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Geotechnics / Environment / Groundwater

Integrated Practical Solutions

Report on
Hazardous Building Materials Survey

Block B, Maitland Christian College
75-81 Chelmsford Drive, Metford

Prepared for
Paynter Dixon Constructions Pty Ltd

Project 102070.02
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The undersigned, on behalf of Douglas Partners Pty Ltd, confirm that this document and all attached drawings, logs and test results have been checked and reviewed for errors, omissions and inaccuracies.

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Executive Summary

Douglas Partners Pty Ltd (DP) was engaged by Paynter Dixon Constructions Pty Ltd to conduct a Hazardous Building Material (HBM) survey of Building Block B at Maitland Christian College, 75-81 Chelmsford Road, Metford NSW. The survey was undertaken to assess the location, extent and condition of asbestos-containing materials (ACM) and other hazardous building materials prior to proposed demolition and refurbishment work. The survey consisted of a visual inspection supplemented by a limited program of sample collection and laboratory analysis.

HBM were identified or assumed present during the survey as summarised in Table 1 below:

Table 1: Summary of Results

Building / Area	Non-Friable Asbestos	Friable Asbestos	SMF	Lead Paint	Lead Dust	PCB
Block B	×	×	✓	✓	✓	✓

SMF = Synthetic Mineral Fibre, PCB = Polychlorinated Biphenyls, ✓ = identified or suspected present, × = not identified and / or not suspected present. Refer to Appendix C for further details / clarification.

Limited or no access was available to certain areas of the site as outlined in the Hazardous Materials Register (Appendix C) and Section 5. Inaccessible areas should be assumed to potentially contain HBM unless assessment of these areas by a Competent Person confirms otherwise.

HBM should be managed in accordance with the requirements of the NSW Work Health and Safety (WHS) Act 2011 (WHS Act), NSW WHS Regulation 2017 (WHS Regulation) and subordinate Codes of Practice, Australian Standards and guidelines.

A more detailed intrusive/destructive HBM survey should be undertaken in all areas of the building (including those that were inaccessible at the time of the assessment) once these areas have been permanently vacated, and prior to demolition. This is to help ensure that the location, extent and condition of relevant HBM have been identified to the extent reasonably practicable.

HBM should be removed prior to any significant disturbance including from maintenance, refurbishment, and demolition work.

Limitations apply to this HBM survey and report as outlined in Section 7.

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Report on Hazardous Building Materials Survey
Block B, Maitland Christian College
75-81 Chelmsford Drive, Metford

1. Introduction

This report presents the results of a Hazardous Building Materials (HBM) survey undertaken on Block B at Maitland Christian College, 75-81 Chelmsford Road, Metford NSW. The survey was commissioned in an email dated 6 December 2022 by Clive Furnass of Paynter Dixon Constructions Pty Ltd and was undertaken in accordance with Douglas Partners' proposal 102070.02.P.001.Rev0 dated 21 December 2022.

The survey was undertaken to assess the location, extent and condition of the following hazardous building materials prior to proposed demolition and refurbishment work:

- Asbestos containing materials (ACM);
- Synthetic mineral fibre (SMF) insulation;
- Polychlorinated biphenyls (PCBs) in the capacitors of fluorescent light fittings;
- Lead in dust; and
- Lead paint.

The survey consisted of a visual inspection supplemented by a limited program of sample collection and laboratory analysis.

Notes about this report, and relevant drawings/plans, are contained in Appendix A and B.

The results of the survey, including details of the hazardous building materials identified, and the results of ACM risk assessments are provided in the HBM Register (the Register) in Appendix C.

Laboratory analysis certificates for the samples collected and analysed during the survey are provided in Appendix D.

A photographic record was collected during the site inspection and selected photographs are presented in Appendix E.

Limited or no access was available to certain areas as outlined in Section 5 of this report.

2. Site Description

The site is located on the southern side of Chelmsford Drive in Metford and comprises the Maitland Christian College, with five buildings blocks on the site. Building Block B was inspected whilst vacant (i.e. during a school holiday period) but is to be re-occupied prior to the proposed demolition work.

Plans that show the general location of the site and building inspected are provided in Appendix B.

3. Survey Method

The survey consisted of a visual inspection of safely accessible areas supplemented by a limited program of sample collection and laboratory analysis. The survey methods included a limited range of destructive / intrusive inspection techniques due to continued occupation of the building.

Samples of suspected ACM were collected by DP using hand tools (e.g. knife, pliers or chisel) and analysed for asbestos by a National Association of Testing Authorities (NATA) accredited laboratory. Sample size is typically limited to minimise disturbance of the material and potential structural or aesthetic impacts. The samples were analysed by polarised light microscopy (PLM) with dispersion staining in accordance with AS4964-2004 *Method for the qualitative identification of asbestos in bulk samples*.

Samples of suspected lead paint were collected by DP and analysed for lead by a NATA accredited laboratory using Inductively Coupled Plasma – Atomic Emission Spectrometry/Mass Spectrometry (ICP-AES/MS) or Cold Vapour / Atomic Absorption Spectroscopy (CV/AAS). Paint samples contained approximately equal portions of all layers of paint at the location sampled, to the extent practicable, and therefore typically reflect the average lead content of the overall paint system at location sampled.

SMF was identified primarily by visual inspection or incidentally as a result of laboratory analysis for asbestos.

Safe access to selected light fittings (i.e. electrical isolation) was not provided to DP and hence assessment of PCB-containing capacitors was based on visual inspection of the exterior of light fittings only. Where safe access (i.e. electrical isolation) is provided to DP, capacitor details can be obtained and compared to the list of PCB-containing and PCB-free equipment in *Identification of PCB-Containing Capacitors: An Information Booklet for Electricians and Electrical Contractors, 1997* prepared by the Australian and New Zealand Environment and Conservation Council (ANZECC).

Lead dust samples were generally collected from ceiling cavities found to contain significant settled dust loadings. Samples are collected from a specified surface area (normally 100 or 900 cm^2) and analysed by a NATA accredited laboratory using ICP-AES/MS or CV/AAS. The sampling area and laboratory analysis result (total lead in µg) are then used to calculate the lead dust loading which is expressed as milligrams of lead per square metre (mg/m^2).

Surveys typically proceed on a 'risk management' basis whereby priority is given to addressing material(s) likely to pose greatest risk as they are encountered. Further, material sampling and analysis programs are necessarily limited and:

- In the case of similar or repetitive buildings, building elements and/or rooms/areas it is often necessary to assume consistent use of construction materials including HBM; and
- "representative" bulk sampling protocols may be adopted.

4. Asbestos Risk Assessment Method

ACM poses a health risk if asbestos fibres are released to the atmosphere and inhaled. There is also a risk of environmental contamination whenever asbestos is disturbed. The degree of risk associated with any given ACM depends on a range of factors such as the friability, extent, condition, and location/accessibility of the material, the asbestos mineral type(s) present, the nature of site activities and ventilation.

The asbestos risk assessment method employed by DP considers several key factors that influence risk and a numerical score is assigned to each (refer Table 2 below). These scores are then added together to determine an overall risk rating for the ACM (refer Table 3 below). A degree of professional judgement may be applied when determining the final risk rating since, for example, it is not practicable to include in Table 2 all risk factors that may be relevant to a given situation.

Risk assessments for ACM should be reviewed on a regular basis including when:

- The Asbestos Management Plan is reviewed;
- Further asbestos or ACM is identified at the workplace;
- Asbestos is removed, disturbed, sealed, enclosed or undergoes any other change in condition;
- There is evidence that the risk assessment is no longer valid;
- There is evidence that control methods are not effective; or
- A significant change is proposed for the workplace or for work practices or procedures relevant to the risk assessment.

An asbestos risk assessment review is to be conducted at least every 5 years. The review is to be performed by a competent person.

Table 2: Key Risk Factors

Risk Factor	Score	Description
Friability	0	Non-friable (fibre reinforced vinyls, bituminous materials, adhesives)
	1	Non-Friable (fibre reinforced cement products such as wall and roof sheeting)
	2	Semi-Friable (low density insulation board, millboard, ropes, paper, textiles, gaskets or non-friable asbestos cement in poor condition)
	3	Friable (thermal insulation to pipes/boilers, sprayed insulation, loose fill insulation)
Condition	0	Very Good. Very little or no visible indication of damage. Structurally sound. No significant repairs required. Material performs as intended.
	1	Good - Minor damage in small, localised areas. Structurally sound. Minor preventative action may be required as a precaution and/or to prolong material life. Material generally performs as intended.
	2	Fair. Localised damage in various areas. Material is generally structurally sound however local removal and replacement of damaged sections may be required. Material performance may be somewhat impaired in areas.
	3	Poor. Material exhibits significant damage throughout. Structural stability may be compromised. Material performance is significantly impaired.
Treatment	0	Fully enclosed, encapsulated or sealed. ACM is entirely contained and the enclosure/encapsulation/sealing material is in good condition.
	1	Generally enclosed, encapsulated or sealed. ACM is generally contained however enclosure/encapsulation/sealing material may not be completely continuous or exhibits minor damage/penetrations.
	2	Partially enclosed, encapsulated or sealed. ACM is contained in area(s) however enclosure/encapsulation/sealing material is significantly damaged or ineffective in area(s).
	3	Enclosure/encapsulation/sealing material is significantly damaged and/or generally ineffective or there is no treatment.
Accessibility	0	The ACM is not directly accessible to occupants. Contact is highly unlikely unless a significant, dedicated effort is made. Substantial demolition, dismantling and/or special access equipment would be required.
	1	The ACM is generally not accessible to occupants. Contact is unlikely but could be made with special tools or equipment (e.g. elevating work platform) or minor demolition/dismantling.
	2	Some portion(s) of ACM are accessible to occupants. Direct contact may occur periodically but often requires basic tools/equipment (e.g. step ladder).
	3	The majority of the ACM is accessible to occupants. Direct contact is a common occurrence and may be made with minimal or no effort.
Activity	0	Area generally not occupied. Normally very little or no activity. Activities may be highly restricted or area secured. Examples may include subfloor voids, ceiling cavities, confined spaces and other inaccessible areas.
	1	Low level occupancy. Some activity in parts or area occupied periodically. Examples may include plant rooms and store rooms.
	2	Moderate level occupancy. Activity normally present throughout area. May include offices, laboratories, classrooms, workshops, and warehouses.
	3	High level occupancy. Generally high levels of activity. Activities may be wide-ranging and/or unrestricted. Examples may include production/manufacturing areas, construction sites and public areas/thoroughfares.
Ventilation	0	Exterior area where natural ventilation and associated dilution is largely unlimited. Significant retention and/or build-up of airborne contaminants is unlikely.
	1	Interior area. Natural ventilation and dilution is limited but area is not particularly confined. Limited retention and/or build-up of airborne contaminants is possible.
	2	Confined areas where ventilation and associated dilution is significantly limited. Significant retention and/or build-up of airborne contaminants is possible or likely.
	3	Asbestos material subject to direct ventilation (e.g. interior of AC system or at air exhaust) which may result in elevated airborne fibre concentrations.

Table 3: Risk Rating

Overall Score	Risk Rating	Description
15-18	High (H)	The ACM poses an elevated and typically unacceptable risk of exposure and/or environmental contamination. Controls should generally be implemented as soon as possible to address the risk. Removal of the whole or part of the ACM is typically required. Other controls such as enclosure, encapsulation and/or sealing may also be necessary if portion(s) of ACM are to remain in place. As an interim measure, access to the area should be appropriately restricted. Air monitoring is often recommended to confirm airborne asbestos concentrations and provide a written record for future reference.
10-14	Moderate (M)	The ACM poses a moderate risk of exposure and/or environmental contamination. Often there has been minor damage or there is potential for disturbance/degradation in the foreseeable future. Consideration should be given to implementing appropriate controls in the short to medium term to address the risk(s) and/or prolong the lifespan of the material. Relevant controls typically include enclosure, encapsulation and/or sealing. Extensive removal is generally not required and the material can generally be managed on site if desired and serving a useful purpose.
0-9	Low (L)	The risk of exposure and environmental contamination is generally low while the material remains undisturbed and in its present condition. The material may generally remain in place without the requirement for significant, material-specific control measures such as removal, enclosure, encapsulation or sealing.

Note: If the ACM is likely to be disturbed (e.g. by maintenance, refurbishment or demolition work) and/or is no longer serving a useful purpose then the ACM should generally be removed. All ACM should be clearly identified with a label where reasonably practicable.

5. Results

The results of the survey, including details of the hazardous building materials identified, are provided in the Register in Appendix C.

HBM were identified or suspected present during the survey as summarised in Table 1 in the Executive Summary.

Laboratory analysis certificates for the samples collected and analysed are provided in Appendix D.

Photographs collected during the survey are provided in Appendix E.

Site and building plans are provided in Appendix B.

Limited or no access was available to certain areas as outlined in the Register (Appendix C) and Table 4 below.

Table 4: Access Limitations*

Location / Area	Access Type	Reason(s)
Areas/materials at height (e.g. roofs and eaves of Building Block B)	Nil	Access limited to safely accessible areas and use of 1.5 m step ladder. Work at height and use of specialised access equipment not included in survey scope.
Internal wall lining, common to the main classrooms B1/B2 and B4/B5	Nil	Covered with timber fibre (pin-board) wall lining over actual wall lining.
Ceiling cavity	Limited to manhole location.	Confined space.

* Refer also to the Register (Appendix A).

Access to ceiling cavities was limited due to the number, location and height of existing access point(s), degree of clearance within the cavities, the location / extent of building structure and services etc. As a result, it should be noted that HAZMAT (e.g., asbestos cement sheeting fragments and asbestos cement packing materials) may well be present in these cavities even if such materials were not identified during this survey.

6. Recommendations and Discussion

A summary recommendation for each HBM identified or suspected present at the site is provided in the Register (Appendix C).

The general recommendations in Section 6.1 onwards are provided for informative purposes and should be considered where the relevant HBM has been identified or suspected present by DP or is subsequently suspected to be present based on reasonable grounds.

The presence of identified and suspected HBM at the site, and the potential presence of any as-yet undetected HBM, should be considered during the risk assessment for any proposed work at the site or site use. Additional targeted inspection, sampling and analysis for HBM should be considered prior to any work that may result in the disturbance of such HBM.

A review of the HBM present in the remaining buildings at Maitland Christian College, that were not surveyed by DP, should be considered prior to any significant building work being conducted in these buildings.

A more detailed intrusive/destructive HBM survey should be undertaken in all areas of the building (including those that were inaccessible at the time of the assessment) once these areas have been permanently vacated, and prior to demolition. This is to help ensure that the location, extent and condition of relevant HBM have been identified to the extent reasonably practicable.

6.1 General

HBM should be managed in accordance with the requirements of the WHS Act, WHS Regulation and subordinate Codes of Practice, Australian Standards and guidelines.

A hazardous materials management plan should be developed to aid compliance with the requirements of the WHS Act and Regulation including those that relate to the identification of hazards and control of associated risks.

HBM should be visually inspected on a regular basis. Any change to the condition of the material or relevant site conditions should be reported.

HBM should be removed prior to any significant disturbance such as maintenance, refurbishment and demolition work.

Prior to any work involving HBM a risk assessment should be conducted and Safe Work Method Statement (SWMS) developed. The SWMS should outline the controls necessary to ensure that the risk of exposure to HBM is adequately controlled.

HBM remediation and removal work should be undertaken in controlled conditions.

Waste should be assessed and classified for disposal in accordance with relevant legislation and the NSW Environment Protection Authority (EPA) *Waste Classification Guidelines, Part 1: Classifying Waste*, November 2014 (EPA, 2014).

At the completion of hazardous material remediation and removal work a clearance inspection should be conducted by a Competent Person, or in the case of friable asbestos, by a Licensed Asbestos Assessor.

6.2 Asbestos-Containing Materials (ACM)

ACM must be managed in accordance with the WHS Regulation, the Safe Work NSW (Safe Work) *Code of Practice: How to Manage and Control Asbestos in the Workplace* and the *Safe Work Code of Practice: How to Safely Remove Asbestos*.

Exposure to airborne asbestos in the workplace must be eliminated to the extent that is reasonably practicable. If it is not reasonably practicable to eliminate exposure it must be minimised to the extent that is reasonably practicable.

An Asbestos Management Plan must be developed to enable compliance with the WHS Regulation (Regulation 429).

The presence and location of asbestos or ACM identified at a workplace must be clearly indicated by a label if it is reasonably practicable to do so.

Warning labels and signs should be consistent with the examples provided in the *SafeWork Code of Practice: How to Manage and Control Asbestos in the Workplace* and comply with AS1319 *Safety Signs for the Occupational Environment.*

Non-friable ACM that are structurally intact and in good to fair condition may typically remain in place provided that they are not significantly disturbed.

Tools and equipment that generate dust must generally not be used on asbestos. These include high-speed abrasive power and pneumatic tools (e.g. angle grinders, sanders, saws and high-speed drills, brooms and brushes).

Tools and equipment that cause the release of asbestos, including power tools and brooms, may only be used on asbestos if the equipment is enclosed and/or designed to capture or suppress asbestos fibres and/or the equipment is used in a way that is designed to capture or suppress asbestos fibres safely. In such a case, other controls including PPE may also be required based upon the results of a pre-work risk assessment and the SWMS adopted.

The use of high-pressure water spray and compressed air on asbestos or ACM is specifically prohibited under the WHS Regulation.

If ACM become damaged they should be repaired or removed and replaced with an alternative, non-asbestos building product as soon as possible.

The scope of asbestos removal work should be outlined in a technical specification (i.e. Scope of Work Report) developed by a Competent Person (in the case of non-friable asbestos) or a Licensed Asbestos Assessor (in the case of friable asbestos).

Removal of friable asbestos must only be undertaken by a Class A licensed asbestos removal contractor.

Removal of 10 m^2 or more of non-friable asbestos must only be undertaken by a Class A or Class B licensed asbestos removal contractor.

Air monitoring is required during removal of friable asbestos. Air monitoring should also be considered during removal of non-friable asbestos particularly where sensitive receptors exist such as at schools, hospitals and similar sites.

Air monitoring must be undertaken in accordance with the National Occupational Health and Safety Commission (NOHSC) *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres, 2nd Edition* [NOHSC:3003(2005)].

All air monitoring samples must be analysed by a National Association of Testing Authorities (NATA) Accredited laboratory that holds accreditation for the required analysis.

At the completion of asbestos removal a clearance inspection must be conducted by a Competent Person (for non-friable asbestos removal) or a licensed asbestos assessor (for friable asbestos removal).

Air monitoring and clearance inspections must be performed by person/s independent of the asbestos removal contractor.

All waste should be classified for disposal in accordance with the NSW EPA *Waste Classification Guidelines, Part 1: Classifying Waste, November 2014*. Asbestos waste is preclassified as Special Waste under these guidelines.

Asbestos transporters and facilities receiving asbestos waste must report the movement of asbestos waste to the EPA. Entities involved with the transport or disposal of asbestos waste in NSW, or arranging the transport of asbestos waste in NSW, must use the EPA's online tool, WasteLocate.

All asbestos waste must be disposed at a waste collection facility licensed to receive asbestos waste. All disposal receipts should be retained.

A person who relinquishes management or control of the workplace must ensure that the Asbestos Register is given to the person, if any, assuming management or control of the workplace.

6.3 Synthetic Mineral Fibre (SMF)

SMF materials may generally remain in place providing that they are in good condition and unlikely to be disturbed.

To reduce the potential for disturbance, exposure and environmental contamination SMF materials may be encapsulated or enclosed. Higher risk materials, such as loose fill insulation, may also be removed and replaced.

SMF work is to be undertaken in accordance with the requirements of the WHS Regulation and subordinate Codes of Practice, Guidance Notes and other documents. These include:

- WorkCover NSW *Safe management of synthetic mineral fibres (SMF) – glasswool and rockwool*;
- Safe Work Australia *Guide to Handling Refractory Ceramic Fibres, December 2013*; and
- Guidance Note on the Membrane Filter Method for the Estimation of Airborne Synthetic Mineral Fibres [NOHSC:3006(1989)].

Reference should also be made to the Australian Institute of Occupational Hygienists (AIOH) *Synthetic Mineral Fibres (SMF) And Occupational Health Issues, Position Paper* for guidance.

Where reasonable concern exists over possible respirable fibre concentrations in any application, the first step is often to confirm that the work practices, as recommended for the particular product, are being followed. Air monitoring may not be required when it has been clearly established that appropriate work practices are being carried out.

Notwithstanding the above, exposures should not exceed the relevant Safe Work Australia (SWA) exposure standards outlined in Table 5 below.

Table 5: SWA Exposure Standards for SMF

Standard Name	Time Weighted Average (TWA) Exposure Standard
Glass wool, rock (stone) wool, slag wool and continuous glass filament and low biopersistence Man Made Vitreous Fibres (MMVF)	2 mg/m^3 (inhalable dust)
Refractory ceramic fibres (RCF), special purpose glass fibres and high biopersistence MMVF	0.5 f/mL (respirable) 2 mg/m^3 (inhalable dust)

SMF waste should be disposed at a licensed waste collection facility. Synthetic fibre waste (from materials such as fibreglass, polyesters and other plastics) packaged securely to prevent dust emissions is pre-classified as General Solid Waste (non-putrescible) under EPA (2014).

All disposal receipts should be retained.

6.4 Polychlorinated Biphenyls (PCBs)

Prior to any significant disturbance, such as demolition, refurbishment or maintenance works, fluorescent light fittings should be electrically isolated and inspected in detail for metal canister-type capacitors that may contain PCB's. Any capacitors containing or suspected to contain PCB should be removed by a suitably qualified and experienced contractor.

PCB containing capacitors should be managed in accordance with the general requirements of the WHS Regulation and the:

- Environmentally Hazardous Chemicals (EHC) Act 2008 and subordinate *Polychlorinated Biphenyl (PCB) Chemical Control Order 1997*; and
- *Polychlorinated Biphenyls Management Plan, Revised Edition, April 2003*, issued by the Environment Protection and Heritage Council (EPHC).

Any PCB containing capacitors that exhibit leakage should be removed and replaced by a suitably qualified and experienced contractor as soon as possible. Access to areas containing leaking capacitors should be suitably restricted.

The conveyance and disposal of PCB material and PCB waste is subject to special requirements outlined in the *Polychlorinated Biphenyl (PCB) Chemical Control Order* 1997.

All disposal receipts should be retained.

6.5 Lead Paint

The potential presence of lead paint(s) at the Site should be considered during the risk assessment for any proposed works. Additional, targeted sampling and analysis for lead paints should be considered prior to any work that may result in significant disturbance of paint system(s).

Lead paints should be managed in accordance with the WHS Regulation including (including Chapter 7, Part 7.2 Lead) and:

- AS4361.1 – 2017, *Guide to hazardous paint management - Lead and other hazardous metallic pigments in industrial applications*; and
- AS4361.2 – 2017, *Guide to hazardous paint management - Lead paint in residential, public and commercial buildings*.

Generally, when one or more tests from a building or portion of a building indicate that lead is present, the paint should be treated as lead paint. Further, a project should not be classified as free of lead unless all samples within the area are proven to be free of lead and the sampling is comprehensive.
Lead paint that is in sound condition, not directly accessible (e.g. over-painted with lead-free paint) and unlikely to be disturbed may not require any immediate action.

Area(s) of lead paint that are in poor condition (e.g. flaking, delaminating) should generally be removed along with any lead paint debris and associated dust.

Exposed area(s) of lead paint that are intact may be stabilised by over-painting with a lead-free paint, or by covering with a suitable encapsulant. Stabilisation can provide an interim to long-term solution to a lead paint hazard.

The lead paint removal method and control measures adopted should be determined by risk assessment and a detailed knowledge of the workplace and proposed use/activities.

Exposure to airborne lead must be maintained below the relevant SWA exposure standards pertaining to lead. The SWA 8-hour Time Weighted Average (TWA) exposure standard for lead (inorganic dusts and fumes) is 0.05 mg/m^3. Other exposure standards apply for substances such as lead chromate.

Air monitoring for lead may be required during lead paint remediation works based on risk assessment and the requirements to maintain airborne lead levels below the abovementioned exposure standards.

At the completion of lead paint removal a clearance inspection should be conducted by a Competent Person. The Competent Person should determine the requirements for clearance including any air monitoring or sample analysis that may be required.

Based on previous correspondence with the NSW EPA, DP understands that EPA (2014) does not consider AS4361.1 or AS4361.2, including the definition of lead paint therein, for waste classification assessment. As such:

- These standards, including the definition of lead / hazardous paints therein, have no bearing on how waste is classified in NSW; and
- Waste classification should be carefully considered and an appropriate degree of liaison with the NSW EPA may be required to help ensure the correct waste classification.

All disposal receipts should be retained.

6.6 Lead Dust

Laboratory analysis results for lead dust should be taken as approximate only since sampling is limited and the concentration of lead in dust may vary considerably between locations within the same general area.

No recognised Australian guidelines have been identified for the direct assessment of lead dust concentrations in ceiling cavities. Notwithstanding this, AS4361.2-1998 *Guide to Lead Paint Management, Part 2: Residential and Commercial Buildings* (superseded) outlined acceptance limits for lead in surface dust after lead paint management activities. These limits were:

- Interior floors: 1 mg/m^2 (as lead).
- Interior window sills: 5 mg/m^2 (as lead); and
- Exterior surfaces: 8 mg/m^2 (as lead).

The United States Environmental Protection Authority (US EPA) Review of Dust-Lead Post Abatement Clearance Levels (Final Rule) (86 FR 983), effective on 8 March 2021, outlines the following Dust-Lead Clearance Levels (DLCL) for assessment of post-abatement dust-lead levels[1]:

- Floors: 10 µg / ft^2 (~0.1 mg / m^2) lead;
- Interior window sills: 100 µg/ft^2 (~1.0 mg / m^2) lead; and
- Window troughs: 400 µg / ft^2 (~4.3 mg / m^2) lead.

As a precaution the US EPA DLCL are generally used by DP to identify potentially hazardous conditions that may require control.

Where the concentration of lead in dust exceeds the most relevant US EPA DLCL appropriate control and / or remedial measures may need to be identified via risk assessment and with a detailed knowledge of the workplace and proposed use / activities.

Where ceiling spaces and similar cavities are effectively enclosed and provide very limited or no opportunity for lead dust to enter occupied areas, the dust may typically remain in place. In such a case access to the cavities should be suitably restricted and all entrances signposted with appropriate warning signs.

Any personnel required to enter building cavities or other areas containing elevated concentrations of lead in dust should undertake an appropriate risk assessment and develop a SWMS for the work. The SWMS must identify controls that ensure the risk of exposure to lead remains at an acceptable level for the personnel entering the area and for occupants of the building and surrounds.

Consideration should be given to removal of lead containing dust including when:

- There is a significant risk of the lead entering occupied areas; or
- Significant disturbance of lead dust is likely due to maintenance, refurbishment or demolition work or other reason(s); or

[1] National Archives, Federal Register, The Daily Journal of the United State Government, accessed at: https://www.federalregister.gov/documents/2021/01/07/2020-28565/review-of-dust-lead-post-abatement-clearance-levels, accessed on: 19 April 2022.

- Removal is a reasonably practical means of eliminating the hazard.

Removal of lead dust should be undertaken by a suitably qualified and experienced removal contractor. The lead dust removal method and control measures adopted should be determined by risk assessment and with a detailed knowledge of the workplace and proposed use/activities.

Exposure to airborne lead must be maintained below the relevant SWA exposure standards pertaining to lead. The SWA 8-hour TWA exposure standard for lead (inorganic dusts and fumes) is 0.05 mg/m^3.

Air monitoring for lead may be required based on the results of the risk assessment and the requirement to maintain airborne lead concentrations below the abovementioned exposure standard(s).

At the completion of lead dust removal a clearance inspection should be conducted by a Competent Person. The Competent Person should determine the requirements for clearance including any air monitoring or sample analysis that may be required.

Lead waste should be assessed and classified for disposal in accordance with relevant legislation and EPA (2014). All waste disposal receipts should be retained.

7. Limitations

Douglas Partners (DP) has prepared this report for this project at 75-81 Chelmsford Road, Metford in accordance with DP's proposal dated 21/12/2022 and acceptance received from Clive Furnass dated 10/01/2023. The work was carried out under DP's Conditions of Engagement. This report is provided for the exclusive use of Paynter Dixon Constructions Pty Ltd for this project only and for the purposes as described in the report. It should not be used by or relied upon for other projects or purposes on the same or other site or by a third party. Any party so relying upon this report beyond its exclusive use and purpose as stated above, and without the express written consent of DP, does so entirely at its own risk and without recourse to DP for any loss or damage. In preparing this report DP has necessarily relied upon information provided by the client and/or their agents.

The results provided in the report are indicative of the conditions on the site only at the specific inspection, sampling and/or testing locations, and then only to the extent practicable and safely accessible at the time the work was carried out. Site conditions may change after DP's field inspection, sampling and testing has been completed.

DP's advice is based upon the conditions encountered during this investigation. The accuracy of the advice provided by DP in this report may be affected by undetected variations in site conditions across the site between and beyond the inspection, sampling and/or testing locations. The advice may also be limited by budget constraints imposed by others or by site accessibility.

The assessment of atypical safety hazards arising from this advice is restricted to the environmental components set out in this report and based on known project conditions and stated design advice and assumptions. While some recommendations for safe controls may be provided, detailed 'safety in design' assessment is outside the current scope of this report and requires additional project data and assessment.

This report must be read in conjunction with all of the attached and should be kept in its entirety without separation of individual pages or sections. DP cannot be held responsible for interpretations or conclusions made by others unless they are supported by an expressed statement, interpretation, outcome or conclusion stated in this report.

This report, or sections from this report, should not be used as part of a specification for a project, without review and agreement by DP. This is because this report has been written as advice and opinion rather than instructions for construction.

Although the sampling plan adopted for this investigation is considered appropriate to achieve the stated project objectives, there are necessarily parts of the site that have not been inspected, sampled and analysed. This is either due to undetected variations in site conditions or to budget constraints (as discussed above), or to parts of the site being inaccessible and not available for inspection/sampling, or to occupants, furnishings or stored items preventing access for inspection and/or sampling. It is therefore considered possible that hazardous materials, including asbestos, may be present in unobserved or untested parts of the site, between and beyond sampling/inspection locations, and hence no warranty can be given that all hazardous building materials have been identified.

Inspections are limited to areas that are safely accessible at the time of the inspection. Inspections exclude hidden and inaccessible locations such as within building cavities, voids and enclosed sections of risers/shafts as well as materials encased within the building structure or located below the exposed ground surface (e.g. pipes, drains and formwork). In addition, residual asbestos materials (e.g. asbestos lagging to pipes and vessels) may remain undiscovered below newer, asbestos-free materials (e.g. preformed SMF insulation). Such residual asbestos materials may not be identified without extensive intrusive investigation and/or dismantling/demolition work.

Any disturbance of building materials, such as during renovation, maintenance or demolition work, may reveal additional HBM.

Limitations apply to the laboratory analytical methods used. For example, it can be very difficult or impossible to detect the presence of asbestos in some bulk materials (e.g. vinyl tiles) using the polarised light microscopy analytical method, even after ashing or disintegration of samples. This is due to the small length or diameter of asbestos fibres present in the material, or attributed to the fact that very fine fibres have been dispersed individually throughout the material.

While work is undertaken in a professional manner the nature of HBM and the limitations of the method(s) used mean that we cannot guarantee that all HBM have been identified. This report should therefore not be considered a definitive account of all HBM that may be present at the site.

DP personnel are not licenced or accredited quantity surveyors. Any quantities quoted in this report are provided for general guidance only and should not be relied upon. The services of a licenced quantity surveyor should be engaged in order to determine reliable quantities.

The recommendations and conclusions contained in this report shall not abrogate a person of their responsibility to work in accordance with statutory requirements, codes of practice, standards, guidelines, safety data sheets, work instructions or industry best practice.

Douglas Partners Pty Ltd

Appendix A

About this Report

About this Report

November 2020

Introduction

These notes have been provided to amplify DP's report in regard to classification methods, field procedures and the comments section. Not all are necessarily relevant to all reports.

DP's reports are based on information gained from limited subsurface excavations and sampling, supplemented by knowledge of local geology and experience. For this reason, they must be regarded as interpretive rather than factual documents, limited to some extent by the scope of information on which they rely.

Copyright

Borehole and Test Pit Logs

The borehole and test pit logs presented in this report are an engineering and/or geological interpretation of the subsurface conditions, and their reliability will depend to some extent on frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will provide the most reliable assessment, but this is not always practicable or possible to justify on economic grounds. In any case the boreholes and test pits represent only a very small sample of the total subsurface profile.

Interpretation of the information and its application to design and construction should therefore take into account the spacing of boreholes or pits, the frequency of sampling, and the possibility of other than 'straight line' variations between the test locations.

Groundwater

Where groundwater levels are measured in boreholes there are several potential problems, namely:

- In low permeability soils groundwater may enter the hole very slowly or perhaps not at all during the time the hole is left open;
- A localised, perched water table may lead to an erroneous indication of the true water table;
- Water table levels will vary from time to time with seasons or recent weather changes. They may not be the same at the time of construction as are indicated in the report; and
- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must first be washed out of the hole if water measurements are to be made.

More reliable measurements can be made by installing standpipes which are read at intervals over several days, or perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from a perched water table.

Reports

The report has been prepared by qualified personnel, is based on the information obtained from field and laboratory testing, and has been undertaken to current engineering standards of interpretation and analysis. Where the report has been prepared for a specific design proposal, the information and interpretation may not be relevant if the design proposal is changed. If this happens, DP will be pleased to review the report and the sufficiency of the investigation work.

Every care is taken with the report as it relates to interpretation of subsurface conditions, discussion of geotechnical and environmental aspects, and recommendations or suggestions for design and construction. However, DP cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions. The potential for this will depend partly on borehole or pit spacing and sampling frequency;
- Changes in policy or interpretations of policy by statutory authorities; or
- The actions of contractors responding to commercial pressures.

If these occur, DP will be pleased to assist with investigations or advice to resolve the matter.

continued next page

Site Anomalies

In the event that conditions encountered on site during construction appear to vary from those which were expected from the information contained in the report, DP requests that it be immediately notified. Most problems are much more readily resolved when conditions are exposed rather than at some later stage, well after the event.

Information for Contractual Purposes

Where information obtained from this report is provided for tendering purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document. DP would be pleased to assist in this regard and/or to make additional report copies available for contract purposes at a nominal charge.

Site Inspection

The company will always be pleased to provide engineering inspection services for geotechnical and environmental aspects of work to which this report is related. This could range from a site visit to confirm that conditions exposed are as expected, to full time engineering presence on site.

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Appendix B

Drawing 1 – Site / Building Plan

7 0 7 14 21 28 m

Drawing adapted from Metromap Image, dated 12 June 2022

Douglas Partners
Geotechnics / Environment / Groundwater

CLIENT: Paynter Dixon Constructions Pty Ltd		TITLE: **Building B Layout**	PROJECT No: 102070.02
OFFICE: Newcastle	DRAWN BY: TDM	**Proposed New Building**	DRAWING No: 1
SCALE: 1:250 @ A3	DATE: 19.01.2023	**Maitland Christian School, Metford**	REVISION: 0

Appendix C

Hazardous Building Materials (HBM) Register

Douglas Partners

DP Project No: 102070.02

Hazardous Building Materials Survey

Maitland Christian College

						Asbestos Risk Assessment									
Building	**Location (General)**	**Location (Specific)**	**Material**	**Sample No.**	**Material Status**	**Friability**	**Condition**	**Treatment**	**Accessibility**	**Activity**	**Ventilation**	**Risk Score**	**Action Priority**	**Photo No.**	**Summary Recommendation**
Block B	B1 - interior	internal door	red, grey, blue layered paint	S1	non-lead paint (≤0.1% lead w/w)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	No hazardous material identified.
Block B	B1 - interior	internal door frame	cream paint	S2	non-lead paint (≤0.1% lead w/w)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2	No hazardous material identified.
Block B	B4 - interior	internal door	red, grey, blue layered paint	S3	non-lead paint (≤0.1% lead w/w)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3	No hazardous material identified.
Block B	B4 - interior	internal door frame	cream paint	S4	non-lead paint (≤0.1% lead w/w)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4	No hazardous material identified.
Block B	B2 - interior	ceiling / roof space (Room B2)	settled dust / debris	S5	**elevated lead (11mg/m^2)**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5, 6, 7	Elevated lead concentration detected. Ensure access to building cavity(s) is adequately restricted and entry is only made under controlled conditions. Remove lead contamination if reasonably practicable to do so and prior to any substantive disturbance. Classify material for disposal, if and when required, in accordance with relevant legislative requirements, and NSW EPA Waste Classification Guidelines, and segregate material for disposal if necessary. Implement appropriate controls to prevent exposure and dispersal including during normal occupation and any building work (e.g. maintenance, refurbishment and demolition).
Block B	exterior	external door and window frames and lintels	cream paint	S6	**lead paint (>0.1% lead w/w)**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8	Lead paint identified. Analysis results are above the threshold concentration criteria for lead paint as outlined in AS4361.2. Any areas of damaged/flaking paint and any associated dust/debris should be removed. Classify material for disposal, if and when required, in accordance with relevant legislation and the NSW EPA Waste Classification Guidelines. Segregate material, if required, for disposal. Minimise disturbance and implement controls to prevent exposure and dispersal during any lead paint abatement activity and any building work (e.g. maintenance, refurbishment and demolition).
Block B	exterior	awning posts and beams	green paint	S7	non-lead paint (≤0.1% lead w/w)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9	No hazardous material identified.
Block B	throughout	surfaces in general	paint(s)	refer S6	**may comprise lead paints**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	refer 6	Lead paint(s) identified in building. Consider further assessment of paints for lead prior to any disturbance. Any areas of damaged / flaking lead paint, and any associated dust / debris, should be removed and consideration given to further control (e.g. stabilisation / sealing) of remaining paint(s). Classify material for disposal, if / when required, in accordance with legislative requirements and the NSW EPA Waste Classification Guidelines. Segregate material for disposal if necessary. Minimise disturbance of lead paint and implement controls to prevent exposure and dispersal during normal site operations and any lead paint abatement activity or building work (e.g. maintenance, refurbishment and demolition).
Block B	exterior	awning lining	fibro sheeting	S8	no asbestos detected by analysis	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10	No hazardous material identified.
Block B	exterior	eave lining	fibro sheeting	refer S8	suspected non-asbestos	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11	Suspected non-asbestos. Confirm status of hazardous material(s) when safe access available and prior to any disturbance.
Block B	interior	ceilings throughout all of Block B	fluorescent light fittings	-	Nil PCB (suspected)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Nil PCB (suspected) - Confirm status of PCB when safe access available and prior to any disturbance.
Block B	exterior	eaves/ awnings	fluorescent light fittings	-	**PCB (suspected)**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12	PCB (suspected) - Confirm status of PCB when safe access available. Avoid disturbance and reinspect condition on a regular basis. Manage and phase-out PCB-containing components in accordance with the ANZECC PCB Management Plan, April 2003 and NSW EPA PCB Chemical Control Order 1997.

Douglas Partners

DP Project No: 102070.02

Hazardous Building Materials Survey

Maitland Christian College

						Asbestos Risk Assessment									
Building	**Location (General)**	**Location (Specific)**	**Material**	**Sample No.**	**Material Status**	**Friability**	**Condition**	**Treatment**	**Accessibility**	**Activity**	**Ventilation**	**Risk Score**	**Action Priority**	**Photo No.**	**Summary Recommendation**
Block B	B3 - interior	electrical distribution board	plastic backing board	-	nil asbestos	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	13	No hazardous material identified.
Block B	exterior	eaves/ awnings	fluorescent light fittings	-	**PCB (suspected)**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	14	PCB (suspected) - Confirm status of PCB when safe access available. Avoid disturbance and reinspect condition on a regular basis. Manage and phase-out PCB-containing components in accordance with the ANZECC PCB Management Plan, April 2003 and NSW EPA PCB Chemical Control Order 1997.
Block B	exterior	eaves/ awnings	fluorescent light fittings	-	**PCB (suspected)**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	15	PCB (suspected) - Confirm status of PCB when safe access available. Avoid disturbance and reinspect condition on a regular basis. Manage and phase-out PCB-containing components in accordance with the ANZECC PCB Management Plan, April 2003 and NSW EPA PCB Chemical Control Order 1997.
Block B	interior	ceiling / roof space	insulation	-	SMF identified visually	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	16	SMF insulation. Avoid disturbance and implement controls to prevent exposure and dispersal during normal building occupation, any building work (e.g. maintenance, refurbishment and demolition) and any SMF abatement activity. Classify material for disposal, when required, in accordance with relevant legislation and the NSW EPA Waste Classification Guidelines. Segregate material, if required, for disposal.

Appendix D

Laboratory Certificate(s) of Analysis, Chain of Custody

Envirolab Services Pty Ltd
ABN 37 112 535 645
12 Ashley St Chatswood NSW 2067
ph 02 9910 6200 fax 02 9910 6201
customerservice@envirolab.com.au
www.envirolab.com.au

CERTIFICATE OF ANALYSIS 314861

Client Details

Client	Douglas Partners Newcastle
Attention	Caitlyn Falla
Address	Box 324 Hunter Region Mail Centre, Newcastle, NSW, 2310

Sample Details

Your Reference	**102070.02, Metford**
Number of Samples	6 Paint, 1 Swab, 1 Material
Date samples received	20/01/2023
Date completed instructions received	20/01/2023

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	30/01/2023
Date of Issue	30/01/2023

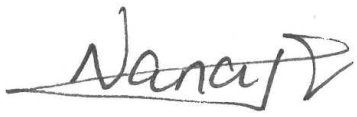
NATA Accreditation Number 2901. This document shall not be reproduced except in full.

Accredited for compliance with ISO/IEC 17025 - Testing. **Tests not covered by NATA are denoted with ***

Asbestos Approved By
Analysed by Asbestos Approved Analyst: Lucy Zhu
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By
Hannah Nguyen, Metals Supervisor
Loren Bardwell, Development Chemist
Lucy Zhu, Asbestos Supervisor

Authorised By



Nancy Zhang, Laboratory Manager

Asbestos ID - materials		
Our Reference		314861-8
Your Reference	UNITS	S8
Date Sampled		19/01/2023
Type of sample		Material
Date analysed	-	23/01/2023
Mass / Dimension of Sample	-	40x35x4mm
Sample Description	-	Beige fibre cement material
Asbestos ID in materials	-	No asbestos detected Organic fibres detected
Trace Analysis	-	No asbestos detected

Lead in Paint						
Our Reference		314861-1	314861-2	314861-3	314861-4	314861-6
Your Reference	UNITS	S1	S2	S3	S4	S6
Date Sampled		19/01/2023	19/01/2023	19/01/2023	19/01/2023	19/01/2023
Type of sample		Paint	Paint	Paint	Paint	Paint
Date prepared	-	30/01/2023	30/01/2023	30/01/2023	30/01/2023	30/01/2023
Date analysed	-	30/01/2023	30/01/2023	30/01/2023	30/01/2023	30/01/2023
Lead in paint	%w/w	0.03	0.02	0.03	0.02	0.21

Lead in Paint		
Our Reference		314861-7
Your Reference	UNITS	S7
Date Sampled		19/01/2023
Type of sample		Paint
Date prepared	-	30/01/2023
Date analysed	-	30/01/2023
Lead in paint	%w/w	<0.005

Lead in swab		
Our Reference		314861-5
Your Reference	UNITS	S5
Date Sampled		19/01/2023
Type of sample		Swab
Date prepared	-	23/01/2023
Date analysed	-	23/01/2023
Lead in Swabs	µg/swab	990

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
Metals-020/021/022	Digestion of Paint chips/scrapings/liquids for Metals determination by ICP-AES/MS and or CV/AAS.
Metals-020/021/022	Digestion of Dust wipes/swabs and /or miscellaneous samples for Metals determination by ICP-AES/MS and/or CV-AAS

QUALITY CONTROL: Lead in Paint						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			30/01/2023	[NT]	[NT]	[NT]	[NT]	30/01/2023	[NT]
Date analysed	-			30/01/2023	[NT]	[NT]	[NT]	[NT]	30/01/2023	[NT]
Lead in paint	%w/w	0.005	Metals-020/021/022	<0.005	[NT]	[NT]	[NT]	[NT]	105	[NT]

QUALITY CONTROL: Lead in swab						Duplicate			Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			23/01/2023	[NT]	[NT]	[NT]	[NT]	23/01/2023	[NT]
Date analysed	-			23/01/2023	[NT]	[NT]	[NT]	[NT]	23/01/2023	[NT]
Lead in Swabs	µg/swab	1	Metals-020/021/022	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.

The recommended maximums for analytes in urine are taken from “2018 TLVs and BEIs”, as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.

Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Where matrix spike recoveries fall below the lower limit of the acceptance criteria (e.g. for non-labile or standard Organics <60%), positive result(s) in the parent sample will subsequently have a higher than typical estimated uncertainty (MU estimates supplied on request) and in these circumstances the sample result is likely biased significantly low.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Douglas Partners
Geotechnics | Environment | Groundwater

CHAIN OF CUSTODY DESPATCH SHEET

Project No:	102070.02	**Suburb:**	Metford	**To:**	Envirolab Services
Project Manager:	Caitlyn Falla	**Order Number:**		**Sampler:**	TDM/SBK
					12 Ashley St, Chatswood NSW 2067
Email:	troy.mcclelland@douglaspartners.com.au			**Attn:**	Sample Receipt
Turnaround time:	☑ Standard ☐ 72 hour ☐ 48 hour ☐ 24 hour ☐ Same day				(02) 9910 6200 samplereceipt@envirolab.com.au
Prior Storage:	☐ Fridge ☐ Freezer ☐ Esky ☑ Shelf	**Do samples contain 'potential' HBM?**	☐ No ☑ Yes		(If YES, then handle, transport and store in accordance with FPM HAZID)

Lab ID	Sample ID: Location / Other ID	Depth From	Depth To	Date Sampled	Sample Type: S - soil W - water M - Material	Container Type: G - glass P - plastic	Analytes: Asbestos ID	Lead in Paint	Lead in Dust									Notes/ Preservation/ Additional Requirements
1	S1			19/01/23	M	P		×										
2	S2			19/01/23	M	P		×										
3	S3			19/01/23	M	P		×										
4	S4			19/01/23	M	P		×										
5	S5			19/01/23	M	P			×									
6	S6			19/01/23	M	P		×										
7	S7			19/01/23	M	P		×										
8	S8			19/01/23	M	P	×											

ENVIROLAB

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 314861
Date Received: 20/01/2023
Time Received: 10:30
Received By: NV
Temp: Cool/Ambient
Cooling: Ice/Icepack
Security: Intact/Broken/None

Metals to analyse:

Number of samples in container:	8	**Transported to laboratory by:**	courier
Send results to:	Douglas Partners Pty Ltd		
Address:	15 Callistemon Close, Warabrook NSW 23	**Phone:**	(02) 4960 9600
Relinquished by:	SBK	**Date:**	19/01/2023
		Signed:	

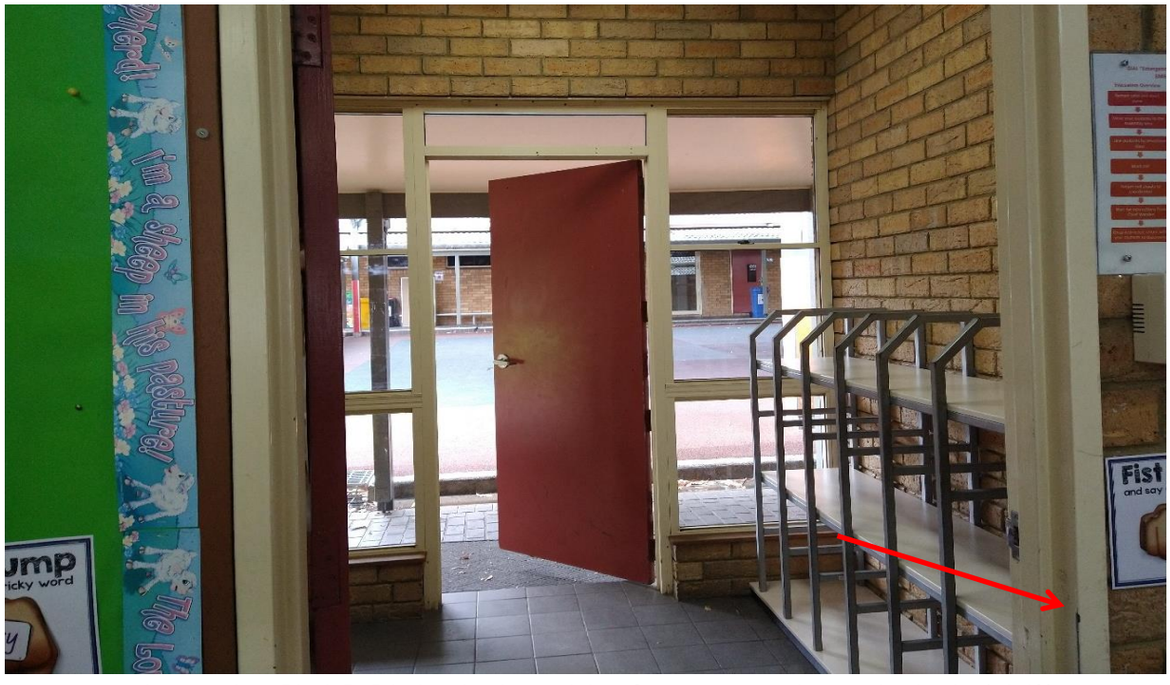
LAB RECEIPT

Lab Ref. No:	314861
Received by:	Nancy Zhang
Date & Time:	20/01/2023 10:30
Signed:	

Appendix E

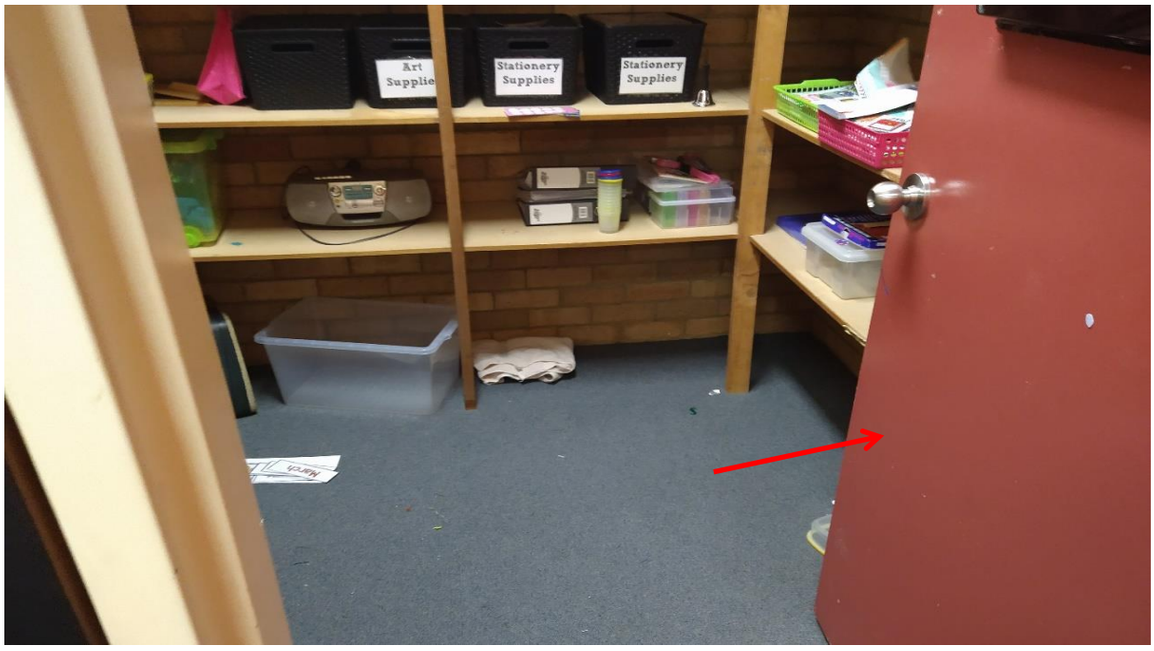
Photographs

Photograph 1: Block B, B1 - interior, internal door, red, grey, blue layered paint, non-lead paint (≤0.1% lead w/w)

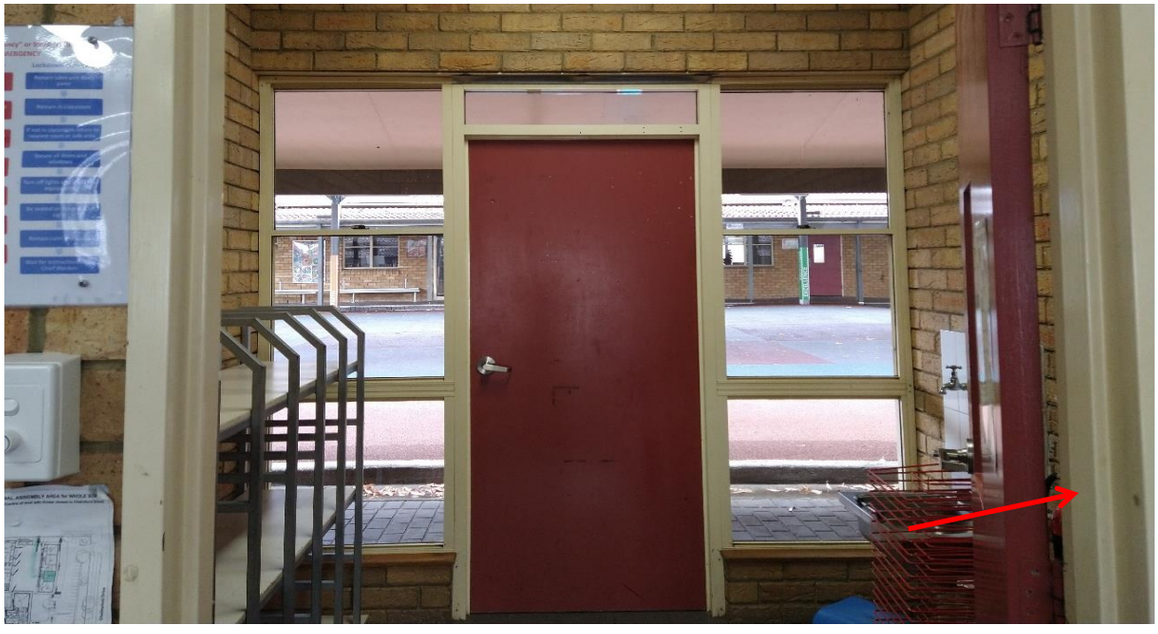


Photograph 2: Block B, B1 - interior, internal door frame, cream paint, non-lead paint (≤0.1% lead w/w)

Douglas Partners Geotechnics / Environment / Groundwater	**Site Photographs** **Hazardous Building Materials Survey** **Maitland Christian College**	PROJECT: 102070.02 PLATE No: 1 REV: 0
	CLIENT: Paynter Dixon Constructions	DATE: Jan-23



Photograph 3: Block B, B4 - interior, internal door, red, grey, blue layered paint, non-lead paint (≤0.1% lead w/w)



Photograph 4: Block B, B4 - interior, internal door frame, cream paint, non-lead paint (≤0.1% lead w/w)

Douglas Partners Geotechnics / Environment / Groundwater	**Site Photographs** **Hazardous Building Materials Survey** **Maitland Christian College**	PROJECT: 102070.02 PLATE No: 2 REV: 0
	CLIENT: Paynter Dixon Constructions	DATE: Jan-23

Photograph 5: Block B, B2 - interior, ceiling / roof space
(Room B2), settled dust / debris, elevated lead (11mg/m2)

Photograph 6: Block B, B2 - interior, ceiling / roof space
(Room B2), settled dust / debris, elevated lead (11mg/m2)

Douglas Partners Geotechnics / Environment / Groundwater	**Site Photographs** **Hazardous Building Materials Survey** **Maitland Christian College**	PROJECT: 102070.02 PLATE No: 3 REV: 0
	CLIENT: Paynter Dixon Constructions	DATE: Jan-23

Photograph 7: Block B, B2 - interior, ceiling / roof space (Room B2), settled dust / debris, elevated lead (11mg/m2)

Photograph 8: Block B, exterior, external door and window frames and lintels, cream paint, lead paint (>0.1% lead w/w)

Douglas Partners Geotechnics / Environment / Groundwater	**Site Photographs** **Hazardous Building Materials Survey** **Maitland Christian College**	PROJECT: 102070.02 PLATE No: 4 REV: 0
	CLIENT: Paynter Dixon Constructions	DATE: Jan-23

Photograph 9: Block B, exterior, awning posts and beams, green paint, non-lead paint (≤0.1% lead w/w)

Photograph 10: Block B, exterior, awning lining, fibro sheeting, no asbestos detected by analysis

Douglas Partners Geotechnics / Environment / Groundwater	**Site Photographs** **Hazardous Building Materials Survey** **Maitland Christian College**	PROJECT: 102070.02 PLATE No: 5 REV: 0
	CLIENT: Paynter Dixon Constructions	DATE: Jan-23

Photograph 11: Block B, exterior, eave lining, fibro sheeting, suspected non-asbestos

Photograph 12: Block B, exterior, eaves/ awnings, fluorescent light fittings, PCB (suspected)

Douglas Partners Geotechnics / Environment / Groundwater	**Site Photographs** **Hazardous Building Materials Survey** **Maitland Christian College**	PROJECT: 102070.02 PLATE No: 6 REV: 0
	CLIENT: Paynter Dixon Constructions	DATE: Jan-23

Photograph 13: Block B, B3 - interior, electrical distribution board, plastic backing board, nil asbestos

Photograph 14: Block B, exterior, eaves/ awnings, fluorescent light fittings, PCB (suspected)

Douglas Partners Geotechnics / Environment / Groundwater	**Site Photographs** **Hazardous Building Materials Survey** **Maitland Christian College**	PROJECT: 102070.02 PLATE No: 7 REV: 0
	CLIENT: Paynter Dixon Constructions	DATE: Jan-23

Photograph 15: Block B, exterior, eaves/ awnings, fluorescent light fittings, PCB (suspected)

Photograph 16: Block B, interior, ceiling / roof space, insulation, SMF identified visually

Douglas Partners Geotechnics / Environment / Groundwater	**Site Photographs** **Hazardous Building Materials Survey** **Maitland Christian College**	PROJECT: 102070.02 PLATE No: 8 REV: 0
	CLIENT: Paynter Dixon Constructions	DATE: Jan-23