Report of an Intrusive Pre-Demolition Survey
for asbestos containing materials at:

258 Belsize Road, London, NW6 4BT

On behalf of:
Alan Power Architects Ltd,
13 Needham Road,
London,
W11 2RP

DATE: **23RD JULY 2014 & 6TH AUGUST 2014 (UPDATED 13/08/2014)**

REFERENCE: **8514A**

SURVEYOR CHECKED: KEITH BEACHAM

ESS (Southern) Ltd.
No.8 Forum House Business Centre, Stirling Road, Chichester, West Sussex, PO19 7DN
01243 538447

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APPENDICES

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INTRODUCTION

BUILDING SUMMARY

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AREAS ACCESSED

1. INTRODUCTION

1.1 This report contains the findings of an intrusive pre-demolition survey for asbestos containing materials in accordance with guidance document HSG 264 'The Survey Guide' carried out by K F Beacham of ESS (Southern) Ltd at 258 Belsize Road, London, NW6 4BT on the 23rd-24th July 2014 and 6th August 2014. The report has been updated as of the 13th August 2014 following the removal of 2 x ACM's.

1.2 The survey was carried out for and on behalf of Alan Power Architects Ltd, 13 Needham Road, London, W11 2RP.

1.3 The information in this report details the findings of an intrusive pre-demolition survey (Refurbishment/Demolition survey) for asbestos containing materials in accordance with HSG 264.This report identifies the location and description of asbestos containing materials found within the building, and the level of detail provided is in accordance with the requirements of HSG 264. In accordance with legislation further detailed inspection of building will be required immediately prior to and throughout the proposed refurbishment, alteration or demolition works taking place.

1.4 All areas as defined in para 1.7 have been inspected. Those areas not accessed are detailed in para1.8. These areas were not accessible as the services and plant work were operational at the time of the survey. As required by The Control of Asbestos Regulations 2012, detailed inspection of these areas by appropriately trained personnel will take place during refurbishment/demolition works.

1.5 HSG 264 requires the identification of all asbestos containing materials as far as is reasonably practicable. The level of investigation undertaken within this survey has been as detailed as possible prior to the commencement of demolition works, and is in accordance with the requirements of HSG 264

1.6 Details of site specific mitigation and management procedures for 258 Belsize Road are provided within Section 3, while Section 4 provides general guidance for the management of asbestos. The registers within Appendix A set out full details of the intrusive survey results and the recommended measures to minimise the risk of asbestos exposure to residential occupants, maintenance staff and members of the public as required in current legislation and codes of practice. Following the initial survey, asbestos removal works have been carried out on the site, as detailed in Section 3.

Building Summary

1.6 The property we understand was completely rebuilt in 1993. It consists of ground to fourth floor inclusive and a small basement area consisting of the lift motor room and one storage area.

The roof is flat and this can be accessed by one staircase. The flat roof also gives access to both the aluminium framed glass atrium roof. There are numerous pieces of plant and equipment on the roof.

The main structure is steel with walls consisting in the main of plaster covered block work. Floors /ceilings are mainly castellated tin. Ceiling voids can be accessed from the lift lobby areas on each floor through purpose made access/inspection hatches. The first to fourth floors have supported floor tiles that are covered with carpet tiles.

1st to 4th floor are repetitive in there construction only the ground floor has a slight variation in that more stud partition and plaster board has been used to some walls and ceilings

Areas Accessed

1.7 Areas accessed are as follows:

Roof

Fourth Floor
Rooms 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423
Room off from Room 404
Kitchenette
2x Stairwells,
Male and female W/C's
All corridors
Atrium

Third Floor
Rooms 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325
Cupboard opposite Room 304
2x W/C
Kitchenette
Room adjoining kitchenette
Boiler room
All corridors
Atrium

Second Floor
Rooms 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225
Meeting Room 226
Riser in WC opposite Room 219
Cupboard opposite Room 204
Fire staircase x2
W/C x2
Kitchenette
All corridors
Atrium

First Floor
Open plan eating area
Riser cupboards x3 off of open plan eating area
Executive office
Atrium
Office
Comms Room
Room between office and comms room
Boardrooms 101, 102, 103
WC – Boardroom 101
2x staircases
Lift lobby
Corridor adjacent to W/C's
Kitchenette
W/C's x2

Ground Floor
Ground floor rooms:
x2 Staircases/c x2
Stairs to elevator room main reception

Open fountain area
Front elevation
Sitting area to rear of fountain

Basement rooms – Lift motor room, Store room, Electrical Intake

Fourth floor to ground floor 2 x risers

Areas Not Accessed

1.8 Areas not accessed as a result of the limitations of this form of survey are detailed below. More intrusive work can only be carried out when the property is vacated and the refurbishment/demolition works take place, as this would require causing extensive damage to the building. We are unable to comment on asbestos that may present in such areas, consideration to which should be taken prior to undertaking activities that may disturb them.

1.9 HSG 264 requires the identification of all asbestos containing materials as far as is reasonably practicable. The level of investigation undertaken within this survey has been as detailed as possible prior to the commencement of demolition works, and is in accordance with the requirements of HSG 264.

Areas of No Access

Second Floor - Electrical cupboard – live electrics
Roof - Plant interconnected with pipe.

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EXCLUSIONS RELATING TO INSPECTION & SAMPLING

2. EXCLUSIONS RELATING TO INSPECTION & SAMPLING

2.1 The information in this report details the findings of an intrusive pre-demolition survey for asbestos containing materials in accordance with HSG 264..

The report must be read and used wholly in conjunction with all elements of its content. Most sections of this report relate directly to other sections. ESS (Southern) Ltd. can accept no liability or responsibility for the cost of removal of asbestos or other materials or delays etc. caused by the inappropriate use of this report. Should interpretation be taken incorrectly without consulting ESS (Southern) Ltd. in the first instance then no liability will be associated.

ESS (Southern) Ltd. cannot be held responsible for any damage caused during the course of this survey. Due to the nature and necessity of sampling for asbestos, some minor damage is unavoidable and will be limited to just that necessary for the taking of samples. Any minor damage so caused has been repaired to the best of our ability.

2.2 Exclusions relating to Inspection

2.2.1 The findings of this report are limited to areas accessed at the time of the survey and areas detailed in this report as per the instruction.

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2.2.5 Any part requiring specialist access equipment other than stepladders has not been inspected e.g. internal / external high-level parts, internal elements to boilers / plant. Any requirement for specialist access equipment has been specifically excluded unless otherwise stated or previously instructed.

2.2.6 No report has been made upon concealed spaces, which may exist within the fabric of the building, where the extent and presence of these is not evident due to inaccessibility or insufficient knowledge of the structure at the time of the survey.

2.2.7 No responsibility is accepted for the presence of asbestos in voids (under-floor, floor, wall or ceiling) other than those opened up during the investigation.

2.2.8 Inspection of pipe work has been restricted primarily to the insulation visible. Where it is evident comment will be made on underlying debris which may be present, however a detailed inspection, which is outside the scope of this survey, is required to establish the presence, nature and extent of any asbestos containing debris.

2.3 Exclusions relating to Sampling

2.3.1 Samples have not been taken where the act of sampling would endanger the surveyor or affect or hinder the functional integrity of the item concerned. For example; fuses within electrical boxes, gaskets, fire doors and ropes associated with heating, glazing or power plant etc.

2.3.3 Whilst every effort will have been made to identify the true nature and extent of the asbestos material present in the building to be surveyed, no responsibility has been accepted for the presence of asbestos in materials other than those sampled at the requisite density.

2.3.4 Bulk samples have been taken from all materials which upon visual inspection appeared likely to contain asbestos with the exception of items of bitumen,

plastic, resin or rubber which contain asbestos, the thermal and acoustic properties of which are incidental to their main purpose which falls outside the scope of the approved Code of Practice for Work with Materials containing Asbestos (CAR 2012).

2.3.5 When asbestos is present within textured coatings, its distribution is fundamentally inconsistent. For this reason, despite more than one sample having been taken, subsequent sampling and analysis could reveal results may differ. ESS (Southern) Ltd cannot therefore be held accountable for any such differences.

2.3.6 Materials have been referred to as Asbestos Insulating Board or Asbestos Cement based upon their asbestos content and visual appearance alone. Density checks on materials have not been carried out unless stated otherwise.

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EXECUTIVE SUMMARY

3. EXECUTIVE SUMMARY

During the course of the survey a number of materials suspected to contain asbestos were identified and sampled and the results of the laboratory analysis of these samples is given at Appendix B. The asbestos register at Appendix A lists these items, and visually similar items, and makes recommendations as to their future management and mitigation procedures to ensure that the building is suitable for residential occupation. Photographs of these items sampled can also be found in the register.

Those materials found to contain asbestos are set out in the table below. These materials were removed in accordance with best practice guidance on 11th and 13th August.

Sample No or Ref	Location	Product or Material
A001/23072014/KFB	Roof to stairwell- Cladding-A/C	Removed 13/08/2014
A005/23072014/KFB	3rd floor boiler room-Gasket	Removed 11/08/2014

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RECOMMENDATIONS

Specific Recommendation's for 258 Belsize Road

As no asbestos materials remain following subsequent removal of the items previously found there is no requirement for further re-inspections within this intrusive pre-demolition survey process.

4. RECOMMENDATIONS

Legislation states as a requirement that any building controller must manage the asbestos materials in their building(s) to prevent risk of exposure to its employees or tenants from asbestos and to prevent the spread of asbestos. Predominately this will involve identification, assessment and management measures. This survey document identifies and assesses the asbestos highlighted within the registers in Appendix A, and this Recommendations section is tailored to advise as to how the management of the materials present is ensured.

4.1 Recommendations made in this report are made in relation to items or findings identified on site during the course of the inspection and are made in line with the algorithm and the surveyor's recommendation. Recommendations made are based on current guidance issued by the Department of the Environment, Transport and the Regions and the Health and Safety Executive.

4.2 A quantified risk assessment of fibre release has been made using an algorithm, which takes into account factors relevant to the item. Further details are provided in A*ppendix A*. Recommended actions will normally involve one or more of the actions described below.

i. ***Removal.*** Items vulnerable to damage or in such poor condition that removal is the only practicable option, or where refurbishment or demolition works are planned that will disturb the materials.

ii. ***Enclosure or encapsulation (Sealing) and / or repair.*** Where the material is in poor condition, vulnerable to damage or unpainted and the risk of fibre release requires one or more of these actions.

iii. ***Manage.*** Management of asbestos materials where these are not in poor condition / vulnerable to damage. Consider labelling, registering and periodic inspection. Restrict access as necessary. Such management should be undertaken to comply with the employers' duty of care, required by the Health and Safety at Work Act 1974 and Control of Asbestos Regulations.

4.3 Asbestos Remediation

4.3.1 Insulating Board (Notifiable) Asbestos Materials

These works should be carried out under controlled conditions by a contractor licensed to work with asbestos. It should be noted that licensed asbestos contractors, under the terms of their license, have to notify the relevant authority of their intention to remove such items by utilising the required ASB-5 notification certificate.

Notification of such works is normally subject to a 14-day period, except if the works by nature of their duration from start to finish will take less than one hour to complete and the works will not exceed and action level and for unusual or exceptional circumstances when the enforcing authority (either the Health and Safety Executive or local Environmental Health Department) may grant a waiver if there is immediate risk to health, i.e. an accident, risk of exposure. The client then has to formally write to the enforcing authority stating the reasons for requesting said waiver.

4.4.2 *Asbestos Cement (non-notifiable)*

Works on or removal of such asbestos products should be carried out using precautions in accordance with the guidelines within the Health and Safety Executive guidance note HSG 189/2 '*Working with Asbestos Cement'*, with regard to floor tiles and formed gaskets similar methods are adopted but an assessment should be made. These guidelines outline basic precautions that should be used to prevent fibre release during works, such as wetting of the materials before removal and preventing unauthorised persons from entering the work area. Using these guidelines, it is expected that asbestos fibre levels would be low. A contractor prior to carrying out this work will require an adequate assessment.

Whilst there is no requirement for these works to be undertaken by a contractor licensed to work with asbestos, in practice it is unlikely that an unlicensed contractor will possess the necessary expertise to undertake such works properly.

4.4.3 *Asbestos Waste*

All waste generated by any asbestos remedial works is to be disposed of as asbestos (Hazardous) waste with the required waste consignment note for retention. All waste should be dealt with in accordance with the Hazardous Waste Regulations 2005.

4.4.4 *Asbestos Supervision / Air Monitoring*

It is recommended and a requirement for clearance air testing that all asbestos works should be inspected and tested by an independent UKAS accredited company, appointed by the client or their management / representative consultant.

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NOTES ON APPENDICES

NOTES ON APPENDICES

Within the Appendices of this report are the following documents, where applicable in the order indicated below:

1. Register (Appendix A)
2. Bulk Sample Report (Appendix B)
3. Building Plan (Appendix C)

Register

The register details the location, approximate extent, risk assessment and required remedial action, with respect, to each, suspected asbestos containing material sampled or identified at the time of survey. Not all materials detailed on the register have been sampled. Details on the risk assessment algorithm are also given.

Bulk Sample Report

Details items sampled, the type and approximate composition of asbestos within.

Building Plans

Plans of the building annotated to show the locations of asbestos containing materials identified during the survey.

APPENDIX A

METHOD OF RISK ASSESSMENT
AND
REGISTERS

(Pages to Follow 5)

METHOD OF RISK ASSESSMENT

Introduction

The system of material risk assessment adopted, is as the requirements of HSG 264 (The Survey Guide).

The algorithm sets out the factors, which are most relevant in assessment of the potential release of fibres. These factors have been assigned quantifiable numerical values. The algorithm produces a single numerical value for each asbestos item, which may then be used as a priority rating for remedial work. Recommended actions should be implemented in accordance with the companies management policy / plan for asbestos containing materials

Each material has been assessed for all the following factors and then input into the formula given at the end. The result for each material occurrence can be found on the Register of Asbestos against the word 'Algorithm'.

The algorithm value is then calculated using the formula;

Algorithm = (PT (Product type), + EOD (Extent of Damage) + ST (Surface treatment) + AT (Asbestos Type) .

In addition the accessiblity is described as Low, Medium or High.

The result of the algorithm for each material occurrence may generate one or more recomendations such as Manage, Remove, Encapsulate, Label.

Total figures given are described as priority risk numbers and will allow the client to prioritse accordingly.

METHOD OF RISK ASSESSMENT

Introduction

The system of material risk assessment adopted is that outlined in HSG 264

The algorithm sets out the factors, which are most relevant in assessment of the potential release of fibres. These factors have been assigned quantifiable numerical values. The algorithm produces a single numerical value for each asbestos item, which may then be used as a priority rating for remedial work. Recommended actions should be implemented in accordance with the company's management policy / plan for asbestos containing materials

The individual scores under each heading are shown on the asbestos register, as is the total score, the potential for fibre release and a recommendation as to the future management of the material or any remedial action deemed necessary.

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	AIB, millboards, other low density insulation boards, asbestos textiles, gaskets, ropes and woven textiles, asbestos paper and felt. -
	3	Thermal insulation (eg 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, AIB (with exposed face painted or encapsulated) asbestos cement sheets etc.
	2	Unsealed AIB, or encapsulated lagging and sprays.
	3	Unsealed lagging and sprays.
Asbestos Type	1	Chrysotile
	2	Amphibole asbestos excluding Crocidolite
	3	Crocidolite.

The scores from each of the above 4 elements are added together to arrive at a total score of between 2 and 12 which is interpreted in terms of the potential for fibre release as follows:-

Score	Potential to release asbestos fibres
10 or more	High
7-9	Medium
5-6	Low
4 or less	Very low

Non-asbestos materials have no potential to release asbestos fibres

ESS (Southern) Ltd
No.8 Forum House Business Centre Stirling Road Chichester
West Sussex
PO19 7DN

	SITE:	258 Belsize Road, London, NW6 4BT					SURVEY TYPE	Refurbishment and Demolition							
	DATE OF INSPECTION	23rd July 2014					SURVEYOR(S)	KFB							
	WORKSHEET SAMPLING REFERENCE	23072014KFBA			DATE OF PRINTING	14-Aug-14	Project Reference	8514a							

INCIDENT NUMBER	SAMPLE REFERENCE NUMBER	ROOM / FUNCTIONAL SPACE	LOCATION	ASBESTOS ITEM	EXTENT	M2 / M3	PRODUCT TYPE	EXTENT OF DAMAGE	SURFACE TREATMENT	ASBESTOS TYPE	RISK ASSESSMENT SCORE	POTENTIAL FOR FIBRE RELEASE	INITIAL RECOMMENDATION BASED UPON RISK ASSESSMENT RATING	PHOTOGRAPHS
AREAS SUSPECTED TO CONTAIN ASBESTOS MATERIALS AND SAMPLED														
001	A001/23072014/KFB	Stair well	External side cladding	Roof Cladding	8	ML	1	1	0	0	2	No Asbestos Detected	No Asbestos Detected	
002	A002/23072014/KFB	Stair well	Underside of Cladding	Bitumen Felt	8	ML	This item was removed 13/08/2014							
003	A003/23072014/KFB	Stair well	Roof	Tiles	12	m2	1	1	0	1	3	No Asbestos Detected	No Asbestos Detected	
004	A004/23072014/KFB	Kitchenette	Undersink	Bitumen Pad	<1	ML	1	0	0	0	1	No Asbestos Detected	No Asbestos Detected	

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	SITE:	258 Belsize Road, London, NW6 4BT					SURVEY TYPE	Refurbishment and Demolition							
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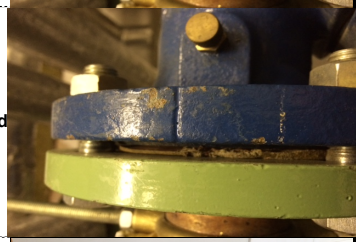
INCIDENT NUMBER	SAMPLE REFERENCE NUMBER	ROOM / FUNCTIONAL SPACE	LOCATION	ASBESTOS ITEM	EXTENT	M2 / M3	PRODUCT TYPE	EXTENT OF DAMAGE	SURFACE TREATMENT	ASBESTOS TYPE	RISK ASSESSMENT SCORE	POTENTIAL FOR FIBRE RELEASE	INITIAL RECOMMENDATION BASED UPON RISK ASSESSMENT RATING	PHOTOGRAPHS
AREAS SUSPECTED TO CONTAIN ASBESTOS MATERIALS AND SAMPLED														
005	A005/23072014/KFB	Boiler room	Pipe joint	Gasket	x1		This item was removed 11/08/2014							
006	A006/23072014/KFB	Boiler room	Pipe joint	Gasket	x20		1	0	0	0	1	No Asbestos Detected	No Asbestos Detected	
007	A007/23072014/KFB	Kitchenette	Wall Under Worktop	Plaster	8	m2	1	0	0	0	1	No Asbestos Detected	No Asbestos Detected	
008	A008/23072014/KFB	3rd Floor room 324	Left Hand Wall	Plaster	30	M2	1	0	0	0	1	No Asbestos Detected	No Asbestos Detected	

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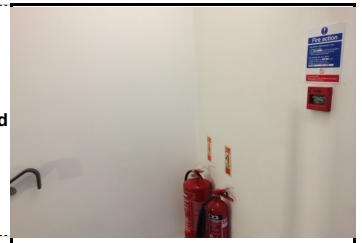
INCIDENT NUMBER	SAMPLE REFERENCE NUMBER	ROOM / FUNCTIONAL SPACE	LOCATION	ASBESTOS ITEM	EXTENT	M2 / M3	PRODUCT TYPE	EXTENT OF DAMAGE	SURFACE TREATMENT	ASBESTOS TYPE	RISK ASSESSMENT SCORE	POTENTIAL FOR FIBRE RELEASE	INITIAL RECOMMENDATION BASED UPON RISK ASSESSMENT RATING	PHOTOGRAPHS
AREAS SUSPECTED TO CONTAIN ASBESTOS MATERIALS AND SAMPLED														
009	A009/23072014/KFB	2nd Floor Stairwell Next to W/c	Wall to Right Hand side	Plaster Coating	80	M2	1	0	0	0	1	No Asbestos Detected	No Asbestos Detected	
010														
011														
012														

APPENDIX B

BULK SAMPLE REPORTS

(Pages to Follow 1)

Certificate for the Identification of Asbestos Fibres

ENV Bulk Ref: B0714/415	**Pages:** 1 **of** 1
Client Ref: N/A	**No. Samples:** 9
Survey Ref: N/A	**Date Samples taken:** 23/07/2014 & 24/07/2014
Sampled by: K F Beacham	**Date Received:** 28/07/2014
Name of Analyst: M. Williams	**Date of Analysis:** 28/07/2014

Client Name & Address:	**Site Address:**
ESS (Southern) Ltd No.8 Forum House Business Centre Stirling Road Chichester West Sussex PO19 7DN	258 Belsize Road London NW6 4BT

Sample No.	Client Specified Location / Description	Analyst Sample Description*	Asbestos Fibre Types
A001/23072 014/KFB	Roof to stairwell – Cladding – A/C	Bitumen felt	Chrysotile (white) asbestos (located in the debris to the surface of the bitumen felt)
A002/23072 014/KFB	Roof to stairwell – Underside of cladding – Bitumen	Cement	No asbestos detected
A003/23072 014/KFB	Roof to stairwell – Roof tiles – A/C	Cement	No asbestos detected
A004/23072 014/KFB	4th floor kitchen – Bitumen pad to underside of sink – Bitumen	Bitumen	No asbestos detected
A005/23072 014/KFB	3rd floor boiler room – Gasket – Gasket	Gasket	Chrysotile (white) asbestos
A006/23072 014/KFB	3rd floor boiler room – Gasket – Gasket	Gasket	No asbestos detected
A007/23072 014/KFB	4th floor kitchen – Plaster to wall under work surface – Plaster	Plaster	No asbestos detected
A008/23072 014/KFB	3rd floor room 324 – Left hand wall – Plaster	Plaster	No asbestos detected
A009/23072 014/KFB	2nd floor stairwell next to WC – Plaster	Plaster	No asbestos detected

Authorised signatory:	
Print Name:	**Q R Davis**

*** - Please note analyst sample descriptions are outside the scope of our accreditation**
Note: If "Trace Asbestos Identified" is displayed analysis identified only 1 or 2 asbestos fibres/bundles in sample
Analysis was performed in accordance with HSG248: 'Asbestos: The analysts' guide for sampling, analysis and clearance procedures', and the quality control in-house method of ENV Surveys Ltd. Opinions and interpretations expressed herein are outside the scope of UKAS accreditation. ENV Surveys Ltd cannot accept responsibility for any amendments or changes made to this report after issue. ENV Surveys Ltd cannot accept responsibility for any discrepancy or inaccuracy arising from collection or labelling of samples by the client.
Certificate Version No. 11 – Issued 22/01/13

APPENDIX C

ANNOTATED FLOOR PLANS

(Pages to Follow 0)

APPENDIX D

PHOTOGRAPHS

N/A (Refer to Registers)

APPENDIX E

ACTS OF PARLIAMENT

&

LEGISLATION

Acts of Parliament, Regulations, HSE Publications for Work with Asbestos and Asbestos Containing Materials

Acts of Parliament, Regulations and HSE publications for work with asbestos and asbestos containing materials include, but not exclusively to, those listed on the following pages. There are other regulations (not listed) that relate specifically to Wales, Scotland and Northern Ireland. This is not meant to be an exhaustive list, there are other pieces of legislation dealing with health and safety matters that has not been listed here that still applies to work with asbestos and should be considered at all times.

All Legislation, Approved Codes of Practice and Guidance Notes listed together with any subsequent amendments or revisions and any new relevant requirements should be considered before undertaking any work with asbestos or asbestos containing materials.

The following list was last revised in March 2012.

1. ACTS OF PARLIAMENT

Health and Safety at Work, etc Act 1974

Environmental Protection Act 1990

Environment Act 1995

Water Industry Act 1991

Pollution Prevention and Control Act 1999

2. REGULATIONS

1985/2042	Asbestos Products (Safety) Regulations 1985
1996/2092	Carriage of Dangerous Goods (Classification, Packaging and Labelling) and Use of Transportable Pressure Receptacles Regulations 1996
1996/2089	Carriage of Dangerous Goods by Rail Regulations 1996
1996/2095	Carriage of Dangerous Goods by Road Regulations 1996
1996/2094	Carriage of Dangerous Goods by Road (Driver Training) Regulations 1996
2002/1689	Chemicals (Hazard Information and Packaging for Supply) Regulations 2002
1997/1713	Confined Spaces Regulations 1997
1994/3140	Construction (Design and Management) Regulations 1994
2000/2380	Construction (Design and Management) (Amendment) Regulations 2007
1996/1592	Construction (Health, Safety and Welfare) Regulations 1996
2000/227	Contaminated Land (England) Regulations 2000
2006/2739	Control of Asbestos Regulations 2012 (Work with materials Containing Asbestos)
	Regulation 4 of the Control of Asbestos Regulations 2012
1990/556	Control of Asbestos in the Air Regulations 1990
2002/2677	Control of Substances Hazardous to Health Regulations 2002
1991/1624	Controlled Waste (Registration of Carriers and Seizure of Vehicles) Regulations 1991
1999/1	Environmental Impact Assessment (Scotland) Regulations 1999
1991/2839	Environmental Protection (Duty of Care) Regulations 1991
1991/472	Environmental Protection (Prescribed Processes and Substances) Regulations 1991
1996/1513	Health & Safety (Consultation with Employees) Regulations 1996
2002/655	Health and Safety (Fees) Regulations 2002
1996/341	Health and Safety (Safety Signs and Signals) Regulations 1996
2002/1559	Landfill (England and Wales) Regulations 2002
1998/2307	Lifting Operations and Lifting Equipment Regulations 1998
1999/3242	Manual Handling Operations Regulations 1992
1989/1790	Noise at Work Regulations1989
2002/1144	Personal Protective Equipment at Work Regulations 2002
2000/1973	Pollution Prevention and Control (England and Wales) Regulations 2000
1998/2306	Provision and Use of Work Equipment Regulations 1998
1995/3163	Reporting of Injuries, Diseases and Dangerous Occurrence Regulations 1995
1999/2978	Road Vehicles (Brake Linings Safety) Regulations 1999
1977/500	Safety Representatives and Safety Committees Regulations 1977
	Hazardous waste regulations 2011
1999/293	Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999
1989/1156	Trade Effluents (Prescribed Processes and Substances) Regulations 1989
1999/257	Transport of Dangerous Goods (Safety Advisors) Regulations 1999
1994/1056	Waste Management Licensing Regulations 1994
1998/1833	Working Time Regulations 1998
1999/3372	Working Time Regulations 1999
2002/3128	Working Time (Amendment) Regulations 2002
1992/3004	Workplace (Health, Safety and Welfare) Regulations 1992

3. HSE PUBLICATIONS FOR WORK WITH ASBESTOS AND ASBESTOS CONTAINING MATERIALS

EH47	*The Provision, Use and Maintenance of Hygiene Facilities for Work with Asbestos Insulation and Coatings* (2002)
EH50	*Training Operatives and Supervisors for Work with Asbestos Insulation and Coatings* (1988)
EH51	*Enclosures Provided for Work with Asbestos Insulation, Coatings and Insulating Board* (1999, revised 2001 with amendments)
EH57	*The problems of asbestos removal at high temperatures* (1993)
MS13	*Asbestos: Medical Guidance Notes* (revised 1999)
MDHS 39/4	*Asbestos fibres in air; Sampling and evaluation by Phase Contrast Microscopy (PCM) under the Control of Asbestos at Work Regulations* (1995) (second Impression)
MDHS 87	*Fibres in Air; Guidance on the Discrimination Between Fibre Types in Samples of Airborne Dust on Filters Using Microscopy* (1999)
HSG 264	*Asbestos 'The Survey Guide'*
HS(G) 53	*The Selection, Use and Maintenance of Respiratory Protection Equipment ~ A Practical Guide* (rev 1998)
HS(G) 247	*Asbestos : The licensed Contractors Guide*
HS (G) 248	*Asbestos: The analysts guide for sampling, analysis, and clearance procedures.*
HS(G) 189/1	*Controlled Asbestos Stripping Techniques for Work Requiring a Licence* (second edition 1999)
HS(G) 189/2	*Working with Asbestos Cement* (second edition 1999)
HS(G) 210	*Asbestos Essentials: Task Manual* (2000)
HS(G) 213	*Introduction to Asbestos Essentials* (2000)
HS(G) 227	*A Comprehensive Guide to Managing Asbestos in Premises (2002)*
IND(G)188	*Asbestos Alert for Building Maintenance, Repair and Refurbishment Workers* 1995
IND(G)233	*A Short Guide to Managing Asbestos in Premises 2002 (rev 3)*
IND(G)255	*Asbestos Dust Kills; Keep Your Mask On* (1999)
IND(G) 264	*Selecting Respiratory Protective Equipment for Work with Asbestos*
IND(G)288	*Selecting of Suitable Respiratory Protective Equipment for Work with Asbestos* 1999
IND(G)289	*Working with Asbestos in Building* 1999
L5	*COSHH (fourth edition): Control of Substances Hazardous to Health Regulation 2002: Approved Code of Practice and Guidance*
L21	*Management of Health and Safety at Work: Management of Health and Safety at Work Regulations 1999: Approved Code of Practice and Guidance*
L22	*Safe Use of Work Equipment: Provision and Use of Work Equipment Regulations 1992: Approved Code of Practice and Guidance*
L24	*Workplace Health Safety and Welfare: Workplace Health Safety and Welfare Regulations 1992: Approved Code of Practice and Guidance*
L25	*Personal Protective Equipment at Work: Personal Protective Equipment at Work Regulations 1992: Guidance on Regulations*
L127	The Management of Asbestos in Non-domestic Premises (2002)
MISC155	Substitutes for Chrysotile (White) Asbestos
	Respiratory Protective Equipment; Legislative requirements and lists of HSE approved standards and type approved equipment *(1995)*

APPENDIX F

ASBESTOS MATERIALS IN BUILDINGS

&

FORMS OF INSPECTION

1. ASBESTOS MATERIALS IN BUILDINGS

1.01 Sprayed coatings applied in the UK were typically a mixture of hydrated asbestos cement containing up to 85% asbestos, mainly amosite but crocidolite and mixtures have been used. Primarily used for anti-condensation and acoustic control and fire protection to structural steelwork. It is a friable material and is likely to release fibres, especially if disturbed during repair and maintenance work. As it ages the binding medium of sprayed asbestos may degrade with the consequent release of more fibres.

1.02 Thermal insulation to boilers, vessels, pipework, valves, pumps etc also known as lagging. Lagging may have a protective covering of cloth, tape, paper, metal or a surface coating of cement. All types of asbestos may be found in lagging and the content can vary from 1% to 100% asbestos. The likelihood of fibre release depends upon its composition, friability and state of repair, but it is particularly susceptible to damage and disturbance through maintenance work or the action of water leaks.

1.03 Asbestos insulating boards usually contain between 16 to 40% Amosite (brown) asbestos, although boards may be found to contain other types of asbestos and in other quantities. Insulating boards were developed in the 1950s to provide an economical, lightweight, fire resisting insulating material. As insulation board is semi-compressed it is more likely to release fibres as a result of damage or abrasion than typically occurs with cement. Work on Asbestos Insulation Board can give rise to high levels of airborne asbestos fibres.

1.04 Asbestos cement products generally contain 10 to 15% of asbestos fibre bound in a matrix of Portland Cement or autoclaved calcium silicate. Three types of asbestos have been used in the manufacture of asbestos cement. The asbestos fibres in asbestos cement are usually firmly bound in the cement matrix and will be released only if the material is mechanically damaged or as it deteriorates with age.

1.05 Ropes, yarns and cloths are usually high in asbestos content, approaching 100%. They were used as packing, caulking or gasket materials where thermal of fire protection was required. The risk of fibre release depends upon the structure of the material. Bonded gasket material is unlikely to release asbestos but an unbonded woven material may release fibres when in use, especially if damaged or frayed.

1.06 Millboard, paper and paper products are usually high in asbestos content, approaching 100%, and may contain any combination of the three most common types of asbestos. They were used for insulation of electrical equipment and for thermal insulation, asbestos paper has been used as fireproofing to wood fibre panels. These materials are not well bonded and will release asbestos fibres if subject to abrasion and wear.

1.07 Bitumen felts and coatings may contain asbestos either bound in the bitumen matrix or as an asbestos paper liner.

1.08 Reinforced plastics, floor tiles and flooring linoleum may contain asbestos either bound in the matrix or as an asbestos paper liner. These materials may not present a hazard during normal use, but should be removed and disposed of carefully by a licensed asbestos contractor.

1.09 Textured coatings and paints or ‘Artex’ may contain small amounts of asbestos and are notifiable to the Health and Safety Executive. A licensed asbestos contractor should carry out any works to this material.

1.10 Mastics, sealants, putties and adhesives may contain small amounts of asbestos. A risk of exposure to airborne fibres may arise if such materials are sanded

2. *Management survey*

A management survey is the standard survey. Its purpose is to locate, as far as reasonably practicable, the presence and extent of any suspect ACMs in the building which could be damaged or disturbed during normal occupancy, including foreseeable maintenance and installation, and to assess their condition.

Management surveys will often involve minor intrusive work and some disturbance. The extent of intrusion will vary between premises and depend on what is reasonably practicable for individual properties, ie it will depend on factors such as the type of building, the nature of construction, accessibility etc. A management survey should include an assessment of the condition of the various ACMs and their ability to release fibres into the air if they are disturbed in some way. This 'material assessment' will give a good initial guide to the priority for managing ACMs as it will identify the materials which will most readily release airborne fibres if they are disturbed.

The survey will usually involve sampling and analysis to confirm the presence or absence of ACMs. However a management survey can also involve presuming the presence or absence of asbestos. A management survey can be completed using a combination of sampling ACMs and presuming ACMs or, indeed, just presuming. Any materials presumed to contain asbestos must also have their condition assessed (ie a material assessment).
By presuming the presence of asbestos, the need for sampling and analysis can be deferred until a later time (eg before any work is carried out). However this approach has implications for the management arrangements. The duty-holder bears potential additional costs of management for some non-ACMs. Any work carried out on 'presumed' materials would need to involve appropriate contractors and work methods in compliance with CAR 2012 irrespective of whether the material was actually an ACM or not. Alternatively, before any work starts, sampling and analysis can be undertaken to confirm or refute the presence of asbestos. The results will determine the work methods and contractors to be used. The 'presumption' approach has several disadvantages: it is less rigorous, it can lead to constant obstructions and delays before work can start, and it is more difficult to control, see *A comprehensive guide to managing asbestos in premises*. 'Default' presumptions may also lead to unnecessary removal of non-ACMs and their disposal as asbestos waste. Default presumptions may be suitable in some instances, eg 'small' or simple premises, as part of a client's management arrangements.

Surveyors should always endeavour to positively identify ACMs. A sufficient number of samples should be taken to confirm the location and extent of ACMs. It is legitimate to reduce sample numbers where materials can be strongly presumed to be ACMs. However the default presumption option should be avoided where possible, as it can make managing asbestos more difficult for the duty-holder. Default presumption should only be used in circumstances where it is requested by the client and/or where access genuinely cannot be obtained.
When sampling is carried out as part of a management survey, samples from each type of suspect ACM should be collected and analysed. If the material sampled is found to contain asbestos, other similar materials used in the same way in the building can be strongly presumed to contain asbestos. Less homogeneous materials (eg different surfaces/coating, evidence of repair etc) will require a greater number of samples. The sample number should be sufficient to establish whether asbestos is present or not in the particular material.
Sampling may take place simultaneously with the survey, or as in the case of some larger surveys, can be carried out later as a separate exercise.

All areas should be accessed and inspected as far as is reasonably practicable. Areas should include under-floor coverings, above false ceilings, and inside risers, service ducts, lift shafts etc. Surveying may also involve some minor intrusive work, such as accessing behind fascia and panels and other surfaces or superficial materials. The extent of intrusion will depend on the degree of disturbance that is or will be necessary for foreseeable maintenance and related activities, including the installation of new equipment/cabling. Surveyors should come prepared to access such areas (ie with the correct equipment etc). Management surveys are only likely to involve the use of simple tools such as screwdrivers and chisels. Any areas not

accessed must be presumed to contain asbestos. The areas not accessed and presumed to contain asbestos must be clearly stated in the survey report and will have to be managed on this basis ie maintenance or other disturbance work should not be carried out in these areas until further checks are made.

Management surveys should cover routine and simple maintenance work. However it has to be recognised that where 'more extensive' maintenance or repair work is involved, there may not be sufficient information in the management survey and a localised refurbishment survey will be needed. A refurbishment survey will be required for all work which disturbs the fabric of the building in areas where the management survey has not been intrusive. The decision on the need for a refurbishment survey should be made by the duty-holder (probably with help from others).

Refurbishment and demolition surveys

A refurbishment and demolition survey is needed before any refurbishment or demolition work is carried out. This type of survey is used to locate and describe, as far as reasonably practicable, all ACMs in the area where the refurbishment work will take place or in the whole building if demolition is planned. The survey will be fully intrusive and involve destructive inspection, as necessary, to gain access to all areas, including those that may be difficult to reach. A refurbishment and demolition survey may also be required in other circumstances, eg when more intrusive maintenance and repair work will be carried out or for plant removal or dismantling.

There is a specific requirement in CAR 2012 (regulation 7) for all ACMs to be removed as far as reasonably practicable before major refurbishment or final demolition. Removing ACMs is also appropriate in other smaller refurbishment situations which involve structural or layout changes to buildings (eg removal of partitions, walls, units etc). Under CDM, the survey information should be used to help in the tendering process for removal of ACMs from the building before work starts. The survey report should be supplied by the client to designers and contractors who may be bidding for the work, so that the asbestos risks can be addressed. In this type of survey, where the asbestos is identified so that it can be removed (rather than to 'manage' it), the survey does not normally assess the condition of the asbestos, other than to indicate areas of damage or where additional asbestos debris may be present. However, where the asbestos removal may not take place for some time, the ACMs' condition will need to be assessed and the materials managed.

Refurbishment and demolition surveys are intended to locate all the asbestos in the building (or the relevant part), as far as reasonably practicable. It is a disruptive and fully intrusive survey which may need to penetrate all parts of the building structure. Aggressive inspection techniques will be needed to lift carpets and tiles, break through walls, ceilings, cladding and partitions, and open up floors. In these situations, controls should be put in place to prevent the spread of debris, which may include asbestos. Refurbishment and demolition surveys should only be conducted in unoccupied areas to minimise risks to the public or employees on the premises. Ideally, the building should not be in service and all furnishings removed. For minor refurbishment, this would only apply to the room involved or even part of the room where the work is small and the room large. In these situations, there should be effective isolation of the survey area (eg full floor to ceiling partition), and furnishings should be removed as far as possible or protected using sheeting. The 'surveyed' area must be shown to be fit for reoccupation before people move back in. This will require a thorough visual inspection and, if appropriate (eg where there has been significant destruction), reassurance air sampling with disturbance. Under no circumstances should staff remain in rooms or areas of buildings when intrusive sampling is performed.

There may be some circumstances where the building is still 'occupied' (ie in use) at the time a 'demolition' survey is carried out. For example in the educational sector, refurbishment/demolition surveys may be conducted in schools or colleges during one closure period (eg holidays) and the work not undertaken until the next holiday period. Also, a demolition survey maybe conducted to establish the economic future or viability of a

building(s). The survey results would determine the outcome. In such situations, the ‘survey’ will need extremely careful managing with personnel and equipment/furnishings being decanted and protected (as necessary), while the survey progresses through the building. Again, there should be effective isolation of the survey areas and the ‘surveyed’ area must be shown to be fit for reoccupation before personnel reoccupy.