First Floor)

Sample No.	Location	Item Description	Item Extent	Analysis	Material Assessment				Priority Assessment				Risk Assessment Score	Comments and Recommendation	Photograph
					Product Type	Condition	Treatment	Asbestos Type	Occupancy	Likelihood of Disturbance	Human Exposure Potential	Maintenance Activity			
A267582/ 005	Location ID: 001: Ceiling Void	VE Panels to ceiling fascia		NAD	-	-	-	-	-	-	-	-	N/A		
A267583/ 006	Location ID: 001: Ceiling Void	Ceiling Void soffit	50m²	NAD	-	-	-	-	-	-	-	-	N/A		

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Report No: B070909NA1
Job No: N-29773

Schedule of Bulk Samples

Client:		Tyne & Wear Transport Executive Operating as Nexus
Address:	C/o:	Nexus House St James' Boulevard Newcastle Upon Tyne NE1 4AX
Date(s) Samples Taken:		07 Sep 2009, 03 Jun 2010
Date(s) of Analysis:		21 Sep 2009, 13 Jul 2010
No. of Samples:		9
Samples Analysed by:		Sam Pearce
Samples Taken by:		Nik Aspinall, Stephen Pounder
Site Location:		**Chichester Station**

Where the sample is not taken by the Analyst, Redhill Analysts cannot be responsible for inaccurate or unrepresentative sampling.

Schedule of Bulk Samples for B070909NA1 forms part of this report and follows this Certificate.

Note:

Analysis was carried out in accordance with our documented in-house methods and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Samples are retained for not less than 6 months from the date of analysis unless specifically requested.

Where samples are taken by the Analyst, sampling is carried out in accordance with our documented in-house methods, HSG 248 and HSG 264 and is covered by our UKAS accreditation.

Observations lie outside the scope of our UKAS accreditation.

Signed on behalf of Redhill Analysts:

Name and Position: Sam Pearce, Bulk Analyst

Date: 22 October 2010

Samples taken at Chichester Station

Schedule of Bulk Samples

Report Ref: B070909NA1
Client: Tyne & Wear Transport Executive Operating as Nexus

07 September 2009

Sample No.	Drg Ref.	Building	Floor	Location	Item Description	Item Extent	Analysis	Condition	Observation
A267578	001	Chichester Metro Station	Ground Floor	Location ID: 001: Station Platform 1	Item: Internal panel to extinguisher dry riser	4m²	NAD		
A267579	002	Chichester Metro Station	Ground Floor	Location ID: 002: Lift Motor Room Lobby	Item: Floor tiles	2m²	Chrysotile	Low damage	Asbestos in bitumen and tile
A267580	003	Chichester Metro Station	First Floor	Location ID: 001: Station Concourse	Item: Internal panel to extinguisher dry riser	4m²	NAD		
A267581	004	Chichester Metro Station	First Floor	Location ID: 003: Staff Mess Area	Item: Sink pad	.5m	NAD		
A267582	005	Chichester Metro Station	Mezzanine Level (above First Floor)	Location ID: 001: Ceiling Void	Item: VE Panels to ceiling fascia		NAD		
A267583	006	Chichester Metro Station	Mezzanine Level (above First Floor)	Location ID: 001: Ceiling Void	Item: Ceiling Void soffit	50m²	NAD		
A267584	007	Chichester Metro Station	Ground Floor	Location ID: 006: Station Platform 2	Item: Internal panel to extinguisher dry riser	4m	NAD		
A302812	008	Chichester Metro Station	Ground Floor	Location ID: 004: C & S Room	Item: Debris within floor duct	8m²	NAD		
A302813	009	Chichester Metro Station	Ground Floor	Location ID: 009: Lobby Area	Item: Debris within floor duct	8m²	NAD		

Definitions - Samples, Assessments and Recommendations

Samples

The levels of identification of samples recorded within the survey are as follows:

1) Sample taken on site by the Surveyor and analysed by the laboratory.

2) Extrapolated (X) from a visually similar asbestos item that has been analysed. In this case the sample will be classified as being 'Strongly Presumed' asbestos. Extrapolated samples are not indicated on the plans with unique numbers but are shown in relation to the Key only.

3) 'Presumed' to be asbestos. This will normally be because the item could not be sampled due to excessive height (such as soffits), was located in an occupied area, or located in an area whereby sampling may have presented a risk to the Surveyor.

4) 'Known' to be asbestos. This will normally be because an ACM has previously been sampled and identified as asbestos. Asbestos samples taken historically by either Redhill Analysts or a third party, will have been sampled and analysed in accordance with the relevant standards prevalent at that time and may not be subsequently included under the methods or accreditation set out within this report. Redhill Analysts cannot verify the accuracy of any samples taken and analysed by a third party.

Assessments

Two types of assessment may be carried out, a Material Assessment and a Priority Assessment. Both Material Assessments and Priority Assessments have been undertaken for each and every identified or presumed asbestos material as part of this survey and in accordance with our submitted proposal.

It must be noted that the Priority Assessments contained within this report are based upon generic scores from historical data. These scores may not be representative of the occupation levels, room use, activities or maintenance frequency specific to each location or room and the duty holder remains responsible for using their detailed knowledge of the property and the activities carried out within, to ensure that all scores are applicable. The duty holder must be aware that any change of use, occupation level or activity for a room/location will affect the initial priority assessment and will require review accordingly.

More information on assessments can be found within the Category Explanation section towards the rear of this report.

Recommendations

The recommendations given within this report are categorized as follows:

MANAGE

Where asbestos is left in-situ **there is a duty to formulate and implement a Management Plan** to help prevent accidental damage occurring and to help prevent accidental exposure.

The basic requirements of this policy are (from HSG 264):

- Keep and maintain an up-to-date record of the location, condition, maintenance and removal of all asbestos-containing materials
- Maintain it in a good state of repair and regularly monitor the condition
- Inform anyone who is likely to disturb it about the location and condition of the material
- Have arrangements and procedures in place, so that work which may disturb the materials complies with the Control of Asbestos Regulations 2006
- Review the plan at regular intervals

(The monitoring and labelling of asbestos is discussed overleaf and is based on 'A comprehensive guide to managing asbestos in premises')

Redhill Analysts can provide a suitable Management Plan to accompany any asbestos register / survey on request.

Monitoring

The condition of ACMs should be monitored and recorded. The time period between monitoring will vary depending on the type of ACM, its location and the activities in the area concerned, but should not be more than 12 months.

Monitoring would involve a visual inspection, looking for signs of disturbance, scratches, broken edges, cracked or peeling paint and debris.

Where deterioration has occurred, a recommendation on what remedial action to take would need to be made.

Labelling

A decision is required on whether to label ACMs. The decision will depend on the confidence in the administration of the asbestos management system and whether communication with workers and contractors coming to work on site is effective.

Labelling ACMs should not be solely relied on as a control measure; however it is one of the most effective methods of preventing exposure to building occupants (and in particular; maintenance workers). If, for any reason, management procedures fail, it may act as an effective last barrier to uncontrolled damage to the ACM.

Most ACMs can be marked with an asbestos warning label similar to that shown to the right.

It may not always be prudent or practical to label all installations of asbestos; for example high level items such as roof sheets, flue cowls and soffits or items such as gaskets to pipe flanges, textured coating and floor tiles.

Redhill Analysts can provide labels or a labelling service on request.

ENCAPSULATE & MANAGE

When this recommendation has been given, the ACM is raw and requires encapsulating with a suitable sealant, or the existing sealant or covering has deteriorated and the installation requires either a complete or partial re-encapsulation. Suitable sealants for encapsulation or minor repair work may include the following:

Asbestos insulating board can be treated with an elastomeric paint.

Asbestos cement can be sealed with an alkali resistant and water-permeable sealant. Where asbestos cement roofing has been identified, such as to garages or sheds, it will usually only be necessary to seal the internal surfaces.

Sectional pipe insulation can usually be coated with a calico wrap and then painted over with an elastomeric paint. Minor holes in hard-set thermal insulation can be filled with non asbestos plaster and if necessary wrapped with calico.

Spray coating can be overlain with strips of calico and painted over with an elastomeric paint.

The following points on sealant materials used in the encapsulation/repair of an installation should be noted:

1) The sealant must be adequately fire-rated / resistant to any generated heat.
2) The sealant must not cause delamination of the product because of the weight increase.
3) If impermeable paint is used, back painting is required.

Sealing or painting of damaged insulating board, insulation or coatings should in most cases be undertaken by a licensed contractor and is likely to be subject to a 14 day notification to the HSE, (as per the Control of Asbestos Regulations 2006).

REMOVE

Where an ACM is damaged, in a position whereby it may be vulnerable to damage or will be disturbed in forthcoming refurbishment / maintenance works; then a recommendation for removal has been made.

All work with asbestos must be carried out in accordance with the Control of Asbestos Regulations 2006.

Works with Asbestos Cement

Works on or removal of asbestos cement should be carried out following the guidelines of the HSE within HSG 189/2 'Working with Asbestos Cement'. Whilst there is no requirement for these works to be carried out by a licensed contractor, in practice it is unlikely that an unlicensed contractor will possess the necessary expertise or insurance to undertake such works properly.

Works with licensable ACMs

Work with asbestos insulation, asbestos coating and asbestos insulation board should in most cases be undertaken by a licensed contractor and is likely to be subject to a 14 day notification to the HSE, (as per the Control of Asbestos Regulations 2006). Works should be carried out in accordance to HSG 247 - Asbestos: The licensed contractors guide.

Items of asbestos debris, residue or dust may require either a localised de-contamination of the immediate area adjacent to the identified asbestos or a full decontamination of the room/area.

The exact extent of any asbestos installation or asbestos debris / residue / dust may not always be stated within the survey report. The survey report will also not state which methods of removal/de-contamination should be followed and does not represent a Scope/Specification of Works.

Controlled techniques used in the removal of asbestos may or may not involve the use of asbestos enclosures depending on the Scope and Specification of Works. If used, enclosures will normally be constructed from polythene and contain:

- Filtered negative pressure units to create air-flow and to filter out air-borne asbestos particles.
- Airlocks for safe access/egress from the work area.
- Baglocks for the safe removal of bagged up asbestos waste.

The asbestos item itself may be treated by a suppressant (damping) system prior to removal, with finer amounts of generated waste being removed by HEPA-filtered 'H-type' vacuum cleaners.

De-contamination units (DCUs) provide the means to effectively de-contaminate operatives involved in the asbestos removal process. DCUs normally consist of a clean and dirty end, with a middle section providing showering. Airflow and wastewater within the unit are filtered.

Removal of non-asbestos materials, which are located close to the asbestos source and which are either fibrous or porous by their nature, such as Machine Made Mineral Fibre (MMMF) ceiling tiles or MMMF pipe insulation, may be deemed necessary during the asbestos removal, due to possible contamination before or during the works.

'Four-stage clearance' involving air monitoring and visual inspections of the affected work area will be required; independent supervision is recommended. Such procedures should be carried out in accordance to HSG 248 - Asbestos: The analyst's guide for sampling, analysis and clearance procedures.

Where asbestos debris has been identified, access to these areas should be restricted until such remedial works have been undertaken. If access is required then a further assessment should be undertaken to ascertain the potential for exposure.

Redhill Analysts can provide specification and procurement of asbestos remediation and asbestos removal work and offer full site monitoring, providing a full audit trail from beginning to end.

SPECIFIC

Specific recommendations may include such options as placing a physical barrier to prevent the accidental disturbance of the ACM, or enclosing the ACM with an airtight barrier.

The following points on enclosing an ACM should be noted:

1) Any barriers / enclosing material must be adequately fire-rated / resistant to any generated heat.
2) An assessment should be made whether access is required to the enclosure for maintenance or repairs.

If the ACM is asbestos insulation, asbestos coating or asbestos insulation board, and the enclosure of it is likely to cause disturbance, then the work should in most cases be undertaken by a licensed contractor and is likely to be subject to a 14 day notification to the HSE, (as per the Control of Asbestos Regulations 2006).

'Further Investigation' may be recorded if the results of sample analysis are inconclusive.

Where a presumed asbestos item is in good condition (and sealed), it may often be prudent to manage the item as asbestos rather than undergo the additional cost of sampling.

Where a presumed asbestos item is in poor condition (and/or un-sealed) and requires attention, it may often be prudent to undergo the additional cost of sampling the item first, to ensure that it does contain asbestos, prior to undergoing removal/remediation works.

Please note that should the Recommendations highlighted anywhere within this report not prove practical to the Client - then Redhill Analysts may be able to provide suitable alternatives.

Glossary of Terms - Asbestos Containing Materials

Asbestos	• The name given to a group of naturally occurring fibrous silicate minerals commonly found in rocks world-wide.
	• The fibres are flexible and mechanically strong, have high tensile strength and chemical, electrical and heat resistance.
	• Asbestos was commonly used raw, e.g. textiles and insulation, or combined with other materials (boards, asbestos cement, etc).
	• The three most common forms of asbestos are:
	  • **Amosite** Brown asbestos
	  • **Chrysotile** White asbestos
	  • **Crocidolite** Blue asbestos

Asbestos: Loose Insulation	• Bulk loose fill, bulk fibre-filled mattresses, quilts and blankets used for loft insulation, thermal and acoustic insulation. • Bulk loose fill now rarely found but may be encountered unexpectedly or during DIY. • Usually contains Crocidolite and/or Chrysotile. • Easily damaged, giving rise to high levels of airborne fibres.
Asbestos: Sprayed Coatings	• Coatings applied wet or dry as thermal and anti-condensation insulation to the underside of roofs / ceilings. Acoustic insulation in theatres, fire protection on frame structures. • Used up to 1974. • Typically contains 55-85% asbestos with Portland cement binder. Crocidolite was the major type used until 1962. Mixture of asbestos types until mid 1971. • Usually easily damaged, giving rise to high levels of airborne fibres.
Asbestos: Thermal Insulation	• Hand-applied thermal lagging, pipe and boiler lagging, pre-formed pipe sections (sectional lagging), slabs, blocks. Also tape, rope, corrugated paper, quilts, felts and blankets. Used for thermal insulation of pipes, boilers, calorifiers, vessels, etc. • All types of asbestos are common. Asbestos content between 6 and 85%. Crocidolite used until 1970. Amosite was phased out during 1970s. Ad hoc mixtures hand-applied to pipework joints and bends. Sectional content of 85% magnesia, 15% Amosite. • Blankets, papers, ropes, etc usually 100% Chrysotile. • Thermal insulation often encapsulated or enclosed. • Ease of fibre release dependent upon type and surface treatment.
Asbestos Insulating Board (AIB)	• Board commonly used for fire protection, thermal and acoustic insulation, resistance to moisture movement and general building. • Used extensively between the 1950s and 1970s in all types of buildings. • This typically contains approximately 15-40% asbestos, in a mix of Portland cement or hydrated lime and silica. Amosite and Chrysotile are common within this type of board. • AIB is easily damaged. Disturbance leads to significant fibre release. • Also commonly used as fillets or cores in composite products, e.g. fire doors, raised floors etc.
Asbestos: Millboard	• Board commonly used for general heat insulation and fire protection. • Crocidolite used between 1896 and 1965. Asbestos content 37-97%, usually Chrysotile, with matrix of clay and starch. • Low density, brittle and liable to abrasion.
Asbestos: Paper, Felt & Cardboard	• Used for electrical/heat insulation of electrical equipment, wiring and plant. Insulation and acoustic lining in air-conditioning systems. Often also used as reinforcement/lining. • Paper commonly 100% Chrysotile. Can be found beneath MMMF pipework insulation. • If not encapsulated or bonded then easily damaged and gives fibre release.

Asbestos: Textiles	Ropes & Yarns • Pipe lagging, jointing/packing; heat- and fire-resistant boiler and oven flue seals. Plait or braiding to electrical cables. • Crocidolite/Chrysotile common - fibre length and flexibility. Chrysotile alone post 1970. • Asbestos content up to 100%. • Woven products generally have good integrity unless abraded, cut or exposed. Cloth • Thermal insulation and lagging. Also protective clothing. • All types of asbestos have been used. Since mid-1960s mainly Chrysotile. • Asbestos content up to 100%. Gaskets and washers • Utilised in domestic to industrial and chemical plant. • Content varies, though usually approximately 90%. • Crocidolite (acid resistant) or Chrysotile (alkali resistant). Strings • Used for sealing hot water radiators. Also found to tie on MMMF pipework insulation. • Asbestos content up to 100%.
Asbestos: Friction Products	• Resin-based materials used in transport, machinery and lifts contain 30-70% Chrysotile. Used up to November 1999. Low friability, dust may build up with friction debris. • Drive belts found in engines and conveyor belts. Formed of Chrysotile textiles encapsulated in rubber. Low friability, except when worn to expose textile within.
Asbestos Cement (AC)	• Asbestos fibre added to hydrated Portland cement. Asbestos cement products take the form of profiled sheets, semi-compressed flat sheet and partition board, fully compressed flat sheet and pre-formed moulded products. • Used extensively between C1945 to 1999 in all types of buildings, as a host of products in numerous locations. • Asbestos cement typically contains 10-15% asbestos. Although all three main asbestos types have been used in the manufacture of asbestos cement, Chrysotile is the most common form. • Potential for fibre release increases with level of abrasive disturbance.
Asbestos: Other Products and Composites	Textured Coatings • Decorative coating on walls and ceilings, e.g. Artex. • Asbestos content 3-5% Chrysotile. Chrysotile used up to 1984. • Matrix of material means asbestos fibres are well contained. Fibre release occurs when coating is sanded or scraped. Bitumen Products • Roofing felts, damp proof course, mastics and adhesives etc. • Chrysotile fibre or asbestos paper in bitumen matrix usually 8% Chrysotile. Adhesives may contain a few percent Chrysotile. All used up to 1992. • Fibre release unlikely during normal use. Flooring • Thermoplastic floor tiles - up to 25% asbestos. • PVC vinyl floor tiles and unbacked PVC flooring - 7% Chrysotile. • Asbestos paper-backed PVC floors - 100% Chrysotile paper backing used until 1992. • Magnesium oxychloride (2% asbestos) flooring also used. • Fibre release unlikely unless cut. Reinforced PVC, plastic and resin composites • Panels, cladding, toilet cisterns, seats, banisters, window sills, machinery brakes and clutches. • Asbestos content 1-10% Chrysotile. Amosite also used. • Fibre release unlikely until damaged / abraded.

Category Explanation

Basic Principles

Asbestos that is found to be present does not necessarily create an unacceptable risk. Asbestos is the hazard, the risk can only be defined when this hazard is assessed within the environment in which it is found. This assessment must take into account the activities carried out near or on the asbestos for the assessment to be able to present viable recommendations.

General Guidelines for an Assessment

There are two types of assessment that may be carried out: the Material Assessment and the Priority Assessment. The scores for these can then be combined to give an overall Hazard Risk Assessment Score.

The Material Assessment - this assesses the likelihood of asbestos material to release fibres into the air should it be disturbed. This assessment can be undertaken as part of the survey, as it requires no knowledge about the building use etc. The main parameters that determine the likelihood of the material to release airborne fibres and the relative hazard of the types of fibre released are;

- Product type
- Extent of damage or deterioration
- Surface treatment
- Asbestos type

The material assessment algorithm (see attached key to assessment) will give a good initial guide to the priority for a control action, as it will identify the high-risk materials. However, a high material score may not always require a high priority control action, if no one needs to enter the area, or suitable precautions to reduce the risk can be taken on the few occasions when the area is occupied.

Materials with assessment scores of 10 or more are regarded as having a high potential to release fibres, if disturbed. Scores of between 7-9 are regarded as having a medium potential and between 4-6 a low potential. Scores of 3 or less have a very low potential to release fibres.

The Priority Assessment - this takes into account various human factors in order to modify the priority assigned by the material assessment. This can only be effectively achieved with direct input from the building occupiers / managers. Parameters, which should be considered, would include;

- The location of the material
- Its extent
- The use to which the location is put
- The level of occupancy of the area
- The activities carried on in the area, and
- The likelihood/frequency with which maintenance activities are likely to take place.

A detailed risk assessment can only be carried out with the detailed knowledge of the above parameters. Although the surveying team may be able to contribute some of the information required for the risk assessment, the duty holder under the Control of Asbestos Regulations 2006 is required to make the risk assessment, using the information given in the survey and their detailed knowledge of the property and the activities carried out within. This risk assessment will form the basis of the management plan.

Each of the above parameters consists of a number of subheadings, which are all individually assessed. These assessments are then averaged for each main heading.

Other factors, such as planned refurbishment, may override the priority for remediation or the type of remediation.

The potential for disturbance must also be assessed, as does the feasibility of the management system in operation. For example:

- If the asbestos is retained could it interrupt the safe maintenance/repairs required and would the services that would be affected by this be critical to the occupiers.
- If the asbestos is within a locked room can access be adequately controlled?

The two points raised above relate to instances such as; the failure of an electrical supply above a suspended asbestos ceiling. In this case the occupier would usually no longer be able to trade or a department would have to be shut. An electrical contractor would be brought in on an emergency basis. The individual - electrician - would be placed in a situation where the safety guidelines regarding the asbestos may seem of secondary importance to the needs of their client and this could subsequently lead to the hazard being ignored.

In cases such as these the asbestos should either be removed or if retained, a procedure of dealing with emergencies must be set up to ensure that critical access points were provided and maintained.

The results from the Material assessment and the Priority assessment can then be graphed within the Risk Assessment Summary table to give a final risk assessment.

High Risk

Using the above principles, materials can be categorised. The top priority - High Risk - would be given to those materials that present an unacceptable risk and require immediate attention. It does not mean that this material must be removed; it means that steps must be taken to remove the risk from those affected by it. This could be as simple as locking a room or undertaking minor repair works or setting up a safe management procedure etc.

Further Categories

Whether a material must be removed is a Client decision. We are willing to give our advice based on our experience. In essence if there is no budget to remove asbestos then a more economical answer will be its management. In extreme cases management may mean total segregation of a room, area or building until such time as the budget can be made available. When surveying properties of any number it is important to realise that management must begin as soon as practicable to allow a programme of remedial works to proceed. It would be impossible to remove every item of asbestos overnight and there is little point in trying.

Prioritisation

The risk categories / scores allocated should be used as a means of prioritising work. When the risk has been contained it is then necessary to address the next phase, which is, what should be removed, repaired and/or managed.

Management and control actions

The priority assessment score and the material assessment score are the two outputs from the risk management assessment and can be ranked to determine the priority of the management and control actions.

Management actions may include;

- Maintain and update asbestos register
- Monitor condition
- Restrict access / isolate
- Label
- Inform
- Train
- Define and use safe systems of work
- Operate a permit to work system

Control actions may include;

- Clean up debris
- Repair
- Encapsulate
- Enclose
- Remove

Category Codes - Material Assessment

Cumulative score	Action Required
10 - 12	*This is allocated to those items requiring urgent attention as they currently, or in the foreseeable future, present an unacceptable risk. That is to say that fibre concentrations could rise above 0.01 fibres/m. High risk with a significant potential to release fibres.*
7 - 9	*These are items which as single entities have a high risk of being damaged/ disturbed or where there is an accumulation of asbestos materials in a single location that when examined as a whole have a high risk of being damaged/ disturbed. Medium risk.*
4 - 6	*These are items that have no, or very little, sign of historical damage and are usually board or panels, which are not easily accessed. Low risk.*
0 - 3	*This covers asbestos cement, resins, Artex, plastics, rubber etc containing asbestos, which do not generally present a significant risk. Very low risk.*

Sample Variable	Score	Examples of Scores
Product Type (or debris from product)	1	Asbestos reinforced composites (plastics, resins, mastics, roofing felts, vinyl floor tiles, semi-rigid paints or decorative finishes, asbestos cement, etc)
	2	Asbestos insulating board, mill boards, other low density insulation boards, asbestos textiles, gaskets, ropes and woven textiles, asbestos paper and felt
	3	Thermal insulation (e.g. pipe and boiler lagging), sprayed asbestos, loose asbestos, asbestos mattresses and packing
Extent of damage / deterioration	0	Good condition: no visible damage
	1	Low damage: a few scratches or surface marks; broken edges on boards, tiles etc
	2	Medium damage, significant breakage of materials or several small areas where material has been damaged revealing loose asbestos fibres
	3	High damage or delamination of materials, sprays and thermal insulation. Visible asbestos debris
Surface Treatment	0	Composite materials containing asbestos: reinforced plastics, resins, vinyl tiles
	1	Enclosed sprays and lagging, asbestos insulating board (with exposed face painted or encapsulated), asbestos cement sheets etc
	2	Unsealed asbestos insulation board, or encapsulated lagging and sprays
	3	Unsealed lagging and sprays
Asbestos Type	1	Chrysotile
	2	Amphibole asbestos excluding Crocidolite
	3	Crocidolite
Total Score		

Category Codes - Priority Assessment

Cumulative score	Action Required
10 - 12	This is allocated to those items in a position which presents an unacceptable risk to occupiers etc.
7 - 9	These are items situated in high use, readily accessible positions, which may also be located in an area accessed on a routine basis for maintenance.
4 - 6	These are items that will very rarely be disturbed through normal occupation or maintenance, or are in locations or have extents that, if disturbed, would lead to a minimal fibre release.
0 - 3	This covers items which are in locations not readily accessible and are unlikely to be disturbed.

Assessment parameter	Score	Assessment	Examples of score variables
Normal occupant activity			
Main type of activity in area	0		Rare disturbance activity (e.g. little used store room)
	1		Low disturbance activities (e.g. office type activity)
	2		Periodic disturbance (e.g. industrial or vehicular activity which may contact ACMs)
	3		High levels of disturbance, (e.g. Fire door with AIB sheet in constant use)

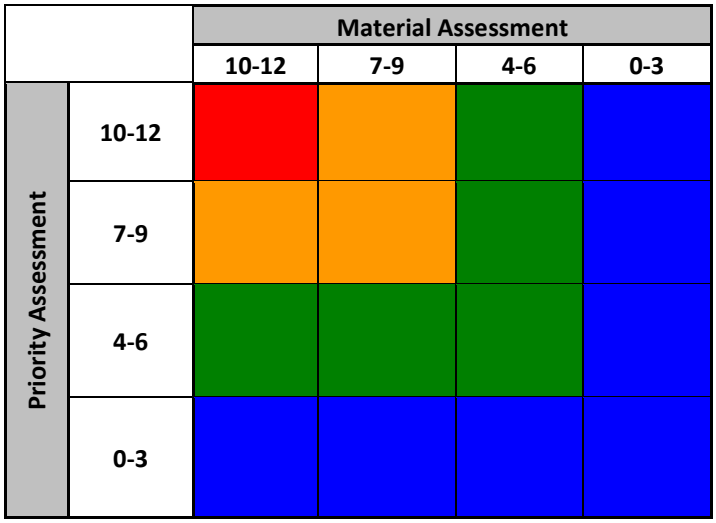
Likelihood of Disturbance			
Accessibility	0		Usually inaccessible
	1		Occasionally likely to be disturbed
	2		Easily disturbed
	3		Routinely disturbed
Location	0		Outdoors
	1		Large Rooms
	2		Rooms up to 100m²
	3		Confined spaces
Extent	0		Small amounts or items
	1		<10m² or 10m
	2		>10 - 50m² or 10 - 50m
	3		>50m² or >50m
Average Score			

Human Exposure Potential:			
Number of occupants	0		None
	1		1 - 3
	2		4 - 10
	3		>10
Frequency of use	0		Infrequent
	1		Monthly
	2		Weekly
	3		Daily
Average time each use	0		<1
	1		>1 - <3 hours
	2		>3 - <6 hours
	3		>6 hours
Average Score			

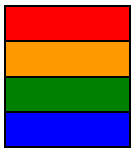
Maintenance Activity			
Type of maintenance activity	0		Minor disturbance (e.g. possibility of contact when gaining access)
	1		Low disturbance (e.g. changing light bulbs in AIB ceiling)
	2		Medium disturbance (e.g. lifting one or two AIB ceiling tiles to access a valve)
	3		High levels of disturbance (e.g. removing a number of AIB ceiling tiles to replace a valve or for re-cabling)
Frequency of maintenance activity	0		ACM unlikely to be disturbed for maintenance
	1		≤1 per year
	2		>1 per year
	3		>1 per month
Average Score			
Total Score			

Hazard Risk Assessment Summary

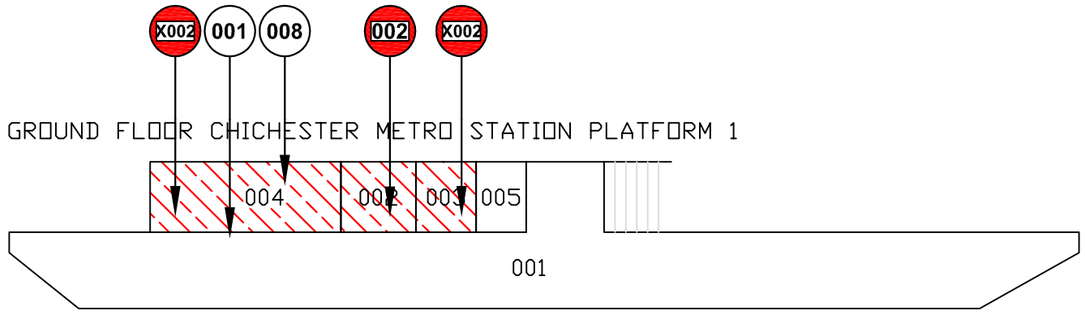
	Total Score
Material Score	
Priority Score	
Overall Score	

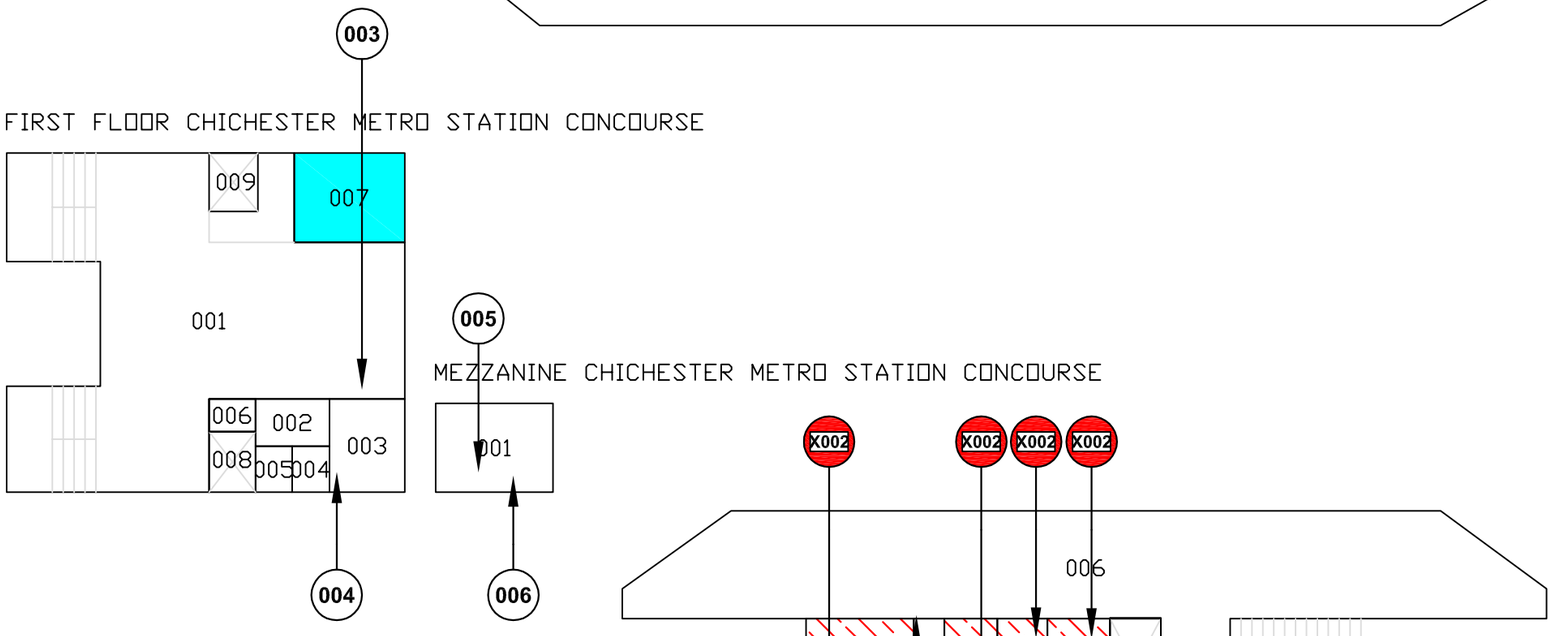


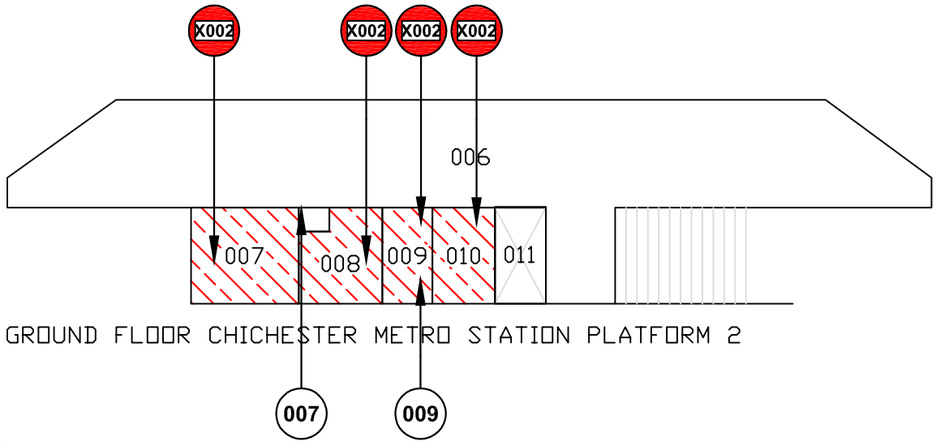
Key

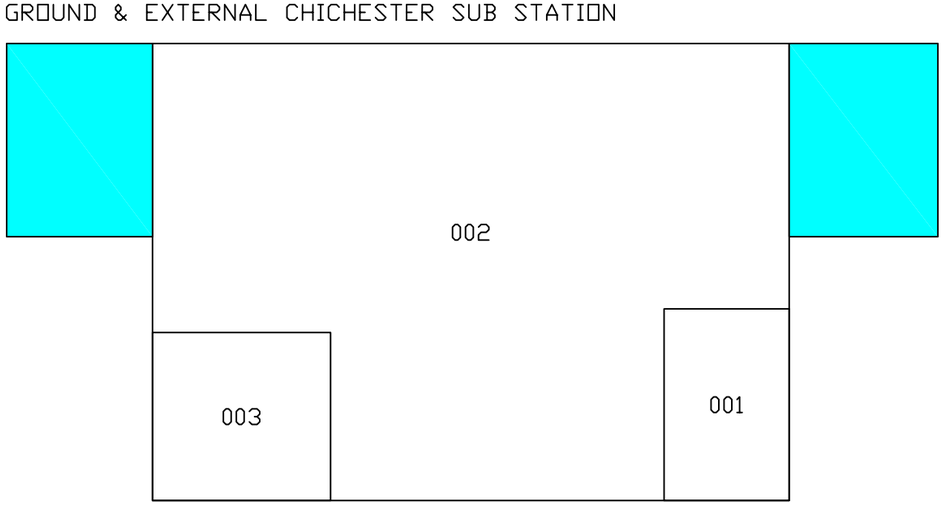


High Risk	(Total Score = 19 - 24)
Medium Risk	(Total Score = 13 - 18)
Low Risk	(Total Score = 8 - 12)
Very Low Risk	(Total Score = 0 - 7)









redhillanalysts
Asbestos · Consultants
Tel: 01306 631820 www.redhills.co.uk

Client details:
Tyne & Wear Transport Executive
Operating as Nexus

Site details:
Chichester Station

Notes:
All VE panels have been presumed to contain asbestos based on historical positive identification from other locations. Unable to access at time of survey due to multiple intrusive removals.

Key:

Outside scope of works:		Specific scope of works:	
No access:		Limited access:	
Asbestos to ceiling/roof:		Asbestos to flooring:	
Asbestos to duct:		Asbestos textured coating to ceiling:	
Asbestos dust/debris:		Asbestos to wall:	
Asbestos to horizontal pipe:		Asbestos to external perimeter:	
Asbestos to boiler/calorifier:		Asbestos to window:	
Asbestos to door:		Asbestos to stairs:	
Asbestos to electrics:		Asbestos to vertical pipe:	
Asbestos to skylight:		Asbestos within lift plant:	
Asbestos gasket:		Asbestos boxing/panel:	
Asbestos cowl:		Asbestos pad:	
Asbestos toilet cistern:		Asbestos textiles:	
Asbestos to water tank:		Lift:	
Stairs:		Loft hatch:	
Presumed sample:	P	Known sample:	K
Positive sample:	0001	Positive extrapolation:	X000
NAD sample:	0000	NAD extrapolation:	X000

Reference	B070909NA1
Job Number	N-29773
Building	Chichester Metro Station Chichester Sub Station
Floor	Ground, First & Mezzanine
Page	1 of 1
Drawn By	MG
Issue	2

This is a floor plan diagram, **NOT TO SCALE.**
ALL SECTIONS OF THE REPORT MUST BE READ IN CONJUNCTION WITH THIS FLOOR PLAN. CAVEATS APPLY. V1.0