



MDK Analytical Ltd

ASBESTOS & FIRE ENGINEERING CONSULTANTS.

SURVEY, SAMPLING AND ASSESSMENT FOR ASBESTOS CONTAINING MATERIALS

At

Scoil Mhuire
Buncrana
Co. Donegal

On behalf of

LCETB

Prepared By

MDK Analytical Ltd
Carrigtwohill Business Centre
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Report Date: 29/4/2019

Client:	LCETB	Date Surveyed: 24/4/2019
Site:	Scoil Mhuire , Buncrana , Co.Donegal	Report Date: 29/4/2019 Revision: 0

TABLE OF CONTENTS

Section	Contents
1.0	Introduction & Glossary of Terms
2.0	Executive Summary of findings
3.0	Description of Site
4.0	Extent of Survey & Survey Limitations
5.0	Sampling & Analytical Methodology
6.0	Conclusions and Recommendations
7.0	Asbestos Removal Works

Appendix I - Photographs
Appendix 2 - Material Assessment Algorithms
Appendix 3 - Priority Assessment

Client:	LCETB	Date Surveyed: 24/4/2019
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1.0 Introduction

1.1 MDK Analytical Ltd were instructed by LCETB to undertake a refurbishment/demolition survey of the proposed work areas in the building.

1.2 Scope of Survey

- To undertake a refurbishment/demolition survey (as defined in HSG 264)
- To sample any materials suspected of containing asbestos and to analyse these for Asbestos type.
- To provide a written report detailing the locations of any asbestos found during the survey, its condition and any recommendations for further action.
- To include within the report representative photographs of asbestos containing materials.

1.3 Survey Aim

To fulfil the client's legal obligations to identify any asbestos containing materials prior to works taking place

1.4 Glossary of Terms

Glossary of Terms and/or abbreviations that may appear in this report	
MDK	MDK Analytical Ltd
HSG264	Asbestos: The Survey Guide
HSG248	Asbestos: The analysts guide for sampling, analysis and clearance procedures.
ACMs	Asbestos containing materials
Enclosure	Provision of physical barrier to provide mechanical protection of the material so as to prevent it being disturbed/ damaged
Encapsulation	Provision of paint type coating to effect a continuous seal to surface of the material and thereby prevent fibre release.
Labelling	Fixing of 'a' labels to identified asbestos.
Register	A register of details including nature/ location/ extent/ condition of material which should be brought to the attention of all persons who might plan or undertake works in the building/site.

Client:	LCETB	Date Surveyed: 24/4/2019
Site:	Scoil Mhuire , Buncrana , Co.Donegal	Report Date: 29/4/2019 Revision: 0

1.5 The following lists the 6 commercial asbestos types

Serpentines	
Chrysotile	White Asbestos
Amphiboles	
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Tremolite	
Fibrous Anthophyllite	
Fibrous Actinolite	

2.0 Executive Summary of Findings

Within the scope of this survey, asbestos containing materials have been identified as follows:

2.1 Asbestos Containing Materials

2.1.1 Slates to external walls of the main building

2.1.2 Heat pads to sink units in the Home Economics Room

3.0 Description of site

Site Address:	Scoil Mhiire , Buncrana ,Co.Donegal
Client:	LCETB
Lead Surveyor:	Pearse Keating B.E., C.Eng.,M.I.E.I.,P402 ,P403,S301
Type of Survey:	Refurbishment/demolition survey to HSG264

3.1 General Description of School

The school consists of multi-storied masonry buildings with flat and pitched roofs.

Client:	LCETB	Date Surveyed: 24/4/2019
Site:	Scoil Mhuire , Buncrana , Co.Donegal	Report Date: 29/4/2019 Revision: 0

4.0 Extent of Survey and Survey Limitations

4.1 Extent of Survey

- Replacement of the existing oil boiler and controls to gas within the boiler room
- Replacement of all internal lighting
- Replacement of all emergency lighting and selective cabling
- Refurbishment of the existing home economics classroom
- Replacement of the existing 2nd floor pitched roof
- Re-cladding over the existing asphalt 1st floor flat roof

4.2 Physical Scope and Limitation of the Survey

All safely accessible areas within the scope of works areas were visually examined for asbestos in accordance with the brief for this investigation. There was no invasive opening up carried out as the school is still functional. Whilst great care has been taken to ensure that all asbestos materials have been identified and located, no survey can guarantee that all asbestos materials within the scope of works areas have been discovered. If any suspect materials are discovered during works, the work should cease until the material has been assessed for asbestos fibres. Electrical/mechanical equipment were not accessed as part of the survey. No sub-floor covering floor investigation took place.

5.0 Sampling & Analytical Methodology

5.1 Sampling

Sampling was carried out in accordance with UK Guidance documents HSG 264 & 248 procedures.

The areas within the scope of the survey was visually assessed for the presence of suspect materials that could potentially contain asbestos fibres.

Representative samples of suspect materials identified were taken and returned to our laboratory for analysis by the Polarised Light and Dispersion Staining Technique method as detailed in Appendix 2 of the Health & Safety Executive's guidance document HSG 248.

5.2 Surveyor(s) equipment

Surveyors were equipped with standard domestic tools, e.g. torches, screwdrivers, chisels, etc.

No provision was made for the supply of specialist access or lifting equipment etc.

Client:	LCETB	Date Surveyed: 24/4/2019
Site:	Scoil Mhuire , Buncrana , Co.Donegal	Report Date: 29/4/2019 Revision: 0

5.3 Health and Safety

Surveys were carried out in a safe and unobtrusive manner.

All necessary personal protective equipment (PPE) and respiratory protective equipment (RPE) was supplied and used appropriately by the surveyor(s) in execution of the survey.

5.4 Laboratory analysis

Samples of suspect materials were analysed using laboratory analysis techniques, based on stereo microscopy, polarised light, dispersion staining techniques and Appendix 2 of HSG 248: 'Asbestos: The Analysts' guide for sampling and clearance procedures'.

6.0 Conclusions and Recommendations

6.1 Slates.

Material Assessment Score: 3, Priority Assessment Score: 1.

The material assessment score for the slates is 3 indicating a low risk of fibre release if not interfered with. The priority assessment score is high, scoring 1 indicating that the slates will be interfered with during refurbishment works.

6.2 Heat pads.

Material Assessment Score: 3, Priority Assessment Score: 1

The material assessment score for the heatpads is 4 indicating a low risk of fibre release if not interfered with. The priority assessment score is high, scoring 1 indicating that the heat pads will be interfered with during refurbishment works

Recommendation: The asbestos containing materials will be disturbed during the proposed works and should be removed under controlled conditions by a specialist asbestos contractor.

Site and task specific risk assessments should be carried out ahead of any work in proximity to the materials. The materials should be managed in-situ in the interim.

Client:	LCETB	Date Surveyed: 24/4/2019
Site:	Scoil Mhuire , Buncrana , Co.Donegal	Report Date: 29/4/2019 Revision: 0

7.0 Asbestos Removal Works

All work involving materials containing asbestos requires a written risk assessment and a plan of work to be prepared by a competent person as per the Safety ,Health and Welfare at Work (exposure to asbestos) Regulations 2006/2010 . Under these Regulations a preliminary health and safety plan must be drawn up by the project supervisor for the design stage (PSDP) on all asbestos removal projects. This plan must specify, among other items, any particular risk which exists at the premises, including the presence of asbestos-containing materials. The Project Supervisor Design should make provision for the following as a minimum:

Preparation of asbestos removal/encapsulation specification/Preliminary S&H Plan

Liaison with contractors

Liaison with the Health and Safety Authority

Ensuring correct notification etc.

Air monitoring during asbestos works

Supervision of working, including smoke testing of work enclosures

Asbestos site clearance certification

Advise on disposal/storage arrangements

Asbestos removal should only be undertaken by competent persons , following notification of the works to the Health and Safety Authority . A detailed site specific method statement should be developed by the competent person , and forwarded as part of the notification process to the Health and Safety Authority

Some Key Requirements

These Regulations apply to all types of asbestos (including asbestos cement) and to all work activities that could expose persons to risks arising from the inhalation of asbestos dust or fibres. The regulations impose a duty on employers to ensure that 'no employee' is exposed to an airborne concentration of asbestos in excess of 0.1 fibres per cm³ as an eight hour time weighted average. Employers must assess whether asbestos is present prior to any work activity if asbestos containing materials are suspected. This risk assessment should identify the type and condition of asbestos, the associated risk from the materials and steps required to minimize exposure. All such findings must be recorded in a permanent form. If exposure is unavoidable, it must be reduced to a minimum and in any event below the exposure limit. They require that adequate information, instruction and training be provided to workers with respect to the potential risk to their health should they be exposed to asbestos fibres and outline the precautions and procedures to be taken to provide adequate protection. Information regarding the planned removal of

Client:	LCETB	Date Surveyed: 24/4/2019
Site:	Scoil Mhuire , Buncrana , Co.Donegal	Report Date: 29/4/2019 Revision: 0

materials containing asbestos must be set out in a written document ('Plan of Work') and must include the site-specific measures required to ensure the activity is performed in a safe manner and that adequate control measures are used to protect those performing the activity as well as others who may be affected by the work activity. An employer must submit a notification, in writing, to the Health and Safety Authority where the planned asbestos-related work activity will expose, or could possibly expose, his or her workers to a concentration of asbestos fibres in air in excess of defined fibre concentration limits. This notification applies to all types of asbestos (including asbestos cement) once there is the possibility that the limit could be exceeded.

Client:	LCETB	Date Surveyed: 24/4/2019
Site:	Scoil Mhuire , Buncrana , Co.Donegal	Report Date: 29/4/2019 Revision: 0

Appendix 1 - Photographs

Slates to external walls



Heat pads to sink units



Client:	LCETB	Date Surveyed: 24/4/2019
Site:	Scoil Mhuire , Buncrana , Co.Donegal	Report Date: 29/4/2019 Revision: 0

Appendix 2 - Material Assessment Algorithms

Sample Variable	Score	Examples of scores (see notes for more detail)
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 (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, 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 containing Crocidolite
	3	Crocidolite
Total		

Material Assessment Score Table

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

Client:	LCETB	Date Surveyed: 24/4/2019
Site:	Scoil Mhuire , Buncrana , Co.Donegal	Report Date: 29/4/2019 Revision: 0

Appendix 3 - Priority Assessment

It's worth noting that a high score in the material assessment may not always require a high priority action, for example, if the asbestos material is in an area never entered.

The priority assessment takes into account other issues, these primarily relate to human factors.. The additional factors included in the priority assessment include the following:

- Occupant activity (Primary & Secondary activities/uses)
- Likelihood of disturbance (Location, Extent, Accessibility)
- Human exposure potential (frequency of maintenance on asbestos containing material, average time in area & number of occupants)
- Maintenance activities (Frequency and Type of maintenance)

Each sub-category on the priority assessment is then scored from 0 to 3. An average score is then calculated for each sub-category.

For the priority risk assessments the calculation procedure is that an average score is taken for the sub-headings under the four main categories, which can give a total maximum score for the priority risk assessments of 12. This maximum score is the same as that achievable on the material risk assessment scores and the reason for this is that there is a balance between the priority score and the material assessment score.

Finally, to obtain the actual priority assessment score, the material assessment score must be added to the score from the priority table. In contrast with the material assessment there is no pre-determined score table to compare the results of the priority assessment to.

Careful consideration of the scores for a number of typical asbestos containing products highlights the difficulty in drawing conclusions from their resultant scores, for example, floor tiles containing Chrysotile asbestos located within an occupied area would score higher than Amosite containing insulating board within a boiler room door. This is primarily a function of location and occupation parameters but conclusions drawn from each score may result in unsuitable or incorrect decisions.

It is the policy of MDK Analytical Ltd not to try and determine the priority of the management action purely on the basis of a score table. Instead, each category on the priority assessment is carefully studied as part of the overall score and the recommended control action is based on this information coupled to experience gained with a wide selection of asbestos containing materials.

Although the priority score does not refer to an exact management action, it is still important to calculate the value and make reference within the discussion text of the report. This demonstrates that full consideration has been given to every aspect of an asbestos containing material and subsequently the correct management actions can be formulated.

Prioritisation of Removal Works.

Prioritisation of removal works are based on the following priority ratings.

Priority 1: Asbestos removal works requiring immediate attention if the works will interfere with the asbestos containing material.

Priority 2: Asbestos removal works requiring attention within a medium time frame.

Priority 3: No immediate attention required due to its present condition. Remove prior to any works likely to cause disturbance and monitor for signs of deterioration.

Priority 4: No significant risk of fibre release- Remove prior to disturbance works.