



Our ref: PS134976-ASB-REP-001-RevA

Your ref: PS134976-ASB-REP-001-RevA

By email
Stephanie.Todd@epa.nsw.gov.au

29 November 2022

For internal use

Stephanie Todd
Environmental Sampling, Analysis and Response
NSW Environment Protection Authority
6 Parramatta Square, 12 Darcy Street, Parramatta NSW 2150

Dear Stephanie

Wickham Woolshed Ongoing Airborne Fibre Monitoring

1. INTRODUCTION

WSP Australia Pty Limited (WSP) was engaged by NSW Environment Protection Authority (EPA) to undertake airborne fibre monitoring across the fallout zone of the Wickham Wool Store Fire that occurred on 1st March 2022 located at 33-41 Annie Street, Wickham NSW 2293 (the Site).

Monitoring was requested under the ongoing management strategy for the site as outlined within the *Wickham Wool Store Fire Emergency Asbestos Management Plan (EAMP 2022)* developed by the Wickham Wool Store Fire Local Recovery Committee (WWSFLRC).

Monitoring included in this report was undertaken on 25th November 2022 by Gerrad Morgan, Occupation Hygiene Consultant of WSP.

2. BACKGROUND

On 1st March 2022 a significant fire occurred at the Site, destroying the asbestos roof structure and spreading asbestos contamination across an approximately 3.5 km fallout zone extending north-west from Wickham to Waratah. The clean-up response for the event included remediation of public and private properties in accordance with a density-based contamination assessment criteria developed by the WWSFLRC.

As a part ongoing asbestos management strategy, an airborne fibre monitoring program was developed to assess the ongoing residual airborne fibre concentrations throughout the fallout zone. This program was implemented to address the residual risk following the remediation phase of the EAMP and to provide assurance to residents within the fallout zone on an ongoing basis.

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3. METHODOLOGY

Prior to deployment of airborne fibre monitors, two conditions were required to be met as the trigger. The trigger conditions were developed by the EPA in order to simulate conditions which may represent a higher potential for airborne fibre release and spread. These conditions are as follows:

- Windy conditions (3 or more days of moderate breeze >20 km/hr)
- Dry weather (no rain for 3 or more days).

Upon satisfying the above conditions, WSP was requested to deploy 8-10 monitors within the fallout zone and monitor for a continuous period over approximately 8 hours. All monitoring and analysis was undertaken by WSP's NATA accredited facility (NATA accreditation number: 17199) in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:3003(2005)]*.

Monitoring was undertaken at the following locations at the request of the EPA:

- Milford Street, Maryville
- Annie Street, Wickham
- Norfolk Avenue, Islington
- Estell Street, Maryville
- Islington Park, Islington
- Fern Street, Islington
- Rawson Street, Mayfield
- Waratah Park, Waratah.

WSP was requested to recommend an additional two locations based on our understanding of the scope, which were determined based on distribution mapping undertaken as a part of previous engagement during the remediation phase of the EAMP. The additional locations were selected based on the likelihood of ongoing risk and nearby sensitive receptors. The two additional locations are outlined below:

- Roslyn Avenue, Islington: one of the worst impacted areas immediately following the event and had ongoing issues with recontamination from the adjacent apartment building roofs and street drainage from debris trapped within horizontal pipes below ground.
- Hubbard Street, Islington: contaminated with significant debris immediately following the event. This location is nearby cross-section of potential exposure groups including nearby sensitive receptors such as Islington Public School, TAFE Tighes Hill Campus and Islington Park.

4. OBSERVATIONS

4.1 WEATHER CONDITIONS

The following is a summary of weather conditions preceding and triggering the monitoring event in accordance with the prescribed criteria. Weather data was obtained from the Australian Bureau of Meteorology website using the nearest weather station located at Nobby's Head (ref: Nobbys Signal Station AWS Station 061055).

Table 4.1 – Weather Conditions – Nobby's Head

Date	Temperature min/max (°c)	Max wind gust (km/h)	Rainfall (mm)
22/11/2022	13.2 / 22.7	70	0
23/11/2022	14.2 / 26.9	41	0
24/11/2022	16.2 / 21.7	31	0
25/11/2022	18.2 / 22.4	35	0

4.2 MONITORING LOCATION OBSERVATIONS

The following observations were made within the immediate vicinity of each location for monitoring at the time of deployment. For more detail refer to photographs in **Attachment A**.

ANNIE STREET, WICKHAM NSW 2293

- The monitoring location was directly adjacent (south) to the previous location of the wool store fire site.
- The impact site has been cleared down to timber footings.
- No obvious signs of asbestos containing material (ACM) contamination to public areas were observed.
- The third (western) wool store building remains standing, with an assumed ACM roof in-situ and is fenced-off due to dilapidation.
- Some level of residual ACM contamination is assumed to inaccessible areas nearby.

MILFORD STREET, MARYVILLE NSW 2293

- The monitoring location was directly adjacent to the third (western) remaining wool store building on Milford Street, which remains standing, with an assumed ACM roof in-situ and is fenced-off due to dilapidation.
- No obvious signs of ACM contamination to public areas were observed.
- Some level of residual ACM contamination is assumed to inaccessible areas nearby.

ROSLYN AVENUE, ISLINGTON NSW 2296

- The monitoring location was directly adjacent to 27 Roslyn Avenue on the eastern side of the street.
- Nearby suspected ACM debris was observed to the base of trees outside the Soqué Warehouse Apartments and to road guttering throughout the street.



- Apartment roof areas to the east may be a source of ongoing contamination following extreme wind events.
- Horizontal rainwater pipes may be a source of ongoing gutter contamination due to inaccessibility during remediation works.
- Some level of ACM contamination is assumed to inaccessible areas nearby.

NORFOLK AVENUE, ISLINGTON NSW 2296

- The monitoring location was directly adjacent to 32 Norfolk Avenue on the western side of the street.
- No obvious signs of ACM contamination to public areas were observed.
- Some level of residual ACM contamination is assumed to inaccessible areas nearby.

ESTELL STREET, MARYVILLE NSW 2293

- The monitoring location was directly adjacent to 1 Estell Street on the eastern side of the street.
- No obvious signs of ACM contamination to public areas were observed.
- Some level of residual ACM contamination is assumed to inaccessible areas nearby.

ISLINGTON PARK, 63 POWER STREET, ISLINGTON NSW 2296

- The monitoring location was to the northern side of the sports field, adjacent to the cycle track.
- No obvious signs of ACM contamination to public areas were observed.
- Some level of residual ACM contamination is assumed to inaccessible areas nearby.

HUBBARD STREET, ISLINGTON NSW 2296

- The monitoring location was directly adjacent to 13 Hubbard Street on the northwest side of the street.
- No obvious signs of ACM contamination to public areas were observed.
- Some level of residual ACM contamination is assumed to inaccessible areas nearby.

FERN STREET, ISLINGTON NSW 2296

- The monitoring location was directly adjacent to 121 Fern Street on the north-east side of the street.
- No obvious signs of ACM contamination to public areas were observed.
- Some level of residual ACM contamination is assumed to inaccessible areas nearby.

RAWSON STREET, MAYFIELD NSW 2304

- The monitoring location was directly adjacent to 48 Rawson Street on the eastern side of the street.
- No obvious signs of ACM contamination to public areas were observed.
- Some level of ACM contamination is assumed to inaccessible areas nearby.

WARATAH PARK, YOUNG STREET, WARATAH NSW 2298

- The monitoring location was directly south-east of the Waratah Oval cricket field in the centre of Waratah Park.
- No obvious signs of ACM contamination to public areas were observed.

— Some level of residual ACM contamination is assumed to inaccessible areas nearby.

5. RESULTS

Results of the airborne fibre monitoring are summarised in the table below.

Table 5.1 Airborne fibre monitoring (25/11/2022)

SAMPLE ID	SAMPLE LOCATION	VOLUME OF AIR (L)	TIME ON	TIME OFF	CONCENTRATION (FIBRES/ML)
7713	Roslyn Avenue, Islington NSW 2296 - Power pole adjacent to 27 Roslyn Avenue	494.05	8:10	16:12	<0.01
7336	Annie Street, Wickham NSW 2293 - Power pole directly south of the woolshed site	479	8:18	16:17	<0.01
7432	Milford Street, Maryville NSW 2293 - Temporary fencing directly west of remaining wool store building	452.2	8:25	16:21	<0.01
7782	Norfolk Avenue, Islington NSW 2296 - Power pole adjacent to 32 Norfolk Avenue	475	8:32	16:27	<0.01
7413	Estell Street, Maryville NSW 2293 - Power pole adjacent to 1 Estell Street	462	8:48	16:30	<0.01
7753	Islington Park, 63 Power Street, Islington NSW 2296 - Power pole to northern elevation, adjacent cycle track	471.5	8:56	16:36	<0.01
7659	Hubbard Street, Islington NSW 2296 - School zone sign adjacent to 13 Hubbard Street	480.9	9:09	16:47	<0.01
7386	Fern Street, Islington NSW 2296 - Power pole adjacent to 121 Fern Street	456	9:17	16:53	<0.01

SAMPLE ID	SAMPLE LOCATION	VOLUME OF AIR (L)	TIME ON	TIME OFF	CONCENTRATION (FIBRES/ML)
7400	Rawson Street, Mayfield NSW 2304 - Power pole adjacent to 48 Rawson Street	454	9:25	16:59	<0.01
7317	Waratah Park, Young Street, Waratah NSW 2298 - On south-east elevation fenceline to cricket field	451	9:36	17:07	<0.01

Certificate of analysis for results is provided in **Attachment B**.

6. CLOSURE

Airborne fibre concentrations for all locations sampled were below the reporting limit of 0.01 fibres/mL of air and not considered significantly above normal background levels.

If you have any questions regarding the report findings, please contact the undersigned on 0421 675 782 or via email at gerrad.morgan@wsp.com.

Yours sincerely



Gerrad Morgan
Occupational Hygiene Consultant

Encl: Site Photographs
Certificates of Analysis
Monitoring Locations
Limitations



ATTACHMENT A PHOTOGRAPHS



Photo 1: Annie Street monitoring location



Photo 2: The previous location of the wool store fire



Photo 3: Milford Street monitoring location



Photo 4: The remaining wool store building with asbestos roof structure assumed



Photo 5: Roslyn Avenue monitoring location



Photo 6: Suspected asbestos debris observed to base of tree adjacent Soqué Warehouse Apartments



Photo 7: Suspected asbestos debris observed to base of tree adjacent Soqué Warehouse Apartments



Photo 8: Suspected asbestos debris observed to road gutter adjacent monitoring location



Photo 9: Norfolk Avenue monitoring location



Photo 10: Estell Street monitoring location



Photo 11: Islington Park monitoring location



Photo 12: Asbestos debris assumed to densely vegetated areas



Photo 13: Hubbard Street monitoring location



Photo 14: Hubbard Street facing west towards Islington Public School



Photo 15: Fern Street monitoring location



Photo 16: Rawson Street monitoring location



Photo 17: Waratah Park monitoring location



Photo 18: Waratah Park overview



ATTACHMENT B

CERTIFICATES OF ANALYSIS



WORLD RECOGNISED
ACCREDITATION

ABN 80 078 004 798

Accredited for compliance with ISO/IEC:
17025 - Testing (No. 17199)
NCSI Certified Quality System ISO 9001

Certificate of Analysis

LOCATION:	Wickham Woolshed Fallout Zone	CERTIFICATE NO:	NEW-PS134976-157612
CLIENT:	NSW EPA	DATE(S) SAMPLED:	25/11/2022
CLIENT ADDRESS:	6 Parramatta Square, 12 Darcy St, Parramatta NSW 2150	DATE RECEIVED:	28/11/2022
TELEPHONE:	02 9995 6929	DATE ANALYSED:	28/11/2022
EMAIL:	Stephanie.Todd@epa.nsw.gov.au	ORDER NUMBER:	N/A
CONTACT:	Stephanie Todd	SAMPLED BY:	Gerrad Morgan
TEST METHOD:	Filters examined at WSP Corporate Laboratories in accordance with N.O.H.S.C (2005) Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres and WSP's Laboratory Procedure (LP4 - Counting of Asbestos and Synthetic Mineral Fibres).		

<u>Lab No</u>	<u>Sample ID</u>	<u>Location</u>	<u>Results (Fibres/Field)</u>	<u>Concentration (Fibres/mL)</u>
Background:				
001	7713	Roslyn Avenue, Islington NSW 2296 - Power pole adjacent to 27 Roslyn Avenue	3.0 / 100	<0.01
002	7336	Annie Street, Wickham NSW 2293 - Power pole directly south of the woolshed site	2.0 / 100	<0.01
003	7432	Milford Street, Maryville NSW 2293 - Temporary fencing directly west of remaining woolshed building	2.0 / 100	<0.01
004	7782	Norfolk Avenue, Islington NSW 2296 - Power pole adjacent to 32 Norfolk Avenue	0.0 / 100	<0.01
005	7413	Estell Street, Maryville NSW 2293 - Power pole adjacent to 1 Estell Street	0.5 / 100	<0.01
006	7753	Islington Park, 63 Power Street, Islington NSW 2296 - Power pole to northern elevation, adjacent cycle track	0.0 / 100	<0.01
007	7659	Hubbard Street, Islington NSW 2296 - School zone sign adjacent to 13 Hubbard Street	2.0 / 100	<0.01
008	7386	Fern Street, Islington NSW 2296 - Power pole adjacent to 121 Fern Street	0.0 / 100	<0.01
009	7400	Rawson Street, Mayfield NSW 2304 - Power pole adjacent to 48 Rawson Street	4.0 / 100	<0.01
010	7317	Waratah Park, Young Street, Waratah NSW 2298 - On southeast elevation fenceline to cricket field	1.0 / 100	<0.01



Certificate of Analysis

WSP Australia Pty Limited



WORLD RECOGNISED
ACCREDITATION

Level 3, 51-55 Bolton Street, Newcastle
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Telephone +61 2 49298331
Email ANZLab@wsp.com

ABN 80 078 004 798

Accredited for compliance with ISO/IEC:
17025 - Testing (No. 17199)
NCSI Certified Quality System ISO 9001

LOCATION: Wickham Woolshed Fallout Zone

CERTIFICATE NO: NEW-PS134976-157612

Approved Counter

Name: Gerrad Morgan

Approved Signatory

Name: Clare Brockbank

AUTHORISATION DATE

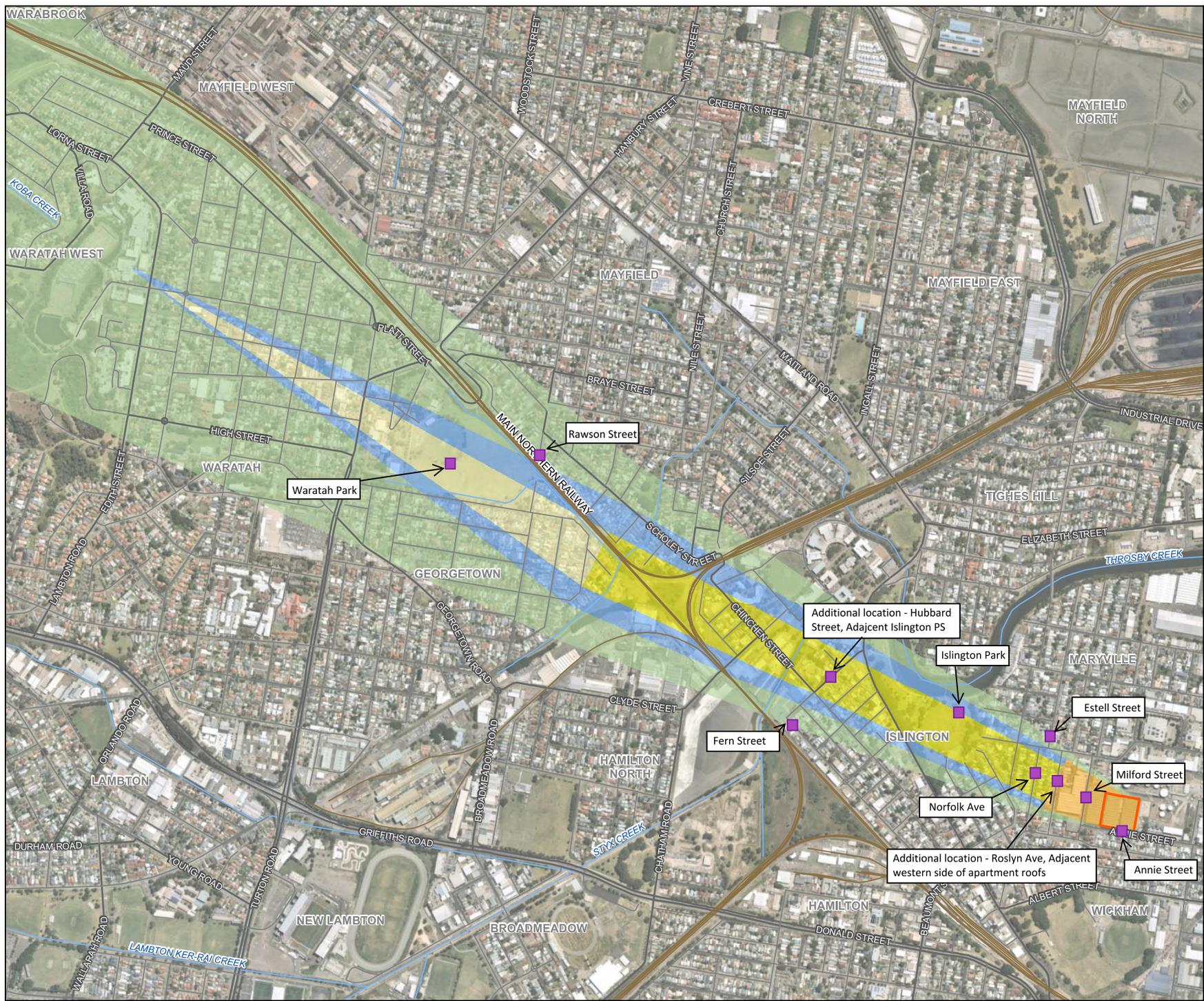
Monday, 28 November 2022

NB: If the fibre count is less than 10 fibres per 100 fields then the count is not significantly above that of background. Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Dust. [N.O.H.S.C.:3003 (2005)]

The results contained within this report relate only to the sample(s) submitted for testing. This document may not be reproduced except in full.

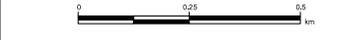


ATTACHMENT C
MONITORING LOCATIONS



- Legend**
- Main road
 - Local road
 - Railway
 - Watercourse
 - Woolshed site
- Contamination priority level**
- Priority 1
 - Priority 2-1
 - Priority 2-2
 - Priority 3
 - Priority 4

■ Monitoring location



Coordinate system: GDA 1994 MGA Zone 56
 Scale ratio correct when printed at A3
 1:12,000 Date: 7/03/2022

Data sources - NSW Spatial Services, Nearmap

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**ATTACHMENT D
LIMITATIONS**

D.1 LIMITATIONS

PERMITTED PURPOSE

This Report is provided by WSP for the purpose described in the Agreement and no responsibility is accepted by WSP for the use of the Report in whole or in part, for any other purpose (Permitted Purpose).

QUALIFICATIONS AND ASSUMPTIONS

The services undertaken by WSP in preparing this Report were limited to those specifically detailed in the Report and are subject to the scope, qualifications, assumptions and limitations set out in the Report or otherwise communicated to the Client.

Except as otherwise stated in the Report and to the extent that statements, opinions, facts, conclusion and / or recommendations in the Report (Conclusions) are based in whole or in part on information provided by the Client and other parties identified in the report (Information), those Conclusions are based on assumptions by WSP of the reliability, adequacy, accuracy and completeness of the Information and have not been verified. WSP accepts no responsibility for the Information.

Where the survey identifies that hazardous materials are on site, the Conclusions are indicative of the presence of hazardous materials and cannot be regarded as absolute without further extensive sampling, outside the scope of the services set out in the Agreement. Site conditions, including the extent and visibility of hazardous materials, can change with time. On all sites, varying degrees of non-uniformity of conditions are encountered and the presence of hazardous materials which are not visually apparent at the time of inspection, are not likely to be detected. No monitoring, common testing or sampling technique provides results that are totally representative of the presence or non-presence of hazardous materials at the Site. Site conditions, including subsurface conditions can change with time due to natural and anthropogenic causes.

Only material that was physically accessible at the time of inspection was sampled. Consequently, not all hazardous material may have been located at the Site. The survey identifying hazardous materials on site should be reviewed prior to demolition or refurbishment as a more detailed destructive survey may be required prior to demolition or refurbishment works. Care should be taken during normal site works, refurbishment or demolition works when entering previously inaccessible areas. If suspect material is encountered, works should cease in the area until samples have been collected and analysed by competent personnel.

It is impossible to locate all hazardous materials during an inspection. This is due to such factors as (without limitation):

- Time, budget and constraints requested by the Client;
- Access restrictions;
- The need to avoid causing physical damage to fixtures or structures on the Site;
- The need to minimise hazardous materials exposures to building occupants;
- The need to minimise inconvenience when the Site is in use (e.g. occupied) whilst an inspection is being conducted; and / or
- The availability of relevant building / plant construction plans.

Hazardous materials that could be routinely encountered in the normal day-to-day activities occurring on the Site, have been identified and assessed, however there is no guarantee that the Site is free of hazardous materials, since future activities may reveal hazardous materials in areas inaccessible or unknown to WSP.



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