

Hazardous Construction Materials Survey

65 – 71 Kerrs Road, Lidcombe NSW



Prepared for:
ACE Demolition & Excavation Pty Ltd
PO Box 63
Auburn NSW 2144

Report by:
P. Clifton & Associates Pty Ltd
ABN: 69 041 751 671
PO Box 457, Turramurra NSW 2074
Mob: 0437 251 358

DISTRIBUTION

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5 October 2018

Recipient

ACE Demolition & Excavation Pty Ltd

PO Box 43

Auburn NSW 2144

Att: Mr Sami Allam

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By

P. Clifton & Associates Pty Ltd

ABN: 69 041 751 671

PO Box 457

Turramurra NSW 2074



Philip Clifton

Principal

BOHS IP402 Certified

SafeWork NSW Licenced Asbestos Assessor: LAA000119

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1 INTRODUCTION

On Wednesday 5 October 2018 P. Clifton & Associates Pty Ltd undertook a visual inspection of accessible construction materials within the existing buildings on the residential development site at 65 – 71 Kerrs Road, Lidcombe NSW (the site).

This inspection was undertaken to identify hazardous construction materials that are present within accessible areas in the existing buildings on the site which are to be demolished in the near future. For the purpose of this report hazardous construction materials are building materials and components thereof that contain asbestos, synthetic mineral fibre (SMF) and polychlorinated biphenyl (PCB).

On the property at 65 Kerrs Road, there is a large two storey full masonry house that has terracotta roof tiles, flat asbestos cement sheet eaves linings and upper level verandah soffit linings, face brick walls and aluminium and timber framed windows and entry doors. Within the house the ceiling linings are fibrous plaster and flat asbestos cement sheet, walls are painted cement rendered masonry and the floors are timber or concrete.

In the rear yard area is a single car garage that has metal roof and wall cladding and concrete floor.

The house on the property at 71 Kerrs Road has terracotta roof tiles, flat asbestos cement sheet wall cladding that has been over-clad with face brick veneer, flat asbestos cement sheet eaves linings, aluminium and timber framed windows and entry doors. Within the house the ceiling and wall linings are fibrous plaster and flat asbestos cement sheet and the floors are timber or concrete.

There is a timber framed garage located adjacent to the eastern boundary fence that has corrugated metal roof cladding, asbestos cement sheet wall cladding and concrete floor. In the centre and western areas of the rear yard are a metal garden shed and a timber framed shed that has metal and asbestos cement sheet cladding.

In each of the properties there are concrete paths and driveways.

This report details the findings of a visual inspection that was carried out to identify hazardous construction materials that are present within accessible areas of each of the buildings on the site.

2 ASBESTOS CONTAINING MATERIALS

Asbestos is the fibrous form of mineral silicates belonging to the serpentine and amphibole groups of rock-forming materials. The most significant types include chrysotile, crocidolite and amosite (white blue and brown or grey asbestos respectively). After mining asbestos rock is broken down by crushing and milling to loose fibres which were then incorporated into a large variety of construction materials.

During the 1950's, 1960's and early 1970's asbestos was widely used in the building and construction industries. It was commonly used as fireproofing and its excellent thermal energy conservation properties meant that it was extensively used to insulate steam and hot water pipes and air ductwork.

Asbestos was also used in cement, bitumen and vinyl based products to increase their compressive and tensile strength. These products include asbestos cement sheeting, bituminous mastic and membrane, vinyl tiles, 'Zelemite' electrical boards and numerous other building and construction materials.

The consequences of prolonged or heavy exposure to airborne asbestos fibres are widely documented and can lead to diseases such as mesothelioma, lung cancer or pleural plaques.

The National Occupational Health and Safety Commission set exposure levels for contaminants in the workplace and have specified maximum (safe) levels for exposure to airborne asbestos fibres.

These levels are also recorded in the NSW Work Health and Safety Regulation 2017. In NSW the recommended exposure level for airborne asbestos fibres in the workplace is presently set at 0.1 fibres per millilitre of air.

3 SYNTHETIC MINERAL FIBRE (SMF)

Synthetic Mineral Fibre (SMF) is a general term used to describe a number of fibrous materials made from glass, rock, alumina and silica. Some of these products are composed of a mixture of fibres in a multitude of sizes.

SMF have been widely used as alternatives to asbestos in insulation and fire-rating products and as reinforcement in cement, plaster and plastic materials. SMF products are used extensively in commercial and residential buildings for insulation from temperature and sound.

There are four main groups of SMF:

1. **Continuous Glass Filaments** which used in textiles, reinforced plastics and concrete, and as electrical insulation and plumbing materials.
2. **Fibreglass, glass fibre or glasswool** which used mainly in insulation mats or batts.

3. **Rockwool** which is used in formed insulation, in sprayed materials, such as acoustic insulation and fire-rating materials.
4. **Ceramic Fibres** used as insulation blankets and for high temperature applications and fire-rated products.

For some years, there were concerns that SMF may be associated with health effects similar to those found with asbestos. This was because of the similarities of appearance, as well as the industrial application, of SMFs and asbestos. Now there is a large amount of scientific data from various studies, including epidemiological studies of workers in SMF industries. Reviews of these results show a number of health effects from exposure to various SMF.

Short term exposure can result in skin and eye irritation which is more likely in workers having direct contact with SMF products for the first time or after a period of absence. It may also involve reddening, burning, itching, prickling, scaling, thickening and inflammation around the fingernails. Upper respiratory tract irritation is likely during exposure to very high concentrations of SMF in the air.

Long term exposure to SMF was shown to be associated with a slightly increased risk of lung cancer among exposed workers in early SMF industries. Animal studies have shown the potential of SMF to cause mesothelioma, but no cases of this lung disease were reported from studies in the fibreglass and rockwool manufacturing industries.

Animal studies and epidemiological results have led the World Health Organisation (WHO) International Agency for Research on Cancer to classify fibres such as rockwool, ceramic and glass fibre as *Class 2B carcinogens*. That is, they are possibly carcinogenic to humans.

With other cancer-causing substances (carcinogens), we know that there is no safe level of exposure -that is, there is no low level that can be guaranteed not to cause an increased cancer risk. However, current scientific opinion is that SMF caused chronic health effects will not occur under typical "modern-day" operations, provided adequate precautions are taken in the workplace.

4 POLYCHLORINATED BIPHENYL (PCB)

The extent of the use of Polychlorinated Biphenyls (PCB) is varied. They were used in fluorescent light capacitors for power factor correction on an inductive ballast circuit. They have also been used in transformers, vacuum pumps and gas – transmission turbines, and in the United States as plasticisers, adhesives and pesticide extenders and as well as many other products.

The most commonly observed health effects in people exposed to PCBs are skin conditions such as chloracne and rashes, but these were known to be symptoms of systemic poisoning dating back to the 1920s. Studies in workers exposed to PCBs have shown changes in blood and urine that may indicate liver damage.

A few studies of workers indicate that PCBs were associated with specific kinds of cancer in humans, such as cancer of the liver and biliary tract. The Department of Health and Human Services (DHHS) in the US has concluded that PCBs may reasonably be anticipated to be carcinogens.

The US Environmental Protection Agency (EPA) and the International Agency for Research on Cancer (IARC) have determined that PCBs are probably carcinogenic to humans. PCBs are also classified as probable human carcinogens by the National Cancer Institute, World Health Organization, and the Agency for Toxic Substances and Disease Registry. Recent research by the National Toxicology Program has confirmed that PCB126 (Technical Report 520) and a binary mixture of PCB126 and PCB153 (Technical Report 531) are carcinogens.

5 SURVEY METHODOLOGY

The survey was undertaken by way of a visual inspection of construction materials located within accessible areas of the buildings at the site. On this occasion no samples of suspected asbestos containing construction materials were collected for laboratory analysis.

6 EXTENT OF SURVEY

Fundamental to the entire basis of an inspection of this type, where the constraints of a “non-destructive” survey are imposed, is the fact that no matter how thorough or professionally it is conducted, not all hazardous construction materials (construction materials containing asbestos, synthetic mineral fibre and polychlorinated biphenyl) might be found and recorded.

Whilst one can be reasonably confident that hazardous construction materials that might be routinely encountered in the normal day-to-day activities undertaken within the accessible areas of the buildings at the site can be identified and assessed, no guarantees can be made that all hazardous construction materials have been identified since demolition activities may well reveal hazardous construction materials in areas inaccessible to this inspection.

This report is confined to reporting the discovery (or non-discovery as the case may be) and presence of hazardous construction materials by visual inspection and non-destructive methods of those accessible areas in the buildings accessible to and inspected by P. Clifton & Associates on the date of the inspection.

P. Clifton & Associates will not be liable in the event the report fails to notify the presence of any hazardous construction materials in any area in the buildings which were, on the date of inspection, physically inaccessible for inspection using the methods employed (hand tools to gain access to ceiling spaces and wall cavities) or which was not otherwise inspected on that day. Nothing herein contained implies that any inaccessible or uninspected areas in the buildings contain or do not contain hazardous construction materials.

The survey was limited to accessible areas of the building structures and associated building elements only and does not include any hazardous construction materials or contamination that may be in inaccessible areas such as roof spaces, buried beneath concrete slabs, in sub floor areas or in the soil on the site.

PCA have exercised reasonable care, skill and diligence in the preparation of this report. However, except for any non-excludable statutory provision, PCA gives no warranty in relation to its services or this report and is not liable for any loss, injury or death suffered by any party (whether caused by negligence or otherwise) arising from or in relation to the services provided or the use of this report.

Where the client has the benefit of any non-excludable condition or warranty, the liability of PCA is, to the extent permitted by law, limited to re-performing the services or refunding the fees paid in relation to the services or sections of the report not complying with the conditions or warranty.

7 REFERENCES

The removal and disposal of asbestos containing and other hazardous construction materials in NSW is overseen by various authorities including SafeWork NSW (SafeWork), the NSW Environment Protection Authority (NSW EPA), local government (council) by administering various legislation, regulations and codes of practice. Statutory documents that are applicable to the proposed work at the site include (but are not limited to) the following:

- NSW Work Health & Safety Act 2011.
- NSW Work Health & Safety Regulation 2017.
- How To Safely Remove Asbestos Code of Practice issued by Safe Work Australia, April 2016.
- How To Manage and Control Asbestos in the Workplace issued by Safe Work Australia February 2016.
- NSW Protection of the Environment Operations (General) Regulation 2009: Reg 92.
- NSW Protection of the Environment Operations (Waste) Regulation 2014: 'Sections 77 - 81.
- National Environment Protection (Assessment of Site Contamination) Measure. Schedule B (1) - Guideline on Investigation Levels for Soil and Groundwater (May 2013).
- enHEALTH Management of Asbestos in the Non-Occupational Environment (2005).
- NSW Environment Protection Authority (EPA) Waste Classification Guidelines – Part 1: Classification of waste (November 2014).
- National Occupational Health and Safety Commission (NOHSC) Code of Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC:2006(1990)].

8 RESULTS OF SURVEY

8.1 65 Kerrs Road, Lidcombe NSW



House at 65 Kerrs Road, Lidcombe NSW

The house located at 65 Kerrs Road is a two-storey building that has terracotta roof tiles, face brick veneer cladding to the external walls, aluminium and timber framed windows and entry doors, asbestos cement sheet eaves and upper level front verandah soffit linings, metal eaves fascia guttering and metal downpipes.

Within the house the ceilings are lined with fibrous plaster and asbestos cement sheet, masonry walls are finished with painted cement render and the floors are timber boards and concrete slabs. The ceiling space over the upper level was unable to be accessed during the site inspection.

In the rear yard is a timber framed garage that has metal roof and wall cladding and concrete floor. No asbestos containing or other hazardous construction materials were sighted to the interior and exterior of garage.

The following hazardous construction materials were found to be present in accessible areas of the house at 65 Kerrs Road:

- The eave linings to the perimeter of the upper level and soffit lining over the upper level verandah are flat asbestos cement sheet. See upper photograph and photograph Nos. 1 and 2.
- The backing board in the electrical meter cabinet on the western wall near the front of the house is a 'Zelemite' board that contains chrysotile asbestos. See photograph No. 3.

- Within the rear north west area of the lower level are a toilet and laundry rooms. The ceiling linings in these rooms are flat asbestos cement sheet.
- The gravity feed hot water storage heater in the roof space is assumed to be insulated with SMF. There may be asbestos millboard insulation behind the electrical connections on this tank.
- SMF insulation batts may be present within the roof space over the upper level.
- The roof over the rear ground level verandah is 'Alsynite' fibreglass sheeting. This sheeting contains SMF.

No PCB containing materials were sighted in accessible areas of the house and garage at the site.

8.2 71 Kerrs Road, Bexley NSW



House at 71 Kerrs Road, Bexley NSW

The house on the property at 71 Kerrs Road has terracotta roof tiles, flat asbestos cement sheet wall cladding that has been over-clad with face brick veneer, flat asbestos cement sheet eaves linings, aluminium and timber framed windows and entry doors. The interior of the house was unable to be accessed and is likely that the ceiling and wall linings will be fibrous plaster and flat asbestos cement sheet and the floors will be timber boards or concrete slabs.

There is a timber framed garage located adjacent to the eastern boundary fence that has corrugated metal roof cladding, asbestos cement sheet wall cladding and concrete floor. In the centre and western areas of the rear yard are a metal garden shed and a timber framed shed that has metal and asbestos cement sheet cladding.

The following hazardous construction materials were found to be present in accessible areas of the house and garage at 71 Kerrs Road:

- The capping on the sides of the skillion roof over the front verandah are moulded asbestos cement. See photograph No. 4.
- The cladding on the external walls of the house is flat asbestos cement sheet. This cladding has been over-clad with face brick veneer. See photograph No. 5. The cladding on the small dutch gables on the ends of the front verandah are flat asbestos cement sheet.
- The eaves linings to the perimeter of the house and soffit linings to the east side entry porch and to the front verandah are flat asbestos cement sheet. See photograph No. 5 and 6.
- The backing board within the electrical meter cabinet is a 'Zelemite' backing board that contains chrysotile asbestos.
- Within the laundry, bathroom(s) and toilet in the house, the ceiling and / or wall linings are assumed to be flat asbestos cement sheet. Flat asbestos cement sheet may also be present in the kitchen behind the sink and stove.
- The wall cladding on the garage in the rear yard area is flat asbestos cement sheet. See photograph No. 7. The front wall of the garage is covered with brick veneer.
- The wall cladding on the shed in the centre of the rear yard area is assumed to be flat asbestos cement sheet.
- The substrate to the concrete top over the gas meter adjacent to the front fence is flat asbestos cement sheet. See photograph No. 8.
- Within the roof space of the house may be SMF insulation batts on top of the ceiling linings and SMF insulation to a gravity feed hot water storage heater.

No PCB containing materials were sighted in accessible areas of the house and garage at the site.

8.3 Ground Areas

Fragments of asbestos cement sheet may be present below the various buildings as packing, formwork or debris and also in soil below concrete paved areas.

9 RECOMMENDATIONS

The hazardous construction materials found to be present within accessible parts of the buildings at 65 and 71 Kerrs Road, Lidcombe NSW were generally in good condition at the time of the site inspection and do not pose a measurable health risk to persons within these areas in the buildings whilst these materials remain in-situ and undisturbed.

Areas that were unable to be accessed during the site inspection such as the ceiling spaces, most wall cavities and sub floor areas, etc. should be inspected prior to or in conjunction with demolition work to ascertain the type and extent of any asbestos containing or other hazardous construction materials that may be present.

All hazardous construction materials located within the buildings and on the ground areas within the site are to be removed prior to or in conjunction with the proposed demolition work. All identified asbestos containing construction materials in the buildings at the site are classified as non-friable asbestos containing materials. These asbestos containing materials may only be removed by a contractor holding a Class A licence for friable asbestos removal or a Class B licence for non-friable asbestos removal.

Removal of asbestos containing materials is to be carried out in accordance with the regulations and requirements of the NSW Work Health Safety Regulation 2017 and the How to Safely Remove Asbestos Code of Practice issued by Safe Work Australia in April 2016.

At the completion of asbestos removal, a visual clearance inspection must be carried out by a licenced asbestos assessor prior to the asbestos removal areas being opened for access without the use of asbestos PPE. Written certification detailing the results of the visual clearance inspection is to be provided.

SMF materials are to be removed in accordance with the National Occupational Health and Safety Commission (NOHSC) National Standard and National Code of Practice for Synthetic Mineral Fibres, 1990. SMF materials removed from the buildings are to be disposed of at a NSW Environment Protection Authority (NSW EPA) licenced waste disposal facility.

Prior to the disposal of fluorescent light fittings and ceiling fans from within the building, each of these items is to be internally inspected for the presence of metal canister capacitors that contain PCB. All metal canister capacitors that contain PCB must be removed from the light and ceiling fans for separate disposal. The removal, handling and disposal of PCBs should be carried out in accordance with ANZECC, federal and state legislation.

Fragments of asbestos cement are present on the exposed ground areas and may also be present within the soil on the site below the buildings and external paved areas. The identification and extent of any asbestos cement fragments within soil on the site is outside of the scope of this report. Should any asbestos cement fragments within the soil on the site be identified during demolition and/or excavation work, then the soil containing the asbestos cement is to be removed for off-site disposal.

Soil containing fragments of asbestos cement must be assessed prior to removal for classification as either 'non-friable' or 'friable' asbestos containing material. Where it is classified as 'friable' asbestos containing material, the soil must be removed by, or the removal work supervised by, a contractor holding a Class A asbestos removal licence. Asbestos contaminated soil is to be disposed of at a licenced landfill facility as Special Waste (Asbestos Waste).

PHOTOGRAPHS



Photograph No. 1: Asbestos cement sheet eave and upper level verandah soffit lining on the front of the house at 65 Kerrs Road, Lidcombe NSW



Photograph No. 2: Asbestos cement sheet eaves soffit lining on the rear of the house at 65 Kerrs Road, Lidcombe NSW



**Photograph No. 3: Asbestos based 'Zelemite' electrical backing board
in electrical meter cabinet at 65 Kerrs Road, Lidcombe NSW**



**Photograph No. 4: Moulded asbestos cement capping to west side of roof over the front
verandah. The small dutch gable is clad with flat asbestos cement sheet**



Photograph No. 5: Narrow flat asbestos cement sheet eave lining on house at 71 Kerrs Road, Lidcombe. Most of the eave lining and the asbestos cement sheet wall cladding is concealed behind the brick veneer wall cladding



Photograph No. 6: Asbestos cement sheet soffit lining over the front verandah at 71 Kerrs Road, Lidcombe NSW



**Photograph No. 7: Garage at 71 Kerrs Road, Lidcombe
that has flat asbestos cement sheet wall cladding**



**Photograph No. 8: Flat asbestos cement sheet substrate to
concrete lid over gas meter at 71 Kerrs Road, Lidcombe**