

## 16.3 APPENDIX C –EXCAVATION NOISE AND VIBRATION MANAGEMENT PLAN

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Harbourside

## Excavation Phase - Construction Noise and Vibration Management Plan

|                |                                                |
|----------------|------------------------------------------------|
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## TABLE OF CONTENTS

|           |                                                                                                                           |           |
|-----------|---------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>1</b>  | <b>EXECUTIVE SUMMARY.....</b>                                                                                             | <b>5</b>  |
| 1.1       | INTRODUCTION .....                                                                                                        | 5         |
| 1.2       | BACKGROUND .....                                                                                                          | 5         |
| 1.3       | SITE DESCRIPTION .....                                                                                                    | 5         |
| 1.4       | OVERVIEW OF THE PROPOSED DEVELOPMENT .....                                                                                | 6         |
| 1.5       | PLANNING APPROVALS STRATEGY.....                                                                                          | 6         |
| 1.6       | SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS .....                                                                   | 6         |
| <b>2</b>  | <b>CONSTRUCTION NOISE &amp; VIBRATION MANAGEMENT PLAN.....</b>                                                            | <b>7</b>  |
| <b>3</b>  | <b>NEAREST SENSITIVE RECEIVERS .....</b>                                                                                  | <b>7</b>  |
| <b>4</b>  | <b>EXCAVATION ACTIVITIES .....</b>                                                                                        | <b>10</b> |
| <b>5</b>  | <b>AMBIENT BACKGROUND NOISE SURVEY.....</b>                                                                               | <b>12</b> |
| 5.1       | AMBIENT BACKGROUND NOISE MEASUREMENTS .....                                                                               | 12        |
| <b>6</b>  | <b>CONSTRUCTION NOISE CRITERIA .....</b>                                                                                  | <b>13</b> |
| 6.1       | CITY OF SYDNEY COUNCIL – CODE OF PRACTICE FOR CONSTRUCTION<br>HOURS/NOISE WITHIN THE CENTRAL BUSINESS DISTRICT 1992 ..... | 13        |
| 6.1.1     | Australian Standard AS2436:2010 "Guide to Noise Control on Construction,<br>Maintenance and Demolition Sites" .....       | 14        |
| 6.2       | SUMMARY OF RELEVANT CONSTRUCTION NOISE LEVELS.....                                                                        | 15        |
| 6.3       | VIBRATION .....                                                                                                           | 17        |
| 6.3.1     | German Standard DIN 4150-3 (1990).....                                                                                    | 18        |
| 6.3.2     | British Standard BS 7385 Part 2-1993.....                                                                                 | 19        |
| 6.3.3     | NSW EPA Assessing Vibration: A Technical Guideline.....                                                                   | 20        |
| 6.3.4     | Requirements of Sydney Water 'Sydney Water Specialist Engineering Assessment'<br>21                                       |           |
| 6.3.5     | Vibration Impacts to Light Rail Assets.....                                                                               | 22        |
| 6.3.6     | Summary of Recommended Vibration Limits.....                                                                              | 22        |
| <b>7</b>  | <b>ACTIVITIES TO BE CONDUCTED AND THE ASSOCIATED NOISE SOURCES .....</b>                                                  | <b>23</b> |
| <b>8</b>  | <b>NOISE EMISSION ASSESSMENT.....</b>                                                                                     | <b>24</b> |
| 8.1       | PREDICTED NOISE EMISSIONS .....                                                                                           | 24        |
| 8.2       | SOUNDPLAN MODELLING .....                                                                                                 | 24        |
| 8.3       | PREDICTED NOISE LEVELS AT SENSITIVE RECEIVERS .....                                                                       | 28        |
| <b>9</b>  | <b>AMELIORATIVE MEASURES.....</b>                                                                                         | <b>29</b> |
| 9.1       | SITE SPECIFIC RECOMMENDATIONS .....                                                                                       | 29        |
| 9.2       | GENERAL RECOMMENDATIONS .....                                                                                             | 30        |
| 9.2.1     | Acoustic Barrier .....                                                                                                    | 30        |
| 9.2.2     | Silencing Devices .....                                                                                                   | 30        |
| 9.2.3     | Material Handling.....                                                                                                    | 30        |
| 9.2.4     | Treatment of Specific Equipment.....                                                                                      | 30        |
| 9.2.5     | Establishment of Site Practices.....                                                                                      | 30        |
| 9.3       | NOISE MONITORING.....                                                                                                     | 31        |
| 9.3.1     | Downloading of Noise Monitor Data.....                                                                                    | 31        |
| 9.3.2     | Presentation of Noise Monitor Results .....                                                                               | 31        |
| <b>10</b> | <b>ASSESSMENT METHODOLOGY AND MITIGATION METHODS.....</b>                                                                 | <b>32</b> |
| <b>11</b> | <b>ASSESSMENT OF VIBRATION .....</b>                                                                                      | <b>33</b> |
| 11.1      | VIBRATION PRODUCING ACTIVITIES.....                                                                                       | 33        |



|             |                                                                          |           |
|-------------|--------------------------------------------------------------------------|-----------|
| <b>11.2</b> | <b>SAFEGUARDS TO PROTECT SENSITIVE STRUCTURES .....</b>                  | <b>33</b> |
| <b>11.3</b> | <b>VIBRATION MONITORING .....</b>                                        | <b>33</b> |
| 11.3.1      | Downloading of Vibration Monitor Data.....                               | 33        |
| 11.3.2      | Presentation of Vibration Monitor Results .....                          | 33        |
| <b>12</b>   | <b>COMMUNITY INTERACTION AND COMPLAINTS HANDLING.....</b>                | <b>34</b> |
| <b>12.1</b> | <b>ESTABLISHMENT OF DIRECT COMMUNICATION WITH AFFECTED PARTIES .....</b> | <b>34</b> |
| <b>12.2</b> | <b>DEALING WITH COMPLAINTS .....</b>                                     | <b>35</b> |
| <b>13</b>   | <b>CONTINGENCY PLANS.....</b>                                            | <b>36</b> |
| <b>14</b>   | <b>CONCLUSION.....</b>                                                   | <b>37</b> |

# 1 EXECUTIVE SUMMARY

## 1.1 INTRODUCTION

This report supports a State Significant Development Application (SSDA 38881729) submitted to the Minister for Planning pursuant to Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Following consent being granted for the Concept Proposal and Stage 1 demolition works, Mirvac Projects Pty Ltd (Mircvac) is now pursuing the next stage of planning approvals for the detailed design, construction, and operation of the redevelopment of the Harbourside Shopping Centre at Darling Harbour. Mirvac has divided these detailed design works across three related, but separate, SSDAs to ensure the efficient staged delivery of this large scale project.

This report is part of the first detailed SSDA application for bulk excavation works and construction of retaining structures. It more broadly forms part of the Harbourside Shopping Centre redevelopment that will deliver a world class mixed use retail, commercial and lifestyle precinct and contribute to the ongoing renewal and revitalisation of Darling Harbour.

## 1.2 BACKGROUND

Mircvac is pursuing the staged redevelopment of the Harbourside Shopping Centre, with the first key planning approval secured on 25 June 2021 (SSD 7874) establishing the relevant planning parameters, including building envelopes, maximum GFA limits, Design Guidelines and Design Excellence Strategy, and car parking rates to guide the future detailed design, construction, and operation of Harbourside under subsequent SSD applications. SSD 7874 also granted consent to the demolition of the existing shopping centre and associated structures to ground floor slab level.

To enable the efficient delivery of the project, Mirvac has divided the detailed design and construction works across separate SSDAs, comprising:

SSDA 1: Bulk excavation works and construction of retaining structures.

SSDA 2: Detailed design, construction, and operation of the new podium and tower building.

SSDA 3: Construction and use of the public domain, and Guardian Square, including construction and use of the Murray Street and Bunn Street bridges.

This report forms part of the first detailed design application for bulk excavation works and construction of retaining structures (SSDA 1).

## 1.3 SITE DESCRIPTION

The Harbourside redevelopment site is located within the Darling Harbour Precinct inside the City of Sydney Local Government Area (LGA), at the south-western edge of the Sydney CBD. The precinct remains as Sydney's premier tourist and entertainment destination and accommodates varied recreation, tourism, entertainment, retail, residential apartments, and business land uses.

Specifically, the site occupies an area of approximately 2.05 hectares within the north western portion of Darling Harbour, in between Cockle Bay and the Pyrmont Peninsula. It is irregularly shaped and existing site improvements include the 2-3 storey Harbourside Shopping Centre – noting approval has already been granted for stage 1 demolition works. Indicative site boundaries are shown in **Figure 1**.



**Figure 1 - Harbourside Shopping Centre redevelopment site**

## 1.4 OVERVIEW OF THE PROPOSED DEVELOPMENT

This report forms part of the first detailed design SSDA for Harbourside (SSDA 38881729), and seeks consent for the following works:

- Bulk earthworks to enable the construction of the redeveloped Harbourside Shopping Centre building, including demolition of the ground level slab; and
- Construction of retaining structures for the excavated site.

For more information, refer to the Environmental Impact Statement (EIS) prepared by Ethos Urban to which this report is attached.

## 1.5 PLANNING APPROVALS STRATEGY

*State Environmental Planning Policy (Planning Systems) 2022* identifies development which is declared to be State Significant. The proposal is SSD as it is located within Darling Harbour and the proposed development has a Capital Investment Value (CIV) of more than \$10 million.

## 1.6 SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

In accordance with section 4.39 of the *Environmental Planning & Assessment Act 1979* (EP&A Act), Secretary's Environmental Assessment Requirements (SEARs) for SSD-38881729 have been issued. This report has been prepared to respond to the SEARs.

## 2 CONSTRUCTION NOISE & VIBRATION MANAGEMENT PLAN

Acoustic Logic (AL) has been engaged to prepare a construction noise and vibration management plan for the excavation phase of the Harbourside redevelopment, an existing retail/commercial development located at 2-10 Darling Drive, Darling Harbour.

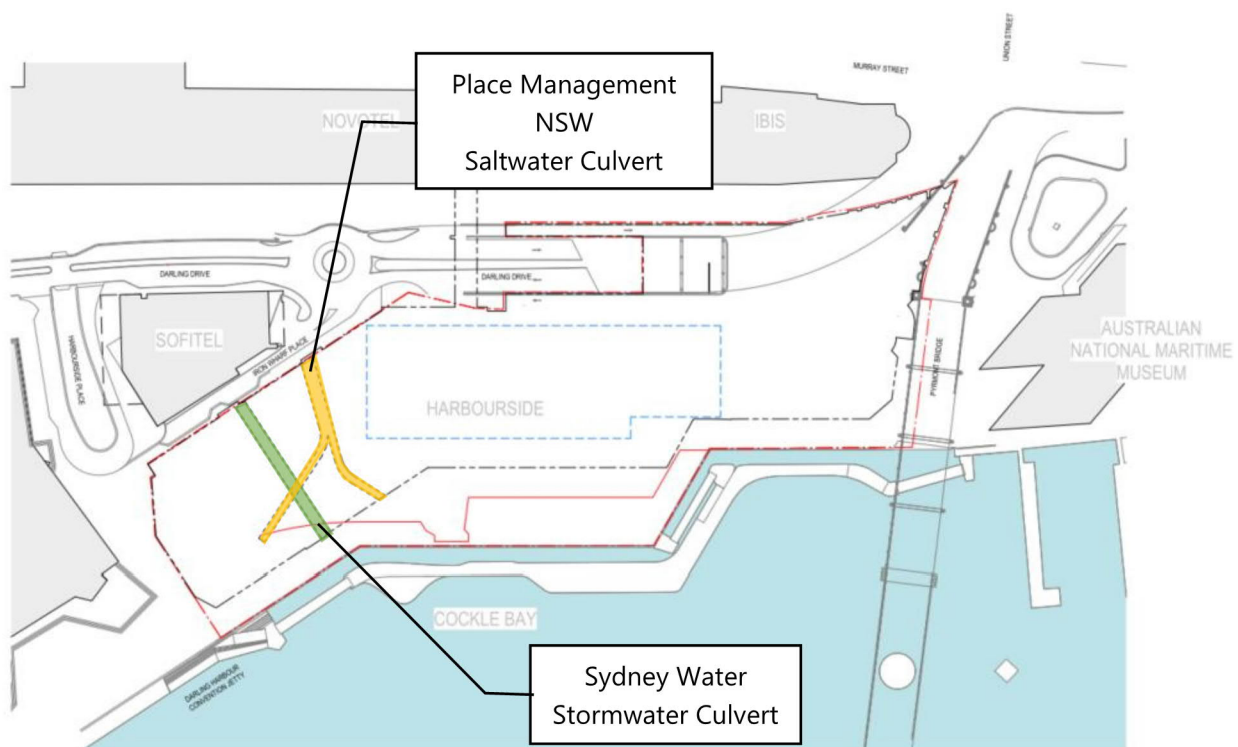
This report has been prepared in support of a development application for the excavation stage of the Harbourside project. As there are no conditions of consent relating to excavation at this stage, the standard Council of the City of Sydney Construction Noise and Vibration Criteria have been adopted for the purposes of this assessment.

Further reviews can be undertaken during the excavation and construction period, or as required, in response to revised methods and equipment. This management plan outlines the procedures that would be adopted by the Head Contractor during the detailed excavation phase.

## 3 NEAREST SENSITIVE RECEIVERS

The site is located at 2-10 Darling Drive, Darling Harbour. The site is bound to the north by Pyrmont Bridge, to the south by the Sofitel Sydney and the International Convention Centre (ICC), to the east by Darling Harbour and associated boardwalk/wharf and to the west by Darling Drive.

Figure 2 presents an aerial site map with figure 3 illustrating an eastern elevation of the proposed Harbourside development.



**Figure 2: Aerial site map of the Harbourside project site**





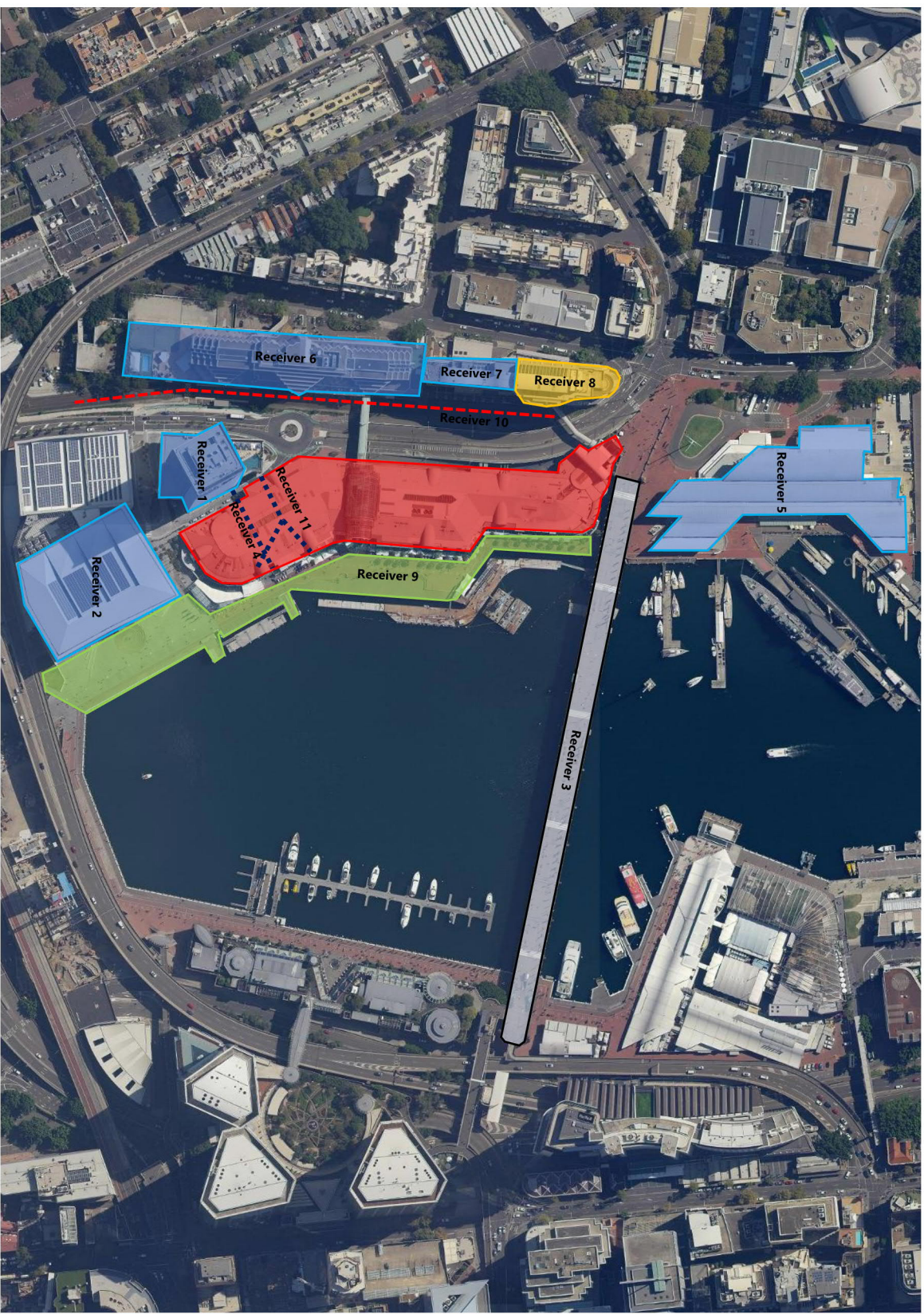
**Figure 3: Eastern elevation of the proposed 'Harbourside' project site**

The nearest potentially affected noise and vibration sensitive receivers immediate to the Harbourside redevelopment project site are:

- **Receiver 1:** The Sofitel Sydney Darling Harbour located at 12 Darling Drive, Darling Harbour. The commercial receiver is located to the south of the project site.
- **Receiver 2:** The International Convention Centre (ICC) located at 14 Darling Drive, Darling Harbour. The commercial receiver is located to the south of the project site.
- **Receiver 3:** The Pyrmont Bridge heritage asset located to the north of the project site.
- **Receiver 4:** The Sydney Water stormwater culvert located directly beneath the project site.
- **Receiver 5:** The Australian National Maritime Museum located at 2 Murray Street, Darling Harbour. The museum is located to the north of the project site.
- **Receiver 6:** The Novotel Sydney on Darling Harbour located at 100 Murray Street, Pyrmont. The commercial receiver is located to the west of the project site.
- **Receiver 7:** The Ibis Sydney Darling Harbour located at 70 Murray Street, Pyrmont. The commercial receiver is located to the west of the project site.
- **Receiver 8:** The One Darling Harbour located at 50 Murray Street, Sydney. The residential receiver is located to the west of the project site.
- **Receiver 9:** The Darling Harbour boardwalk and associated wharf/pier located to the east of the project site.
- **Receiver 10:** Sydney light rail network and associated light rail station 'Convention' located to the west of the project site.
- **Receiver 11:** Heritage item Water Cooling System and Manifold (saltwater intake and discharge culvert), Place Management NSW asset.

An aerial photo is presented in figure 4 detailing the sensitive receiver locations.





**Figure 4: Aerial photo of project site and nearest sensitive receivers**

- Harbourside Project Site
- Commercial Receiver
- Residential Receiver
- Pyrmont Bridge
- Heritage Asset
- Sydney Harbour Boardwalk/Pier
- Underground Assets (R4 / R11)
- Sydney Light Rail Network

## 4 EXCAVATION ACTIVITIES

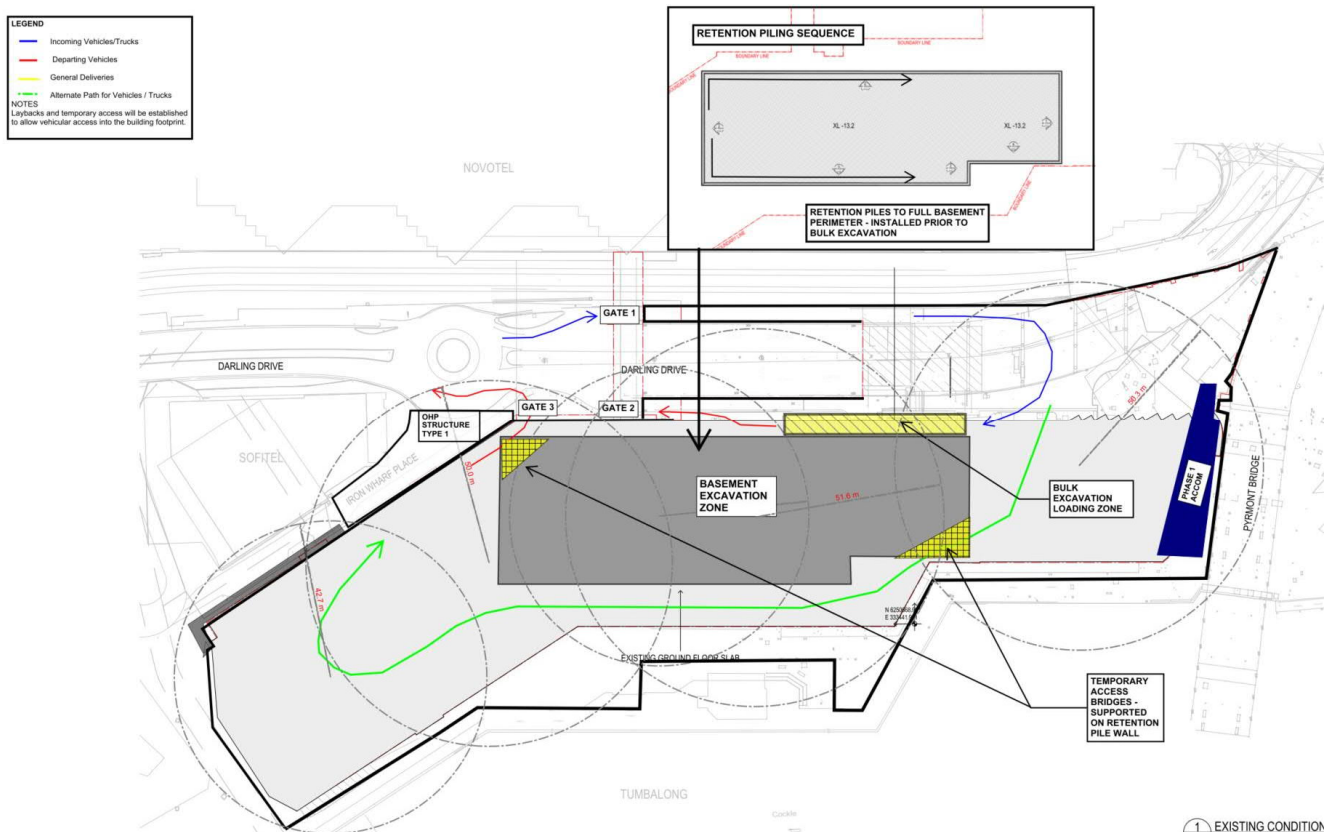
The information provided to this office of the primary noise producing activities associated during the excavation phase of the project site are as follows below:

### Excavation Phase: 9 Months

- Four (4) excavators with bucket, hydraulic hammer, and ripper attachments to load, stockpile, trim sandstone and hammer sandstone where required.
- One (1) bulldozer to rip bulk material.
- Three (3) Continuous Flight Auger (CFA) piling rigs.
- Concrete line pumps.
- Concrete trucks.
- Mobile diesel crane.
- Semi-trailers.

Trucks are proposed to enter the construction site by travelling north along Darling Drive, entering via Gate 1 where the vehicles will perform a U-turn manoeuvre and exit the site via Gate 2 to the south. Approximate vehicle movements are 100 movements per day.

Refer to figure 5 for the proposed vehicle travel path and figure 6 for the proposed excavation plan.

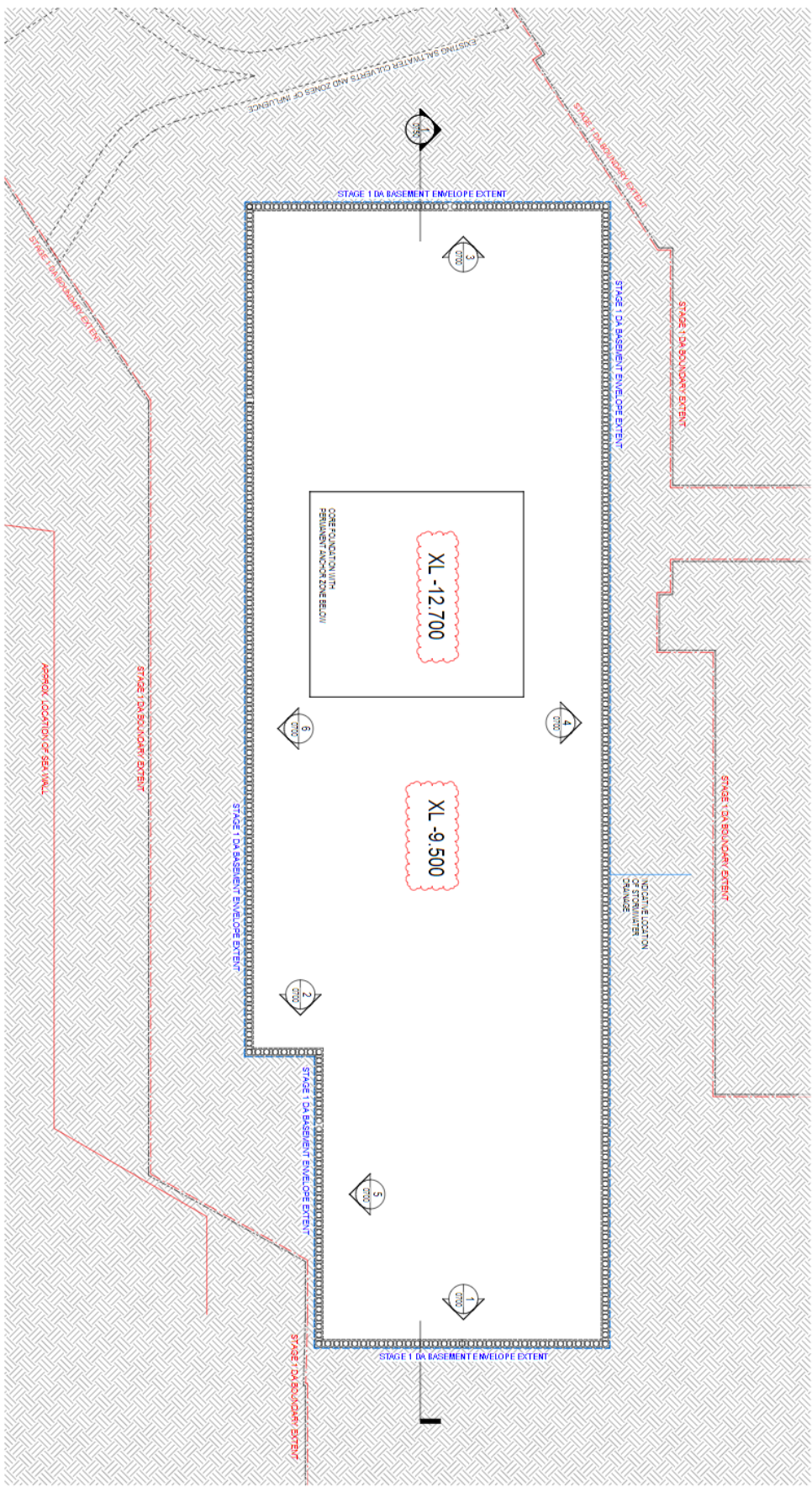


**Figure 5: Proposed Vehicle Travel Path**



## LEGEND

- SPREAD LOCATION OF WALL, SECOND PROJECTIONS
- SPREAD ON BOUNDER EXTENT
- SPREAD ON BARRIER ENVELOPE EXTENT
- EXTENDING PLATTER COLLECTS
- AND ZONES OF INFLUENCE
- PROPOSED DISCHARGE LOCATION
- PROLONGATION OF EXISTING SPALL
- FINAL DISLOCATION RELATIVE AREA



### Figure 6: Proposed Excavation Plan



## 5 AMBIENT BACKGROUND NOISE SURVEY

### 5.1 AMBIENT BACKGROUND NOISE MEASUREMENTS

Noise generated by plant and equipment throughout the duration of the project will be managed in accordance with the management levels, and for the morning and afternoon periods on Saturdays in accordance with the noise criteria at residences.

In order to establish noise management levels to specific receivers, background noise levels were measured at all locations representing the most sensitive receiver groups.

Daytime background noise levels have been determined using a combination of attended and long term, unattended noise measurements.

Attended and unattended measurements of background noise were undertaken by this office on the following occasions:

- Unattended background noise monitoring between 27 June to the 7 July 2012.
- Attended background noise measurements on the 22 April and 5 June 2013.
- Unattended background noise monitoring between 26 July to the 2 August 2017.

The above ambient background noise monitoring data previously undertaken by this office has been utilised to determine the acoustic environment and establish noise management levels at receiver locations surrounding the proposed project site given the current covid 19 pandemic and associated Greater Sydney lockdown limiting the activity within the area. As the ambient background noise monitoring data collected during the measurement periods presented above was unaffected by the covid 19 pandemic lock down it is expected that the acoustic environment is representative of the ambient acoustic environment once the excavation phase of the project commences. In addition, the unattended ambient noise monitoring data presented within this report is consistent with the ambient background noise monitoring data detailed within the '*Harbourside Shopping Centre, Darling Harbour (Proposed Demolition)*' prepared by Renzo Tonin (Ref: TH964-03F02 DA Report for Demolition (r5) dated 9 October 2020.

The daytime background noise level at these locations obtained from the measurements are summarised in table 1. Several 15-minute noise recordings were made at each location between 7:00am to 6:00pm. Where there was a significant variation in measured background noise levels, the typical lowest levels are presented in the table and used to establish the noise management levels.

**Table 1 – Measured Daytime Background Noise Levels**

| Measurement Location                          | Background Noise Level dB(A)L <sub>90</sub> |                     |
|-----------------------------------------------|---------------------------------------------|---------------------|
|                                               | Weekday (7am – 6pm)                         | Saturday (8am -1pm) |
| Goldsborough Apartments<br>243 Pyrmont Street | 58                                          | 56                  |
| Bullecourt Apartments<br>287 Pyrmont Street   | 56                                          | 55                  |
| Southern Cross Suites on Darling<br>Harbour   | 58                                          | 57                  |
| 45 Murray Street, Pyrmont                     | 58                                          | 57                  |

## 6 CONSTRUCTION NOISE CRITERIA

Construction noise criteria will be developed with reference to:

- City of Sydney Council – Code of Practice for Construction Hours/Noise within the Central Business District 1992, and
- Australian Standard AS2436:2010 Guide to Noise Control on Construction, Maintenance and Demolition Sites

The relevant requirements of the above documents are summarised in the following sections.

### 6.1 CITY OF SYDNEY COUNCIL – CODE OF PRACTICE FOR CONSTRUCTION HOURS/NOISE WITHIN THE CENTRAL BUSINESS DISTRICT 1992

The Council of The City of Sydney code of practice establishes various categories for construction works based on the time of day they are undertaken, as detailed and highlighted below.

**Table 2 – Categories of Working Hours and Noise Levels**

| Day                         | Time Zone     | Category | Noise Limit dB(A) $L_{Av, Max(15min)}$                              |
|-----------------------------|---------------|----------|---------------------------------------------------------------------|
| Monday to Friday            | 00.00 – 07.00 | 4        | Background + 0 dB(A)                                                |
|                             | 07.00 – 08.00 | 1        | Background + 5dB(A)                                                 |
|                             | 08.00 – 19.00 | 1        | Background + 5dB(A) + 5 dB(A)<br>(to be determined on a site basis) |
|                             | 19.00 – 23.00 | 2        | Background + 3 dB(A)                                                |
|                             | 23.00 – 24.00 | 4        | Background + 0dB(A)                                                 |
| Saturday                    | 00.00 – 07.00 | 4        | Background + 0dB(A)                                                 |
|                             | 07.00 – 08.00 | 1        | Background + 5dB(A)                                                 |
|                             | 08.00 – 17.00 | 1        | Background + 5dB(A) + 5 dB(A)<br>(to be determined on a site basis) |
|                             | 17.00 – 23.00 | 2        | Background + 3 dB(A)                                                |
|                             | 23.00 – 24.00 | 4        | Background + 0dB(A)                                                 |
| Sundays and Public Holidays | 00.00 – 07.00 | 4        | Background + 0dB(A)                                                 |
|                             | 07.00 – 17.00 | 3        | Background + 3 dB(A)                                                |
|                             | 17.00 – 24.00 | 4        | Background + 0dB(A)                                                 |

### **6.1.1 Australian Standard AS2436:2010 “Guide to Noise Control on Construction, Maintenance and Demolition Sites”**

Australian Standard AS2436 states that where all reasonable and available measures have been taken to reduce construction noise, mitigation strategies may be put in place to reduce levels noise levels to within a reasonable and acceptable level.

For the control and regulation of noise from construction sites, AS2436 nominates the following:

- a. That reasonable suitable noise criterion is established,*
- b. That all practicable measures be taken on the building site to regulate noise emissions, including the siting of noisy static processes to locations of the site where they can be shielded, selecting less noisy processes, and if required regulating construction hours, and*
- c. The undertaking of noise monitoring where non-compliance occurs to assist in the management and control of noise emission from the construction site.*

The guideline reflects on feasible and reasonable mitigation strategies, management controls and public liaising in the effort to reach realistic compromises between construction sites and potential noise affected receivers.

Based on these criteria the following procedure will be used to assess noise emissions:

- Predict noise levels produced by typical construction activities at the sensitive receivers.
- Adopt management conditions as per AS2436 in the event of a non-compliance.

## 6.2 SUMMARY OF RELEVANT CONSTRUCTION NOISE LEVELS

A summary is presented in table 3 of the adopted construction noise management levels.

**Table 3 – Summarised Construction Noise Requirements During Proposed Hours**

| Receiver                     | Period/Time                        | Background Noise Level   | Construction Noise Levels       |
|------------------------------|------------------------------------|--------------------------|---------------------------------|
| Receiver 1<br>(See Figure 3) | Monday – Friday<br>7.00am – 8.00am | 58 dB(A) L <sub>90</sub> | 63 dB(A) L <sub>10(15min)</sub> |
|                              | Monday – Friday<br>8.00am – 7.00pm | 58 dB(A) L <sub>90</sub> | 68 dB(A) L <sub>10(15min)</sub> |
|                              | Saturday<br>7.00am – 8.00am        | 56 dB(A) L <sub>90</sub> | 61 dB(A) L <sub>10(15min)</sub> |
|                              | Saturday<br>8.00am – 5.00pm        | 56 dB(A) L <sub>90</sub> | 66 dB(A) L <sub>10(15min)</sub> |
| Receiver 2<br>(See Figure 3) | Monday – Friday<br>7.00am – 8.00am | 58 dB(A) L <sub>90</sub> | 63 dB(A) L <sub>10(15min)</sub> |
|                              | Monday – Friday<br>8.00am – 7.00pm | 58 dB(A) L <sub>90</sub> | 68 dB(A) L <sub>10(15min)</sub> |
|                              | Saturday<br>7.00am – 8.00am        | 56 dB(A) L <sub>90</sub> | 61 dB(A) L <sub>10(15min)</sub> |
|                              | Saturday<br>8.00am – 5.00pm        | 56 dB(A) L <sub>90</sub> | 66 dB(A) L <sub>10(15min)</sub> |
| Receiver 5<br>(See Figure 3) | Monday – Friday<br>7.00am – 8.00am | 58 dB(A) L <sub>90</sub> | 63 dB(A) L <sub>10(15min)</sub> |
|                              | Monday – Friday<br>8.00am – 7.00pm | 58 dB(A) L <sub>90</sub> | 68 dB(A) L <sub>10(15min)</sub> |
|                              | Saturday<br>7.00am – 8.00am        | 57 dB(A) L <sub>90</sub> | 62 dB(A) L <sub>10(15min)</sub> |
|                              | Saturday<br>8.00am – 5.00pm        | 57 dB(A) L <sub>90</sub> | 67 dB(A) L <sub>10(15min)</sub> |
| Receiver 6<br>(See Figure 3) | Monday – Friday<br>7.00am – 8.00am | 58 dB(A) L <sub>90</sub> | 63 dB(A) L <sub>10(15min)</sub> |
|                              | Monday – Friday<br>8.00am – 7.00pm | 58 dB(A) L <sub>90</sub> | 68 dB(A) L <sub>10(15min)</sub> |
|                              | Saturday<br>7.00am – 8.00am        | 56 dB(A) L <sub>90</sub> | 61 dB(A) L <sub>10(15min)</sub> |
|                              | Saturday<br>8.00am – 5.00pm        | 56 dB(A) L <sub>90</sub> | 66 dB(A) L <sub>10(15min)</sub> |



**Table 3 (cont.) – Summarised Construction Noise Requirements During Proposed Hours**

| <b>Receiver</b>              | <b>Period/Time</b>                 | <b>Background Noise Level</b> | <b>Construction Noise Levels</b> |
|------------------------------|------------------------------------|-------------------------------|----------------------------------|
| Receiver 7<br>(See Figure 3) | Monday – Friday<br>7.00am – 8.00am | 58 dB(A) L <sub>90</sub>      | 63 dB(A) L <sub>10(15min)</sub>  |
|                              | Monday – Friday<br>8.00am – 7.00pm | 58 dB(A) L <sub>90</sub>      | 68 dB(A) L <sub>10(15min)</sub>  |
|                              | Saturday<br>7.00am – 8.00am        | 57 dB(A) L <sub>90</sub>      | 62 dB(A) L <sub>10(15min)</sub>  |
|                              | Saturday<br>8.00am – 5.00pm        | 57 dB(A) L <sub>90</sub>      | 67 dB(A) L <sub>10(15min)</sub>  |
| Receiver 8<br>(See Figure 3) | Monday – Friday<br>7.00am – 8.00am | 58 dB(A) L <sub>90</sub>      | 63 dB(A) L <sub>10(15min)</sub>  |
|                              | Monday – Friday<br>8.00am – 7.00pm | 58 dB(A) L <sub>90</sub>      | 68 dB(A) L <sub>10(15min)</sub>  |
|                              | Saturday<br>7.00am – 8.00am        | 57 dB(A) L <sub>90</sub>      | 62 dB(A) L <sub>10(15min)</sub>  |
|                              | Saturday<br>8.00am – 5.00pm        | 57 dB(A) L <sub>90</sub>      | 67 dB(A) L <sub>10(15min)</sub>  |

Note: Receivers 3, 4, 9, 10 & 11 as presented in Figure 3 have not been included in the above table given that these receiving locations are vibration sensitive structures only.

## 6.3 VIBRATION

Vibrations caused by any proposed activities on site, at the façade or incident on the structure of any surrounding sensitive receivers including infrastructure and heritage items, will be assessed against the following provisions:

### For buildings

- For structural damage to heritage buildings, German Standard DIN 4150-3 *Structural Vibration: Effects of Vibration on Structures*.
- For structural damage to buildings (excluding heritage buildings), British Standard BS 7385 Part 2-1993 *Evaluation and Measurement for Vibration in Buildings. Part 2. Guide to damage levels from groundborne vibration*

### For Human Response to Vibration

- For human exposure to vibration, the evaluation criteria presented in NSW Environmental Protection Authority (EPA) "Assessing Vibration: A Technical Guideline".

### For below Ground Assets (Culverts)

- For structural damage to heritage buildings, German Standard DIN 4150-3 *Structural Vibration: Effects of Vibration on Structures*.
- Requirements of Sydney Water 'Sydney Water Specialist Engineering Assessment

### For the Light Rail Corridor

- British Standard BS 7385 Part 2-1993 *Evaluation and Measurement for Vibration in Buildings. Part 2. Guide to damage levels from groundborne vibration*
- Transport for NSW Standard "Development Near Rail Tunnels" (Ref: T HR CI 12051 ST); and

The criteria and the application of these guidelines are discussed in separate sections below.

### 6.3.1 German Standard DIN 4150-3 (1990)

German Standard DIN 4150-3 (1999-02) provides vibration velocity guideline levels for use in evaluating the effects of vibration on structures. The criteria presented in DIN 4150-3 (1999-02) are presented in Table 4.

It is noted that the peak velocity is the absolute value of the maximum of any of the three orthogonal component particle velocities as measured at the foundation, and the maximum levels measured in the x- and y-horizontal directions in the plane of the floor of the uppermost storey.

**Table 4 – DIN 4150-3 (1999-02) Safe Limits for Building Vibration**

| TYPE OF STRUCTURE |                                                                                                                                                                                                       | PEAK PARTICLE VELOCITY (mms <sup>-1</sup> ) |              |               |                                    |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|--------------|---------------|------------------------------------|
|                   |                                                                                                                                                                                                       | At Foundation at a Frequency of             |              |               | Plane of Floor of Uppermost Storey |
|                   |                                                                                                                                                                                                       | < 10Hz                                      | 10Hz to 50Hz | 50Hz to 100Hz | All Frequencies                    |
| 1                 | Buildings used in commercial purposes, industrial buildings and buildings of similar design                                                                                                           | 20                                          | 20 to 40     | 40 to 50      | 40                                 |
| 2                 | Dwellings and buildings of similar design and/or use                                                                                                                                                  | 5                                           | 5 to 15      | 15 to 20      | 15                                 |
| 3                 | Structures that because of their particular sensitivity to vibration, do not correspond to those listed in Lines 1 or 2 and have intrinsic value (e.g. buildings that are under a preservation order) | 3                                           | 3 to 8       | 8 to 10       | 8                                  |

- = Receiver 8
- = Receivers 3, 4, 9 & 11
- = Receivers 1, 2, 5, 6, 7

### 6.3.2 British Standard BS 7385 Part 2-1993

British Standard BS 7385 Part 2-1993 *Evaluation and Measurement for Vibration in Buildings. Part 2. Guide to damage levels from groundborne vibration* presents vibration guide values to determine the effect of ground movement on structures. The values in BS7385-2 are directly reproduced in Australian Standard AS2187.2.

The guidelines are presented in the table below:

**Table 5 BS 7385-2 - Guideline for Building Vibration**

| Line | Type of Building                                                                          | Peak component particle velocity in frequency range of predominant pulse |                                                                      |
|------|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|----------------------------------------------------------------------|
|      |                                                                                           | 4 Hz – 15 Hz                                                             | 15 Hz and above                                                      |
| 1    | Reinforced or framed structures.<br>Industrial and heavy commercial buildings             | 50 mm/s at 4 Hz and above                                                |                                                                      |
| 2    | Unreinforced or light framed structure.<br>Residential or light commercial type buildings | 15 mm/s at 4 Hz and above<br>increasing to 20mm/s at 15 Hz               | 20 mm/s at 4 Hz and above<br>increasing to 50mm/s at 40 Hz and above |

Notes:

1. Values referred to are at the base of the building
2. For line 2, at frequencies below 4 Hz, a maximum displacement of 0.6 mm ZTP (zero to peak) should not be exceeded.



### 6.3.3 NSW EPA Assessing Vibration: A Technical Guideline

The NSW Environment Protection Authority's (EPA) publication "Assessing Vibration: A Technical Guideline" (Feb 2006), outlines vibration criteria to assess the effects on human exposure to vibration from industry, transportation and machinery. This will ensure the amenity of tenants within surrounding residential properties is not adversely impacted.

This document classifies vibrations in buildings into continuous (with magnitudes varying or remaining constant with time), impulsive (such as shocks) or intermittent (with the magnitude of each event being either constant or varying with time). Criteria stipulated in this publication is based on the type of vibrations generated by the source.

Criteria relevant to the proposed excavation and construction activities on site are detailed below.

**Table 6 – EPA Recommended Human Comfort Vibration Criteria**

|                      |         | RMS acceleration<br>(m/s <sup>2</sup> ) |         | RMS velocity (mm/s) |         | Peak velocity (mm/s) |         |
|----------------------|---------|-----------------------------------------|---------|---------------------|---------|----------------------|---------|
| Place                | Time    | Preferred                               | Maximum | Preferred           | Maximum | Preferred            | Maximum |
| Continuous Vibration |         |                                         |         |                     |         |                      |         |
| Residences           | Daytime | 0.01                                    | 0.02    | 0.2                 | 0.4     | 0.28                 | 0.56    |
| Offices              |         | 0.02                                    | 0.04    | 0.4                 | 0.8     | 0.56                 | 1.1     |
| Workshops            |         | 0.04                                    | 0.08    | 0.8                 | 1.6     | 1.1                  | 2.2     |
| Impulsive Vibration  |         |                                         |         |                     |         |                      |         |
| Residences           | Daytime | 0.3                                     | 0.6     | 6.0                 | 12.0    | 8.6                  | 17.0    |
| Offices              |         | 0.64                                    | 1.28    | 13.0                | 26.0    | 18.0                 | 36.0    |
| Workshops            |         | 0.64                                    | 1.28    | 13.0                | 26.0    | 18.0                 | 36.0    |

### 6.3.4 Requirements of Sydney Water 'Sydney Water Specialist Engineering Assessment'

The vibration limits presented in Table 7 are detailed within the 'Sydney Water Specialist Engineering Assessment' document for threshold vibration limits of pipe assets. It has been identified to this office that there is an existing Sydney Water stormwater culvert and associated pipework located directly beneath the Harbourside project site.

**Table 7 – Threshold Vibration Limits**

| <b>Asset Type</b>                                         | <b>Threshold values for velocity (PPV) measured on the asset in mm/s</b>                       |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------|
| <b>Brittle Pipe assets –</b><br>RC, VC/EW, CICL           | Maximum PPV for intermittent vibrations 10mm/s<br>Maximum PPV for continuous vibrations 5mm/s  |
| <b>Ductile Pipe assets –</b><br>SCL, DI, PVC, PE, PP, GRP | Maximum PPV for intermittent vibrations 20mm/s<br>Maximum PPV for continuous vibrations 10mm/s |
| <b>Masonry</b>                                            | 3mm/s                                                                                          |
| <b>Unreinforced Concrete</b>                              | 3mm/s                                                                                          |

*Note: The table above is applicable for buried assets, in sound condition, and laid in a typical soil trench in stable ground. Alternative criteria shall be developed for other asset types, above ground assets, concrete encased pipes, pipes on piled/special supports and pipes in tunnels or of other unusual construction or ground conditions.*

Given the above vibration limits as outlined in the 'Sydney Water Specialist Engineering Assessment' and the information provided in the 'Stormwater Culvert beneath Harbourside Pre-Construction Dilapidation and Condition Assessment Report' (Ref: 8824.20.01 Pre-Construction Dilapidation and Condition Assessment Report) dated 25/02/2022, the following vibration limits are applicable to the stormwater culvert:

- Stormwater Culvert (Receiver 4):
  - Maximum PPV for intermittent vibrations: 10mm/s PPV.
  - Maximum PPV for continuous vibrations: 5mm/s PPV.
- Associated pipework:
  - Assumed to be unreinforced concrete: Maximum PPV for continuous vibrations: 3mm/s PPV.

The heritage item saltwater culvert on the southern end of the Harbourside development (Receiver 11) is addressed in the *Heritage Impact Statement and Archaeological Impact Statement* prepared by Curio Projects (April 2022). The item is noted as having structural integrity, and when last used (c1990) was noted to be in good condition and substantially intact. Notwithstanding, and given the heritage significance of the culvert, the lowest vibration level identified in the Sydney Water assessment will be adopted. We also note that this is in line with the lower range of the DIN 4150-3 recommended levels for heritage structures.

- Water Cooling System and Manifold
  - Maximum PPV for continuous vibrations: 3mm/s PPV.

## 6.3.5 Vibration Impacts to Light Rail Assets

### 6.3.5.1 Transport for NSW Development Near Rail Tunnels (T HR CI 12051 ST)

NSW Government Transport Asset Standards Authority Standard *Development Near Rail Tunnels* dated 15 November 2018 states:

*Any development that occurs within a distance of 25 m horizontally from first reserve shall assess the vibration on the rail tunnels. The assessment criteria shall be a maximum peak particle velocity (PPV) of 15 mm/s at the tunnel lining for brick or mass concrete in good condition or a maximum PPV of 20 mm/s at the tunnel lining for cast iron, steel or concrete segment lining*

### 6.3.5.2 Summary of Light Rail Vibration Criteria

Considering the relevant guidelines for impact to light rail, we note:

- BS7385-2 provides reference for the point at which vibration is likely to cause structural damage. Considering the disruption structural damage to the light rail infrastructure would provide, vibration should be below this level at all times.
- The TfNSW guideline relating to train tunnels provides further guidance on an appropriate maximum level of vibration that is acceptable to buried rail assets (as opposed to on grade lines). This level is nominated as a maximum of 20mm/s PPV, which is consistent with the upper limits of BS7385-2.
- Based on the above, a maximum/stop work PPV vibration level of 15mm/s is considered acceptable to protect the light rail infrastructure.

## 6.3.6 Summary of Recommended Vibration Limits

The recommended vibration limit at the nearest vibration sensitive receivers are summarised in table 8.

**Table 8 – Recommended Vibration Limit Criteria**

| Receiver Location | Vibration Limit Criteria (mm/s PPV) |
|-------------------|-------------------------------------|
| Receiver 1        | ≤20                                 |
| Receiver 2        | ≤20                                 |
| Receiver 3        | ≤3                                  |
| Receiver 4        | ≤3                                  |
| Receiver 5        | ≤20                                 |
| Receiver 6        | ≤20                                 |
| Receiver 7        | ≤20                                 |
| Receiver 8        | ≤5                                  |
| Receiver 9        | ≤3                                  |
| Receiver 10       | ≤15                                 |
| Receiver 11       | ≤3                                  |

## 7 ACTIVITIES TO BE CONDUCTED AND THE ASSOCIATED NOISE SOURCES

Noise impacts will be determined from primary processes and equipment. The sound power levels of these activities are presented below.

**Table 9 - Sound Power Levels of the Proposed Equipment**

| Stage             | Equipment/Process                        | Sound Power Level dB(A) |
|-------------------|------------------------------------------|-------------------------|
| Excavation/Piling | Semi-Trailer Truck                       | 105                     |
|                   | Excavator w/ Hydraulic Hammer Attachment | 118                     |
|                   | CFA Bore Piling                          | 103                     |
|                   | Bulldozer                                | 108                     |
|                   | Concrete Pump                            | 108                     |
|                   | Concrete Truck                           | 105                     |
|                   | Diesel Mobile Crane                      | 105                     |

The noise levels presented in the above table are derived from the following sources, namely:

- Table A1 of Australian Standard 2436-2010.
- Data held by this office from other similar studies.

## 8 NOISE EMISSION ASSESSMENT

### 8.1 PREDICTED NOISE EMISSIONS

An assessment of the principal sources of noise emissions has been undertaken to identify the activities that may produce noise and/or vibration impacts so that appropriate ameliorative measures can be formulated. In addition, SoundPLAN noise modelling has been conducted based on information provided to this office of construction methodology and activities likely to be undertaken and presents the cumulative predicted external noise levels to the nearest surrounding receivers.

Noise levels from construction works have been predicted at the nearby development and assessed with reference to the City of Sydney - Code of Practice for Construction Hours/Noise Within the Central Business District 1992.

With regard to the noise level generated at the nearest receivers, noise levels will vary depending where on the construction site the work is undertaken. To address this, a range of predicted noise levels is provided. Predicted noise levels are presented below.

The predicted noise levels are based on the assumption that the recommendations in section 9 have been implemented/observed.

### 8.2 SOUNDPLAN MODELLING

Noise levels have been predicted at the receiver locations using SoundPLAN™ 8.0 modelling software implementing the ISO 9613-2:1996 "Acoustics – Attenuation of Sound During Propagation Outdoors – Part 2: General Method of Calculation" noise propagation standard.

Noise enhancing meteorological effects have been adopted as recommended by the NPfI, noting that the ISO 9613 modelling approach assumes that all receivers are 'downwind' (i.e., that noise enhancing wind conditions are in effect at all times).

Ground absorption was conservatively calculated with a ground factor of 0 for all areas except for localised lawns and greenery with a ground factor of 0.6 as recommended in *Engineering Noise Control* (Bies & Hanson).

In line with Factsheet C of the NPfI, penalties for annoying noise characteristics should be applied at the receiver, where applicable. Based on the predicted noise levels, no penalty should be applied (either for tonality, intermittency, or otherwise).

The following figures present the results of the SoundPLAN Noise modelling, and results are summarised in Table 10.

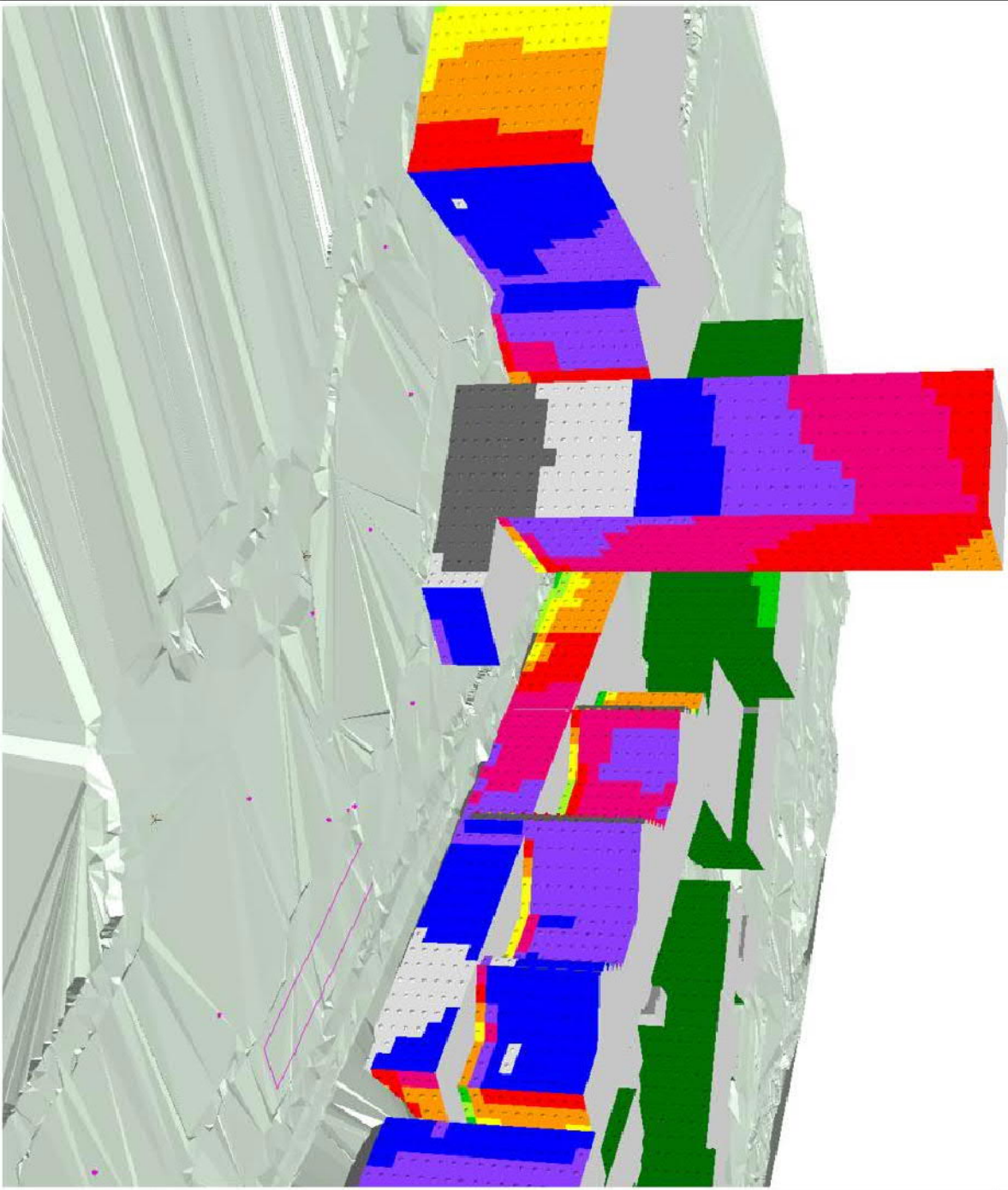
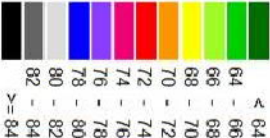


Harbourside  
R1 and R2

Excavation and Piling

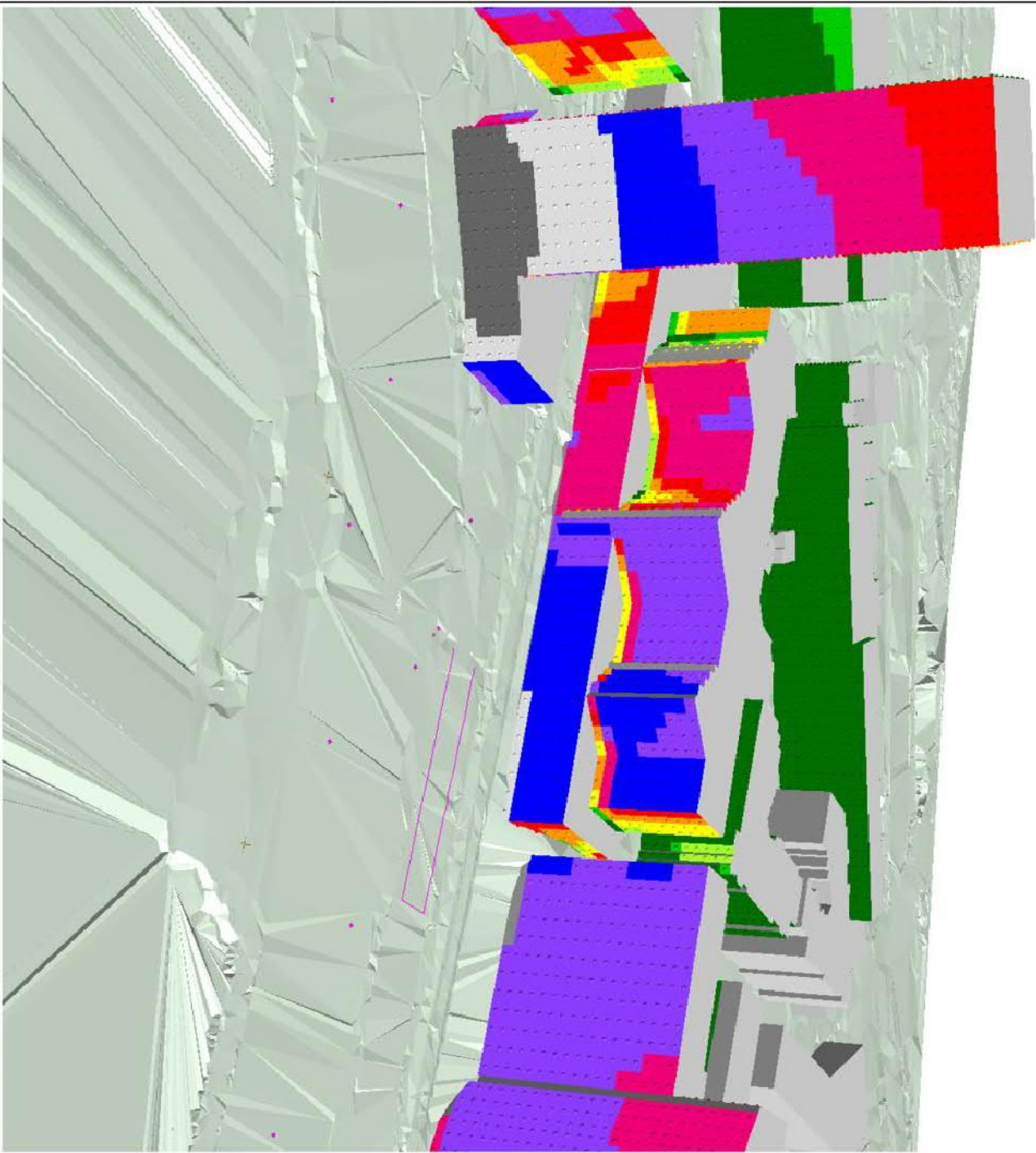
Prepared by: L. Aboud  
Date: 04/03/2022

Noise Level  
 $L_{10}$   
in dB(A)



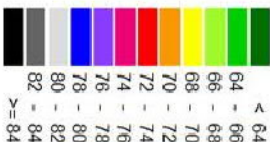
Harbourside  
R1, R2, R6 and R7

Excavation and Piling



Prepared by: L. Aboud  
Date: 04/03/2022

Noise Level  
 $L_{10}$   
in dB(A)



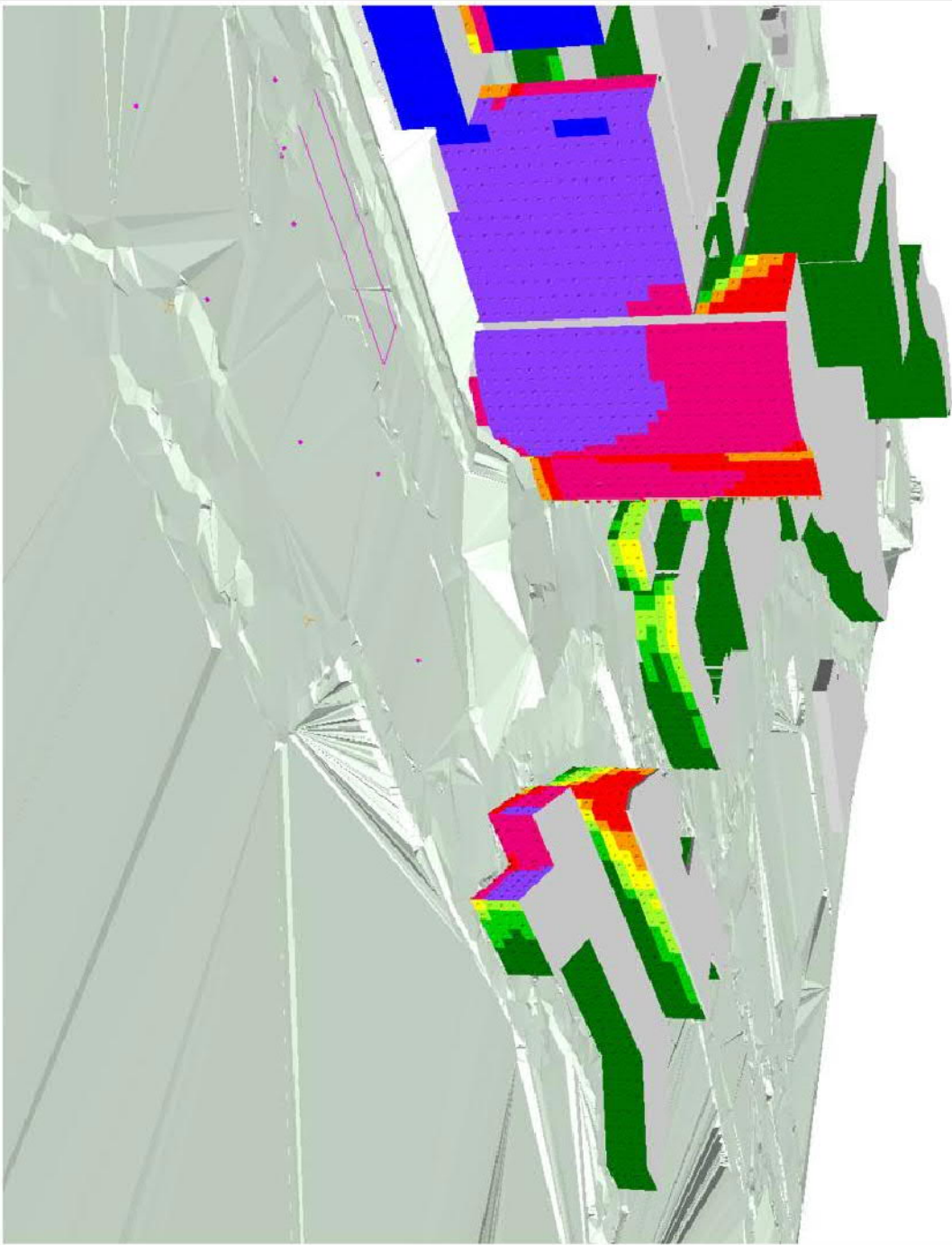


Harbourside  
R5 and R8

Excavation and Piling

Prepared by: L. Abood  
Date: 04/03/2022

Noise Level  
 $L_{10}$   
in dB(A)



### 8.3 PREDICTED NOISE LEVELS AT SENSITIVE RECEIVERS

The predicted external noise levels at nearest sensitive receivers are presented in the table below.

**Table 10 –Predicted External Noise Levels at Nearest Sensitive Receivers – Excavation/Piling Stage**

| Receiver Location | Excavation/Piling Stage Predicted External Noise Level<br>dB(A) L <sub>10</sub> (15 min) | City of Sydney Construction Noise Level Limit<br>dB(A)L <sub>10</sub> (15min) | Recommendations                                                                                                       |
|-------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| R1                | 51-83                                                                                    | Monday to Friday (7.00am – 8.00am) = 63                                       | Predicted to exceed the COS construction noise level limit. See Section 8 'Ameliorative Measures' for recommendations |
|                   |                                                                                          | Monday to Friday (8.00am – 6.00pm) = 68                                       |                                                                                                                       |
|                   |                                                                                          | Saturday (7.00am – 8.00am) = 61                                               |                                                                                                                       |
|                   |                                                                                          | Saturday (8.00am – 5.00pm) = 66                                               |                                                                                                                       |
| R2                | 47-80                                                                                    | Monday to Friday (7.00am – 8.00am) = 63                                       | Predicted to exceed the COS construction noise level limit. See Section 8 'Ameliorative Measures' for recommendations |
|                   |                                                                                          | Monday to Friday (8.00am – 6.00pm) = 68                                       |                                                                                                                       |
|                   |                                                                                          | Saturday (7.00am – 8.00am) = 61                                               |                                                                                                                       |
|                   |                                                                                          | Saturday (8.00am – 5.00pm) = 66                                               |                                                                                                                       |
| R5                | 43-77                                                                                    | Monday to Friday (7.00am – 8.00am) = 63                                       | Predicted to exceed the COS construction noise level limit. See Section 8 'Ameliorative Measures' for recommendations |
|                   |                                                                                          | Monday to Friday (8.00am – 6.00pm) = 68                                       |                                                                                                                       |
|                   |                                                                                          | Saturday (7.00am – 8.00am) = 62                                               |                                                                                                                       |
|                   |                                                                                          | Saturday (8.00am – 5.00pm) = 67                                               |                                                                                                                       |
| R6                | 50-80                                                                                    | Monday to Friday (7.00am – 8.00am) = 63                                       | Predicted to exceed the COS construction noise level limit. See Section 8 'Ameliorative Measures' for recommendations |
|                   |                                                                                          | Monday to Friday (8.00am – 6.00pm) = 68                                       |                                                                                                                       |
|                   |                                                                                          | Saturday (7.00am – 8.00am) = 61                                               |                                                                                                                       |
|                   |                                                                                          | Saturday (8.00am – 5.00pm) = 66                                               |                                                                                                                       |
| R7                | 52-78                                                                                    | Monday to Friday (7.00am – 8.00am) = 63                                       | Predicted to exceed the COS construction noise level limit. See Section 8 'Ameliorative Measures' for recommendations |
|                   |                                                                                          | Monday to Friday (8.00am – 6.00pm) = 68                                       |                                                                                                                       |
|                   |                                                                                          | Saturday (7.00am – 8.00am) = 62                                               |                                                                                                                       |
|                   |                                                                                          | Saturday (8.00am – 5.00pm) = 67                                               |                                                                                                                       |
| R8                | 49-78                                                                                    | Monday to Friday (7.00am – 8.00am) = 63                                       | Predicted to exceed the COS construction noise level limit. See Section 8 'Ameliorative Measures' for recommendations |
|                   |                                                                                          | Monday to Friday (8.00am – 6.00pm) = 68                                       |                                                                                                                       |
|                   |                                                                                          | Saturday (7.00am – 8.00am) = 62                                               |                                                                                                                       |
|                   |                                                                                          | Saturday (8.00am – 5.00pm) = 67                                               |                                                                                                                       |

Note: Receivers 3, 4, 9 & 10 as presented in Figure 3 have not been included in the above table given that these receiving locations are vibration sensitive structures only.

## 9 AMELIORATIVE MEASURES

### 9.1 SITE SPECIFIC RECOMMENDATIONS

- Notification - Prior to commencement of each month, neighbouring receivers should be notified of the anticipated works for that month and the potential noise and vibration generation from the anticipated construction activity.
- Excavation and Piling:
  - Wherever feasible, hydraulic hammering should be minimised in favour for the use of excavators with a bucket.
- High Noise Generating Works:
  - Where high noise generating works are proposed to be undertaken, respite hours should be implemented to reduce the impact on surrounding receivers. Limit the use of any required hydraulic hammers to between 8:00am – 12:00pm and 2:00pm - 5:00pm Monday to Friday and between 9:00am - 12:00pm on Saturdays.
- Vehicle Noise - Trucks must turn off their engines during idling to reduce impacts on nearby receivers (unless truck ignition needs to remain on during concrete pumping). Minimise truck reversing. Plant and equipment should be off when not in use.
- Vehicles for construction activity must arrive and depart site within the approved hours of work (7am-6pm Monday to Friday, 8am-1pm Saturdays)
- Deliveries should use straps in place of chains for handling materials wherever possible. Deliveries should be scheduled during less sensitive time periods (After 9am) wherever practical.
- When selecting construction equipment to be used on the project, the noise levels of plant and equipment should be considered, whereby equipment selected has an equivalent or lower sound power level than the predictive sound power levels of equipment maintained within this report.
- A conscientious effort should be made to avoid works near the nearest sensitive receivers wherever feasible. Compounding high generating activities simultaneously near receivers should be avoided where possible.
- All employees, contractors and sub-contractors are to undergo an environmental induction which outlines noise management techniques.
- Unnecessary shouting should be avoided on site, and appropriate signage should be installed to remind workers of their responsibility to reduce noise impacts where feasible. Loud music from radios and stereos is not permitted.
- Materials should be placed gently and not thrown to avoid making crashing noises.
- During the construction stage and where practical and safe to do so, handheld construction equipment should be used within the building shell to minimise noise impacts on adjacent receivers.
- Non-tonal reversing beepers should be implemented on all construction equipment and mobile plant used regularly on site.
- Maximum delivery vehicle speed of 10km/h through service road.

In the event of a complaint, noise management procedure identified in section 11 of this report are to be followed. Notwithstanding above, general management techniques and acoustic treatments are included below which may be implemented on a case-by-case basis to reduce noise emissions to surrounding receivers.

## **9.2 GENERAL RECOMMENDATIONS**

Other noise management practices which may be adopted are discussed below. In addition, notification, reporting and complaints handling procedures should be adopted as recommended in section in this report.

### **9.2.1 Acoustic Barrier**

Barriers or screens can be an effective means of reducing noise. Barriers can be located either at the source or receiver.

The placement of barriers at the source is generally only effective for static plant (tower cranes). Equipment which is on the move or working in rough or undulating terrain cannot be effectively attenuated by placing barriers at the source.

Barriers can also be placed between the source and the receiver.

The degree of noise reduction provided by barriers is dependent on the amount by which line of sight can be blocked by the barrier. If the receiver is totally shielded from the noise source reductions of up to 15 dB(A) can be affected. Where only partial obstruction of line of sight occurs, noise reductions of 5 to 8 dB(A) may be achieved. Where no line of sight is obstructed by the barrier, generally no noise reduction will occur.

As barriers are used to provide shielding and do not act as an enclosure, the material they are constructed from should have a noise reduction performance which is approximately 10dB(A) greater than the maximum reduction provided by the barrier. In this case the use of a material such as 10 or 15mm plywood would be acceptable for the barriers.

### **9.2.2 Silencing Devices**

Where construction process or appliances are noisy, the use of silencing devices may be possible. These may take the form of engine shrouding, or special industrial silencers fitted to exhausts.

### **9.2.3 Material Handling**

The installation of rubber matting over material handling areas can reduce the sound of impacts due to material being dropped by up to 20dB(A).

### **9.2.4 Treatment of Specific Equipment**

In certain cases, it may be possible to specially treat a piece of equipment to reduce the sound levels emitted. These may take the form of engine shrouding, or special industrial silencers fitted to exhausts.

### **9.2.5 Establishment of Site Practices**

This involves the formulation of work practices to reduce noise generation. This includes locating fixed plant items as far as possible from residents as well as rotating plant and equipment to provide respite to receivers.

Construction vehicles accessing the site should not queue in residential streets and should only use the designated construction vehicle routes. Loading of these vehicles should occur as far as possible from any sensitive receiver.



## **9.3 NOISE MONITORING**

Noise monitors are recommended to be installed at the property boundaries of the neighbouring properties nearest to the subject site to monitor noise levels.

### **9.3.1 Downloading of Noise Monitor Data**

Downloading of the noise monitor data will be conducted on a regular basis. In the event of consistent high noise level periods, downloading of the noise monitor data will be conducted more frequently. Results obtained from the noise monitor will be presented in a graph format and will be forwarded to the client for review. It is proposed that reports are provided fortnightly, presenting the measured noise levels in reference to the noise management levels detailed in this report.

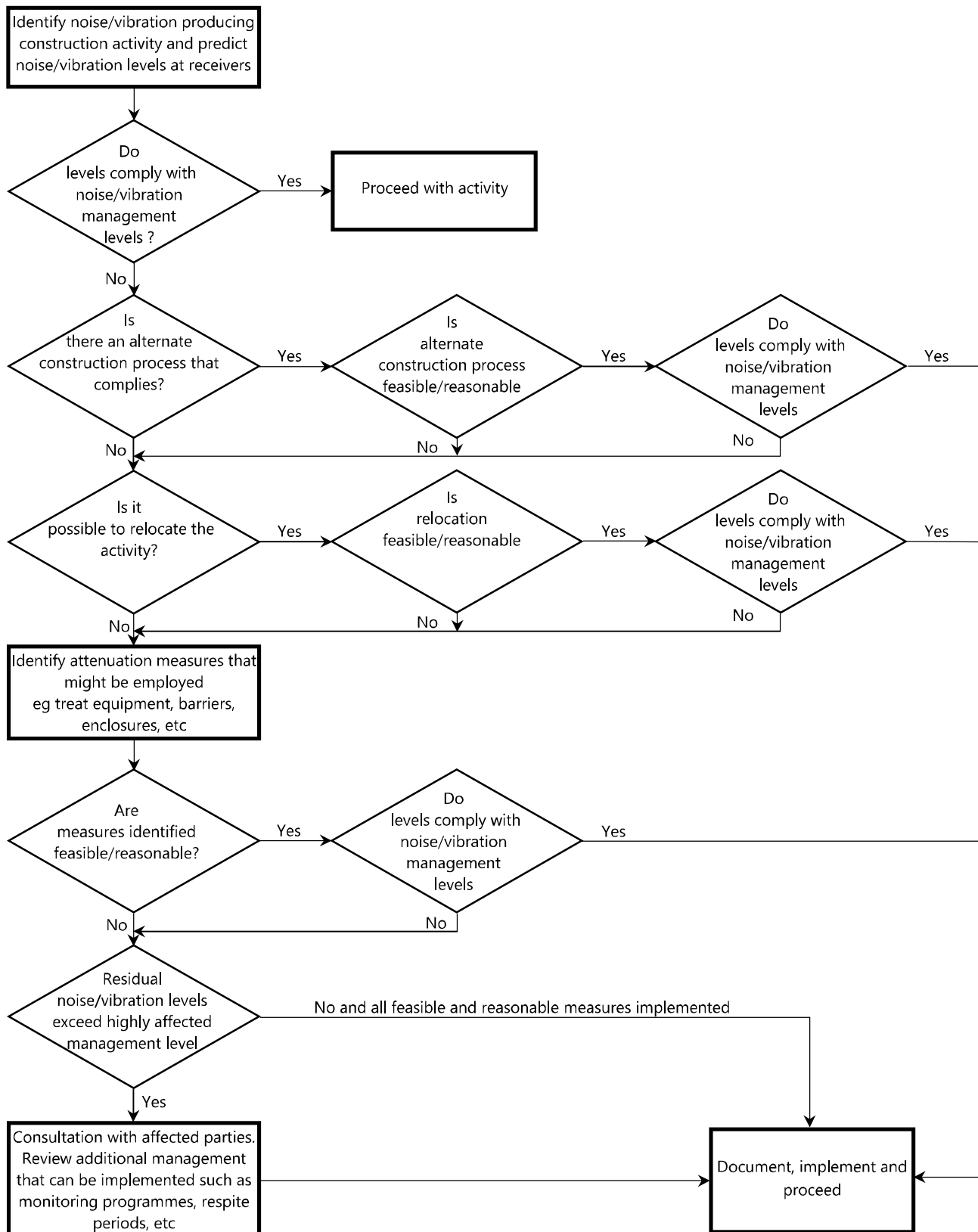
### **9.3.2 Presentation of Noise Monitor Results**

A fortnightly report will be submitted to the client via email summarising the measured noise level events. Complete results of the continuous noise logging will be presented in fortnightly reports including graphs of the collected data.

## 10 ASSESSMENT METHODOLOGY AND MITIGATION METHODS

The flow chart that follows illustrates the process to be followed to minimise the impact associated with these activities.

Noise sources with the potential to exceed the criteria set out in section 6 have been identified and discussed in section 8.



## **11 ASSESSMENT OF VIBRATION**

### **11.1 VIBRATION PRODUCING ACTIVITIES**

Proposed activities that have the potential to produce significant ground vibration include:

- Excavation Work.
- Piling.

### **11.2 SAFEGUARDS TO PROTECT SENSITIVE STRUCTURES**

Typically, excavation and piling are the activities with the greatest potential for generation of vibration. Excavation of building footings in rock has the potential to produce vibration levels approaching the criteria set out in Section 5.

The primary potential vibration source will be from use of rock hammer with adjacent properties in close proximity. Vibration monitoring will be required during the excavation stages of the development to ensure that vibration levels to surrounding receivers are managed to surrounding receivers.

### **11.3 VIBRATION MONITORING**

AL recommends that vibration monitoring is undertaken at all sensitive receivers throughout the construction of the project. Any vibration monitor is to have SMS notification capability to enable contractor to be immediately informed when vibration limits are reached.

#### **11.3.1 Downloading of Vibration Monitor Data**

Downloading of the vibration monitor data will be conducted on a regular basis. In the event of exceedance of the vibration criteria, downloading of the vibration monitor data will be conducted more frequently. Results obtained from the vibration monitor will be presented in a graph format and will be forwarded to the client for review. It is proposed that reports are provided fortnightly with any exceedances in the vibration criteria reported as detailed in this report.

#### **11.3.2 Presentation of Vibration Monitor Results**

A fortnightly report will be submitted to the client via email summarising the vibration events. The vibration exceedance of criteria is recorded, and the report shall be submitted within 24 hours. Complete results of the continuous vibration logging will be presented in fortnight reports including graphs of the collected data.

## **12 COMMUNITY INTERACTION AND COMPLAINTS HANDLING**

### **12.1 ESTABLISHMENT OF DIRECT COMMUNICATION WITH AFFECTED PARTIES**

In order for any construction noise management programme to work effectively, continuous communication is required between; all parties which may be potentially impacted upon, the builder and the regulatory authority. This establishes a dynamic response process which allows for the adjustment of control methods and criteria for the benefit of all parties.

The objective in undertaking a consultation process is to:

- Inform and educate the groups about the project and the noise controls being implemented.
- Increase understanding of all acoustic issues related to the project and options available.
- Identify group concerns generated by the project, so that they can be addressed.
- Ensure that concerned individuals or groups are aware of and have access to the Site Complaints Register which will be used to address any construction noise related problems should they arise.

To ensure that this process is effective, regular scheduled meetings may be required for a finite period, until all issues have been addressed and the evidence of successful implementation is embraced by all parties.

An additional step in this process is to produce a newsletter informing nearby residents of upcoming activities that are likely to generate higher noise/vibration levels.

## 12.2 DEALING WITH COMPLAINTS

Should ongoing complaints of excessive noise or vibration occur, immediate measures shall be undertaken to investigate the complaint, the cause of the exceedances and identify the required changes to work practices. In the case of exceedances of the vibration limits, all work potentially producing vibration shall cease until the exceedance is investigated. The effectiveness of any changes shall be verified before continuing. Documentation and training of site staff shall occur to ensure the practices that produced the exceedances are not repeated.

If a noise complaint is received the complaint should be recorded on a Noise Complaint Form. The complaint form should list:

- The name and address of the complainant (if provided).
- The time and date the complaint was received.
- The nature of the complaint and the time and date the noise was heard.
- The name of the employee who received the complaint.
- Actions taken to investigate the complaint, and a summary of the results of the investigation.
- Required remedial action, if required.
- Validation of the remedial action.
- If necessary, setup vibration monitoring at the location representing the nearest affected vibration receiver, with alarm device which can inform the project manager on site if the vibration exceedance happened.
- Summary of feedback to the complainant.

A permanent register of complaints should be held.

All complaints received should be fully investigated and reported to management. The complainant should also be notified of the results and actions arising from the investigation.

The investigation of a complaint shall involve where applicable.

- noise measurements at the affected receiver.
- an investigation of the activities occurring at the time of the incident.
- inspection of the activity to determine whether any undue noise is being emitted by equipment; and
- Whether work practices were being carried out either within established guidelines or outside these guidelines.

Where an item of plant is found to be emitting excessive noise, the cause is to be rectified as soon as possible. Where work practices within established guidelines are found to result in excessive noise being generated then the guidelines should be modified so as to reduce noise emissions to acceptable levels. Where guidelines are not being followed, the additional training and counselling of employees should be carried out.

Measurement or other methods shall validate the results of any corrective actions arising from a complaint where applicable.



## 13 CONTINGENCY PLANS

Where non-compliances or noise complaints are raised the following methodology will be implemented.

1. Determine the offending plant/equipment/process.
2. Locate the plant/equipment/process further away from the affected receiver(s) if possible.
3. Implement additional acoustic treatment in the form of localised barriers, silencers etc where practical.
4. Selecting alternative equipment/processes where practical.
5. If necessary, setup noise and vibration monitoring devices at locations representing the nearest noise/vibration and dust affected receivers and provide data for each complain time period. Analysis is required to determine suitable mitigation measures.

Complaints associated with noise and vibration generated by site activities shall be recorded on a Complaint Form. The person(s) responsible for complaint handling and contact details for receiving of complaints shall be established on site prior to construction works commencing. A sign shall be displayed at the site indicating the Site Manager to the general public and their contact telephone number.

## 14 CONCLUSION

This report presents a construction noise and vibration management plan for the associated excavation activities proposed to be conducted for the 'Harbourside' development to be located at 2-10 Darling Drive, Darling Harbour.

Provided that the practices and recommendations in this report are implemented, the noise and vibration impacts during the excavation stage will be minimised.

The controls and safeguards implemented as a result of the analysis recommended in the plan would be reviewed at a number of stages as required to respond to local conditions and revised methods and equipment.

Further reviews would be undertaken through the excavation phase, as required, in response to revised methods and equipment, as well as in response to the monitoring and evaluation of actual impacts.

We trust this information is satisfactory. Please contact us should you have any further queries.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'S. Nichols', written in a cursive style.

Acoustic Logic Pty Ltd  
Shane Nichols

## 16.4 APPENDIX D – SEDIMENT & EROSION CONTROL AND STORMWATER MANAGEMENT PLAN (AT&L)

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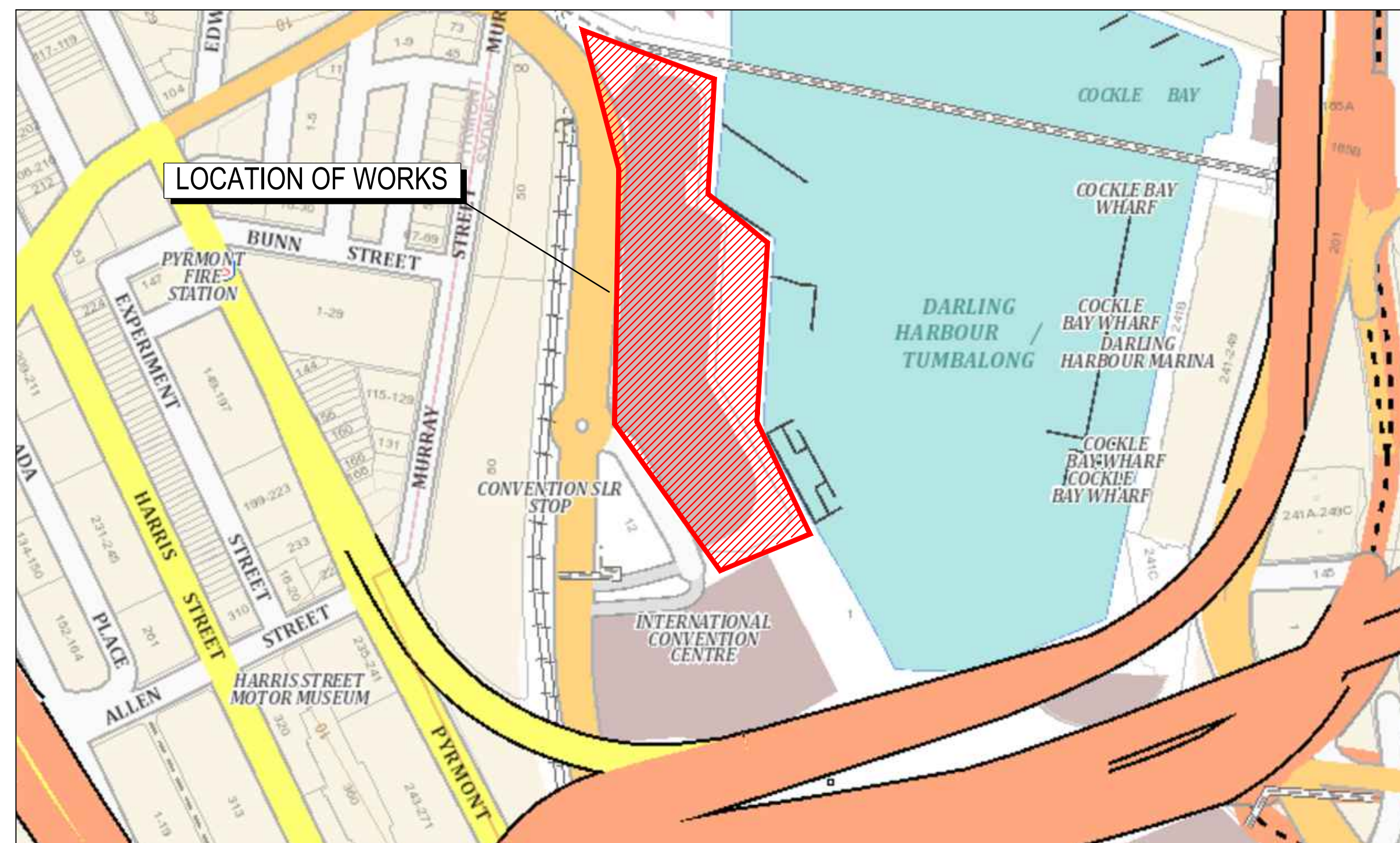
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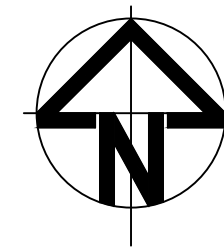
## CIVIL WORKS PACKAGE

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### EXCAVATION



LOCALITY PLAN  
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## DRAWING LIST

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EROSION AND SEDIMENT CONTROL

NOTES

GENERAL INSTRUCTIONS

- THE SITE SUPERINTENDENT/ENGINEER WILL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS DOCUMENTED.
- ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH
  - LOCAL AUTHORITY REQUIREMENT
  - EPA REQUIREMENTS
  - NSW DEPARTMENT OF HOUSING MANUAL "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION", 4th EDITION, MARCH 2004.
- MAINTAIN THE EROSION CONTROL DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE LOCAL AUTHORITY.
- WHEN STORMWATER PITS ARE CONSTRUCTED, PREVENT SITE RUNOFF ENTERING UNLESS SEDIMENT FENCES ARE ERECTED AROUND PITS.
- CONTRACTOR IS TO ENSURE ALL EROSION & SEDIMENT CONTROL DEVICES ARE MAINTAINED IN GOOD WORKING ORDER AND OPERATE EFFECTIVELY. REPAIRS AND OR MAINTENANCE SHALL BE UNDERTAKEN AS REQUIRED, PARTICULARLY FOLLOWING STORM EVENTS.

LAND DISTURBANCE

- WHERE PRACTICAL, THE SOIL EROSION HAZARD ON THE SITE WILL BE KEPT AS LOW AS POSSIBLE. TO THIS END, WORKS SHOULD BE UNDERTAKEN IN THE FOLLOWING SEQUENCE:
  - INSTALL SEDIMENT TRAPS AS SHOWN ON PLAN.
  - UNDERTAKE SITE DEVELOPMENT WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS. WHERE POSSIBLE, PHASE DEVELOPMENT SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF WORKABLE SIZE.

EROSION CONTROL

- DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS WILL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL.

SEDIMENT CONTROL

- STOCKPILES WILL NOT BE LOCATED WITHIN 2 METRES OF HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS. WHERE THEY ARE BETWEEN 2 AND 5 METRES FROM SUCH AREAS, SPECIAL SEDIMENT CONTROL MEASURES SHOULD BE TAKEN TO MINIMISE POSSIBLE POLLUTION TO DOWNSLOPE WATERS, E.G. THROUGH INSTALLATION OF SEDIMENT FENCING.
- WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE, I.E. THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE.
- TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED.

OTHER MATTERS

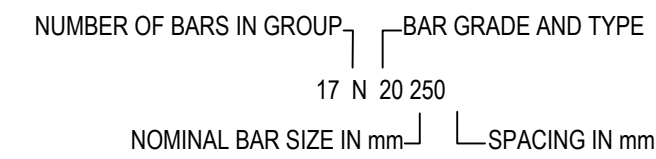
- ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.  
ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH ARBORIST REPORT AND TREE PROTECTION MEASURES
  - PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE
  - ENSURING THAT NOTHING IS NAILED TO THEM
  - PROHIBITING PAVING, GRADING, SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS.
    - ENCROACHMENT ONLY OCCURS ON ONE SIDE AND NO CLOSER TO THE TRUNK THAN EITHER 1.5 METRES OR HALF THE DISTANCE BETWEEN THE OUTER EDGE OF THE DRIP LINE AND THE TRUNK, WHICH EVER IS THE GREATER
    - A DRAINAGE SYSTEM THAT ALLOWS AIR AND WATER TO CIRCULATE THROUGH THE ROOT ZONE (E.G. A GRAVEL BED) IS PLACED UNDER ALL FILL LAYERS OF MORE THAN 300 MILLIMETRES DEPTH
    - CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR TO COMPACT THE SOIL AROUND THEM.

CONCRETE NOTES

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 (2018) CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- CONCRETE QUALITY ALL REQUIREMENTS OF THE CURRENT ACSE CONCRETE SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS NOTED OTHERWISE.

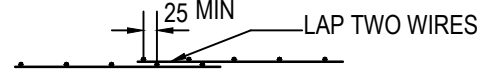
| ELEMENT                               | AS 3600 Fc MPa AT 28 DAYS | SPECIFIED SLUMP | NOMINAL AGG. SIZE |
|---------------------------------------|---------------------------|-----------------|-------------------|
| VEHICULAR BASE KERBS, PATHS, AND PITS | 32                        | 60              | 20                |
|                                       | 32                        | 80              | 20                |

- CEMENT TYPE SHALL BE (ACSE SPECIFICATION) TYPE SL  
- PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1379.
- NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY AT & L.
  - CLEAR CONCRETE COVER TO ALL REINFORCEMENT FOR DURABILITY SHALL BE 40mm TOP AND 70mm FOR EXTERNAL EDGES UNLESS NOTED OTHERWISE.
  - ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT NOT GREATER THAN 1m CENTRES BOTH WAYS. BARS SHALL BE TIED AT ALTERNATE INTERSECTIONS.
  - THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK, THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS. ALL CONCRETE INCLUDING SLABS ON GROUND AND FOOTINGS SHALL BE COMPACTED AND CURED IN ACCORDANCE WITH R.M.S. SPECIFICATION R83.
  - REINFORCEMENT SYMBOLS:  
N DENOTES GRADE 450 N BARS TO AS/NZS 4671 GRADE N  
R DENOTES 230 R HOT ROLLED PLAIN BARS TO AS/NZS 4671  
SL DENOTES HARD-DRAWN WIRE REINFORCING FABRIC TO AS/NZS 4671



THE FIGURE FOLLOWING THE FABRIC SYMBOL SL IS THE REFERENCE NUMBER FOR FABRIC TO AS/NZS 4671.

- FABRIC SHALL BE LAPPED IN ACCORDANCE WITH THE FOLLOWING DETAIL:



SITEWORKS NOTES

- ORIGIN OF LEVELS:- REFER SURVEY NOTES.
- CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES TO BE REPORTED TO AT & L.
- MAKE SMOOTH CONNECTION WITH EXISTING WORKS.
- ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.
- ALL SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACKFILLED WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1(2017). (OR A DENSITY INDEX OF NOT LESS THAN 75)
- PROVIDE 10mm WIDE EXPANSION JOINTS BETWEEN BUILDINGS AND ALL CONCRETE OR UNIT PAVEMENTS.
- ASPHALTIC CONCRETE SHALL CONFORM TO RMS. SPECIFICATION R116.
- ALL BASECOURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH RMS. FORM 3051 (UNBOUND), RMS. FORM ACCORDANCE WITH AS 1289 5.2.1(2017) FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m OF BASECOURSE MATERIAL PLACED.
- ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH RMS. FORM 3051, 3051.1 AND COMPACTED FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m OF SUB-BASE COURSE MATERIAL PLACED.
- AS AN ALTERNATIVE TO THE USE OF IGNEOUS ROCK AS A SUB-BASE MATERIAL IN (9) A CERTIFIED RECYCLED CONCRETE MATERIAL COMPLYING WITH RMS. FORM 3051 AND 3051.1 WILL BE CONSIDERED. SUBJECT TO MATERIAL SAMPLES AND APPROPRIATE CERTIFICATIONS BEING PROVIDED TO THE SATISFACTION OF AT & L.
- SHOULD THE CONTRACTOR WISH TO USE A RECYCLED PRODUCT THIS SHALL BE CLEARLY INDICATED IN THEIR TENDER AND THE PRICE DIFFERENCE BETWEEN AN IGNEOUS PRODUCT AND A RECYCLED PRODUCT SHALL BE CLEARLY INDICATED.
- WHERE NOTED ON THE DRAWINGS THAT WORKS ARE TO BE CARRIED BY OTHERS, (eg. ADJUSTMENT OF SERVICES), THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CO-ORDINATION OF THESE WORKS. 3052 (BOUND) COMPACTED TO MINIMUM 98% MODIFIED DENSITY IN TO MINIMUM 95% MODIFIED DENSITY IN ACCORDANCE WITH A.S 1289 5.2.1(2017)

STORMWATER DRAINAGE NOTES

- STORMWATER DESIGN CRITERIA:  
A) AVERAGE RECURRENCE INTERVAL:  
1:100 YEARS ROOFED AREAS TO SURCHARGE PIT  
1:20 YEARS EXTERNAL PAVEMENTS  
(B) RAINFALL INTENSITIES:  
TIME OF CONCENTRATION: MINUTES 5  
1:100 YEARS= 269.5 mm/hr  
1:20 YEARS= 210.7mm/hr  
(C) RUNOFF COEFFICIENTS:  
ROOF AREAS: C =1.0  
EXTERNAL PAVEMENTS: C =1.0
- PIPES 300 DIA. AND LARGER TO BE REINFORCED CONCRETE CLASS '4' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS. U.N.O.
- PIPES UP TO 300 DIA SHALL BE SEWER GRADE uPVC WITH SOLVENT WELDED JOINTS.
- EQUIVALENT STRENGTH VCP OR FRC PIPES ARE NOT PERMITTED.
- ALL STORMWATER DRAINAGE LINES UNDER PROPOSED BUILDING SLABS TO BE uPVC PRESSURE PIPE GRADE 6. ENSURE ALL VERTICALS AND DOWNPIPES ARE uPVC PRESSURE PIPE, GRADE 6 FOR A MIN OF 3.0m IN HEIGHT.
- PIPES TO BE INSTALLED TO TYPE HS3 (ROAD) HS2 (LOTS) SUPPORT IN ACCORDANCE WITH AS 3725 (2007) IN ALL CASES BACKFILL TRENCH WITH SAND TO 300mm ABOVE PIPE. WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75)
- ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS 3500 3.1 (2006) AND AS/NZS 3500 3.2 (2010).
- PRECAST PITS MAY BE USED EXTERNAL TO THE BUILDING SUBJECT TO APPROVAL BY AT & L.
- ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.
- WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED uPVC SEWER GRADE PIPE IS TO BE USED.
- CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
- GRATES AND COVERS SHALL CONFORM TO AS 3996.
- ALL INTERNAL PIT DIMENSIONS TO CONFORM TO AS3600.3 TABLE 7.5.2.1
- AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.
- ALL EXISTING STORMWATER DRAINAGE LINES AND PITS THAT ARE TO REMAIN ARE TO BE INSPECTED AND CLEANED. DURING THIS PROCESS ANY PART OF THE STORMWATER DRAINAGE SYSTEM THAT WARRANTS REPAIR SHALL BE REPORTED TO THE SUPERINTENDENT/ENGINEER FOR FURTHER DIRECTIONS.

EXISTING UNDERGROUND SERVICES NOTES

THE LOCATIONS OF UNDERGROUND SERVICES SHOWN IN THIS SET OF DRAWINGS HAVE BEEN PLOTTED FROM SURVEY INFORMATION AND SERVICE AUTHORITY INFORMATION. THE SERVICE INFORMATION HAS BEEN PREPARED ONLY TO SHOW THE APPROXIMATE POSITIONS OF ANY KNOWN SERVICES AND MAY NOT BE AS CONSTRUCTED OR ACCURATE. AT & L CAN NOT GUARANTEE THAT THE SERVICES INFORMATION SHOWN ON THESE DRAWINGS ACCURATELY INDICATES THE PRESENCE OR ABSENCE OF SERVICES OR THEIR LOCATION AND WILL ACCEPT NO LIABILITY FOR INACCURACIES IN THE SERVICES INFORMATION SHOWN FROM ANY CAUSE WHATSOEVER.

CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY.

CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION WORKS.

CONTRACTORS ARE TO UNDERTAKE A SERVICES SEARCH, PRIOR TO COMMENCEMENT OF WORKS ON SITE. SEARCH RESULTS ARE TO BE KEPT ON SITE AT ALL TIMES.

SURVEY NOTES

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY BEVERIDGE WILLIAMS, BEING REGISTERED SURVEYORS. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. AT & L DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS.

SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT AT & L.

THE FOLLOWING NOTES HAVE BEEN TAKEN DIRECTLY FROM THE ORIGINAL SURVEY DOCUMENTS.

NOTES:

- CONTOURS SHOWN DEPICT THE APPROXIMATE TOPOGRAPHY. SPOT LEVELS SHOULD BE TAKEN IN PREFERENCE TO CONTOURS, CONTOURS DO NOT REPRESENT THE EXACT LEVEL AT ANY POINT. ALL LEVELS SHOULD BE CONFIRMED ON SITE PRIOR TO EXCAVATION OR CONSTRUCTION.
- SOME SPOT LEVELS HAVE BEEN REMOVED FROM THE FACE OF THIS PLAN FOR CLARITY. ADDITIONAL SPOT LEVELS ARE AVAILABLE IN THE ELECTRONIC VERSION OF THIS PLAN FOR MORE DETAILED DESIGN WORKS.
- BEVERIDGE WILLIAMS SURVEY DATA HAS BEEN DIGITISED FROM POINT CLOUD DATA OBTAINED FROM 3D LASER SCANNING SURVEY TECHNIQUES. ADDITIONAL SURVEY DATA IS AVAILABLE IN THE POINT CLOUD ACCOMPANYING THIS PLAN FOR MORE DETAILED DESIGN WORKS
- SURVEY DATA SHOWN IN GREY HAS BEEN OBTAINED FROM SURVEY UNDERTAKEN BY RYGATE SURVEYORS PLAN REFERENCE 77266 DATED 27/01/2016
- BOUNDARIES SHOWN ON THIS PLAN ARE BASED ON PLANS AVAILABLE ON PUBLIC RECORD AT TIME OF SURVEY AND PRELIMINARY SURVEY INVESTIGATIONS ONLY. ALL BOUNDARY DIMENSIONS ARE BY TITLE ONLY AND SUBJECT TO FINAL SURVEY
- THE RELATIONSHIP OF IMPROVEMENTS TO BOUNDARIES IS DIAGRAMMATIC ONLY. WHERE OFFSETS ARE CRITICAL THEY SHOULD BE CONFIRMED BY FURTHER SURVEY. PRIOR TO CONSTRUCTION BOUNDARIES SHOULD BE MARKED
- SERVICES STRUCTURES HAVE BEEN LOCATED WHERE VISIBLE ONLY. ALL SERVICES SHOULD BE LOCATED BY THE RELEVANT AUTHORITY PRIOR TO ANY DESIGN. EXCAVATION OR CONSTRUCTION WORKS
- TREE CANOPIES ARE APPROXIMATE ONLY AND SHOULD BE VERIFIED FROM POINT CLOUD IF CRITICAL TO DESIGN
- THIS PLAN HAS BEEN PREPARED FOR THE PURPOSE OF ASSISTING FUTURE DESIGN WORKS AND SHOULD NOT BE USED FOR ANYTHING OTHER THAN THAT PURPOSE

CIVIL HOLD POINTS

HOLD POINTS/WITNESS POINT (INSPECTIONS)

PAVEMENT:

- PROOF ROLL SUBGRADE
- PROOF ROLL SUBBASE
- KERB SETOUT
- PROOF ROLL BASECOURSE
- SPRAY SEAL
- ASPHALT (1ST LAYER)
- FOOTPATH/DRIVEWAYS FORMWORK

STORMWATER:

- SETOUT STORMWATER PITS
- FORMWORK FOR ANY IN-SITU PITS
- EXCAVATE AND PARTIAL LAID PIPES

FINAL INSPECTIONS:

- SIGNAGE
- FINAL ASPHALT LAYER
- LINEMARKING
- DEFECTS INSPECTION
- DEFECTS RECTIFICATION
- HANDOVER

MATERIAL AND TESTING REQUIREMENTS:

PAVEMENT:

- CBR/COMPACTION TEST SUBGRADE
- SURVEY SUBGRADE
- MATERIAL DATA SHEET SUBBASE
- COMPACTION TEST SUBBASE
- SURVEY SUBBASE
- MIX DESIGN KERB
- MATERIAL DATA SHEET BASECOURSE
- COMPACTION TEST BASECOURSE
- SURVEY BASECOURSE
- MATERIAL DATA SHEET SPRAY SEAL
- APPLICATION RATE/TEMPERATURE FORM SPRAY SEAL
- MATERIAL DATA SHEET ASPHALT
- NUCLEAR DENSITY TEST
- MIX DESIGN FOOTPATH/DRIVEWAYS
- CONCRETE STRENGTH TEST FOOTPATH/DRIVEWAYS

STORMWATER:

- MATERIAL DATA SHEET PRECAST PIT AND PIPES
- MATERIAL DATA SHEET AGG PIPE AND GEOFABRIC
- MATERIAL DATA SHEET SAND BACKFILL
- DENSITY TEST SAND OVERLAY
- COMPACTION TEST BACKFILL
- CONCRETE STRENGTH TEST STORMWATER INSITU PITS

FINAL:

- WAE SURVEY (FINISHED LEVELS, STORMWATER INVERTS PIPE SIZE ETC)

COORDINATION WILL BE REQUIRED WITH UTILITY INSTALLATIONS (ATL IS NOT RESPONSIBLE FOR INSPECTIONS OR COORDINATION OF UTILITIES ON THIS PROJECT):

- WATER
- POWER
- JEMENA
- TELECOMMS

CONSTRUCTION TOLERANCES

|                                |                                                            |                                                                                                                                                           |
|--------------------------------|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>BULK EARTHWORKS</b>         |                                                            |                                                                                                                                                           |
| EARTHWORKS                     | -10mm / +20mm                                              | OF FINISHED SURFACE LEVEL (AFTER COMPACTION AND TRIMMING)                                                                                                 |
| <b>STORMWATER</b>              |                                                            |                                                                                                                                                           |
| PIPES                          | WITHIN 20mm                                                | OF THE DESIGN INVERT LEVEL AT ANY POINT                                                                                                                   |
| PIPES                          | WITHIN 100mm                                               | OF THE PLAN POSITION SHOWN ON THE DRAWINGS OR SPECIFIED AT ANY POINT                                                                                      |
| HEADWALLS                      | WITHIN 20mm                                                | OF THE DESIGN INVERT LEVEL AT ANY POINT                                                                                                                   |
| HEADWALLS                      | WITHIN 100mm                                               | OF THE PLAN POSITION SHOWN ON THE DRAWINGS OR SPECIFIED AT ANY POINT                                                                                      |
| CHAMBERS                       | WITHIN 20mm                                                | OF THE INVERT LEVEL SHOWN ON THE DRAWINGS                                                                                                                 |
| CHAMBERS                       | WITHIN 200mm                                               | LONGITUDINALLY OF THE PLAN POSITION, WITH REFERENCE TO THE CONTROL LINE FOR THE ROAD SHOWN ON THE DRAWINGS                                                |
| LINTELS                        | AS PER THE TOLERANCES SPECIFIED FOR THE ADJOINING MATERIAL |                                                                                                                                                           |
| COVERS                         | AS PER THE TOLERANCES SPECIFIED FOR THE ADJOINING MATERIAL |                                                                                                                                                           |
| GRATES                         | AS PER THE TOLERANCES SPECIFIED FOR THE ADJOINING MATERIAL |                                                                                                                                                           |
| OPEN DRAINS                    | WITHIN 50mm                                                | OF THE DESIGN LEVEL AT ANY POINT PROVIDED THAT THERE IS A CONTINUOUS DOWNGRADE (WITHOUT PONDING) IN THE DIRECTION OF FLOW NOT LESS THAN 0.5% AT ANY POINT |
| <b>PAVEMENT</b>                |                                                            |                                                                                                                                                           |
| SUBBASE                        | -10mm / +10mm                                              | OF PAVEMENT COURSE THICKNESS (AFTER COMPACTION & TRIMMING)                                                                                                |
| SUBBASE                        | -10mm / +0mm                                               | OF FINISHED SURFACE LEVEL (AFTER COMPACTION AND TRIMMING)                                                                                                 |
| SUBBASE                        | -5mm / +5mm                                                | ALONG THE FINISHED SURFACE (LAID IN ANY DIRECTION) OVER A LENGTH OF 3 METRES                                                                              |
| BASECOURSE                     | -0mm / +20mm                                               | OF PAVEMENT COURSE THICKNESS (AFTER COMPACTION & TRIMMING)                                                                                                |
| BASECOURSE                     | -0mm / +10mm                                               | OF FINISHED SURFACE LEVEL (AFTER COMPACTION AND TRIMMING)                                                                                                 |
| BASECOURSE                     | -5mm / +5mm                                                | ALONG THE FINISHED SURFACE (LAID IN ANY DIRECTION) OVER A LENGTH OF 3 METRES                                                                              |
| SEAL                           | -0mm / +10mm                                               | OF PAVEMENT FINISHED SURFACE LEVEL (AFTER ROLLING AGGREGATE)                                                                                              |
| SEAL                           | -5mm / +10mm                                               | ALONG THE FINISHED SURFACE OVER THE CARRIAGEWAY WIDTH AT THE DATE OF PRACTICAL COMPLETION                                                                 |
| SEAL                           |                                                            | SURFACE OF THE COURSE, INCLUDING LONGITUDINAL AND TRANSVERSE JOINTS, MUST NOT POND WATER.                                                                 |
| ASPHALT                        | -0mm / +10mm                                               | OF PAVEMENT FINISHED SURFACE LEVEL (AFTER COMPACTION)                                                                                                     |
| ASPHALT                        | -5mm / +5mm                                                | ALONG THE FINISHED SURFACE OVER THE CARRIAGEWAY WIDTH AT THE DATE OF PRACTICAL COMPLETION                                                                 |
| ASPHALT                        | -8mm / +8mm                                                | ALONG THE FINISHED SURFACE OVER THE CARRIAGEWAY WIDTH AT THE COMPLETION OF THE DEFECT LIABILITY PERIOD                                                    |
| ASPHALT                        |                                                            | SURFACE OF THE COURSE, INCLUDING LONGITUDINAL AND TRANSVERSE JOINTS, MUST NOT POND WATER.                                                                 |
| <b>CONCRETE</b>                |                                                            |                                                                                                                                                           |
| KERB                           | -5mm / +5mm                                                | ALONG THE TOP OF KERB OVER A LENGTH OF 5 METRES                                                                                                           |
| KERB                           | -5mm / +5mm                                                | ALONG THE FACE OF KERB OVER A LENGTH OF 5 METRES                                                                                                          |
| PATH                           | -0mm / +10mm                                               | OF FOOTPATH/SHARED PATH FINISHED SURFACE LEVEL                                                                                                            |
| PATH                           |                                                            | SURFACE OF THE PATH, INCLUDING JOINTS, MUST NOT POND WATER.                                                                                               |
| <b>VERGE</b>                   |                                                            |                                                                                                                                                           |
| TURF                           | -10mm / +0mm                                               | OF PAVEMENT FINISHED SURFACE LEVEL (AFTER COMPACTION) TO THE ADJOINING MATERIAL (FOOTPATHS, KERBS, ETC)                                                   |
| MULCH                          | -10mm / +0mm                                               | OF PAVEMENT FINISHED SURFACE LEVEL (AFTER COMPACTION) TO THE ADJOINING MATERIAL (FOOTPATHS, KERBS, ETC)                                                   |
| <b>RETAINING / NOISE WALLS</b> |                                                            |                                                                                                                                                           |
| WALL                           | -20mm / +20mm                                              | FROM ANY POINT ON THE WALL THE LEVEL MUST NOT DEVIATE FROM THAT SPECIFIED                                                                                 |
| WALL                           | -10mm / +10mm                                              | INCLINATION OF THE FACE OF THE COMPLETED WALL MUST NOT DEVIATE FROM THE SPECIFIED INCLINATION PER METER HEIGHT (BLOCK WALL)                               |
| WALL                           | -5mm / +0mm                                                | INCLINATION OF THE FACE OF THE COMPLETED WALL MUST NOT DEVIATE FROM THE SPECIFIED INCLINATION PER METER HEIGHT (PANEL WALL)                               |
| WALL                           | -20mm / +20mm                                              | FLATNESS OF THE FACE OF THE WALL MUST BE SUCH THAT THE MAXIMUM DEVIATION FROM A 4.5 M STRAIGHT EDGE                                                       |

CONTRACTOR SHALL CALL;

DIAL BEFORE  
YOU DIG 1100

PRIOR TO COMMENCEMENT OF WORK  
TO OBTAIN ALL CURRENT SERVICE  
AUTHORITY PLANS



**DIAL 1100  
BEFORE YOU DIG**

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| B     | ISSUED FOR APPROVAL | 14-10-22 |
| A     | ISSUED FOR APPROVAL | 07-03-22 |
| Issue | Description         | Date     |

Bar Scales

THIS DRAWING CANNOT BE  
COPIED OR REPRODUCED IN  
ANY FORM OR USED FOR ANY  
OTHER PURPOSE OTHER THAN  
THAT ORIGINALLY INTENDED  
WITHOUT THE WRITTEN  
PERMISSION OF AT&L



Client

|              |          |    |
|--------------|----------|----|
| Scales       | Drawn    | JH |
| NTS          | Designed | JH |
| Grid         | Checked  | GJ |
| Height Datum | Approved | AT |

CONSENT No: DA-483/2018/F

Project

HARBOURSIDE  
EXCAVATION

GENERAL NOTES  
AND LEGENDS

Civil Engineers and Project Managers

**at&l**

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info@atl.net.au

Status **FOR APPROVAL**  
NOT TO BE USED FOR CONSTRUCTION

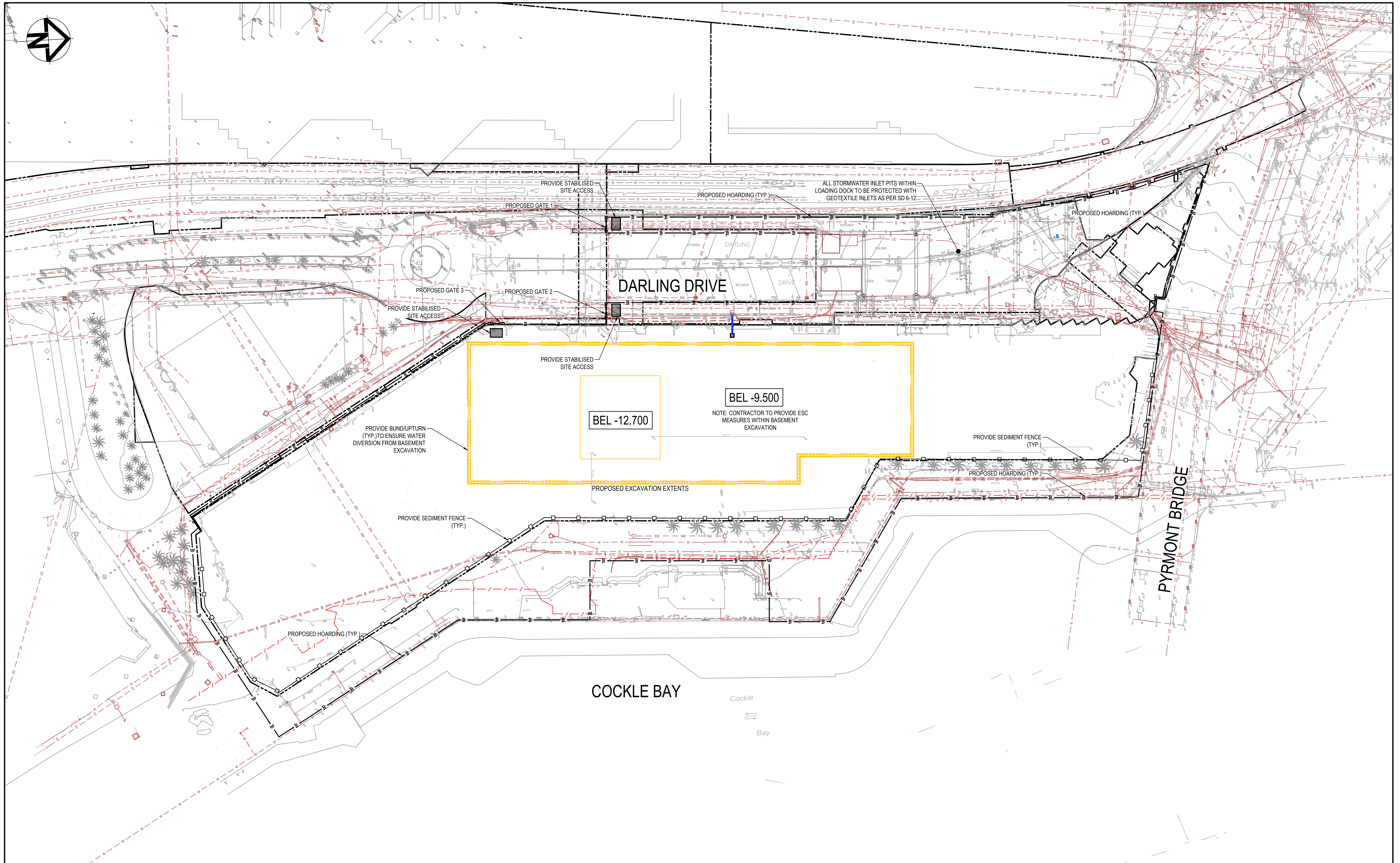
Project - Drawing No.  
CIV-DWG-OA-0001

Issue  
B



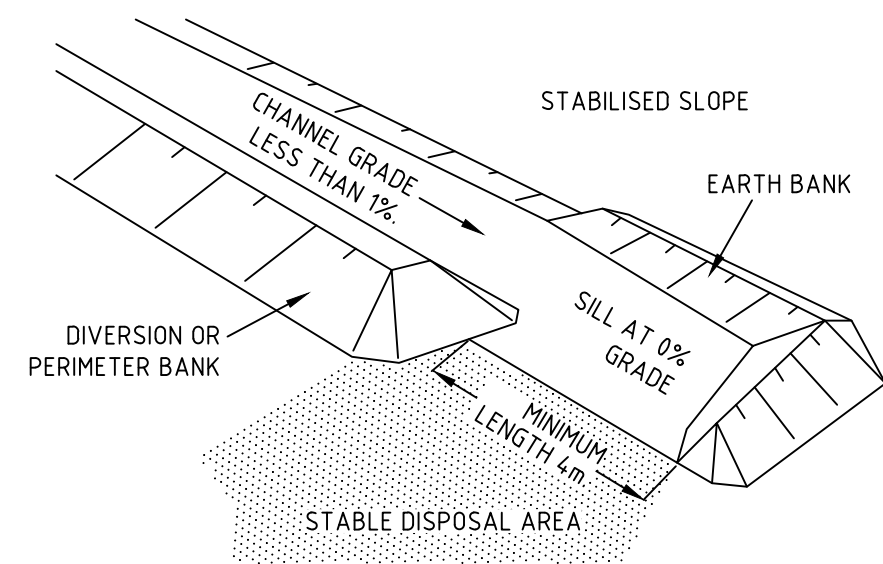




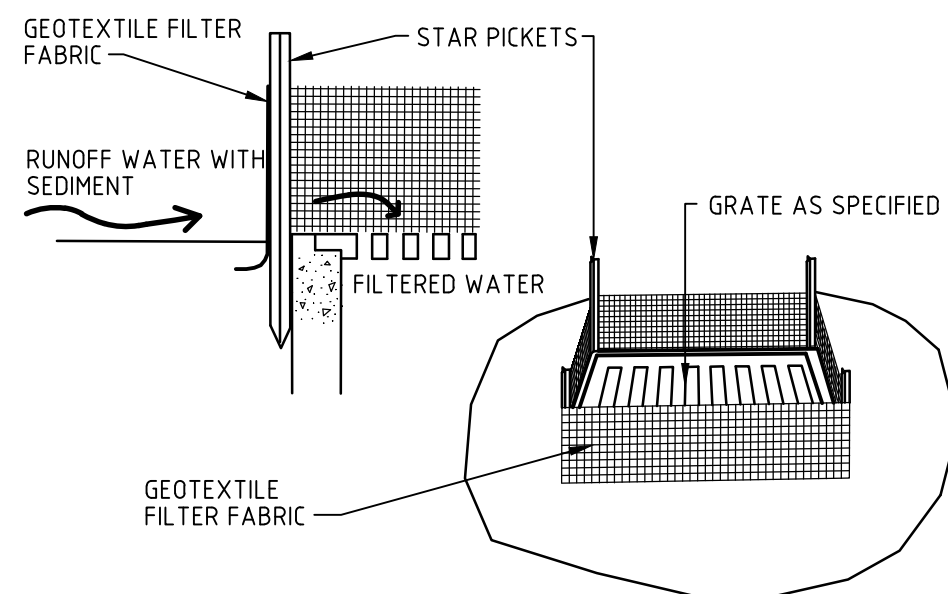


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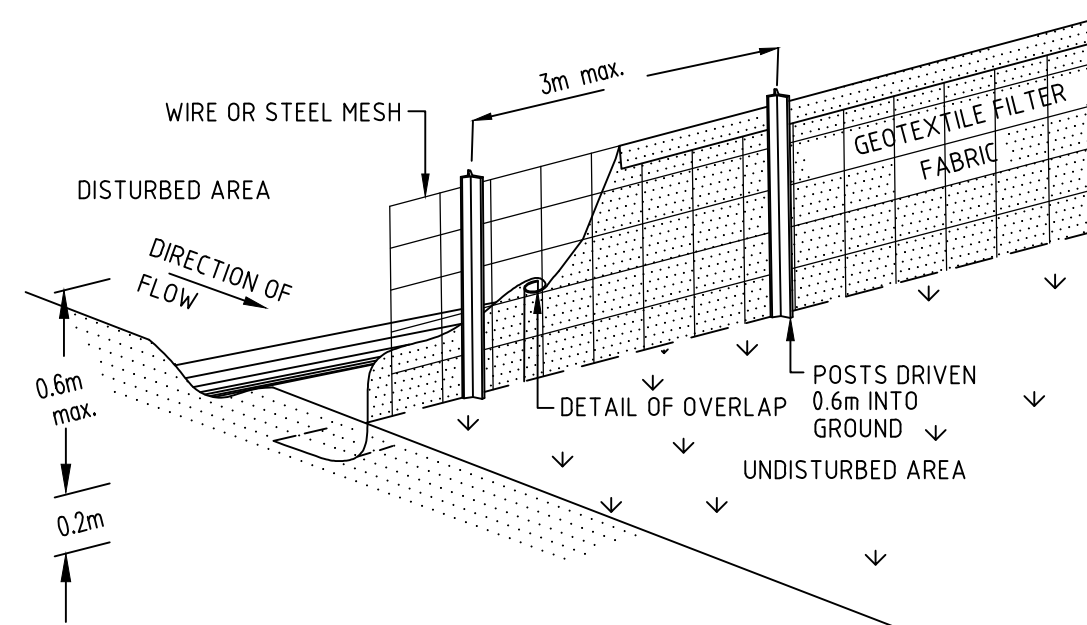




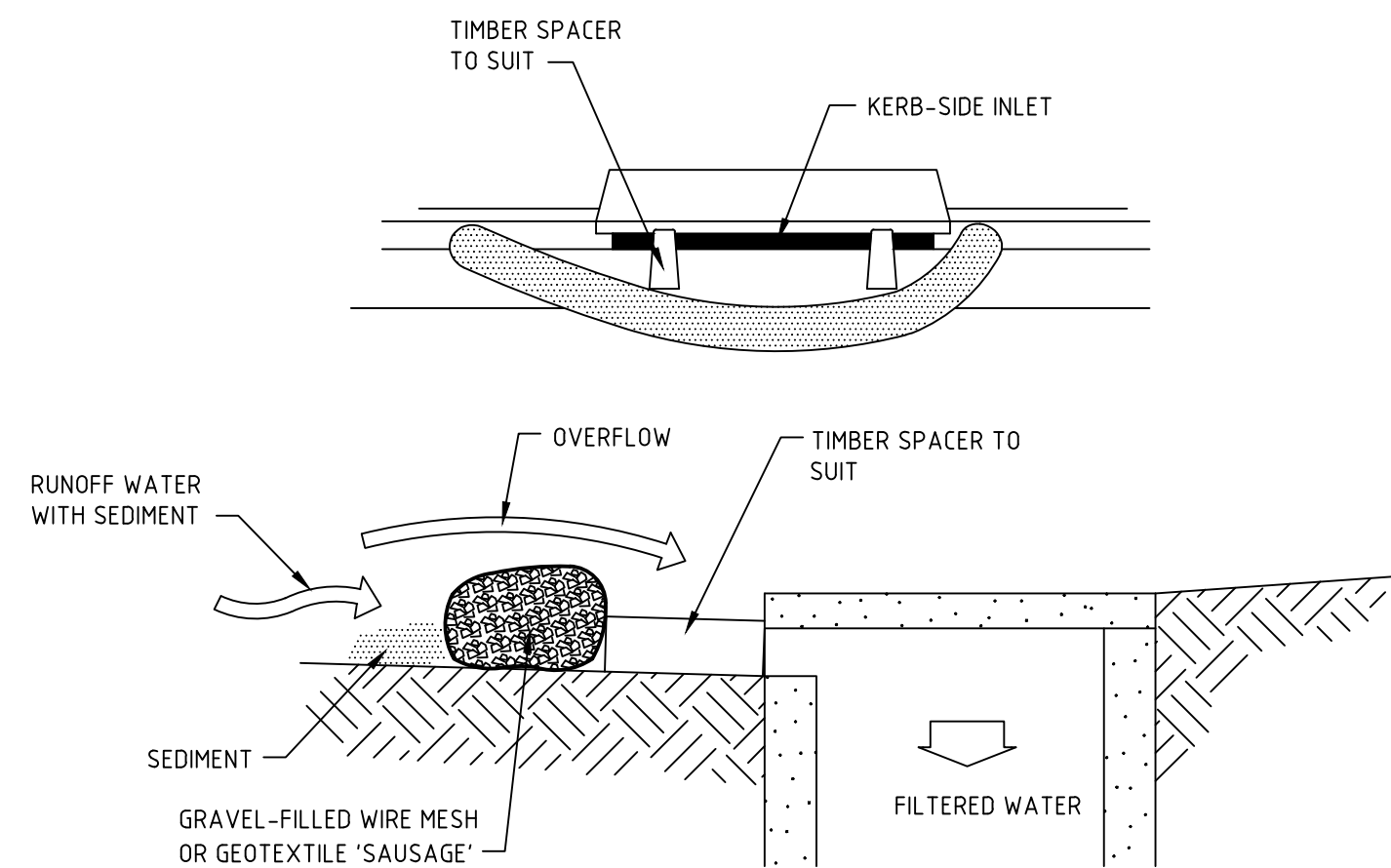
LEVEL SPREADER (OR SILL)  
N.T.S



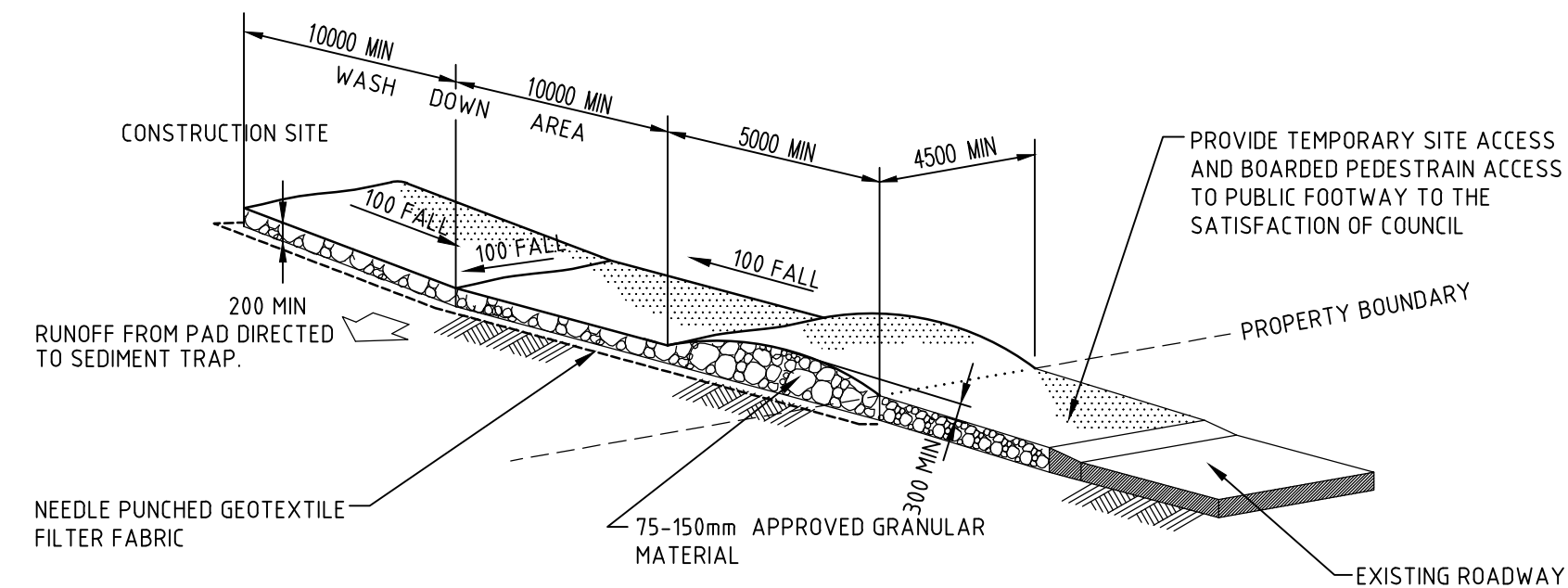
GEOTEXTILE FILTER PIT SURROUND  
NTS



SEDIMENT FENCE  
NTS



MESH AND GRAVEL INLET FILTER  
NTS



STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA  
NTS

|       |                     |          |
|-------|---------------------|----------|
|       |                     |          |
|       |                     |          |
|       |                     |          |
|       |                     |          |
|       |                     |          |
| C     | ISSUED FOR APPROVAL | 14-10-22 |
| B     | ISSUED FOR APPROVAL | 06-10-22 |
| A     | ISSUED FOR APPROVAL | 07-03-22 |
| Issue | Description         | Date     |

|            |
|------------|
| Bar Scales |
|------------|

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|                           |         |          |    |
|---------------------------|---------|----------|----|
| Scales                    | NTS     | Drawn    | JH |
|                           |         | Designed | JH |
| Grid                      | MGA2020 | Checked  | GJ |
| Height Datum              | AHD     | Approved | AT |
| CONSENT No: DA-483/2018/F |         |          |    |

|         |                                           |
|---------|-------------------------------------------|
| Project | HARBOURSIDE EXCAVATION                    |
| Title   | EROSION AND SEDIMENTATION CONTROL DETAILS |

|                                                                                                                                                                             |                                                 |            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|------------|
| Civil Engineers and Project Managers                                                                                                                                        |                                                 |            |
| <b>at&amp;l</b><br>Level 7, 153 Walker Street<br>North Sydney NSW 2060<br>ABN 96 130 882 405<br>Tel: 02 9439 1777<br>Fax: 02 9923 1055<br>www.atl.net.au<br>info@atl.net.au |                                                 |            |
| Status                                                                                                                                                                      | FOR APPROVAL<br>NOT TO BE USED FOR CONSTRUCTION | A1         |
| Project - Drawing No.                                                                                                                                                       | CIV-DWG-OA-0402                                 | Issue<br>C |

## 16.5 APPENDIX E – CONSTRUCTION WASTE MANAGEMENT PLAN (MIRVAC)

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|                          |                                        |
|--------------------------|----------------------------------------|
| <b>Division:</b>         | Mirvac Construction Pty Ltd            |
| <b>Location:</b>         | Harbourside                            |
| <b>Work Description:</b> | Excavation ESD & Waste Management Plan |

**Waste Recycling Target:** 95% diversion from landfill

#### Waste Management Targets:

Waste generated at the workplace shall be avoided or recycled wherever practicable in accordance with the waste management hierarchy detailed in the [HSE Risk Management Procedure](#).

Waste targets are >95% diversion of waste from landfill by recycling, reuse, design or other methods.

The methods of waste management shall consider the following processes, as determined by the Workplace Manager and HSE Manager:

- ☒ Waste Subcontractor engaged based on their proven ability to recycle waste at their waste facilities (or directly engage a third party waste recycling facility if the contractor does not have their own facilities);
- ☒ Waste sorting and recycling shall be carried out by the waste contractor and records provided to Mirvac to enable waste targets to be determined;
- ☒ Waste contractors are to be audited at 6 monthly intervals to ensure compliance with the waste management plan and the waste contractor's licence;
- ☒ Where sufficient storage area is available waste management shall be adopted through the use of on-site sorting and separation bins for recyclable materials, and non-recyclable waste materials.
- ☒ Contract scopes for various trade packages are to include clauses around waste minimisation, reduced materials packaging and take back-back programs to reduce the overall amount of waste generated on Mirvac sites.

#### Waste Prevention Planning:

The Workplace Manager shall ensure:

- material is reused wherever practicable (in particular top soil for construction and development sites);
- the establishment of a workplace waste management area(s) for sorting and segregating waste where available space allows;
- participation in waste minimisation training for all workplace personnel;
- recyclable materials are reprocessed wherever practicable, e.g. plasterboard off cuts, steel reinforcement and concrete;
- contractors identify areas where they can reduce waste and reuse materials in their respective trades [waste avoidance initiatives to be provided by each Service Provider];
- prescribed waste, e.g. hazardous or contaminated material, asbestos, aqueous waste [paint washout residue/sludge], shall be removed by a licensed contractor and dockets retained at the workplace for audit verification purposes;
- pollution and damage to the environment is prevented; and



- the safety and health of employees, Service Providers and the public is protected.

The use of materials that are fully recycled or include post-consumer recycled material in production will be considered wherever practicable in design stages. Suppliers of building materials will be encouraged to nominate packaging minimisation and reuse initiatives, as part of product supply to the project. Bulk handling and reusable/returnable transport containers shall also be encouraged, e.g. timber pallets.

Works that constitute a 'material' risk to the environment or generate significant waste streams shall submit as a minimum a Job Safety & Environment Analysis [or equivalent] prior to commencing work.

This will include as a minimum:

- practical measures associated with the works to prevent waste;
- waste streams resulting from the works which can be recycled and will be actively managed as part of a waste reduction plan;
- consideration of alternative products containing recycled material, which conform to the design specification that could be utilised in the works in place of more traditional materials.

Additional separation bins shall be provided for workplace waste streams. Material collected shall include:

- Metals;
- Timber;
- Concrete/rubble;
- Gyprock;
- Glass & Aluminium;
- Steel cans and PET (recyclable plastic);
- Paper/cardboard; and
- Sand pots to outdoor designated smoking areas to capture cigarette butts.

#### **Communication & Education:**

- Mirvac will conduct an on-site pre-construction meeting with Service Providers that generate medium to high volume waste streams.
- Attendance is mandatory for the Service Provider's key site personnel. The purpose of the
- meeting is to reinforce to the Service Provider's site employees the commitments made by their company with regard to the project goals and waste management requirements.
- Waste prevention and recycling activities is discussed at the beginning of each Service Provider Coordination Meeting and is a standard agenda item for that meeting to reinforce project goals and communicate waste management progress to date.
- As each new Service Provider comes on site, the Recycling Coordinator/HSE Officer and or HSE Coordinator will provide a copy of the Waste Management Plan and provide a tour of recycling areas.
- The Service Provider is responsible for ensuring all of its employees or agents comply with the Waste Management Plan.
- Recycling containers will be clearly labeled. Containers shall be located in close proximity to the work / construction areas and recyclables/salvageable materials will be placed into the 'designated' bins provided as detailed by its labeling.

- Acceptable/unacceptable materials will be posted throughout the site so that Service Providers are aware of what can and cannot be recycled.
- All Service Providers are informed in writing and in the workplace induction of the importance of non-contaminating different waste streams or with rubbish or other materials.
- The Recycling Coordinator/HSE Officer and or HSE Coordinator or nominated person inspects recycling containers on a weekly basis to ensure against contamination by workplace personnel or the public.
- Mirvac and its Service Providers include as a standard agenda item waste prevention and recycling in toolbox talks and HSE meetings.

#### Motivation:

- The site or project team develops and publishes a [Waste Management Mission Statement](#) that is distributed to all Service Providers attached to contracts, and is displayed in a prominent location(s) at the workplace.
- Mirvac conducts a pre-award meeting for Service Providers that are appointed through a tender process. Service Providers considered for the award of a tender contract are required to attend the meeting to review project goals and requirements with the project team. Attendance is a prerequisite to award of a contract(s). A signed commitment is required by Service Providers attending the meeting indicating that the project goals are understood and a willingness to commit to these goals. This signed document will be an attachment to every contract and copies of the attachment will be posted prominently at the workplace.

#### Evaluation:

- The HSE Manager will schedule an independent auditing of Waste Service
- Providers and processing for compliance;
- The HSE Manager will review each project's monthly HSE report to ensure that the waste targets achieved in accordance with this waste management plan.
- The HSE Manager and HSE Officer and or HSE Coordinator will include waste as a standard item in Health Safety Environment auditing to ensure waste is being managed to meet objectives and targets.
- The Workplace Manager/ HSE Officer and or HSE Coordinator will maintain, update, and display at the workplace a graph showing the progress to date for achieving the project's waste recycling target.



## 16.6 APPENDIX F – MIRVAC GROUP POLICIES & PROCEDURES

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- Mirvac Policies & Procedures Included:
- Young Worker Policy
- Anti-Harassment Policy
- Drugs and Alcohol Policy
- HSE Consultation Statement
- Health Safety Environment Policy
- Injury Management and Return to Work Policy
- Smoke Free Policy
- UV Radiation / Sunlight Policy
- Community Contact Register
- Dangerous Goods Storage Guidelines
- Noise Control Policy
- Water Quality Discharge Procedure



## YOUNG WORKER POLICY

Young workers and those new to the workforce often lack the experience to be cautious about workplace safety. In the past decade, injury and fatality research demonstrates that young workers aged between 15 and 24 years are over-represented in workplace injury statistics across many industry sectors. The high risk nature of some Mirvac workplaces, such as construction sites, or specific task-related risks at other Mirvac workplaces (such as manual handling, operation of plant and equipment, chemical handling or work at a height over 2 metres) means that the risk of injury to young workers is significant and affords special consideration by Mirvac.

The Mirvac Group Young Worker 'Look Out' Safety Program has been developed to guide and mentor young workers to reduce their risk of injury or illness. The Program applies to new workers, trainees or apprentices under 25 years with less than 2 years experience and is a requirement at 'all' Mirvac construction workplaces and 'all' other Mirvac business undertakings where risk and opportunity planning identifies young workers tasked with work routines assessed as having a medium risk or greater injury potential. In addition, the Program includes students undertaking work experience for which the Mirvac Group Student Placement Procedure is completed.

Launched on 31<sup>st</sup> August 2006, the objectives of the Program are to:

- > increase awareness of young worker safety
- > mentor and build confidence and experience through learning and development
- > supervise or limit risky work routines or activities
- > readily identify young workers at Mirvac workplaces so that assistance and mentoring remains ongoing

Implementation of the Mirvac Group Young Worker 'Look Out' Safety Program requires the completion of the Mirvac Group Young Worker Policy Commitment relevant to the specific Mirvac division or business unit and display of the relevant Mirvac Group 'Look Out' Poster(s) at the workplace.

The Mirvac Group Young Worker 'Look Out' Safety Program has demonstrated a strong capacity to return safer work routines and fewer injuries to young workers who are recognised as the future of Mirvac's skill base. Please join me in supporting and implementing this important initiative.

Susan Lloyd-Hurwitz  
CEO and Managing Director

February 2013

### YOUNG WORKER POLICY

This policy is not intended to be contractual in nature and does not impose any contractual obligations on Mirvac.  
Mirvac reserves the right at its sole discretion to vary, replace or cancel this policy at any time.

Policy Authorised by: Executive Leadership Team

Date last amended: 23.01.2013  
To be reviewed within three years of this date

Policy Maintained by: Corporate Services HSE Department

MG-CS-HSEPOL7.7-D 0113



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# BULLYING AND HARASSMENT PREVENTION POLICY

MIRVAC GROUP

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**HUMAN RESOURCES POLICY**

Policy Authorised by: Executive Leadership Team on 20/12/2013

Policy Maintained by: Allen Pascoe, General Manager Human Resources Operations

Version Number: 2

Document Control: MG-CSHR-HRP-2.44-B-0214

## BULLYING & HARASSMENT PREVENTION POLICY

Mirvac is committed to protecting the health, safety and wellbeing of its employees, service providers and other workers by creating a work environment that is free of bullying or unlawful harassment behaviour. Each of Mirvac's employees, service providers and other workers has a legal obligation not to (and must not) bully or unlawfully harass any employee, service provider, other worker, customer, supplier or visitor. Mirvac does not tolerate such behaviour and expects all employees, service providers and other workers to treat each other with dignity, courtesy and respect.

*Bullying* is repeated, unreasonable behaviour directed towards a person or group of persons that creates a risk to their health, safety or wellbeing. *Repeated behaviour* is defined as persistent in nature and can refer to a range of behaviours over time. *Unreasonable behaviour* means behaviour that a reasonable person, having regard for the circumstances, would see as unreasonable, including behaviour that is victimising, humiliating, intimidating or threatening.

### Examples can include:

- abusive, insulting or offensive language;
- expressing malicious rumours;
- harmful and offensive intimidation practices;
- setting deadlines that are unrealistic or exceptionally difficult to achieve.

*Unlawful harassment* is a type of unlawful discrimination. In general, unlawful harassment is any form of conduct or behaviour which affects a person that:

- (a) is unwelcome (not wanted) or uninvited (not asked for); and
- (b) is based on one of the unlawful reasons (such as age, race, religion, sex); and
- (c) is behaviour that a reasonable person would have anticipated might humiliate, offend or intimidate the person being harassed.'

A copy of Mirvac's Equal Employment Opportunity and Anti-Discrimination Policy can be accessed [here](#).

*Unlawful harassment* may make another person feel embarrassed, offended or degraded and does not have to be repeated.

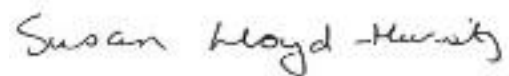
Many things that happen at work are generally not considered to be bullying or harassment, even where some experiences can be uncomfortable for those involved. For instance, performance and conduct management, or related management assessment which is reasonable, does not constitute bullying or harassment. Managers have a right to direct the way work is carried out and to monitor and give feedback on performance and conduct.

Where an employee, service provider or other worker is confronted by an issue which they perceive to be bullying or harassment, they should in the first instance try to address the issue directly with the person involved, if appropriate.

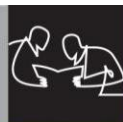
If this action proves too difficult they should then raise the issue with their immediate manager. Alternatively the issue can be raised with a Human Resources Manager, a Bullying and Harassment Contact Officer, an elected Health and Safety Representative, a Health Safety Environment Manager or by telephoning the Mirvac Open Line on 1800 707 840.

As part of our commitment in preventing bullying or harassment behaviour Mirvac treats all reported complaints of such behaviour as a serious matter and applies the Mirvac Group Workplace Issue Resolution Procedure in resolving reported complaints as well as allegations that come to its attention.

All Mirvac workplace employees, service providers and other workers are required to comply with this policy at all times. Breach of this policy is a breach the [Mirvac Code of Conduct/Ethical Business Behaviour](#) and may be subject to disciplinary action. In serious cases this could include termination of employment. Service Providers or other workers who are found to have breached this policy could have their service agreements with Mirvac terminated.

A handwritten signature in dark ink that reads 'Susan Lloyd-Hurwitz'.

Susan Lloyd-Hurwitz  
CEO and Managing Director



## DRUGS AND ALCOHOL POLICY

Mirvac is committed to providing safe, healthy and productive workplaces. While social drinking may be identified as part of Australia's cultural identity, it is well recognised that drugs and alcohol affect a person's health and their ability to perform tasks safely and productively. As an Employer of Choice, Mirvac shares community concern over the harmful physical, behavioural and social effects of drugs or alcohol and the overall human and economic cost of dependence or abuse.

Drug or alcohol abuse causes short and long term impairment to a person's work performance, can impact on their safety and health and may even impact on the safety of others at work. To eliminate risks associated with drugs or alcohol abuse and achieve Mirvac's commitment to a safe, healthy and productive workplace, the following is prohibited at all Mirvac workplaces:

- > Undertaking high risk work duties or work at high risk workplaces under the influence of drugs or alcohol
- > Driving a motor vehicle under the influence of drugs or with a blood alcohol level over the legal limit while at work or travelling to and from work
- > Illegal drug use or drug use that impairs a worker's capacity to perform their duties, including their responsibility to work safely
- > Operating plant and equipment while under the influence of drugs or alcohol
- > The provision of alcohol to a person(s) under the legal age limit

### Objectives

In enforcing the prohibitions above, Mirvac manages the risks associated with the use of drugs or alcohol in the workplace in a way that is consistent and fair to all employees or workers. More specifically, Mirvac's objectives include:

- > Provision and maintenance of a safe, healthy and productive workplace
- > Inclusion of drug screening for individuals seeking employment in high risk work activities through the Mirvac Group Pre-Placement Medical Assessment process
- > Management of work related social or entertainment events in a responsible manner by adhering to the Mirvac Group Drugs & Alcohol Procedure and its codes of behaviour that support this policy
- > Promoting awareness of the risks associated with drugs or alcohol abuse
- > Ensuring that consultation remains confidential between management and workers in the ongoing prevention, education, counselling and rehabilitation of workers affected by drug or alcohol use

To ensure Mirvac's commitment to a safe, healthy and productive workplace, all managers shall promote and administer compliance with this Policy and the Mirvac Group Drugs & Alcohol Procedure which includes mandatory codes of behaviour. All employees, workers or other visitors to Mirvac workplaces shall abide by the provisions of this Policy as a condition of employment or contract.

Susan Lloyd-Hurwitz  
CEO and Managing Director

February 2013



## CONSULTATION PROCEDURE

### 1.0 Purpose

The purpose of this procedure is to outline the Mirvac Group requirements for establishing agreed consultation frameworks in the workplace.

### 2.0 Scope

The procedure relates to all Mirvac workplaces.

### 3.0 Consultation requirements

Consultation involves taking the views of workers and health and safety representatives into account before making a decision affecting their health, safety and welfare at work or potential impacts on the environment as a result of that work. Consultation does not require consensus or agreement but it does entitle workers to contribute to any decisions made. As a minimum, consultation arrangements require that:

- relevant information about occupational health, safety and welfare and the environment is shared;
- all personnel are given the opportunity to express their views and to contribute in a timely manner to the resolution of HSE and welfare issues at their place of work;
- the views expressed during consultative forums are valued and taken into account when determining the best course of action to resolve any HSE and welfare issues at a workplace;
- the workers consulted are notified of the outcome of the consultation in a timely manner;
- if there is a health safety representative (HSR) representing the workgroup they are automatically included in the HSE committee/consultation group if they wish to be;
- for those workers represented by a health and safety representative (HSR), any consultation must involve the HSR, where reasonably practicable;
- if more than one person has a Health Safety Environment duty in relation to the same matter, each of those persons must consult, cooperate and coordinate activities with each other, so far as is reasonably practicable.

### 4.0 When to consult

Consultation is undertaken at all Mirvac workplaces when:

- the method of consultation is to be agreed between the workforce and the person conducting a business or undertaking (PCBU), and is recorded in either the Mirvac Group HSE Committee Meeting Minutes HSEF2.06 or the Mirvac Group HSE Meeting Minutes HSEF2.89. The Mirvac Group HSE Consultation

#### CONSULTATION PROCEDURE

|                                                                                          |                                         |             |
|------------------------------------------------------------------------------------------|-----------------------------------------|-------------|
| Procedure Authorised by: Ross Trethewy<br>Title: Group Manager Health Safety Environment | Date amended: 18.01.2012                | Page 1 of 4 |
| Procedure Maintained by: Corporate Services - HSE Department                             | Current version : MG-CS-HSEP4.23-E 0112 |             |



Statement is then marked up to reflect the agreed method(s) and displayed on the workplace noticeboard or other prominent location(s);

- risks to HSE arising from work are assessed or when a risk assessment/job safety & environment analysis (JSEA) is reviewed;
- identifying hazards and assessing risks to health and safety or the environment arising from the work carried out, or planned to be carried out, by the business or undertaking;
- making decisions about ways to eliminate or minimise those risks;
- making decisions about the adequacy of facilities for the welfare of workers;
- proposing changes that may affect the health or safety of workers or affect the environment;
- introducing or altering procedures for monitoring risks, including any health surveillance;
- appropriate involvement in incident investigation is required;
- developing and reviewing HSE policies and objectives;
- decisions are made about the adequacy of facilities for the welfare of employees;
- changes that may affect HSE or welfare are proposed to premises where persons work, to the systems or methods of work or to the plant or substances used for the work.
- making decisions about procedures for:
  - consulting with workers; or
  - resolving work health or safety issues at the workplace; or
  - monitoring the health of workers; or
  - monitoring the conditions at any workplace under the management or control of the person conducting the business or undertaking; or
  - providing information and training for workers.

**Note:** Three accepted options for consultation exist:

- a health safety environment (HSE) committee or a HSE consultation group;
- a health and safety representative(s) (HSR);
- other arrangements as negotiated and agreed by the Person Conducting a Business or Undertaking (PCBU) and workers at the workplace

## 5.0 Records of consultation

It is a Mirvac Group requirement that before a consultation option can be implemented, the workforce is consulted and the way in which consultation will take place agreed. This process is recorded to demonstrate that the method of consultation for the workplace has in fact been agreed by representatives of the workforce. The Mirvac Group HSE Meeting Minutes HSEF2.89 can be used for this purpose.

### CONSULTATION PROCEDURE

|                                                                                          |                                         |             |
|------------------------------------------------------------------------------------------|-----------------------------------------|-------------|
| Procedure Authorised by: Ross Trethewy<br>Title: Group Manager Health Safety Environment | Date amended: 18.01.2012                | Page 2 of 4 |
| Procedure Maintained by: Corporate Services - HSE Department                             | Current version : MG-CS-HSEP4.23-E 0112 |             |



It is a Mirvac requirement that formal records of consultation be held at the workplace by the Workplace Manager or a nominated representative. This may include HSE Committee minutes, HSE Meeting minutes, toolbox talks, pre-start meetings or records of other agreed consultation arrangements. This includes records to demonstrate that workers including employees, service providers or others were consulted on the agreed method of consultation established at the workplace including the details of any elections and the results of any negotiations and notifications to workers. Other records will typically include HSE Committee or HSE Consultation Group minutes, HSE meeting minutes, toolbox talks, Take5 talks, pre-start meetings or records of other agreed consultation arrangements.

Service providers (contractors and suppliers) or other workers undertaking work at Mirvac workplaces are required to consult with their workers on issues that may impact their health, safety or welfare or affect the environment. Toolbox talks or pre-start meetings are the typical method by which such consultation takes place. The Workplace Manager, or a nominated representative retains records of service provider consultation at the workplace.

## 6.0 Identification of consultative arrangements & personnel

The identification of workplace HSE Committee/HSE Consultation Group members or Health & Safety Representatives (HSRs) is undertaken at the workplace. This will typically involve display of personnel names and photographs on the workplace notice board or other prominent location(s). Agreed consultative arrangements for the workplace are also nominated on the Mirvac Group HSE Consultation Statement HSEG3.43 which is marked up to reflect the consultative arrangements and displayed in a prominent location(s) at the workplace. If an HSE Committee or HSE Consultation Group is formed then the Mirvac Group HSE Committee Constitution Guidelines HSEG 3.18 may be used as a template.

## 7.0 HSE Issue resolution

Resolution of HSE issues should be resolved as soon as possible to avoid further dispute or a recurrence of the issue or a similar issue. The objective is to resolve the issue completely, to the satisfaction of all parties.

Resolution of an HSE issue requires that any party involved in the issue must inform each of the other parties:

- that there is an issue to be resolved; and
- the nature and scope of the issue.

The parties involved in the issue resolution process may include:

- The person conducting a business or undertaking (PCBU);
- The representative of the PCBU i.e. an employer organisation;
- The Mirvac HSE Coordinator at the workplace (where applicable);
- Any other PCBU who is involved;
- The health and safety representative(s) (HSRs) or deputy HSR representing the workgroup(s) or the representative of the HSR;
- Where there is no HSR for the affected worker(s), then the affected worker(s) or their representative.



Where the issue is not able to be resolved at the workplace level, then the issue must be elevated in the following sequence:

1. the Division/Regional HSE Manager;
2. the Group Manager HSE;

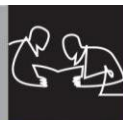
The Group Manager HSE will elevate the matter to the regulatory authority if agreement is not able to be reached at the Mirvac Group level.

Once the matter is resolved and any of the parties request a written agreement, then a copy of the agreement must be given to each of the parties involved and if requested and applicable, a copy given to the workplace HSE committee/consultation group.

- **Referenced Mirvac Documents:**

- [Mirvac Group HSE Consultation Statement](#)
- [Mirvac Group HSE Committee Constitution Guidelines HSEG 3.18](#)
- [Workplace HSE Inspection HSEF2.18](#)
- [Mirvac Group Tool Box Talk Record HSEF 2.10](#)
- [Mirvac Group HSE Committee Meeting Minutes HSEF 2.06](#)
- [Mirvac Group HSE Meeting Minutes HSEF2.89](#)





## HEALTH SAFETY ENVIRONMENT POLICY

Mirvac is a leading ASX-listed, integrated real estate group with activities across the real estate, investment and development spectrum. Health Safety Environment is central to the Mirvac core business values. Our vision is simple – to provide workplaces free from harm and supported by a culture which ensures that the safety of people and protection of the environment remains an absolute priority. Mirvac believes the best business solution for management of Health Safety Environment is also the best business solution for all Stakeholders across the Mirvac Group.

### Objectives for achieving our vision include:

- > Complying with applicable statutory requirements, codes of practice, standards and guidelines;
- > Establishing measurable objectives and targets aimed at the elimination of work related incidents or impacts from our activities, products and services;
- > Defining roles, responsibilities and levels of accountability for Health Safety Environment.

### Strategies include:

- > Integration of risk management principles in all core planning activities including the prevention of pollution;
- > Regular review of objectives and targets to promote improved performance outcomes across all business divisions;
- > A commitment to measurable and continual improvement in Health Safety Environment performance across the Mirvac Group through strategic planning;
- > Working with government and industry to improve performance outcomes for the benefit of our stakeholders and wider industry goals;
- > Establishment and ongoing expansion of Health Safety Environment learning and development initiatives
- > Regular consultation with our workforce and other stakeholders to improve decision-making on Health Safety Environment matters;
- > Ensuring incidents are investigated and lessons learnt are distributed across all business divisions within the Group;
- > Distributing Health Safety Environment information, including this policy, across the Group to all employees, workers and interested parties;
- > Providing timely and effective injury management and environmental remediation strategy;
- > Regular review of Health Safety Environment policies and procedures to ensure compliance with legislation and ongoing relevance across the Group;
- > The provision of sufficient resources to ensure Health Safety Environment remains central to core business values;
- > Prequalification of Service Providers (contractors and suppliers);
- > Adopting sustainable business principles and practices that meet the needs of stakeholders without compromising future resource needs;
- > Recognising and rewarding excellence in Health Safety Environment performance.

I commit Mirvac to the implementation of this policy and task all divisions and personnel across Mirvac with the responsibility for achieving our vision.

Susan Lloyd-Hurwitz  
CEO and Managing Director

February 2013

#### HEALTH SAFETY ENVIRONMENT POLICY

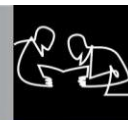
This policy is not intended to be contractual in nature and does not impose any contractual obligations on Mirvac.  
Mirvac reserves the right at its sole discretion to vary, replace or cancel this policy at any time.

Policy Authorised by: Executive Leadership Team

Date last amended: 23.01.2013  
To be reviewed within three years of this date

Policy Maintained by: Corporate Services HSE Department

MG-CS-HSEPOL7.0-H 0113



## INJURY MANAGEMENT AND RETURN TO WORK POLICY

Mirvac recognises the benefits of sound injury management principles and practices and commits to implementing such practices in all its workplaces. In conjunction with this commitment Mirvac acknowledges all legislative frameworks which govern and support injury management and return to work activities across all divisions and regions of operation by the Mirvac Group.

Experience demonstrates that early intervention and management of workplace injury through sound injury management practices, assists the recovery process and restores workers to normal duties sooner. Workplace injury management includes early provision of timely and appropriate resources, (including suitable duties, equipment or treatment). The Injury Management & Return To Work program aims to:

- > retain injured or ill workers at work; or
- > facilitate a timely return to work; or
- > maximise the worker's independent functioning and provide for durable employment.

This policy constitutes a joint workforce-management agreement in which Mirvac commits to:

- > Providing suitable duties at the workplace, or other workplaces, which may be modified or alternative duties supported by medical opinion;
- > Providing support to the injured worker(s) through the provision of meaningful and suitable employment and where necessary, attend medical appointments;
- > Maintaining confidentiality over medical and injury management information including verbal and written communication;
- > Educating the injured worker(s) on rights, responsibilities and obligations;
- > Communicate and co-ordinate with all stakeholders to assist in retaining the injured worker at work or planning for their return to work;
- > Ensure that where disputes arise during the return to work process, undertake the dispute resolution process prescribed by the Mirvac Return To Work Program displayed in the workplace;
- > Ensure that participation in the return to work process will not disadvantage the injured worker's employment;
- > Regularly review this policy and associated programs to ensure Mirvac's commitment continues to meet legislative requirements and the needs of all Injury Management & Return To Work stakeholders.

I commit Mirvac to the implementation of this Policy and its supporting framework of workplace injury management procedures, which outline key terms, roles and responsibilities and stages in the return to work process.

Susan Lloyd-Hurwitz  
CEO and Managing Director

February 2013

### INJURY MANAGEMENT AND RETURN TO WORK POLICY

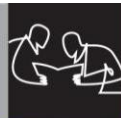
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Policy Authorised by: Executive Leadership Team

Date last amended: 23.01.2013  
To be reviewed within three years of this date

Policy Maintained by: Corporate Services HSE Department

MG-CS-HSEPOL7.6-D 0113



## SMOKEFREE POLICY

Mirvac is committed to protecting the health and wellbeing of its employees, workers and visitors by creating a work environment which is free of tobacco smoke. To achieve this commitment, smoking is prohibited within:

- > 'Enclosed' workplaces, e.g. buildings or structures. Enclosed means any space having a ceiling or roof and except for doors and passageways is completely or substantially enclosed by walls or windows
- > 'Semi-enclosed' workplaces, e.g. amenities, lunchrooms and areas where meals are consumed. Semi-enclosed means any area mainly located outside the permanent external walls of a building and has a ceiling or roof and at least two sides that include fixed walls, operable windows, doors or retractable coverings
- > 5 metres of any access points to an enclosed/semi-enclosed Mirvac workplace including a building doorway entry or exit, operable window or louvre and air conditioning vent or duct
- > Lifts, hoists, and undercover car parks
- > 6 metres of any area that is classified as a confined space
- > Mirvac vehicles and plant and equipment if another person(s) is present
- > 10 metres of any designated flammable or combustible goods store
- > Other areas designated as no smoking by signs

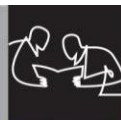
Smoking breaks for employees during work hours are not permitted. Where employees experience difficulty with the absence of such breaks, or seek to quit smoking, assistance is provided through the Mirvac Employee Assistance Program.

To enable Mirvac to foster an environment that promotes health and wellbeing at work and at the same time meets legislative obligations under smoke free, health, and occupational health and safety legislation all managers promote and administer compliance with this Policy. All employees, service providers or other visitors to Mirvac workplaces shall abide by the provisions of this Policy.

Littered cigarette butts have environmental impacts on waterways, soils and habitats. Mirvac supports a cigarette butt free environment and asks all smokers to please 'butt it and bin it' to protect the environment.

Susan Lloyd-Hurwitz  
CEO and Managing Director

February 2013



## UV RADIATION/SUNLIGHT POLICY

At Mirvac the provision of a safe working environment is central to core business values. Mirvac recognises the risk of skin cancer to outdoor workers exposed to Ultra Violet Radiation (UVR) through everyday sunlight. Where outdoor work is performed at Mirvac workplaces, UVR exposure is a consideration in all planning activities.

Initiatives implemented to raise awareness and minimise the risk of UVR exposure to outdoor workers at Mirvac controlled workplaces include:

- > a purchasing arrangement for Mirvac employee work clothing consisting of the requirements for close-weave fabric with a minimum Ultraviolet Protection Factor (UPF) of 30+ that provides protection to the upper and lower limbs
- > the requirement for Mirvac employees undertaking outdoor work at Mirvac workplaces to wear clothing during daylight hours that provides protection to the upper and lower limbs and has a minimum UPF of 30+
- > consultation and awareness training for employees, service providers and other workers through workplace induction emphasising the dangers of UVR exposure and skin cancer
- > completion of the Mirvac Group Health Safety Environment 'Licence To Operate' training course 'Sun Safety Awareness' by all Mirvac employees
- > where provided, sheltered amenity areas not exposed to direct sunlight
- > display of the Mirvac Group 'UV Exposure' poster and the Mirvac Group 'Avoid Heat Stress' poster at all Mirvac workplaces where outdoor work is carried out
- > display of this Policy at all Mirvac workplaces

Identification and assessment of potential UVR risks for outdoor work is a Mirvac risk planning requirement. Where outdoor work is to be carried out at any Mirvac workplace the following minimum control measures are implemented:

- > a safe work procedure or equivalent for outdoor work which includes precautions to minimise UVR exposure
- > availability of a broad brimmed (min. 8-10cm) hat, or brim and neck flap for safety helmets, to all Mirvac employees engaged in outdoor work
- > availability of sunglasses complying with AS/NZS1067 to all Mirvac employees engaged in outdoor work
- > availability of sunscreen min. SPF 30+ at prominent locations at all workplaces where outdoor work occurs

Where UVR is identified as a health and safety hazard, Mirvac monitors the implementation and effectiveness of control measures through regular workplace appraisal.

Susan Lloyd-Hurwitz  
CEO and Managing Director

February 2013





## COMMUNITY CONTACT NOTIFICATION

### PURPOSE

Contact with the community is a means by which Mirvac can positively engage stakeholders and potential clients or customers by demonstrating sound management practices in resolving any concerns raised in a timely manner.

Community members that interface with Mirvac business undertakings present the opportunity for feedback and a positive response by Mirvac.

Any response shall be commensurate with Mirvac's high regard and sensitivity to social amenity and the lifestyle impacts of its business undertakings.

The details outlined below must be completed for all 'formal' (oral or written) representations to any Mirvac representative by a community member or on being directly informed of a concern by a third party and corrective (follow up) action undertaken within 48 hours of notification where required.

**WORKPLACE:** \_\_\_\_\_

### CONTACT DETAIL:

(1) How was the contact made?:

Telephone: ☐ Personal Contact: ☐ Written Letter: ☐ Email: ☐ Fax: ☐

Other [specify]: \_\_\_\_\_

(2) Date of contact: \_\_\_\_\_ Time of contact: \_\_\_\_\_ am ☐ or pm ☐

(3) Contact made by: [who made the contact?]

| Name | Address | Phone |
|------|---------|-------|
|      |         |       |
|      |         |       |

(4) Outline concerns/issues raised:

\_\_\_\_\_

(5) Notification details recorded in the HSE Incident Reporting System by:

| Name | Mirvac Division | Date recorded | Phone |
|------|-----------------|---------------|-------|
|      |                 |               |       |

(6) Has the contact been referred to another person? Yes ☐ No ☐

(7) If 'Yes' list the name and contact details of the person:

| List Name | Mirvac Division | Time Referred | Phone |
|-----------|-----------------|---------------|-------|
|           |                 |               |       |

(8) Has the contact been 'formally' acknowledged to the complainant? Yes ☐ No ☐

[Note: mandatory within 48 hours of contact]

(9) How was the contact formally acknowledged?

Telephone: ☐ Personal Contact: ☐ Other: [specify] \_\_\_\_\_

(10) Is follow-up action required? Yes ☐ No ☐

### COMMUNITY CONTACT NOTIFICATION

|                                                                                     |                          |                       |
|-------------------------------------------------------------------------------------|--------------------------|-----------------------|
| Form Authorised by: Ross Trethewy<br>Title: Group Manager Health Safety Environment | Date amended: 05.04.2012 | Page 1 of 2           |
| Form Maintained by: Corporate Services - HSE Department                             | Current version :        | MG-CS-HSEF2.07-C 0412 |



## (11) Outline follow-up action undertaken:

[Note: mandatory within 48 hours of contact]

\_\_\_\_\_

(12) Date of follow-up action: \_\_\_\_\_ Time of action \_\_\_\_\_ am ☐ or pm ☐

(13) Date complainant was advised of the outcome/action undertaken as a result of the contact:

Date \_\_\_\_\_ Time of action \_\_\_\_\_ am ☐ or pm ☐

[Note: mandatory within 48 hours of first contact]

## (14) What were the 'Contributing Factors' and the 'Root cause' of the issue?

(Action/ inaction by persons, failure of tools/ machines or procedures not followed) *(QUESTION THE CAUSE 5 TIMES)*  
e.g. (the issue) Slurry on public road, splashing on passing cars. **Q. 1 Where** did the slurry come from? – From concrete cutting adjacent to road. **Q. 2 How** did it get on the road? – No effective barrier in place. **Q. 3 Why** was there no barrier? – Hazard of slurry splashing on cars not identified. **Q. 4 Why** was this hazard/ control not identified? – Location/task specific risk assessment not reviewed for location. **Q. 5 Why** was the risk assessment not reviewed? – Risk assessment not maintained or checked prior to activity or during daily pre-start meeting.

Insert main issue description

Q.1?

Q. 2?

Q. 3?

Q. 4?

Q. 5?

## (15) Identified 'long term' corrective action(s) required to prevent the issue re-occurring

\_\_\_\_\_

## (16) Date 'long term' corrective action(s) implemented and R &amp; O Register reviewed:

\_\_\_\_\_

## (17) Date the corrective action(s) were monitored by a Mirvac representative and confirmed as having been effective:

\_\_\_\_\_

## (18) Completion:

Person completing this report:

Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Manager of person completing this report:

Name: \_\_\_\_\_

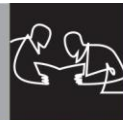
Signature: \_\_\_\_\_

Date: \_\_\_\_\_

|                                                                                     |                          |                       |
|-------------------------------------------------------------------------------------|--------------------------|-----------------------|
| Form Authorised by: Ross Trethewy<br>Title: Group Manager Health Safety Environment | Date amended: 05.04.2012 | Page 2 of 2           |
| Form Maintained by: Corporate Services - HSE Department                             | Current version :        | MG-CS-HSEF2.07-C 0412 |

# Dangerous Goods Storage Guidelines

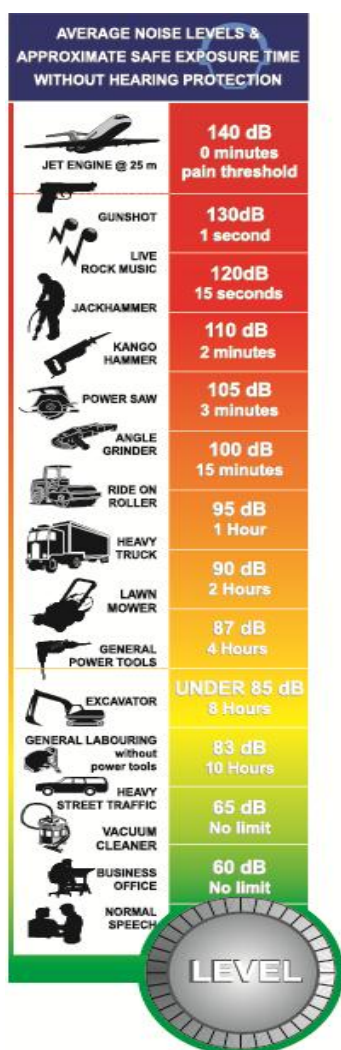
| Storage of Dangerous Goods in quantities exceeding those prescribed will require licensing of the workplace premises                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                               | <p><b>Flammable Liquids 3</b></p> <ul style="list-style-type: none"> <li>§ <b>Packing Group II</b> – Petrol, Methylated spirits, acetone etc.</li> <li>§ Max storage in aggregate = 100lts or less in storage</li> <li>§ <b>Packing Group III</b> – Mineral turpentine, white spirit, kerosene etc.</li> <li>§ Max storage in aggregate = 1000lts or less in storage</li> </ul> <p><b>Storage:</b> In accordance with AS1940 + MSDS for product + in a bunded area with a storage capacity of 110% of the largest container in the store and fitted with an impervious floor + separated from other hazardous substances or dangerous goods, e.g. gas bottles, by minimum 5m + no refuelling within 50 metres of any drainage inlets or watercourse.</p> <p>Flammable liquids kept in the one place above these exemption quantities must be kept in a licensed depot. This may be an approved flammable liquids cabinet or a purpose-built depot. Flammable liquids in volumes below the exemption quantities above don't have to be kept in a licensed depot, but they still have to be stored in accordance with legislative requirements, primarily AS1940 - The storage and handling of flammable and combustible liquids.</p> <p>Manufactured products such as paints, lacquers, adhesives and varnishes can be kept in unlimited amounts provided they are kept in small approved packages. For PGII products, the packages must not exceed 5 L capacity, and for PGIII, they must not exceed 25 L. Once again, they must be stored according to legislative requirements.</p> <p><b>Note:</b> When flammable liquids of different packaging groups are stored together, all are assumed to belong to the highest, most dangerous packaging group and the depot must be treated accordingly. For example, 200 L of Mineral Turps could be stored without a license, but if it's kept in the same room as 20 L of Methylated Spirits, it has to be treated as a depot containing greater than 100 L of PGII flammable liquids and is required to be licensed. Therefore, it is often wise to separate the different packaging groups and manufactured products.</p> |
| <p><b>Gas Cylinders</b></p>                                                                                                                                                    | <p><b>Oxygen/Argon etc - G size = 48kg/48lt water capacity    E size = 24kg/24lt water capacity</b><br/> <b>Acetylene - G size = 55kg gross mass                      E size = 28kg gross mass</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <br><br> | <p><b>Non Flammable / Non Toxic / Oxidizing - Gas 2.2</b></p> <ul style="list-style-type: none"> <li>§ Oxygen, Nitrogen etc (Packing Group NA);</li> <li>§ Not being a cryogenic liquid = unlimited amount; (oxygen = class 2.2 with residual class 5.1)</li> <li>§ 21 'G' or 42 'E' bottles when in storage; (liquid nitrogen)</li> <li>§ Store in open/secure area min 3m from any other dangerous goods, refer MSDS and AS 4332 - Storage and Handling of Gas in Cylinders and AS 4326-1995 The Storage and Handling of Oxidizing Agents.</li> </ul> <p><b>Note: Minor Storage of mixed class 2 gases (2.1 &amp; 2.2) combined is permissible where the max volume of each gas does not exceed 500lts (class 2.1) and 2000lts (class 2.2) and 1000lts (class 2.2 with residual risk 5.1).</b><br/> Refer AS 4332 for minor storage of mixed gases.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                                                                                             | <p><b>Flammable Gas 2.1</b></p> <ul style="list-style-type: none"> <li>§ Acetylene, LP Gas (Packing Group NA);</li> <li>§ 6 'G' or 12 'E' bottles or 150kg or less when in storage;</li> <li>§ 16 x 9kg LGP bottles or 150kg or less when in storage;</li> <li>§ 12 'G' or 24 'E' bottles or 300kg when connected for use;</li> <li>§ 32 x 9kg LPG bottles or 300kg when connected for use;</li> <li>§ Storage in indoor and/or outdoor refer MSDS and AS 4332 - Storage and Handling of Gas in Cylinders &amp; AS 1596 - The Storage and Handling of LP Gas</li> </ul> <p><b>Note: Minor Storage of mixed class 2 gases (2.1 &amp; 2.2) combined is permissible where the max volume of each gas does not exceed 500lts (class 2.1) and 2000lts (class 2.2) and 1000lts (class 2.2 with residual risk 5.1).</b><br/> <b>Note: maximum is based on the combination (aggregate) of gas cylinders being in storage and/or in use</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|                                                                                             | <p><b>Miscellaneous Dangerous Goods Class 9 – Combustible Liquid</b></p> <p>Those products do not normally require a licence but pose an environment threat if spilled.</p> <ul style="list-style-type: none"> <li>§ Class C1 – a combustible liquid that has a flashpoint of 150o C or less</li> <li>§ Class C2 – a combustible liquid that has a flashpoint exceeding 150o C</li> </ul> <p>If the goods are of Class C1 combustible liquids and are not kept in a tank having a capacity exceeding 50 000 litres, e.g. Diesel, an unlimited quantity; or if the goods are of Class C2 combustible liquids an unlimited quantity.</p> <p>Combustible liquids kept in the one place above these exemption quantities must be kept in a licensed depot. Combustible liquids in volumes below the exemption quantities don't have to be kept in a licensed depot, but they still have to be stored in accordance with legislative requirements, primarily AS1940 The Storage and Handling of Flammable and Combustible Liquids + in a bunded area with a storage capacity of 110% of the largest container in the store and fitted with an impervious floor + no refuelling within 50 metres of any drainage inlets or watercourse.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                                                                                             | <p><b>Corrosive Substances 8</b></p> <ul style="list-style-type: none"> <li>§ PGII – 500lts or 500kg e.g. hydrochloric acid, sulphuric acid etc.</li> <li>§ PGIII - 1000 L or 1000 kg e.g. Milestone - Toilet bowl cleaner, Hypoclean (heavy duty sanitizer).</li> </ul> <p>Above the exemption quantities, a licence is required. Below the exemption quantities, corrosives must still be stored according to legal requirements, such as in an approved corrosives cabinet. The appropriate Australian Standard to be followed is AS3780 The Storage and Handling of Corrosive Substances + in a bunded area with a storage capacity of 110% of the largest container in the store and fitted with an impervious floor.</p> <p><b>Note:</b> Acids and alkalis need to be segregated from each other and some acids must also be kept apart from each other due to the possibility of dangerous reactions occurring.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |



## NOISE CONTROL POLICY

Mirvac is committed to ensuring that its workplaces are free from noise and vibration levels which have the potential to adversely affect human health. This includes the monitoring of noise exposure and peak noise levels at temporary, new or existing workplaces, where noise is identified as a risk and the implementation of noise control measures where adverse levels are identified.

Noise can result in hearing loss based on either the intensity of the noise level, i.e. a peak of more than 140dB(C); or noise levels which exceed an 8 hour noise level equivalent of 85dB(A). As an employer or controller at workplaces where these levels may be exceeded, Mirvac will instigate noise control measures that include:



- > the identification of actual and potential exposure to noise in the workplace by conducting noise assessments or monitoring where identified as a risk
- > assessment of the risks to health and safety of potential or actual exposure to noise
- > the potential impact of noisy works on nearby neighbours or the surrounding community, strict adherence to any hours of operation imposed by local government or other development condition
- > outline of the responsibilities for noise control and information on the risk of noise exposure in workplace inductions
- > procurement of plant and equipment which does not adversely impact on noise levels
- > wherever practicable the implementation of control measures such as encapsulation or isolation of noisy works or plant and equipment to minimise reliance on personal protective equipment and the impact of noise on surrounding workers or others
- > use of personal protective equipment by employees, workers, service providers, visitors, surrounding workers or others who undertake, or are situated close to noisy work
- > the identification of noisy areas or plant and equipment with warning signage to alert personnel of the requirement for the use of personal protective equipment
- > display of the Mirvac Sound Advice Poster at all workplaces where noise is identified in risk and opportunity planning
- > employees or other workers frequently required to use personal protective equipment to protect against the risk of hearing loss associated with noise that exceeds the exposure standard will be monitored by their employer through audiometric testing

Mirvac is committed to assisting industry sectors in which it operates to reduce the instance of noise related hearing loss through ongoing implementation of the Mirvac Group Noise Management Procedure at all Mirvac workplaces. Implementation of this policy and the Mirvac Group Noise Management Procedure by Mirvac personnel is unconditional.

*Susan Lloyd-Hurwitz*

Susan Lloyd-Hurwitz  
CEO and Managing Director

### NOISE CONTROL POLICY

This policy is not intended to be contractual in nature and does not impose any contractual obligations on Mirvac.  
Mirvac reserves the right at its sole discretion to vary, replace or cancel this policy at any time.

Policy Authorised by: Executive Leadership Team

Date last amended: 23.01.2013

To be reviewed within three years of this date

Policy Maintained by: Corporate Services HSE Department

MG-CS-HSEPOL7.2-E 0113





February 2013

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MG-CS-HSEPOL7.2-E 0113

# Mirvac Group Water Quality Discharge Procedure



## 1.0 Purpose

This procedure outlines the requirements for the management of sediments and other pollutants contained within stormwater flows and discharges from Mirvac construction projects. The procedure outlines water quality requirements to be achieved before any discharge is undertaken.

## 2.0 Scope

The procedure applies to all development projects across Mirvac where stormwater is discharged through natural flows or from catchment reservoirs including basements, lift shafts, excavations, sedimentation ponds/pits or other water storage vessels.

## 3.0 Definitions

|                  |                                                                                                                                |
|------------------|--------------------------------------------------------------------------------------------------------------------------------|
| berm             | Earth mound designed to restrict and slow water flow so that it drops sediment fines.                                          |
| hydrology        | Predicted stormwater runoffs and estimated flow control barriers and reservoir capacity.                                       |
| pH               | A measure of acidity or alkalinity of water.                                                                                   |
| turbidity        | A measure of water clarity and how much light is able to penetrate through a column of water.                                  |
| suspended solids | Organic and inorganic particles, such as solids from wastewater, sand, clay, and mud, that are suspended and carried in water  |
| swale            | A ditch on a contour or slope designed to slow and hold water flow enabling infiltration of water and nutrients into the soil. |

## 4.0 Risk assessment

Stormwater runoff and discharge shall be a consideration in all risk and opportunity planning for Mirvac construction projects. All Mirvac construction works shall manage discharge of sediments and other pollutants to a waterway or waterbody. Management of discharges is a legislative requirement in each state or region of operation and a requirement of the Mirvac Group Health Safety Environment Management System. All discharges shall be carried out without contaminating surrounding waterways or any stormwater discharge system. Management considerations shall include water quality of any natural run-off or discharge (e.g. by dewatering), hydrology and flooding, particularly during wet weather, and include the stability of any stockpile(s) or site terrain.

### 4.1 Barrier measures

Barrier control measures at a construction project shall include:

- sedimentation barriers to perimeter fencing and stockpiles or other excavated areas where run-off is identified as a risk;
- use of silt traps to protect stormwater inlets within a site boundary and those inlets identified 'at risk' in streets immediately bounding a construction project;
- installation of a rumble strip(s) or coarse aggregate to heavy vehicle entry/exit points;
- work tasks generating slurry shall be identified and absorbents, trays, or other methods of retention carried out;
- installation of swales, berms, retention pits or other flow restrictors to slopes to slow run-off so that it drops sediment;
- inspection of all barriers and other controls at maximum weekly intervals and immediately after any significant rainfall event (i.e. 20 mm or more);
- location of high risk plant, e.g. concrete pump, or activities like refuelling away from stormwater inlets or protection of inlets during high risk activities; and
- covering of spoil loads transported from a construction project.

# Mirvac Group Water Quality Discharge Procedure



## 4.2 Monitoring of stormwater quality

Monitoring of any stormwater to be discharged shall be in accordance with this procedure or Local Government Guidelines should such Guidelines require a higher standard. Monitoring prior to discharge shall include the following test results (based on Australian and New Zealand Guidelines for Fresh and Marine Water Quality) using a water quality meter:

- a pH in a range of 6.5 to 8.5;
- a Turbidity range of <50 NTU (Nephelometric Turbidity Units) or no more than 10% higher than the turbidity in the receiving water; and
- suspended solids not exceeding 50 parts per million (ppm).

Where discharge is to occur into environmentally sensitive areas, e.g. marine ecosystems, monitoring shall be undertaken by an independent Service Provider accredited by the National Association of Testing Authorities (NATA).

### 4.2.1 Visual inspection

Stormwater flows shall be observed to ensure:

- no visible litter or other floatable materials such as foams or scums; and
- no visible film of oil, grease and petrochemical products or odours from such products at the point of entry.

### 4.2.2 Sediment removal

Where retained stormwater does not meet the quality outlined previously a Flocculant, e.g. Alum, shall be added in order to remove suspended sediment, bacteria and other elements by settling. Use of any flocculant shall be in accordance with the precautions for use outlined in the Material Safety Data Sheet provided with the product.

### 4.2.3 Records

Monitoring records shall be retained at the construction project for audit purposes using Appendix A – Water Quality Register. All discharge results shall be reviewed for compliance with Part 4 of this procedure through routine audit processes at maximum three (3) month intervals.

## 5.0 Reference material

- **National** ([www.environment.gov.au](http://www.environment.gov.au))
  - Australian and New Zealand Guidelines for Fresh and Marine Water Quality.
- **New South Wales** ([www.environment.nsw.gov.au](http://www.environment.nsw.gov.au))
  - Environment Matters 8: Stormwater Pollution from Building Sites (Guide)
  - Protection Of the Environment Operations (POEO) Act.
- **New Zealand** ([www.mfe.govt.nz](http://www.mfe.govt.nz))
  - National Environmental Standards for Clean Water, Air and Land.
- **Queensland** ([www.epa.qld.gov.au](http://www.epa.qld.gov.au))
  - Environment Protection Water Policy
- **Tasmania** ([www.dpiw.tas.gov.au](http://www.dpiw.tas.gov.au))
  - Environmental Best Practice Guidelines - Construction Practices in Wetlands & Waterways.
- **Victoria** ([www.epa.vic.gov.au](http://www.epa.vic.gov.au))
  - State Environment Protection Policy (Waters of Victoria).
- **Western Australia** ([www.epa.wa.gov.au](http://www.epa.wa.gov.au))
  - Environment Protection Act.

# Water Quality Register



## Appendix - A

**Workplace:**

**Mirvac representative:**

**Service Provider:**

Instrument 1 - Type: pH ☐ Turbidity ☐ Suspended Solids ☐

Make/ Model:

Service Date:

Instrument 2 - Type: pH ☐ Turbidity ☐ Suspended Solids ☐

Make/ Model:

Service Date:

Instrument 3 - Type: pH ☐ Turbidity ☐ Suspended Solids ☐

Make/ Model:

Service Date:

|           |                  | 6.5 – 8.5 | <50             | <50                          | = ACCEPTABLE LEVELS |               |          |                |                             |
|-----------|------------------|-----------|-----------------|------------------------------|---------------------|---------------|----------|----------------|-----------------------------|
| Test Date | Test Time (24Hr) | pH        | Turbidity (NTU) | Total Suspended Solids (ppm) | Test Person's Name  | Test Location | Comments | Discharge Date | Discharge Quantity (Litres) |
|           |                  |           |                 |                              |                     |               |          |                |                             |
|           |                  |           |                 |                              |                     |               |          |                |                             |
|           |                  |           |                 |                              |                     |               |          |                |                             |
|           |                  |           |                 |                              |                     |               |          |                |                             |
|           |                  |           |                 |                              |                     |               |          |                |                             |
|           |                  |           |                 |                              |                     |               |          |                |                             |
|           |                  |           |                 |                              |                     |               |          |                |                             |
|           |                  |           |                 |                              |                     |               |          |                |                             |
|           |                  |           |                 |                              |                     |               |          |                |                             |

**List corrective action: (i.e. treatment required to correct unacceptable levels)**

**Further comments:**



## 16.7 APPENDIX G – AIR QUALITY MANAGEMENT PLAN – EXCAVATION (JBS&G)

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Mirvac Retail Sub SPV Pty Ltd  
Bulk Excavation Air Quality Assessment

Harbourside Shopping Centre Redevelopment  
2-10 Darling Drive  
Sydney

29 April 2022

62851/145009 (Rev 1)  
JBS&G Australia Pty Ltd

## Table of Contents

|                                                              |    |
|--------------------------------------------------------------|----|
| Abbreviations.....                                           | iv |
| 1. Introduction.....                                         | 1  |
| 1.1 Introduction and background.....                         | 1  |
| 1.2 Proposed Construction Works.....                         | 1  |
| 1.3 Objective and Scope of work.....                         | 2  |
| 2. Summary of Site Condition .....                           | 3  |
| 2.1 Site Details.....                                        | 3  |
| 2.2 Site Condition .....                                     | 3  |
| 2.3 Surrounding Environment .....                            | 4  |
| 2.4 Topography.....                                          | 4  |
| 2.5 Geology and Soils .....                                  | 4  |
| 2.6 Acid Sulfate Soil .....                                  | 4  |
| 2.7 Meteorological Conditions .....                          | 5  |
| 2.8 Air Quality.....                                         | 5  |
| 3. Site Contamination Status .....                           | 7  |
| 4. Hazardous and Offensive Development.....                  | 8  |
| 5. Assessment of Air Quality.....                            | 9  |
| 5.1 Potential Sources of Air and Odour Emissions .....       | 9  |
| 5.1.1 Exhaust Emissions .....                                | 9  |
| 5.1.2 Excavation of Soils and Bedrock .....                  | 9  |
| 5.1.3 Fugitive Dust .....                                    | 10 |
| 5.1.4 Asbestos Removal and Management .....                  | 10 |
| 5.1.5 Odour Emissions .....                                  | 10 |
| 5.2 Potential Onsite and Offsite Receivers.....              | 10 |
| 5.3 Regulatory Requirements.....                             | 11 |
| 6. Air Quality Management Strategy .....                     | 12 |
| 6.1 Diesel Particulate Matter Exposure Monitoring .....      | 12 |
| 6.2 Real-Time Respirable Particulate (Dust) Monitoring ..... | 12 |
| 6.3 Respirable Fibre (silica or asbestos) Monitoring .....   | 12 |
| 6.4 Visual Monitoring .....                                  | 13 |
| 6.5 Dust Management.....                                     | 13 |
| 6.6 Odour Management.....                                    | 14 |
| 7. Conclusions and Recommendations.....                      | 15 |
| 8. Limitations .....                                         | 16 |

## List of Figures

- Figure 1      Site Location  
Figure 2      Site Layout



## Abbreviations

| Term     | Definition                                         |
|----------|----------------------------------------------------|
| ACM      | Asbestos Containing Material                       |
| AHD      | Australia Height Datum                             |
| AIOH     | Australian Institute of Occupational Hygienists    |
| AQA      | Air Quality Assessment                             |
| ASS      | Acid sulfate soil                                  |
| AST      | Above ground storage tank                          |
| bgs      | below ground surface                               |
| BTEX     | Benzene, toluene, ethylbenzene, xylene             |
| CBD      | Central Business District                          |
| CLM Act  | Contaminated Land Management Act 1997              |
| COPC     | Contaminant of potential concern                   |
| DDR      | Dust Deposition Rates                              |
| DP       | Deposited Plan                                     |
| DSI      | Detailed Site Investigation                        |
| EPA      | NSW Environment Protection Authority               |
| JBS&G    | JBS&G Australia Pty Ltd                            |
| LAA      | Licensed Asbestos Assessor                         |
| LPI      | NSW Land and Property Information                  |
| Mirvac   | Mirvac Retail Sub SPV Pty Ltd                      |
| NATA     | National Association of Testing Authorities (NATA) |
| NEPM     | Nation Environment Protection Measure              |
| PAH      | Polycyclic Aromatic Hydrocarbons                   |
| PASS     | Potential acid sulfate soil                        |
| PFAS     | Per-and-poly-fluoroalkyl substances                |
| POEO Act | Protection of the Environment Operations Act 1997  |
| RAP      | Remedial Action Plan                               |
| RL       | Relative Level                                     |
| SEARs    | Secretary's Environmental Assessment Requirements  |
| SEPP     | State Environmental Planning Policy                |
| SPOCAS   | suspension peroxide oxidation combined acidity     |
| SVOC     | Semi-volatile organic compounds                    |
| SWA      | SafeWork Australia                                 |
| SWNSW    | SafeWork New South Wales                           |
| TRH      | Total Recoverable Hydrocarbon                      |
| TSP      | Total Suspended Particulate                        |
| UST      | Underground storage tank                           |
| VOC      | Volatile Organic Compound                          |

## 1. Introduction

### 1.1 Introduction and background

JBS&G Australia Pty Ltd (JBS&G) was engaged by Mirvac Retail Sub SPV Pty Ltd (Mircvac, the client) for the provision of environmental services associated with the development site known as Harbourside Shopping Centre, located at 2-10 Darling Drive, Sydney, NSW (the site). The site location and current layout are presented in **Figure 1** and **2** respectively. The site is legally identified as Lots 1-10, 12-15 and 17 Deposited Plan (DP) 776815, Part Lot 2015 DP 1234971, Part Lot 300 DP 836419 and occupies an area of approximately 20,500 m<sup>2</sup>.

The site is situated on the former Darling Harbour Goods Yard which consists of reclaimed land adjacent Cockle Bay. Prior to reclamation in the 1860s the site consisted of tidal mudflats. Currently the site comprises Harbourside Shopping Centre an on-grade retail/commercial development (**Figure 2**). The site is proposed to be developed for mixed land use (ground floor retail/upper levels of commercial and residential apartment tower with four levels of basement parking in areas).

Environmental investigations have not identified soil to be impacted with contaminants at concentrations considered to pose a potential risk to receptors under the proposed development. Notwithstanding, a Remedial Action Plan (RAP, JBS&G 2021a<sup>1</sup>) has been prepared to address the potential for soil contamination which may be identified following demolition of existing site structures, and the presence of a single waste cooking oil above ground storage tank (AST). It is understood that to meet the draft Secretary's Environmental Assessment Requirements (SEARs) for the Bulk Excavation development consent, an air quality assessment (AQA) is required as part of the environmental impact statement (EIS) for potential onsite and offsite air quality impacts which may occur during ground disturbance activities.

The following AQA has been developed with consideration to the *National Environment Protection (Ambient Air Quality) Measure* (Air Quality NEPM), updated 2021, and Chapter 3 Hazardous and Offensive Development of *State and Environmental Planning Policy (Resilience and Hazards) 2021* (Resilience and Hazards SEPP<sup>2</sup>) and outlines the detailed assessment of potential air quality impacts and appropriate management and mitigation measures that may be required during bulk excavation activities.

### 1.2 Proposed Construction Works

As discussed above, the site is proposed to be redeveloped as a mixed-use precinct, comprising a commercial/residential tower with on-grade retail spaces and four levels of basement parking in the central portion of the site.

The proposed development works will include bulk excavation to facilitate basement construction including excavation of site fill material, underlying natural sands/clays (which have been identified as potential acid sulfate soil (PASS)) and sandstone bedrock (where encountered) to an approximate depth of -8.5 m relative level Australian Height Datum (RL AHD). Approximately 51,450 m<sup>3</sup> of material will be generated and disposed of off-site as part of basement construction activities.

Bulk excavation activities will also occur external to the basement envelope to establish required construction levels (detailed excavation) and/or as may be required for piling/footing construction or services installation.

<sup>1</sup> Remedial Action Plan, Harbourside Shopping Centre Redevelopment, 2-10 Darling Drive, Sydney, prepared for Mirvac Residential (NSW) Pty Ltd, JBS&G Australia Pty Ltd, ref: 59123/135805 (Rev B) dated 4 March 2021 (JBS&G 2021a)

<sup>2</sup> State Environment Planning Policy No. 33 – Hazardous and Offensive Development (SEPP 33) has been repealed and the requirements incorporated into the Resilience and Hazards SEPP 2021 as of 1 March 2022.

### **1.3 Objective and Scope of work**

The objective of the assessment is to conduct an AQA to satisfy the SEARs provided for the proposed development.

The scope of works comprised:

- Detailed review of the site setting, environmental condition, surrounding land uses and development scenario;
- Detailed review of previous environmental investigations to establish the known site contamination status;
- An assessment of the class, quantity and location of any dangerous and hazardous materials which may be encountered during redevelopment activities to determine if the proposed works constitutes potentially hazardous or offensive development;
- Identification of potential sources of air and odour emissions associated with the proposed development and potential receptors; and
- Appraisal of appropriate air quality impact mitigation, monitoring, and control measures.

## 2. Summary of Site Condition

### 2.1 Site Details

The site location and proposed layout are shown on **Figures 1 and 2**. The site details are summarised in **Table 2.1** and described in more detail in the following sections.

**Table 2-1 Site Identification Details**

|                                                                   |                                                                                                                                      |
|-------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Site Legal Identifier<br>(as shown on <b>Figure 2a</b> )          | Lot 1-10, 12-5 and 17 DP 776815, Part Lot 2015 DP 1234971 and Part Lot 300 DP 836419                                                 |
| Site Address                                                      | 2 – 10 Darling Drive, Sydney, NSW                                                                                                    |
| Site Area                                                         | 20,500 m <sup>2</sup>                                                                                                                |
| Local Government Authority                                        | City of Sydney (Council)                                                                                                             |
| Site Geographic Coordinates<br>(Map Grid of Australia (MGA) 56)   | Refer to <b>Figure 2</b>                                                                                                             |
| Registered Site Owner                                             | Place Management NSW, Leased by Mirvac Retail Sub SPV Pty Limited                                                                    |
| Current Zoning (under Sydney Local Environmental Plan )LEP) 2012) | All development requires Development Consent                                                                                         |
| Previous Land Uses                                                | Railway Goods Yard, wharf and other industrial activities, reclaimed land                                                            |
| Current Land Uses                                                 | Retail and commercial (Harbourside Shopping Centre)                                                                                  |
| Proposed Land Uses                                                | Mixed-use Precinct<br>(basement carparking, retail and commercial ground floors with high density residential apartment block above) |

### 2.2 Site Condition

The site layout and key features at the time of the reporting are shown on **Figure 2** and discussed herein.

The site comprised an irregular shaped parcel of land between Darling Drive, Iron Wharf Place and the Cockle Bay waterfront. The central portion of the site is occupied by the Harbourside Shopping Centre with the loading dock and redundant Sydney Monorail station in the northwest portion of the site, and the Cockle Bay waterfront occupying the entire eastern portion of the site. Site levels were noted to be generally flat consistent with historic filling/reclamation of land from Cockle Bay. The greater Pyrmont suburb was noted to be upgradient to the west of the site.

Harbourside Shopping Centre was made up of two floors of retail outlets and restaurants. A smaller third floor was located in the central portion of the site giving access to the pedestrian walkway that spans Darling Drive, connecting the site to a parking lot under the Novotel to the west (it is noted that the pedestrian walkway forms part of the DA site boundary). Ground conditions within Harbourside were noted to consist of concrete hardstand with various finishes (tiles, timber flooring etc).

The shopping centre loading dock is located beneath the Darling Drive overpass. The loading dock was paved with concrete and asphalt hardstand and used for importation of goods/supplies and exportation of rubbish from the various site occupants. No gross or widespread staining was noted on the loading dock hardstand during the site inspection. An AST (approximately 1500 L) was identified within the northwest portion of the loading dock on concrete hardstand. It is understood that this AST was used to collect waste cooking oils from various restaurants within the shopping centre. Staining from the waste cooking oil was identified on concrete in the vicinity of the tank with any spillage likely draining into the nearby sewer system. Several shipping containers used to store merchandise and small volumes of chemicals associated with cleaning and maintenance of the site (solvents, sealants etc) were noted under the Darling Drive overpass. No underground storage tanks (USTs) or other bulk fuel or chemical tanks were noted on the site.

## 2.3 Surrounding Environment

The current land uses of adjacent properties or properties across adjacent roadways are summarised below.

- North: directly north of the site is Pyrmont Bridge across which lies the Australian National Maritime Museum;
- East: the eastern boundary abuts Cockle Bay. A small pedestrian jetty runs adjacent the site boundary approximately 3 m into the bay. Across Cockle Bay lies Cockle Bay Wharf (retail and restaurants) followed by the city of Sydney;
- South: to the south of the site lies the International Convention Centre building followed by the Western Distributor Motorway overpass, followed by Tumbalong Park; and
- West: the southwest of the site is bound by Iron Wharf Lane over which lies Sofitel Sydney Darling Harbour, to the west lies Darling Drive followed by L1 Light Rail tracks, Novotel Sydney on Darling Harbour and then the greater Pyrmont suburb.

## 2.4 Topography

Review of topographic information obtained from the Spatial Information Exchange Viewer (LPI 2021<sup>3</sup>) indicated that the elevation of the site ranges from approximately 2 m Australian Height Datum (AHD) in the eastern portion to 4 m AHD at the western boundary. The site is situated on reclaimed land and covered in hardstand making the site artificially level.

## 2.5 Geology and Soils

The site is present within the following natural geological and soil landscapes:

**Geology:** Hawkesbury Sandstone formation - medium to coarse grained quartz sandstone, very minor shale and laminate lenses and Quaternary sediments (silty to peaty quartz sand, silt and clay. Ferruginous and humic cementation in places. Common shell layers).

**Soils:** Disturbed Terrain – disturbed terrain landscape group characterises areas having been subject to removal of natural soils or greatly disturbed or buried natural soils often associated with quarries, tips, land reclamation and large cut to fill features. Soils within this group can include imported or reclaimed soils, rock, building and waste materials.

Previous assessment activities as discussed in **Section 3** have identified fill material underlying the site ranging in depth from 2.7 m below ground surface (bgs) within the central portion of the site to 11.85 m bgs within the southern site extent. Fill materials were noted to generally comprise light brown sand, dark grey gravelly sand, light brown gravelly sand and grey sandy clay. No substantial anthropogenic material has been encountered during investigations. Natural sandy clay marine deposits (2.7 to 5.55 m bgs) and grey clay (11.85 m to 12.85 m bgs) were encountered underlying fill materials. Sandstone bedrock was encountered beneath natural material at all the majority of locations.

## 2.6 Acid Sulfate Soil

The site is located within an area of 'disturbed terrain' directly adjacent an area of 'high probability of the occurrence of Acid Sulfate Soils'.

Previous investigations identified PASS on site, predominately within natural marine sandy clays with isolated pockets of PASS in fill material. With consideration to the site setting and geological and soil

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<sup>3</sup> 'Spatial Information Exchange Viewer', NSW Land and Property Information, Accessed 16 February 2021, <https://maps.six.nsw.gov.au/> (LPI 2021)



characteristics of the site, management of Acid Sulfate Soils (ASS) during the proposed development is required as outlined in the site acid sulfate soils management plan (ASSMP, JBS&G 2021b<sup>4</sup>).

## 2.7 Meteorological Conditions

Average climatic data obtained indicated the site's meteorological setting is characterised by average minimum temperatures which vary from 10.5°C in July to 20.5 °C in February; average maximum temperatures which vary from 17.3 °C in July to 24.8 °C in January; average annual rainfall of approximately 1079 mm with rainfall greater than 1 mm occurring on an average of 100 days per year; monthly rainfall varies from 60 mm in September to 125 mm in July.

## 2.8 Air Quality

Air quality in the Sydney region is impacted by a range of air pollution emissions sources including major industry, motor vehicles and watercraft, commercial operations and leaking pipes and tanks as well as from domestic activities such as solid fuel heaters. Major pollutants that may potentially be emitted by the proposed earthworks have been identified as follows:

### Fine Particles

Particles (or particulate matter) in the atmosphere come from a wide variety of sources, including soil (dust), vegetation (pollens and fungi), sea salt, fossil fuel combustion, biomass burning and industrial activities. Particles in the atmosphere typically exhibit a bi-modal size distribution with a peak in the range of 0.1-2.5µm and a second peak in the range 2.5-50µm. As a result, particles with a diameter of up to 2.5µm (PM<sub>2.5</sub>) are commonly referred to as fine particles. There is also a distinction in the health effects of different sized particles. Particles up to about 10µm (PM<sub>10</sub>) diameter are inhaled, whereas larger particles are not. On this basis, the term 'fine particles' is often used to refer to PM<sub>10</sub>.

### Coarse Particles

Coarse particles remain in the air for relatively short periods of time and are therefore generally not carried long distances. As a result coarse particles tend to be a local rather than a regional problem, occurring close to industrial sources such as metal processing plants and mining operations. The level of particles in the atmosphere is determined by measurement of their mass. In the greater metropolitan area two methods of measurement are commonly used, total suspended particulates (TSP) and dust deposition rates (DDR). While the mass determined by these measures will include fine particles, these will generally only make a small contribution. Therefore measurements of TSP and DDR are used to provide an indication of the level of coarse particulates in the atmosphere.

Concerns about coarse particles are generally more in terms of nuisance such as damage to or soiling of materials, or adverse effects on sensitive vegetation through surface coating.

### Air Toxins

Another group of air pollutants which can be hazardous to human health, even at low levels, are toxic compounds known as air toxins. This group includes chemicals such as benzene, formaldehyde, chlorinated hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs) and dioxins. Trace amounts of many of these chemicals have been detected in air in urban environments in a number of areas around the world.

In recent years there has been increasing community concern about air toxins in ambient air and the associated health effects. These compounds may cause cancer, gene mutation, reproductive malfunction, affect foetal development, or have neurotoxic effects. While the levels that endanger public health have not been established, it is believed that even very low levels, particularly under

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<sup>4</sup> Acid Sulfate Soil Management Plan, Harbourside Shopping Centre Redevelopment. Prepared by JBS&G Australia Pty Ltd, doc ref 59123/136012 (Rev 0) dated 30 March 2021 (JBS&G 2021b)

long term exposure, could have adverse effects. Many air toxins are highly volatile and evaporate readily into the air following inhalation.

#### Odour

Odour is measured using panels of people who are presented with samples of odorous gas diluted with decreasing quantities of clean odour-free air. The panellists report when the smell becomes detectable. Odour in air is quantified in terms of “odour units” which is the number of dilutions required to bring the odour to a level at which 50% of the panellists can just detect the odour. This process is known as olfactometry.

Background levels of odour in the environment can vary enormously based on a range of factors.

### 3. Site Contamination Status

A Detailed Site Investigation (DSI) was undertaken by JBS&G (2021c<sup>5</sup>) to assess site conditions in accordance with relevant EPA made or endorsed guidelines. The following provides a summary of the known environmental status of sub-surface media anticipated to be encountered during bulk excavation activities, to assist in identifying potential air quality issues which may be encountered during development activities. It is noted a single waste (cooking) oil AST will be removed as part of demolition activities, and as such, is excluded from the assessment of outlined herein.

Fill and natural material have been assessed for a broad range of contaminants of potential concern (COPCs) including heavy metals, PAHs, volatile organic compounds (VOC) semi-volatile organic compounds (SVOCs), total recoverable hydrocarbons (TRH), benzene, toluene, ethylbenzene, xylene (BTEX), per-and-poly-fluoroalkyl substances (PFAS), phenols and asbestos. All concentrations were below the adopted health-based criteria. During the investigation, no stained or significantly odorous soils were identified. Some locations reported a slight organic odour in natural material.

No visible asbestos containing material (ACM) was noted at any sample location during the DSI (JBS&G 2021c) or by previous geotechnical investigations. Trace levels of asbestos fibres were reported by the laboratory below the adopted health-based site criteria in two samples in fill material. The concentration of fibres was also below the respective Work Health and Safety (WHS) limit of reporting and as such, fill material in these locations are not considered to constitute an asbestos impacted environment. JBS&G (2021c) noted there to be a potential for more widespread asbestos impacts present elsewhere within the fill profile, which may be encountered during bulk excavation activities.

Management and/or remediation requirements of the potential for soil contamination (principally heavy metals and asbestos impacts) which may be identified following demolition and bulk excavation activities has been documented in the RAP (JBS&G 2021a), which will likely comprise the excavation and off-site disposal of impacted soil (if identified).

Fifteen samples were submitted for suspension peroxide oxidation combined acidity (SPOCAS) analysis - six consisted of natural grey marine clay/sandy clay soils and nine of fill materials. Laboratory results indicate PASS conditions in all six natural samples and one fill sample. It is noted that all exceeding samples were taken from beneath the water table. The results indicate that PASS is present in natural materials and in isolated pockets of the fill profile. The presence of PASS below the site will be managed in accordance with the detailed ASSMP (JBS&G 2021b) developed for the site.

All concentrations of COPC in groundwater were below the adopted site criteria with the exception of some heavy metals and ammonia. Heavy metal concentrations in groundwater were considered to represent typical concentrations of an urban area. Ammonia concentrations marginally exceeded the more conservative marine water criterion adopted (ANZG 95 %) and are considered unlikely to pose a risk to the receiving water. Management of dewatering activities is anticipated to be required during proposed development activities to ensure discharge water does not represent an unacceptable ecological risk.

Hazardous ground gas and soil vapour were assessed as not posing a potential risk to site receptors, not require remediation and/or management.

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<sup>5</sup> Mirvac Residential (NSW) Developments Pty Ltd, Detailed Site Investigation, Harbourside Shopping Centre Redevelopment, 2-10 Darling Drive, Sydney. Prepared by JBS&G Australia Pty Ltd ref: 59123/134845 (Rev A) dated 2 March 2021 (JBS&G 2021c)

## 4. Hazardous and Offensive Development

An assessment has been undertaken of the potential applicability of Chapter 3 Hazardous and Offensive Development of the Resilience and Hazards SEPP to the proposed bulk excavation works. With respect to the requirements for information to determine whether an industry is potentially hazardous, the following has been considered:

- Hazardous materials associated with the proposed development primarily consist of potentially impacted soil which may be subject to remediation and/or management. As outlined in **Section 3** these soils do not have sufficient quantities of impact present to warrant a Dangerous Goods classification;
- Other hazardous materials present on-site during the bulk excavation works are anticipated to be restricted to diesel/fuels which are associated with earthmoving equipment/heavy machinery required to implement excavation activities;
- Fuels are not proposed to be stored on-site, rather will be supplied to site via road tanker as required for refuelling of earthmoving equipment/heavy machinery; and
- It would be estimated that two fuel deliveries would occur weekly, possibly consisting of as much as 2,000 L of diesel fuel supplied to earthmoving equipment/heavy machinery. Diesel fuel is classified as a combustible liquid.

It is noted the waste cooking oil AST will be removed prior to bulk excavation activities, and as such, has not been considered as part of the bulk excavation AQA as outlined herein.

Based on this characterisation, none of the screening tests as advised in Chapter 3 of the Resilience and Hazards SEPP are exceeded, and bulk excavation development activities are not considered to pose a potentially hazardous industry.

With respect to the requirements for information as identified in the assessment to determine whether the proposed bulk excavation development is an industry as considered to be potentially offensive, the following has been considered:

- The excavation, storage and handling of site fill material, natural underlying PASS and sandstone bedrock will potentially cause air emissions;
- Potential surface water contact with soil and/or acidification of PASS and leaching/migration of impact (if identified) will potentially cause water emissions; and
- The operation of earthmoving equipment to implement the remedial works will also cause potential air and noise emissions.

Noting the above, the level of emissions from the works will be controlled to ensure that no unacceptable impacts occur within or in proximity to the site. Detailed controls and management measures are presented in **Section 5**.

On this basis, the proposed bulk excavation works are not considered to be potentially offensive as per the meaning provided in Chapter 3 of the Resilience and Hazards SEPP.

## 5. Assessment of Air Quality

### 5.1 Potential Sources of Air and Odour Emissions

As discussed in **Section 3** and **Section 4**, the screening assessment of the known environmental condition of the site and proposed bulk excavation activities to facilitate the development scenario are considered to not pose a potentially hazardous or offensive industry, as per the meaning outlined in Chapter 3 of the Resilience and Hazards SEPP.

Notwithstanding, potential sources which may result in emissions and impacts on air quality have been identified, as follows:

- the use of fuels associated with earthmoving equipment/heavy machinery/equipment; and
- excavation, storage and handling of site fill material, natural underlying sands/clays (PASS) and sandstone bedrock (where encountered).

As discussed in **Section 3**, whilst no unacceptable levels of asbestos contamination have been identified, a potential exists for impact to be identified in fill material at the site following demolition (which may be encountered during bulk excavation works). As such, management to reduce potential air quality impacts as may be associated with asbestos has been included herein for completeness.

Further discussion of potential source emissions and air quality impacts specific to the anticipated development scenario follows.

An air quality management strategy has been developed to outline minimum controls required to manage potential emissions and air quality related issues, as outlined in **Section 6**.

#### 5.1.1 Exhaust Emissions

It is anticipated a range of fuel powered plant, machinery and equipment will be required to facilitate bulk excavation activities. As outlined in **Section 4**, no bulk fuel storage is anticipated during construction activities. As such, potential emissions/air quality impacts have been identified as principally associated with exhaust fumes generated by plant, machinery or equipment use.

Diesel and petroleum combustion is a well-known process and regulated in accordance with relevant emission standards as prescribed by the NSW EPA. Exhaust emissions will be anticipated from construction machinery as engaged on the site. However, noting the proximity of the site to the Sydney central business district (CBD) and to Darling Harbour waters with substantial motor vehicle and watercraft activity, these are anticipated to be insignificant in comparison to existing levels of exhaust-based constituents in the surrounding area.

#### 5.1.2 Excavation of Soils and Bedrock

As discussed in **Section 1.2**, the proposed development scenario will include bulk excavation of site fill, natural sand/clay (PASS) and sandstone bedrock to facilitate construction of a four-level basement, services installation, piling/footing installation and to establish construction levels.

Based on review of previous intrusive investigations, site fill material and underlying natural material have been identified to primarily comprise sandy gravel and clayey sandy soils (coarse to fine matrices) overlying sandstone bedrock. Potential emissions and impacts on air quality associated with the excavation of site materials have been identified as the potential generation of airborne dust particulate (respirable dust and/or respirable silica and/or asbestos fibres (discussed in **Section 5.1.4**)) and odours as may be associated with the exposure of PASS/saturated organic containing estuarine soils (**Section 5.1.5**).

Relevant control measures to address the potential air quality impacts associated with excavation, storage and handling and/or offsite disposal of site materials are presented in **Section 6**.



### 5.1.3 Fugitive Dust

Exposed surfaces will be anticipated to generate dust by wind movement and erosion of surface particles. The excavated areas, any designated haulage roads and the proposed area of stockpiling have been considered as having an unlimited wind erosion potential subsequent to the completion of excavation works and construction (and subject to any application of stabilising materials such as road base gravel). This is characterised as being a smooth field, lacking any vegetation and covered with loose sandy soil.

The greatest potential for the release of air pollutants from stockpiled material will be during handling of soils and/or emission of fugitive dusts when stockpiled materials are uncovered.

### 5.1.4 Asbestos Removal and Management

Following demolition activities there is the potential for asbestos impacts to be present at the site. An inspection and sampling program to confirm the absence of asbestos and or other contaminants (e.g. heavy metals, etc) resultant from demolition activities has been developed and required to be implemented in accordance with the RAP (JBS&G 2021a). Asbestos contaminated soil necessitating management for potential asbestos exposure is defined in *How to Manage and Control Asbestos in the Workplace Code of Practice* (SWA 2019) as:

- Soil that contains visible asbestos as determined by a competent person; or
- Soil that contains asbestos fibres at quantities exceeding trace levels (considered to be the analytical detection limit in lieu of alternate guidance) as reported by analysis undertaken in accordance with AS4964:2004 *Method for the qualitative identification of asbestos in bulk samples*.

Environmental, health and safety management requirements for the handling of these materials has been documented in the site RAP, based on the requirements provided for asbestos-related works in SWA (2019). Additional management requirements to control/monitor potential airborne exposure of asbestos which may impact air quality have been outlined in **Section 6**. Additionally, a Construction Environmental Management Plan (CEMP) may be prepared to address environmental controls during development activities.

### 5.1.5 Odour Emissions

As outlined in **Section 3**, site soils do not pose a potential significant source of odour generation potential and do not contain levels of contaminants consider to generate potential odour emissions upon excavation. Notwithstanding, soils identified to contain slight organic odours and/or the exposure of P/ASS underlying the site may result in minor odour emissions from the site. The site RAP (JBS&G 2021a) presents appropriate odour controls, in addition to other management requirements which may be presented in a CEMP or similar document to be prepared for development activities.

## 5.2 Potential Onsite and Offsite Receivers

Potential human populations who may be exposed to air quality impacts during development activities (if appropriate management is not implemented prior to or during development) include:

- Construction and site maintenance workers;
- Sub-surface excavation and intrusive workers; and
- Workers or residents in surrounding areas.

Review of the surrounding land uses (**Section 2.3**) identified commercial/retail spaces and multi-storey high density residential buildings located within the Sydney and Pyrmont CBD. Background air quality within the general CBD and surrounding area is considered to be reduced by virtue of the general regional activities (i.e. vehicles, watercraft, combustion generators etc.). Given the highly

urbanised setting of the site, it is anticipated that surrounding buildings are fitted with recirculating air conditioning and filtration systems, affectively eliminating exposure of residents or workers within these buildings to potential air quality impacts, as may be generated during site development activities. No highly sensitive receptors (i.e., schools, childcare centres, hospitals etc.) were identified in immediate vicinity of the development site.

### **5.3 Regulatory Requirements**

Development activities on site will be required to be completed in accordance with several sections of environmental and occupational health and safety legislation and associated regulations. The primary Acts, Regulations and Guidelines are listed below with a brief summary of their applicability. Please note that this list is not intended to be a comprehensive listing of acts and regulations. The site owner and contractors are required to satisfy themselves that all applicable permits, licences and legislation have been obtained and their conditions satisfied.

#### ***Environmental Planning & Assessment Act 1979***

The overarching Act to institute a system of environmental planning and assessment for NSW.

#### ***Work Health and Safety Act, 2011***

The overarching Act for NSW setting law relating to employee health and safety and employer responsibilities.

#### ***Work Health and Safety Regulation, 2017***

Sets Regulations and details the duties for employers to achieve required employee health and safety performance.

#### ***Contaminated Land Management Act 1997 (CLM Act)***

The *Contaminated Lands Management Act 1997* (CLM Act) controls the assessment of contamination and requirement of remediation of soils and groundwater.

#### ***POEO Act 1997***

The *Protection of the Environment Operations Act 1997* (POEO Act) is the key piece of environment protection legislation administered by the EPA.

#### ***National Environment Protection (Ambient Air Quality) Measure (NEPC 2021)***

National guidelines for the assessment of ambient air quality. These guidelines provide national air quality standards and criteria for a range of pollutants.

#### ***Protection of the Environment Operations (Clean Air) Regulation 2021***

Guidelines outlining regulatory requirements for various activities which may affect air quality, including air impurities emitted from activities or plant.

#### ***Approved Methods for the Modelling and Assessment of Air Pollutants in NSW 2016***

NSW regulatory guidelines outlining the methods for detailed quantitative and qualitative air quality assessments from stationary sources.

#### ***Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres, 2nd Edition, 2005, Australia National Occupational Health and Safety Commission (NOHSC 2005)***

Guidelines for the assessment of airborne asbestos fibres including relevant workplace exposure standards.

## 6. Air Quality Management Strategy

The following sections provide management and/or control measures which can be implemented to address potential sources of air quality and emissions impacts identified in **Section 5.1** in general accordance with relevant regulatory guidelines (**Section 5.3**).

### 6.1 Diesel Particulate Matter Exposure Monitoring

Under the proposed development scenario, it is anticipated plant/equipment utilised at the site will meet the minimum emissions standards outlined by the NSW EPA (required for registration), and standard construction requirements (i.e. documentation of plant maintenance and service history checklists etc.). As such, it is not anticipated that active monitoring for diesel particulate is required as part of site development activities.

Notwithstanding, if identified as being required, diesel particulate monitoring can be conducted to assess potential exposure risks to site workers and/or offsite receptors as outlined by the Australian Institute of Occupational Hygienists (AIOH, 2013<sup>6</sup>).

### 6.2 Real-Time Respirable Particulate (Dust) Monitoring

The preferred method of health monitoring is to undertake real-time assessment of levels of airborne particulates and potential co-occurring respirable fibres. Real-time monitoring shall be undertaken during material disturbance activities by a stationary light-scattering laser photometer (as proposed to be a TSI Dusttrak) as set to measure particulates in the PM<sub>10</sub> size fraction. Representative continuous monitoring shall be undertaken through the course of a workday at representative locations in proximity of the active soil disturbance works, at the boundary of the worksite. The level of PM<sub>10</sub> shall be interpreted as a daily averaged sample, with consideration to peaks or significant exceedances above the criteria during the monitoring period which may be interpreted as being directly associated with site activities.

A criterion of 0.05 mg/m<sup>3</sup> of PM<sub>10</sub> shall be adopted as the action level for the site works. Where this criterion is observed to be exceeded, then immediate instruction shall be provided to revise air emission controls and review the specific work activities that are suspected to have resulted in the elevated PM<sub>10</sub> levels.

The Dusttrak shall be operated by an appropriately trained environmental consultant or occupational hygienist. Daily dust monitoring reports are to be prepared following the monitoring period.

### 6.3 Respirable Fibre (silica or asbestos) Monitoring

Airborne respirable fibres are considered a risk during excavation of rock material with a high silica content, such as sandstone. Therefore, this type of monitoring will only be carried out during these works to provide a representative data set of potential silica exposure.

Should asbestos be identified, monitoring of potential airborne asbestos fibres will be required during disturbance activities in accordance with relevant SafeWork NSW guidance.

Monitoring will be performed using calibrated portable air sampling pumps. Monitoring shall be conducted at the boundaries of the particular work zone within the extent of the active area of works for the day. In addition, pumps shall be placed on 'at risk' workers such as mobile plant spotters (as required).

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<sup>6</sup> AIOH (2013). Diesel Particulate Matter and Occupational Health Issues, Positional Paper, July 2013

At the end of each monitoring period the sampling pump and attached filter will be collected and analysed at a National Association of Testing Authorities (NATA) accredited laboratory in accordance with relevant guidelines (**Section 5.3**).

For asbestos, the results of air monitoring (or email confirmation as a minimum) will be available the evening of each work shift completed during normal business hours (Monday to Friday, 7am to 3pm). For silica, the results will be available the following evening (for normal business hours). Where work shifts are completed outside of normal business hours (Monday to Friday, 3pm-7am & weekends), air monitoring results will be available the next business day following. Daily air monitoring reports shall be displayed in a common area outside of the work area (e.g. site office or lunch shed) or be able to be produced upon request.

The following action levels will be applied upon receipt of daily results.

#### Crystalline Silica (Respirable) Monitoring

- Reading less than the exposure standard of  $0.05 \text{ mg/m}^3$  – control measures in place working effectively, site works to continue; and
- Reading of greater than  $0.05 \text{ mg/m}^3$  – a review of control measures and implementation of engineered controls that eliminate the potential for silica exposure.

#### Asbestos Air Monitoring:

- Reading of less than 0.01 fibres/mL – control measures in place are working effectively, site works to continue;
- Reading between 0.01 and 0.02 fibres/mL – a review of control measures shall be completed in the work area; and
- Reading greater than 0.02 fibres/mL – works shall cease until engineered controls are implemented that eliminate the potential for respirable fibre exposure.

It is noted that these action levels adopted are more conservative than the exposure standard for airborne asbestos (0.1 fibres/mL) as advised by Safe Work Australia for an 8-hour shift. The respirable fibre monitoring shall be implemented by an appropriately experienced occupational hygienist (or licensed asbestos assessor (LAA) as may be applicable for asbestos works).

### **6.4 Visual Monitoring**

Visual monitoring shall be undertaken by the person(s) in control of the work-site at regular periods throughout the works. It shall be ensured that visible dust emissions from the works are not visible at the boundary of the worksite. Where visual dust emissions are observed, then control measures shall be revised.

### **6.5 Dust Management**

During any intrusive works at the site dust levels shall be managed, by ensuring:

- Water sprays are used on the excavation areas, stockpiles and haulage pathways;
- Stockpiles will be either periodically wetted down or covered to control dusts;
- Haulage vehicles shall be covered and are to leave via the designated (stabilised) site access;
- Haulage vehicles and plant and equipment shall be washed down whenever they leave the asbestos work area; and
- Access roads are to be sufficiently maintained to ensure no visible dust at the site boundary.

Care should be taken to not over-wet excavations and/or stockpiles such that excess runoff is generated. If dust is visible at the boundary of the work area, then additional dust control measures shall be employed, which may include:

- Temporarily suspending activities until wind speeds reduce; and / or
- Additional use of water sprays or dust suppression mixtures.

Further dust management measures may be further instructed by monitoring results as generated by monitoring works undertaken in accordance with **Section 6.2**.

## **6.6 Odour Management**

A potential exists for natural soils identified as PASS to generate odours during disturbance activities. All PASS disturbance activities are required to be conducted in accordance with the ASSMP (JBS&G 2021b). If PASS materials are identified to present a potential odour issue and required to be temporarily stockpiled on site, these materials are to be appropriately covered with geofabric/builders' plastic until such time as they are removed/disposed of off-site.



## 7. Conclusions and Recommendations

Based on the AQA detailed herein, and subject to the **Limitations** in **Section 8**, the following conclusions and recommendations are presented:

- Based on the known contamination status of the site and proposed development scenario, the proposed bulk excavation activities are considered to not pose a potentially hazardous or offensive industry;
- No highly sensitive receptors (i.e., schools, childcare centres, hospitals etc.) were identified in proximity to the site, with on and off-site receptors identified as site workers and/or workers and residents of surrounding properties; and
- Potential sources of air and odour emissions were identified, principally associated with excavation and exposure of site material (fill and natural soil/rock) and the use of fuels (for equipment/plant etc.).

JBS&G recommend the appropriate management and control measures, as outlined herein, be implemented to manage and/or monitor air quality impacts and emissions during bulk excavation activities.

## 8. Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only, and has been based in part on information obtained from the client and other parties.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by JBS&G, and should not be relied upon by other parties, who should make their own enquiries.

Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the regulatory requirements.

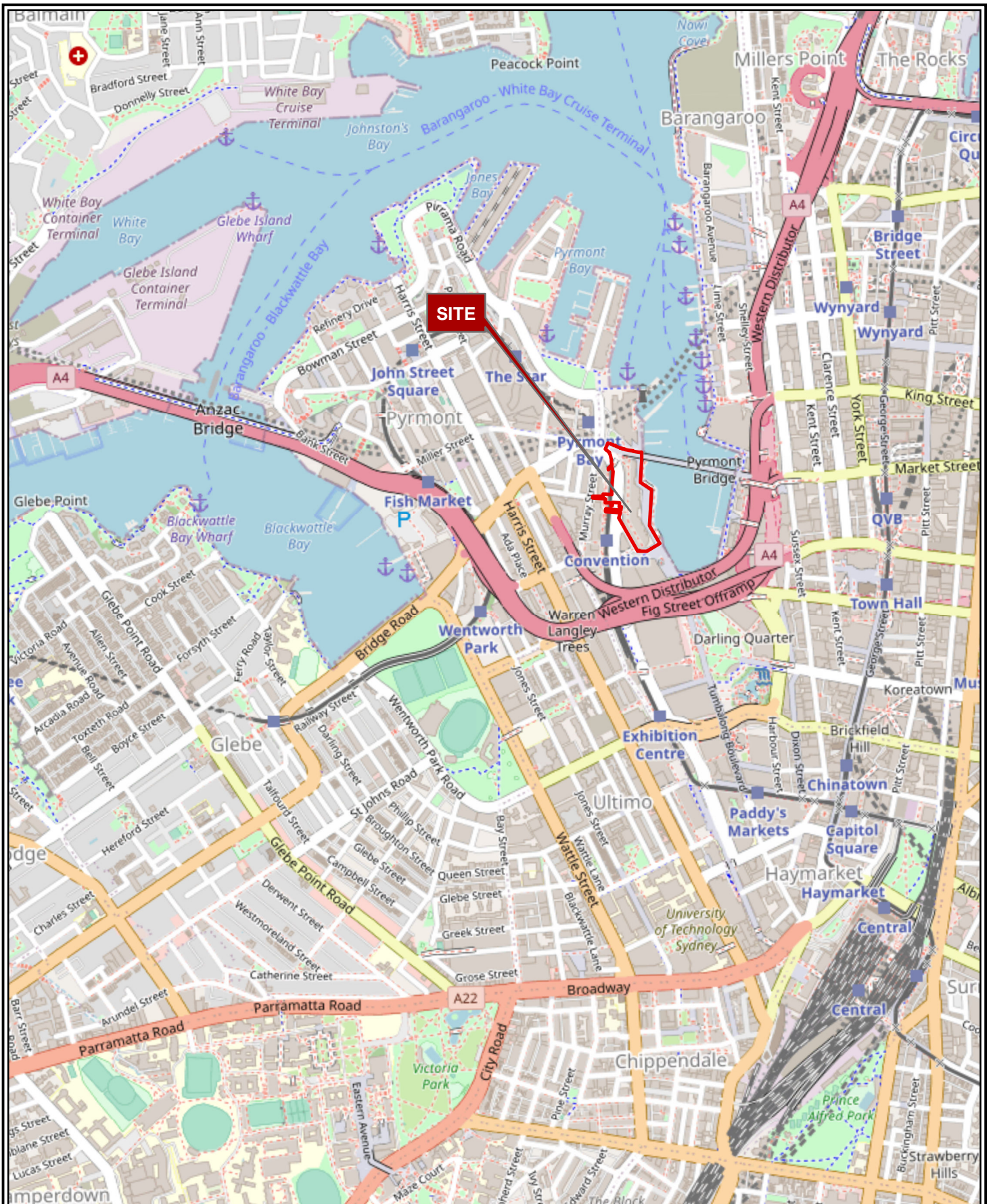
Limited sampling and laboratory analyses were undertaken as part of the investigations undertaken, as described herein. Ground conditions between sampling locations and media may vary, and this should be considered when extrapolating between sampling points. Chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the site, which were not identified in the site history and which may not be expected at the site.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this report are based on the information obtained at the time of the investigations.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS&G reserves the right to review the report in the context of the additional information.

## Figures

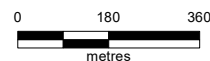




#### Legend:

Approximate DA Boundary - The Site

Scale 1:15,000



Coord. Sys. GDA 1994 MGA Zone 56



Job No: 62851

Client: Mirvac

Version: R02 Rev 1

Drawn By: AB

Date 29/04/2022

Checked By: CK

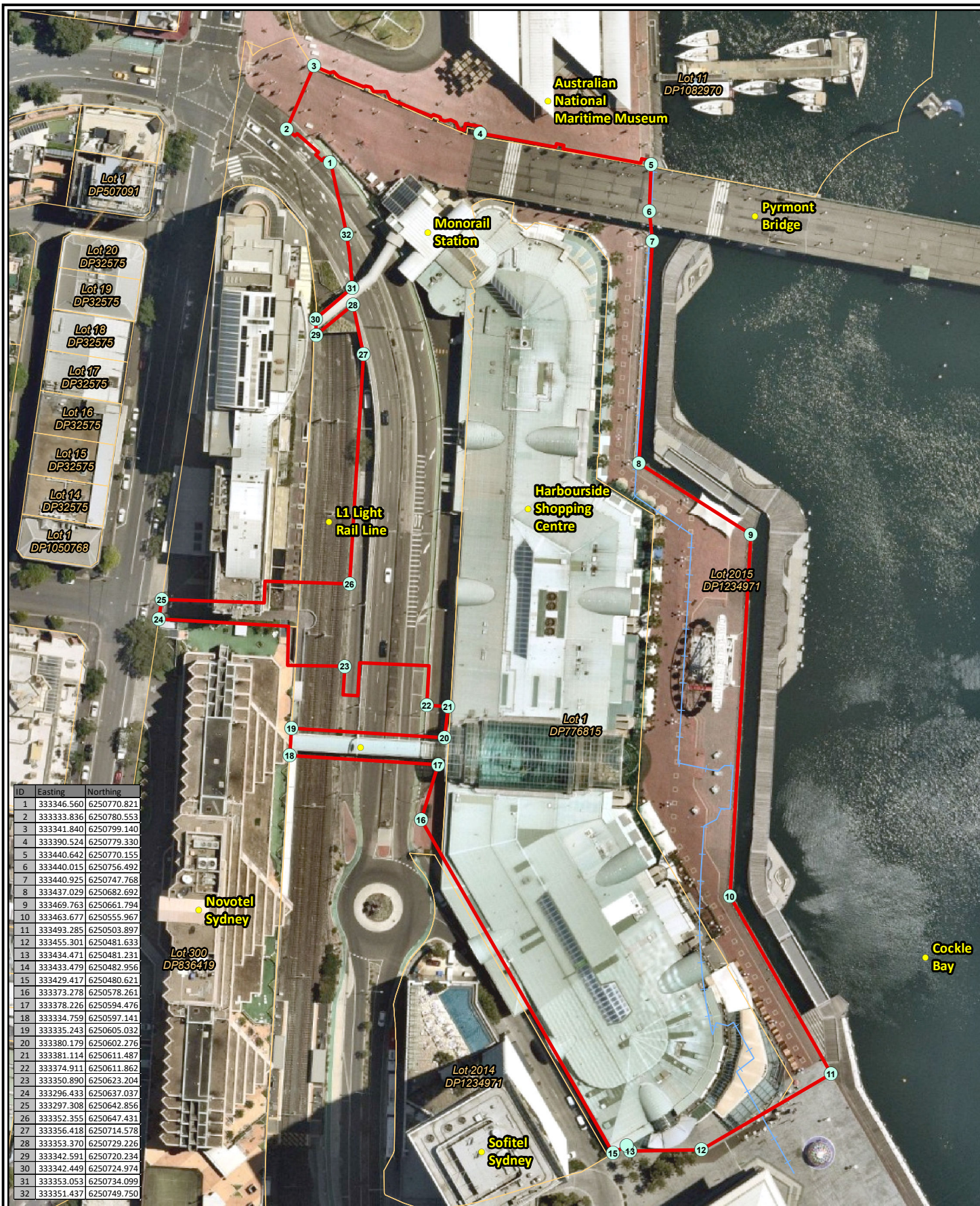
**Harbourside Shopping Centre,  
Darling Harbour**

**SITE LOCATION**

**FIGURE 1**



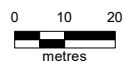




#### Legend:

- Approximate DA Boundary - The Site
- NSW Cadastre (DFSI, 2022)
- Structures Below the Harbour Promenade - Seaward Extent
- Site Features

Scale 1:1,500



Coord. Sys. GDA 1994 MGA Zone 56



Job No: 62851

Client: Mirvac

Version: R02 Rev 1

Drawn By: AB

Date 29/04/2022

Checked By: CK

Harbourside Shopping Centre,  
Darling Harbour

SITE LAYOUT

FIGURE 2A





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## 16.8 APPENDIX H – HAZARDOUS BUILDING MATERIAL SURVEY (JBS&G)

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Mirvac Retail Sub SPV Pty Ltd  
Hazardous Building Materials Survey  
Harbourside Shopping Centre Redevelopment  
2-10 Darling Drive,  
Sydney, NSW

18 July 2022  
62851/146,428 (Rev 0)  
JBS&G Australia Pty Ltd

Mirvac Retail Sub SPV Pty Ltd  
Hazardous Building Materials Survey  
Harbourside Shopping Centre Redevelopment  
2-10 Darling Drive,  
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18 July 2022  
62851/146,428 (Rev 0)  
JBS&G Australia Pty Ltd



## Table of Contents

|                                                                                     |    |
|-------------------------------------------------------------------------------------|----|
| Abbreviations.....                                                                  | v  |
| 1. Introduction.....                                                                | 1  |
| 1.1 Background.....                                                                 | 1  |
| 1.2 Objectives.....                                                                 | 2  |
| 1.3 Hazardous Materials Survey Limitations.....                                     | 2  |
| 1.4 Previous Hazardous Material Assessments.....                                    | 3  |
| 1.4.1 Prensa Pty Ltd (Prensa) – Hazardous Building Materials Re-Assessment .....    | 3  |
| 1.4.2 Douglas Partners Pty Ltd (DP) – Hazardous Building Materials Assessment ..... | 4  |
| 2. Methodology .....                                                                | 5  |
| 2.1 Hazardous Materials.....                                                        | 5  |
| 2.1.1 Asbestos Containing Materials and Asbestos Containing Dust .....              | 5  |
| 2.1.2 Lead Based Paint .....                                                        | 5  |
| 2.1.3 Lead Containing Dust .....                                                    | 5  |
| 2.1.4 Polychlorinated Biphenyls.....                                                | 5  |
| 2.1.5 Synthetic Mineral Fibres .....                                                | 6  |
| 2.2 Inaccessible Areas .....                                                        | 6  |
| 3. Site Description.....                                                            | 7  |
| 3.1 Harbourside Shopping Centre .....                                               | 7  |
| 3.2 Pedestrian Link Bridge.....                                                     | 12 |
| 3.3 Former Monorail Station.....                                                    | 12 |
| 4. Results.....                                                                     | 14 |
| 4.1 Hazardous Materials.....                                                        | 14 |
| 4.1.1 Asbestos Containing Materials .....                                           | 14 |
| 4.1.2 Asbestos Containing Dust .....                                                | 16 |
| 4.1.3 Lead Containing Dust .....                                                    | 16 |
| 4.1.4 Lead Based Paints .....                                                       | 17 |
| 4.1.5 Polychlorinated Biphenyls.....                                                | 17 |
| 4.1.6 Synthetic Mineral Fibres .....                                                | 17 |
| 4.2 Inaccessible Areas .....                                                        | 18 |
| 5. Conclusions and Recommendations.....                                             | 19 |
| 5.1 Hazardous Materials.....                                                        | 19 |
| 5.1.1 Asbestos Containing Materials .....                                           | 19 |
| 5.1.2 Lead Containing Dust .....                                                    | 19 |
| 5.1.3 Lead Based Paints .....                                                       | 20 |

|       |                                |    |
|-------|--------------------------------|----|
| 5.1.4 | Polychlorinated Biphenyls..... | 20 |
| 5.1.5 | Synthetic Mineral Fibres ..... | 20 |
| 5.2   | Inaccessible Areas .....       | 20 |
| 5.3   | Unexpected Finds .....         | 20 |
| 6.    | Limitations .....              | 21 |

## List of Tables

|                                                    |    |
|----------------------------------------------------|----|
| Table A: Asbestos Results Summary Table .....      | 14 |
| Table B: Asbestos Dust Results Summary Table ..... | 16 |
| Table C: Lead Dust Results Summary Table .....     | 16 |
| Table D: Lead Paint Results Summary Table .....    | 17 |

## List of Figures

|          |               |
|----------|---------------|
| Figure 1 | Site Location |
| Figure 2 | Site Layout   |

## Appendices

|            |                                                                |
|------------|----------------------------------------------------------------|
| Appendix A | Hazardous Materials Register                                   |
| Appendix B | Photographs                                                    |
| Appendix C | Laboratory Analysis Reports and Chain of Custody Documentation |

## Abbreviations

| Term       | Definition                                                  |
|------------|-------------------------------------------------------------|
| AC         | Asbestos Cement                                             |
| ACM        | Asbestos Containing Material                                |
| ACD        | Asbestos Containing Dust                                    |
| ANZECC     | Australian and New Zealand Environment Conservation Council |
| AMP        | Asbestos Management Plan                                    |
| COC        | Chain of Custody                                            |
| EPA NSW    | Environmental Protection Authority, New South Wales         |
| FA         | Friable Asbestos                                            |
| HIL        | Health Investigation Levels                                 |
| HSL        | Health Screening Levels                                     |
| JBS&G      | JBS&G Australia Pty Ltd                                     |
| LAA        | Licensed Asbestos Assessor                                  |
| LCD        | Lead Containing Dust                                        |
| LOR        | Limit of Reporting                                          |
| LP         | Lead Paint                                                  |
| NATA       | National Association of Testing Authorities, Australia      |
| NEPC       | National Environmental Protection Council                   |
| NEPM       | National Environmental Protection Measure                   |
| PCB        | Polychlorinated Biphenyls                                   |
| PPE        | Personal Protective Equipment                               |
| SMF        | Synthetic Mineral Fibre                                     |
| SWA        | Safe Work Australia                                         |
| SWNSW      | SafeWork New South Wales                                    |
| WHS (WH&S) | Workplace Health and Safety                                 |

# 1. Introduction

## 1.1 Background

JBS&G Australia Pty Ltd (JBS&G) was engaged by Mirvac Retail Sub SPV Pty Ltd (Mircav, the client) to undertake a hazardous building materials survey (HBMS) of the multi-storey Harbourside Shopping Centre, located at 2-10 Darling Drive, Sydney NSW (the site). The site location and current layout are presented in **Figure 1** and **Figure 2** respectively. The site is legally identified as Lot 1 Deposited Plan (DP) 776815, Part Lot 2015 DP 1234971, Part Lot 300 DP 836419 and occupies an area of approximately 20,500 m<sup>2</sup>.

Currently the site comprises the Harbourside Shopping Centre, an on-grade retail/commercial development, that was constructed in 1988. It is understood that the site is proposed to be demolished making way for a mixed-use development including construction of a four to five level retail and commercial building across the site footprint and construction of multistorey residential apartment tower within the central portion of the site and underlain by a multi-level basement car park.

The structures proposed to be demolished include:

- Harbourside Shopping Centre, including the Plant Rooms and Ausgrid Substation located beneath Darling Drive;
- Former Harbourside Monorail Station; and
- Pedestrian Link Bridge to the Harbourside Car Park.

A number of previous hazardous materials assessments have been completed at the site. The most recent investigation report was completed by Prensa Pty Ltd in December 2019 (Prensa 2019<sup>1</sup>) and was provided to JBS&G prior to undertaking the HBMS (refer **Section 1.4**).

Based on the review of the Prensa report, a number of data gaps were identified including inaccessible areas, height access restrictions and assumptions made about the composition of materials. Additionally, it is noted that the previous assessment was a non-destructive inspection while the site was still operational and did not include destructive sampling methods.

This HBMS was requested to re-assess the data gaps identified in the previous hazardous materials assessments and undertake a destructive HBMS of the buildings (where possible) to assist with the demolition phase of the proposed site redevelopment works.

Due to the occupied nature of the site, a fully destructive HBMS could not be completed to the existing tenanted areas. A range of sampling and investigation techniques were implemented to gain as much information as possible, whilst not creating or posing a potential risk to site staff and visitors, and future occupants as a result of the destructive nature of the HBMS works.

This advice presents the outcomes of the inspection undertaken by JBS&G personnel and provides recommendations on requirements for the removal of identified hazardous materials in accordance with regulations and guidance in force at the time of the inspection. It is understood this HBMS report is proposed to, in the future, form part of the client's tender package to prospective contractors.

The structures were inspected for the following hazardous materials:

---

<sup>1</sup> Hazardous Building Materials Re-Assessment, Harbourside Shopping Centre, 2-10 Darling Drive, Sydney NSW 2000. Prensa Pty Ltd, December 2019, Job No: 60827 (Prensa 2019)

- Asbestos containing materials (ACMs);
- Asbestos containing dust (ACD);
- Lead based paints (LP);
- Lead containing Dust (LCD)
- Synthetic mineral fibres (SMF); and
- Polychlorinated biphenyls (PCB).

## 1.2 Objectives

The objective of the HBMS was to determine the presence, quantity, and condition of any hazardous materials within the buildings prior to proposed demolition works.

The HBMS and production of this report have been undertaken in accordance with the requirements of:

- *Work Health and Safety Act (2011);*
- *Work Health and Safety Regulation (2017);*
- *How to Safely Remove Asbestos Code of Practice, SafeWork NSW, (2019) (SWNSW 2019a);*
- *How to Manage and Control Asbestos in the Workplace Code of Practice, SafeWork NSW (2019) (SWNSW 2019b);*
- Australian Standard 4361.2 (1998) *Guide to Lead Paint Management - Part 2: Residential and Commercial Buildings* (AS4361.2-1998);
- Australian Standard 4361.2 (2017) *Guide to Hazardous Paint Management - Part 2: Lead Paint in Residential, Public and Commercial Buildings* (AS4361.2-2017);
- National Occupational Health and Safety Commission's *National Standard for Synthetic Mineral Fibres* [NOHSC:1004(1990)];
- National Occupational Health and Safety Commission's *National Code of Practice for the Safe Use of Synthetic Mineral Fibres*, [NOHSC:2006(1990)];
- Australian and New Zealand Environment Conservation Council's *Identification of PCB-containing Capacitors: An information booklet for Electricians and Electrical Contractors*, (ANZECC 1997); and
- NSW EPA *Waste Classification Guidelines Part 1: Classifying Waste* (NSW EPA 2014).

## 1.3 Hazardous Materials Survey Limitations

Whilst all reasonable care has been taken by JBS&G during the completed HBMS, this report is limited due to:

- Only safely accessible areas of the site were surveyed.
- Access restrictions to operational areas such as energised services, gas, air conditioning/heating, pressurised vessels, chemical lines etc.
- Potential materials located in areas in which they could not reasonably be envisaged or anticipated.
- Limited access to internal building components e.g. set floor, walls, ceiling cavities etc., in which case only representative areas were inspected with the hand tools available to the JBS&G consultants for minor destructive investigation.



- Access restrictions to areas above 3 metres or any area deemed inaccessible without the use of specialised equipment.
- Access to restrictions to areas of structures where the structural integrity for the floor and/or ceiling has been compromised.
- Service pits, confined spaces, voids, cavities within the building structure and internal areas of plant and equipment that could not be safely accessed.

It should be noted that buildings built between the 1930s - 1980s may have general occurrences of ACMs in areas which are not readily accessible with the hand tools available for the survey. These areas and materials include, inter alia:

- Fibre Cement Sheetting (FCS) used as packing to bearers and joists in the underfloor void or as boxing/shuttering to concrete formwork;
- FCS packing between window/door frames and timber studs; and
- Compressed FCS underneath tiled floor areas.

Whilst all care is taken by the consultants to uncover hidden materials, not all areas can be accessed within the allowable timeframe without more industrial (power) tools. As such, only minor destructive sampling techniques were employed to gain access within authorised areas. Consequently, without substantial demolition of the building, it is not possible to guarantee that every source of hazardous material has been detected. JBS&G recommends that areas inaccessible during the survey be inspected as the demolition progresses. If suspected hazardous materials are observed, confirm the presence or absence of hazardous materials through laboratory testing.

In the event suspected hazardous materials are identified during strip out or demolition which are not included in this report, JBS&G recommends that works should cease, and an assessment of the materials undertaken by a competent person for further appropriate recommendations.

No one section or part of a section of this report is to be taken as giving an overall idea of this report. Each section is to be read in conjunction with the whole of this report, including the appendices and attachments.

## **1.4 Previous Hazardous Material Assessments**

### **1.4.1 Prensa Pty Ltd (Prensa) – Hazardous Building Materials Re-Assessment**

A Hazardous Building Materials Re-Assessment was conducted by Prensa in 2019. The inspection included the re-assessment of the condition of previously identified hazardous materials at the site, as well as the sampling and identification of previously unidentified hazardous materials. The report details of the presence, quantity, condition, and location of any identified hazardous materials.

Based on the review of Prensa 2019, the typical types of hazardous materials found within the site is summarised below:

- Friable asbestos containing gaskets to chillers #1 to #5 within the air conditioning plant room;
- SMF insulation to various materials throughout the site including:
  - Hot water heaters/boilers;
  - Roof sarking;
  - Air conditioning ducting;
  - Packing pillows;
  - Suspended ceiling tiles;

- Insulation batts within wall & ceiling cavities; and
- External insulation to chiller #5.
- No lead based paints or PCB containing materials were identified.

The information presented in Prensa 2019 was used in the preparation of this report.

#### **1.4.2 Douglas Partners Pty Ltd (DP) – Hazardous Building Materials Assessment**

Based on information provided in Prensa 2019, it is understood that a previous Hazardous Building Materials Assessment was completed by DP in September 2016 (herein referred to as 'DP 2016'). No documentation associated with the previous investigation works completed by DP have been provided to JBS&G, however, Prensa 2019 included a review of DP 2016 with the following key findings reported:

- Friable asbestos containing gaskets to plant machinery within the Main Chiller Plant Room; and
- SMF containing items throughout the site.

## 2. Methodology

### 2.1 Hazardous Materials

#### 2.1.1 Asbestos Containing Materials and Asbestos Containing Dust

Representative samples of suspected ACMs and ACDs were collected where possible and placed into a zip-lock bags. These were subsequently delivered to a NATA accredited laboratory for analysis using polarised light microscopy in conjunction with dispersion staining techniques. Similar materials to those analysed or other materials known to contain asbestos from the consultant's experience (e.g. Electrical backing boards, corrugated asbestos cement roofs and older fibre cement sheeting) or materials not accessible may also be assumed to contain asbestos as per the relevant Code of Practice.

At the time of inspection, the following details were recorded:

- Location;
- Type of material;
- Accessibility;
- Condition;
- Friability; and
- Volume/dimensions.

#### 2.1.2 Lead Based Paint

Australian Standard AS4361.2 (2017) *Guide to Hazardous Paint Management - Part 2: Lead Paint in Residential, Public and Commercial Buildings* defines lead paints as those in which the lead content (calculated as lead metal) is in excess of 0.1 percent by weight of the dry film. This can be determined by field spot tests, laboratory testing or the use of portable X-ray fluorescence (XRF) field tests.

Representative samples of suspected lead based paints were collected where possible and delivered to a NATA accredited laboratory for analysis using inductively coupled plasma optical emission spectrometry (ICP-OES).

#### 2.1.3 Lead Containing Dust

Representative samples of accumulated or settled dust were collected and delivered to a NATA accredited laboratory for analysis via ICP-OES. A conservative assessment criteria was adopted for this investigation given the potential for human exposure and the readily disturbed and uncontained nature of accumulated or settled dust.

Concentrations of lead within accumulated or settled dust were compared against the health investigation level (HIL) for residential sites with garden/accessible soil of 300 mg/kg as outlined in National Environment Protection Measure (NEPC 2013) guidelines.

#### 2.1.4 Polychlorinated Biphenyls

Old fluorescent light fittings and other appliances which may contain capacitors containing PCB dielectric oil are identified by inspection and evaluation with the consultant's experience of similar light fittings and appliances. Alternatively, where possible and when it was safe to do so, a representative light fitting was opened to reveal the capacitor and the make and model recorded to be compared against the ANZECC (1997) list of PCB containing capacitors.

### **2.1.5 Synthetic Mineral Fibres**

SMF containing materials were either sampled as per the asbestos methodology or assumed to contain SMF from the consultant's experience of similar materials.

### **2.2 Inaccessible Areas**

As per SWNSW 2019b, any areas not accessible must be recorded as such. Where hazardous materials are suspected to be contained within inaccessible areas, these shall be documented in this report and the associated Hazardous Materials Register (**Appendix A**).

### 3. Site Description

The HBMS was conducted on 22-24 and 30 June 2022 by Stuart Lumsden, one of JBS&G's experienced senior hazardous materials surveyors and a SafeWork NSW Licensed Asbestos Assessor (LAA 001140). Stuart was assisted during the works by Jordan Gomez, one of JBS&G's experienced hazardous materials surveyors.

The site was bound by Pyrmont Bridge and the Australian National Maritime Museum to the north, Darling Harbour/Cockle Bay to the east, the Sofitel Sydney and the International Convention Centre to the South, and Darling Drive and the L1 Light Rail Line to the west.

The site comprised the following structures:

- Harbourside Shopping Centre – a three-storey shopping centre including Plant Room and Ausgrid Substation beneath Darling Drive;
- Pedestrian Link Bridge – an overpass linking the Harbourside Shopping Centre to the Harbourside Car Park; and
- Former Monorail Station – the Harbourside Station for the former Sydney Monorail, located north of the Harbourside Shopping Centre.

At the time of inspection the site was occupied and operational, however, there were a number of retail tenancies within the shopping centre that were vacant.

The type, location, friability, accessibility, and approximate quantities of identified and suspected hazardous materials based are provided in the Hazardous Materials Register in **Appendix A**. Photographs taken during the HBMS are presented in **Appendix B**.

A summary of the observations made during the HBMS is included in the following sections.

#### 3.1 Harbourside Shopping Centre

The Harbourside Shopping Centre comprised a three-storey retail shopping centre. It was constructed in 1988 with concrete and compressed fibre cement sheet external walls, plasterboard, glass and concrete internal walls, fixed plasterboard and suspended tile ceilings, concrete floors with various floor coverings, and corrugated metal and glass roof.

Internally, the Harbourside Shopping Centre comprised the following:

- Level 1 – retail tenancies, plant rooms, loading dock and Ausgrid Substation;
- Level 2 – retail tenancies and plant rooms; and
- Level 3 – retail tenancies and plant rooms.

A summary of the significant observations made during the HBMS is as follows:

- The chiller plant room was located adjacent the Ausgrid Substation, beneath the Darling Drive overpass and contained five chiller units (identified as Chiller #1 to Chiller #5), pump units and pipework. Asbestos containing gaskets were previously identified to all five chiller units in Prensa 2019, referencing the sample collected in DP 2016 (sample CA9419).
- At the time of inspection, the following observations were made in relation to the chiller units:
  - Chiller #1 and Chiller #2 were visually the same chiller type and manufacture (1988);
  - Chiller #5 was a larger chiller and visually different to Chiller #1 and Chiller #2. The manufacture date could not be determined but is assumed to be in the 1990's; and



- Chiller #3 and Chiller #4 were of similar size to Chiller #5 and were manufactured in 2008.
- Representative samples of the gaskets to Chiller #1 (L1-A11 and L1-A12) and Chiller #2 (L1-A13) were collected to confirm the details presented in Prensa 2019. Only sample L1-A12 was confirmed to contain asbestos with no asbestos detected in samples L1-A11 and L1-A13, indicating some of the original asbestos gaskets to the chiller units have been removed during routine maintenance. Based on these results and visual observations, both Chiller #1 and Chiller #2 comprise asbestos containing gaskets.
- Although no gaskets were visually observed to Chiller #5, based on the age of the unit, concealed asbestos containing gaskets are assumed to be present.
- Although Chiller #3 and Chiller #4 were manufactured in 2008, there is uncertainty in relation to the manufacture location and source of the gaskets within the chiller units. Therefore, Chiller #3 and Chiller #4 are also assumed to contain asbestos containing gaskets.
- A number of representative samples of mastic sealants were collected throughout the building as follows:
  - Non-asbestos containing black mastic sealant (E-A01 & E-A03) was identified to the external glass windows/panels;
  - Non-asbestos containing grey mastic sealant (E-A02) was identified to the external steel framework;
  - Non-asbestos containing black mastic sealant (E-A07) was identified to the external glass panel awnings;
  - Non-asbestos containing mastic sealant (E-A08) was identified to the external metal cladding;
  - Non-asbestos containing mastic sealant (L1-A10) was identified to the metal ceiling panels within the main switchroom located on Level 1;
  - Non-asbestos containing white mastic sealant (L3-A06) was identified to the edge of the water proofing membrane throughout the cooling towers located on Level 3;
  - Non-asbestos containing black mastic sealant (L3-A09) was identified to the ventilation ducting within the “low headroom” roof void on Level 3, accessed from the cooling towers; and
  - Non-asbestos containing black mastic sealant (L4-A02) was identified to the steel framework accessible on the Level 3 Mezzanine.

Based on the above results, all mastic sealants throughout the building are not suspected to contain asbestos.

- Non-asbestos containing compressed fibre cement sheeting was identified to the external wall cladding throughout the building. Representative samples were collected from the north aspect (E-A04), the east aspect (E-A05), the south aspect (E-A06), the west aspect (E-A10), and to the Ausgrid Substation and chiller plant room (E-A14).
- Non-asbestos containing fibre cement sheeting (E-A09 and E-A11) was identified to the external soffit linings.
- Non-asbestos containing bituminous expansion joints were identified to the external concrete walls (E-A12) and loading dock concrete floor (E-A13)

- Non-asbestos containing vermiculite fire proofing spray was identified to steel beams and columns throughout the building. Representative samples were collected from accessible areas as follows:
  - Vermiculite (L1-A01) to the steel beams within the ceiling cavity of Shop 281 (formerly Mad Mex) located on Level 1;
  - Vermiculite (L1-A02) to the steel beams, ceilings, pipework and upper walls within Shop 197 (Cyren) located on Level 1;
  - Vermiculite (L1-A06) to the steel beams within the ceiling cavity of Shop 225 (formerly The Port) located on Level 1;
  - Vermiculite (L2-A03) to the steel beams within the ceiling cavity of Shop 316 (formerly Racecentre) located on Level 2;
  - Vermiculite (L2-A07) to the steel beams of Shop 409 (Stateside Sports) located on Level 2;
  - Vermiculite (L3-A11) to the steel beams below the walkway within the “low headroom” roof void located on Level 3.

Based on the results of representative sampling, the vermiculite fire proofing spray throughout the building is not suspected to contain asbestos.

- Non-asbestos containing fibre cement sheeting was identified to various wall, ceiling and floor linings throughout the building. Representative samples were collected where possible as follows:
  - Wall linings (L1-A03) behind ceramic tiles within the Level 1 bathrooms (south end);
  - Wall linings (L1-A04) within the kitchen area and back of house within Shop 198 (The Watershed) on Level 1;
  - Wall linings (L1-A05) throughout the store rooms and toilets within Shop 225 (formerly The Port) on Level 1;
  - Wall linings (L1-A07) within the kitchen area and back of house within Shop 293 (formerly Toro) on Level 1;
  - Internal sheeting (L1-A09) within the metal perforated ceiling panels in the main switchroom on Level 1;
  - Compressed floor sheeting (L2-A06) to the mezzanine level of Shop 402 (formerly World Newsagency) on Level 2;
  - Infill panel (L2-A08) between the steel framework and arched window frame in the northwest corner of Shop 409 (Stateside Sports) on Level 2;
  - Wall linings (L2-A09) within Shop FF04A (formerly Boost) on Level 2;
  - Perforated wall linings (L3-A05) to the cooling tower area on Level 3;
  - Wall linings (L3-A10) behind the wall insulation to the cooling tower area on Level 3; and
  - Compressed wall linings (L4-A01) to the north and south panels of the Level 3 Mezzanine.

Based on the results of representative sampling, fibre cement sheeting throughout the building is not suspected to contain asbestos.

- Non-asbestos containing gasket (L1-A08) was identified to the top of the sprinkler pump within the sprinkler valve/pump room on Level 1.

- Non-asbestos containing bituminous expansion joint (L1-A14) was identified to the concrete floor of the chiller plant room on Level 1.
- Non-asbestos containing cream vinyl flooring (L2-A01) was identified to the rear store rooms on Shop 419 (formerly Glue) located on Level 2.
- Non-asbestos containing black membrane (L2-A02) was identified to the floor of the kitchen in Shop 321/357 (formerly Hard Rock Café) on Level 2.
- Non-asbestos containing millboard was identified to the wall and ceiling penetrations within the plant and electrical room on Level 2 (L2-A04) and to the south wall in the plant room on Level 3 (L3-A03). These materials were also identified to other penetrations throughout the building consistent with L2-A04 and L3-A03, therefore, all millboard materials are not suspected to contain asbestos.
- Non-asbestos containing insulation (L2-A05) was identified behind the corrugated sheeting in the vent area of the plant and electrical room on Level 2.
- Non-asbestos containing brown vinyl flooring (L2-A10) was identified to the floor of Shop 441 (formerly The British Lolly Shop) on Level 2.
- Non-asbestos containing cream fibrous membrane (L3-A01) was identified to the floor between air handling unit (AHU) 3.1 and AHU 3.2 within the plant room on Level 3.
- Non-asbestos containing white caulking (L3-A02) was identified to the base of the south wall in the plant room on Level 3.
- Non-asbestos containing black membrane (L3-A04) was identified to the floor between AHU 3.3 and AHU 3.4 within the plant room on Level 3.
- Non-asbestos containing surface layer of waterproofing membrane (L3-A07) and bottom layer of waterproofing membrane (L3-A08) was identified to the floor throughout the cooling tower area on Level 3.
- Representative samples of settled dust were collected throughout the building to be analysed for lead and asbestos as follows:
  - Lead concentrations within settled dust below the adopted site criteria (L1-LD01, 36 mg/kg) was identified to the floor surface of the electrical cupboard within the food court toilet corridor on Level 1. This dust was also found not to contain asbestos (L1-AD01);
  - Lead concentrations within settled dust below the adopted site criteria (L1-LD02, 9.3 mg/kg) was identified within the ceiling cavity of Shop 225 (formerly The Port) on Level 1. This dust was also found not to contain asbestos (L1-AD02);
  - Lead concentrations within settled dust below the adopted site criteria (L1-LD03, 170 mg/kg) was identified to the floor of the main switchroom on Level 1. This dust was also found not to contain asbestos (L1-AD03);
  - Lead concentrations within settled dust below the adopted site criteria (L1-LD04, 63 mg/kg) was identified to the floor of the chiller plant room on Level 1. This dust was also found not to contain asbestos (L1-AD04);
  - Lead concentrations within settled dust below the adopted site criteria (L2-LD01, 110 mg/kg) was identified to the floor of the plant and electrical room on Level 2. This dust was also found not to contain asbestos (L2-AD01);

- Lead concentrations within settled dust below the adopted site criteria (L3-LD01, 120 mg/kg) was identified to the floor of the plant room on Level 3. This dust was also found not to contain asbestos (L3-AD01); and
- Lead concentrations within settled dust below the adopted site criteria (L3-LD02, 86 mg/kg) was identified within the ceiling cavity above the tenancies on Level 3. This dust was also found not to contain asbestos (L3-AD02).

Based on the results of representative sampling, settled dust present throughout the building is not suspected to contain asbestos, or lead at concentrations above the adopted site criteria.

- Representative paint samples were collected throughout the building as follows:
  - Non-lead based green paint (E-L01, <0.01% w/w) was identified to the corrugated metal roof;
  - Non-lead based grey paint (E-L02 and E-L03, both <0.01% w/w) was identified to the external steel framework;
  - Non-lead based yellow paint (E-L04, 0.06% w/w) was identified to the external bollards;
  - Non-lead based orange paint (L1-L01, <0.01% w/w) was identified to the walls within the basement of Shop 224/230 (Pancake on the Rocks) on Level 1;
  - Non-lead based red paint (L1-L03, 0.09% w/w) was identified to the hydrant/sprinkler pipework and pumps within the sprinkler valve/pump room on Level 1. This non-lead based paint system is assumed to be present to all sprinkler pipework throughout the building;
  - Non-lead based cream paint (L1-L04, 0.03% w/w) was identified to Chiller #1, Chiller #2 and Chiller #5 in the chiller plant room on Level 1;
  - Non-lead based blue paint (L1-L05, <0.01% w/w) was identified to the pumps in the chiller plant room on Level 1;
  - Non-lead based grey paint (L2-L01, <0.01% w/w) was identified to the doors and door frames throughout the common areas on Level 2. This non-lead based paint system was also identified to the doors and door frames throughout the common areas on Level 1 and Level 3;
  - Non-lead based cream paint (L3-L01, <0.01% w/w) was identified to the walls throughout the plant room on Level 3;
  - Non-lead based aqua paint (L3-L02, 0.02% w/w) was identified to the heating, ventilation and air conditioning (HVAC) ducting throughout the plant room on Level 3;
  - Non-lead based blue paint (L3-L04, <0.01% w/w) was identified to the doors and door frames throughout the plant areas on Level 3; and
  - Non-lead based silver metallic paint (L4-L01, 0.01% w/w) was identified to the steel framework accessible from the Level 3 mezzanine.

Based on the results of representative sampling, paint systems throughout the building are not suspected to comprise lead based paint.

- Assumed SMF materials throughout the building were observed to be consistent with Prensa 2019, and comprised the following forms of SMF:
  - Internal insulation to hot water systems and boilers;
  - Insulation lagging to pipework;

- Insulation to HVAC ducting;
- Insulation slabs and to packing pillows within floor, wall and ceiling penetrations;
- Insulation to roof sarking;
- Internal wall insulation; and
- Suspended ceiling tiles to office spaces and retail tenancies.
- There was no internal access to the Ausgrid Substation 3092, which was constructed at the same time as the shopping centre (1988). There is the potential for a range of hazardous materials to be present within the substation and a detailed inspection should be undertaken once either decommissioned or safe access can be provided.
- Shop FF01 (formerly Unity Asian Supermarket) on Level 2 was locked and unable to be opened by Security at the time of inspection. Based on the results of this HBMS no hazardous materials are suspected to be present other than SMF insulation materials consistent with those identified throughout the building.
- Shop 433 (Hurricane's Grill) and Shop 347 (Scotch & Co) on Level 2 were locked and closed at the time of inspection and unable to be accessed. Based on the results of this HBMS no hazardous materials are suspected to be present other than SMF insulation materials consistent with those identified throughout the building.

### **3.2 Pedestrian Link Bridge**

The Pedestrian Link Bridge was located west of the shopping centre and provided a link between level 3 of the shopping centre and the Harbourside Car Park.

The Pedestrian Link Bridge comprised a concrete and steel structure with concrete floor and ceramic tile flooring, corrugated metal roof, and steel/metal framework and handrails.

A summary of the significant observations made during the HBMS is as follows:

- Non-asbestos containing compressed fibre cement sheeting (E-A15) was identified to the east and west fascia cladding to the roof structures.
- Non-lead based green paint (E-L06, 0.02% w/w) was identified to the handrails and balustrades.
- Non-lead based white paint (E-L07, <0.01% w/w) was identified to the steel framework.
- No SMF or PCB materials were identified at the time of inspection.

### **3.3 Former Monorail Station**

The Former Monorail Station was located to the north of the shopping centre and comprised a concrete and steel structure with concrete floor and stone tile flooring, corrugated metal roof, steel/metal framework and glass wall panels.

A summary of the significant observations made during the HBMS is as follows:

- Non-asbestos containing compressed fibre cement debris (E-A16) was identified to the floor surface of the station platform. This material was also identified within a small bin located on the platform.
- Non-lead based grey paint (E-L08, <0.01% w/w) was identified to the steel framework.
- Non-lead based black paint (E-L09, 0.10% w/w) was identified to the steel framework to the ticket booth structure.



- Lead concentrations within settled dust below the adopted site criteria (E-LD01, 180 mg/kg) was identified to the floor surface and is assumed to be present to all horizontal surfaces throughout the Former Monorail Station. This dust was also found not to contain asbestos (E-AD01).
- No SMF or PCB materials were identified at the time of inspection.

## 4. Results

### 4.1 Hazardous Materials

All identified hazardous materials are recorded in the Hazardous Materials Register in **Appendix A** with relevant photographs in **Appendix B**. NATA accredited laboratory analysis reports and chain of custody are provided in **Appendix C**.

#### 4.1.1 Asbestos Containing Materials

ACM were identified by testing at an accredited NATA laboratory and/or visual inspection using the experience of the hazardous materials surveyor. A summary of the results of laboratory testing for asbestos are provided in **Table A** below.

**Table A: Asbestos Results Summary Table**

| Sample ID                          | Lab ID       | Floor    | Sample Location                                                                                | Results              | Observed Condition |
|------------------------------------|--------------|----------|------------------------------------------------------------------------------------------------|----------------------|--------------------|
| <i>Harbourside Shopping Centre</i> |              |          |                                                                                                |                      |                    |
| E-A01                              | 22-JI0007639 | External | Glass windows/panels – black mastic sealant                                                    | No Asbestos Detected | N/A                |
| E-A02                              | 22-JI0007640 | External | External steel framework – grey mastic sealant                                                 | No Asbestos Detected | N/A                |
| E-A03                              | 22-JI0007641 | External | Glass windows/panels – black mastic sealant                                                    | No Asbestos Detected | N/A                |
| E-A04                              | 22-JI0007642 | External | North aspect, wall cladding – compressed fibre cement sheeting                                 | No Asbestos Detected | N/A                |
| E-A05                              | 22-JI0007643 | External | East aspect, wall cladding – compressed fibre cement sheeting                                  | No Asbestos Detected | N/A                |
| E-A06                              | 22-JI0007644 | External | South aspect, wall cladding – compressed fibre cement sheeting                                 | No Asbestos Detected | N/A                |
| E-A07                              | 22-JI0007645 | External | Glass panel awnings – black mastic sealant                                                     | No Asbestos Detected | N/A                |
| E-A08                              | 22-JI0007646 | External | Metal cladding – mastic sealant                                                                | No Asbestos Detected | N/A                |
| E-A09                              | 22-JI0007647 | External | Soffit linings – fibre cement sheeting                                                         | No Asbestos Detected | N/A                |
| E-A10                              | 22-JI0007648 | External | West aspect, wall cladding – compressed fibre cement sheeting                                  | No Asbestos Detected | N/A                |
| E-A11                              | 22-JI0007649 | External | Soffit linings – fibre cement sheeting                                                         | No Asbestos Detected | N/A                |
| E-A12                              | 22-JI0007650 | External | Concrete walls, expansion joints – bituminous material                                         | No Asbestos Detected | N/A                |
| E-A13                              | 22-JI0007651 | External | Loading dock, floor expansion joints – bituminous material                                     | No Asbestos Detected | N/A                |
| E-A14                              | 22-JI0007652 | External | Ausgrid Substation and chiller plant room, wall cladding – compressed fibre cement sheeting    | No Asbestos Detected | N/A                |
| L1-A01                             | 22-JI0007666 | Level 1  | Shop 281 (formerly Mad Mex), ceiling cavity, steel beams – vermiculite                         | No Asbestos Detected | N/A                |
| L1-A02                             | 22-JI0007667 | Level 1  | Shop 197 (Cyren), steel beams, ceilings, pipework and upper walls – vermiculite                | No Asbestos Detected | N/A                |
| L1-A03                             | 22-JI0007668 | Level 1  | Bathrooms (south end), walls behind ceramic tiles – fibre cement sheeting                      | No Asbestos Detected | N/A                |
| L1-A04                             | 22-JI0007669 | Level 1  | Shop 198 (The Watershed), kitchen and back of house, wall linings – fibre cement sheeting      | No Asbestos Detected | N/A                |
| L1-A05                             | 22-JI0007670 | Level 1  | Shop 225 (formerly The Port), store rooms and toilets, wall linings – fibre cement sheeting    | No Asbestos Detected | N/A                |
| L1-A06                             | 22-JI0007671 | Level 1  | Shop 225 (formerly The Port), ceiling cavity, steel beams – vermiculite                        | No Asbestos Detected | N/A                |
| L1-A07                             | 22-JI0007672 | Level 1  | Shop 293 (formerly Toro), kitchen area and back of house, wall linings – fibre cement sheeting | No Asbestos Detected | N/A                |

| Sample ID | Lab ID       | Floor             | Sample Location                                                                                                               | Results                    | Observed Condition |
|-----------|--------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------|
| L1-A08    | 22-JI0007673 | Level 1           | Sprinkler valve/pump room, sprinkler pump – gasket                                                                            | No Asbestos Detected       | N/A                |
| L1-A09    | 22-JI0007674 | Level 1           | Main switchroom, metal perforated ceiling panels, internal core – fibre cement sheeting                                       | No Asbestos Detected       | N/A                |
| L1-A10    | 22-JI0007675 | Level 1           | Main switchroom, metal ceiling panels – mastic sealant                                                                        | No Asbestos Detected       | N/A                |
| L1-A11    | 22-JI0007676 | Level 1           | Chiller plant room, Chiller #1 – gasket                                                                                       | No Asbestos Detected       | N/A                |
| L1-A12    | 22-JI0007677 | Level 1           | Chiller plant room, Chiller #1 – gasket                                                                                       | <b>Chrysotile Asbestos</b> | Non-Friable        |
| L1-A13    | 22-JI0007678 | Level 1           | Chiller plant room, Chiller #2 – gasket                                                                                       | No Asbestos Detected       | N/A                |
| L1-A14    | 22-JI0007679 | Level 1           | Chiller plant room, floor, expansion joints – bituminous material                                                             | No Asbestos Detected       | N/A                |
| L2-A01    | 22-JI0007689 | Level 2           | Shop 419 (formerly Glue), rear store rooms, floor – cream vinyl                                                               | No Asbestos Detected       | N/A                |
| L2-A02    | 22-JI0007690 | Level 2           | Shop 321/357 (formerly Hard Rock Café), kitchen, floor – black membrane                                                       | No Asbestos Detected       | N/A                |
| L2-A03    | 22-JI0007691 | Level 2           | Shop 316 (formerly Racecentre), ceiling cavity, steel beams – vermiculite                                                     | No Asbestos Detected       | N/A                |
| L2-A04    | 22-JI0007692 | Level 2           | Plant and electrical room, wall and ceiling penetrations – millboard                                                          | No Asbestos Detected       | N/A                |
| L2-A05    | 22-JI0007693 | Level 2           | Plant and electrical room, behind corrugated metal sheeting in vent area – insulation                                         | No Asbestos Detected       | N/A                |
| L2-A06    | 22-JI0007694 | Level 2           | Shop 402 (formerly World Newsagency), mezzanine, floor – compressed fibre cement sheeting                                     | No Asbestos Detected       | N/A                |
| L2-A07    | 22-JI0007695 | Level 2           | Shop 409 (Stateside Sports), steel beams – vermiculite                                                                        | No Asbestos Detected       | N/A                |
| L2-A08    | 22-JI0007696 | Level 2           | Shop 409 (Stateside Sports), NW corner, between steel framework and arched window frame, infill panel – fibre cement sheeting | No Asbestos Detected       | N/A                |
| L2-A09    | 22-JI0007697 | Level 2           | Shop FF04A (formerly Boost), wall linings – fibre cement sheeting                                                             | No Asbestos Detected       | N/A                |
| L2-A10    | 22-JI0007698 | Level 2           | Shop 411 (formerly The British Lolly Shop), floor – brown vinyl                                                               | No Asbestos Detected       | N/A                |
| L3-A01    | 22-JI0007702 | Level 3           | Plant room, floor between AHU 3.1 and AHU 3.2 – cream fibrous membrane                                                        | No Asbestos Detected       | N/A                |
| L3-A02    | 22-JI0007703 | Level 3           | Plant room, base of south wall – white caulking                                                                               | No Asbestos Detected       | N/A                |
| L3-A03    | 22-JI0007704 | Level 3           | Plant room, south wall – millboard                                                                                            | No Asbestos Detected       | N/A                |
| L3-A04    | 22-JI0007705 | Level 3           | Plant room, floor between AHU 3.3 and AHU 3.4 – black membrane                                                                | No Asbestos Detected       | N/A                |
| L3-A05    | 22-JI0007706 | Level 3           | Cooling towers, perforated wall linings – fibre cement sheeting                                                               | No Asbestos Detected       | N/A                |
| L3-A06    | 22-JI0007707 | Level 3           | Cooling towers, edge of waterproofing membrane – white mastic sealant                                                         | No Asbestos Detected       | N/A                |
| L3-A07    | 22-JI0007708 | Level 3           | Cooling towers, floor – surface layer of waterproofing membrane                                                               | No Asbestos Detected       | N/A                |
| L3-A08    | 22-JI0007709 | Level 3           | Cooling towers, floor – bottom layer of waterproofing membrane                                                                | No Asbestos Detected       | N/A                |
| L3-A09    | 22-JI0007710 | Level 3           | “low headroom” roof void, ventilation ducting – black mastic sealant                                                          | No Asbestos Detected       | N/A                |
| L3-A10    | 22-JI0007711 | Level 3           | Cooling towers, wall linings behind insulation – fibre cement sheeting                                                        | No Asbestos Detected       | N/A                |
| L3-A11    | 22-JI0007712 | Level 3           | “low headroom” roof void, steel beams below walkway – vermiculite                                                             | No Asbestos Detected       | N/A                |
| L4-A01    | 22-JI0007723 | Level 3 Mezzanine | North and south wall panels – compressed fibre cement sheeting                                                                | No Asbestos Detected       | N/A                |

| Sample ID                             | Lab ID       | Floor             | Sample Location                                                                   | Results              | Observed Condition |
|---------------------------------------|--------------|-------------------|-----------------------------------------------------------------------------------|----------------------|--------------------|
| L4-A02                                | 22-JI0007724 | Level 3 Mezzanine | Steel framework – black mastic sealant                                            | No Asbestos Detected | N/A                |
| <b><u>Pedestrian Link Bridge</u></b>  |              |                   |                                                                                   |                      |                    |
| E-A15                                 | 22-JI0007653 | External          | Roof structures, east and west fascia cladding – compressed fibre cement sheeting | No Asbestos Detected | N/A                |
| <b><u>Former Monorail Station</u></b> |              |                   |                                                                                   |                      |                    |
| E-A16                                 | 22-JI0007654 | External          | Station platform, floor – compressed fibre cement debris                          | No Asbestos Detected | N/A                |

#### 4.1.2 Asbestos Containing Dust

Representative dust samples were collected throughout the site. A summary of the results of the laboratory testing for asbestos are provided in **Table B** below:

**Table B: Asbestos Dust Results Summary Table**

| Sample ID                                                        | Lab ID       | Floor    | Sample Location                                                | Results              | Observed Condition |
|------------------------------------------------------------------|--------------|----------|----------------------------------------------------------------|----------------------|--------------------|
| <b><u>Harbourside Shopping Centre</u></b>                        |              |          |                                                                |                      |                    |
| L1-AD01                                                          | 22-JI0007685 | Level 1  | Food court toilet corridor, electrical cupboard – settled dust | No Asbestos Detected | N/A                |
| L1-AD02                                                          | 22-JI0007686 | Level 1  | Shop 225 (formerly The Port), ceiling cavity – settled dust    | No Asbestos Detected | N/A                |
| L1-AD03                                                          | 22-JI0007687 | Level 1  | Main switchroom, floor – settled dust                          | No Asbestos Detected | N/A                |
| L1-AD04                                                          | 22-JI0007688 | Level 1  | Chiller plant room, floor – settled dust                       | No Asbestos Detected | N/A                |
| L2-AD01                                                          | 22-JI0007700 | Level 2  | Plant and electrical plant room, floor – settled dust          | No Asbestos Detected | N/A                |
| L3-AD01                                                          | 22-JI0007719 | Level 3  | Plant room, floor – settled dust                               | No Asbestos Detected | N/A                |
| L3-AD02                                                          | 22-JI0007720 | Level 3  | Tenancies, ceiling cavity – settled dust                       | No Asbestos Detected | N/A                |
| <b><u>Pedestrian Link Bridge</u></b>                             |              |          |                                                                |                      |                    |
| No settled dust samples were collected at the time of inspection |              |          |                                                                |                      |                    |
| <b><u>Former Monorail Station</u></b>                            |              |          |                                                                |                      |                    |
| E-AD01                                                           | 22-JI0007664 | External | Station platform, floor – settled dust                         | No Asbestos Detected | N/A                |

#### 4.1.3 Lead Containing Dust

Representative dust samples were collected throughout the site. A summary of the results of the laboratory testing for lead are provided in **Table C** below:

**Table C: Lead Dust Results Summary Table**

| Sample ID                                                        | Lab ID       | Floor    | Sample Location                                                | Results   | Observed Condition |
|------------------------------------------------------------------|--------------|----------|----------------------------------------------------------------|-----------|--------------------|
| <b><u>Harbourside Shopping Centre</u></b>                        |              |          |                                                                |           |                    |
| L1-LD01                                                          | 22-JI0007742 | Level 1  | Food court toilet corridor, electrical cupboard – settled dust | 36 mg/kg  | N/A                |
| L1-LD02                                                          | 22-JI0007743 | Level 1  | Shop 225 (formerly The Port), ceiling cavity – settled dust    | 9.3 mg/kg | N/A                |
| L1-LD03                                                          | 22-JI0007744 | Level 1  | Main switchroom, floor – settled dust                          | 170 mg/kg | N/A                |
| L1-LD04                                                          | 22-JI0007745 | Level 1  | Chiller plant room, floor – settled dust                       | 63 mg/kg  | N/A                |
| L2-LD01                                                          | 22-JI0007701 | Level 2  | Plant and electrical plant room, floor – settled dust          | 110 mg/kg | N/A                |
| L3-LD01                                                          | 22-JI0007721 | Level 3  | Plant room, floor – settled dust                               | 120 mg/kg | N/A                |
| L3-LD02                                                          | 22-JI0007722 | Level 3  | Tenancies, ceiling cavity – settled dust                       | 86 mg/kg  | N/A                |
| <b><u>Pedestrian Link Bridge</u></b>                             |              |          |                                                                |           |                    |
| No settled dust samples were collected at the time of inspection |              |          |                                                                |           |                    |
| <b><u>Former Monorail Station</u></b>                            |              |          |                                                                |           |                    |
| E-LD01                                                           | 22-JI0007665 | External | Station platform, floor – settled dust                         | 180 mg/kg | N/A                |

#### 4.1.4 Lead Based Paints

Representative paint samples were collected throughout the building for laboratory testing. A summary of the results of laboratory testing for lead are provided in **Table D** below.

**Table D: Lead Paint Results Summary Table**

| Sample ID                          | Lab ID       | Floor             | Sample Location                                                         | Results    | Observed Condition |
|------------------------------------|--------------|-------------------|-------------------------------------------------------------------------|------------|--------------------|
| <b>Harbourside Shopping Centre</b> |              |                   |                                                                         |            |                    |
| E-L01                              | 22-JI0007655 | External          | Corrugated metal roof – green paint                                     | <0.01% w/w | N/A                |
| E-L02                              | 22-JI0007656 | External          | External steel framework – grey paint                                   | <0.01% w/w | N/A                |
| E-L03                              | 22-JI0007657 | External          | External steel framework – grey paint                                   | <0.01% w/w | N/A                |
| E-L04                              | 22-JI0007658 | External          | External bollards – yellow paint                                        | 0.06% w/w  | N/A                |
| L1-L01                             | 22-JI0007680 | Level 1           | Shop 224/230 (Pancake on the Rocks, basement walls – orange paint       | <0.01% w/w | N/A                |
| L1-L03                             | 22-JI0007682 | Level 1           | Sprinkler valve/pump room, pipework – red paint                         | 0.09% w/w  | N/A                |
| L1-L04                             | 22-JI0007683 | Level 1           | Chiller plant room, Chiller #1, Chiller #2 and Chiller #5 – cream paint | 0.03% w/w  | N/A                |
| L1-L05                             | 22-JI0007684 | Level 1           | Chiller plant room, pumps – blue paint                                  | <0.01% w/w | N/A                |
| L2-L01                             | 22-JI0007699 | Level 2           | Common areas, doors and door frames – grey paint                        | <0.01% w/w | N/A                |
| L3-L01                             | 22-JI0007713 | Level 3           | Plant room, walls – cream paint                                         | <0.01% w/w | N/A                |
| L3-L02                             | 22-JI0007714 | Level 3           | Plant room, HVAC ducting – aqua paint                                   | 0.02% w/w  | N/A                |
| L3-L04                             | 22-JI0007716 | Level 3           | Plant areas, doors and door frames – blue paint                         | <0.01% w/w | N/A                |
| L4-L01                             | 22-JI0007725 | Level 3 Mezzanine | Steel framework – silver metallic paint                                 | 0.01% w/w  | N/A                |
| <b>Pedestrian Link Bridge</b>      |              |                   |                                                                         |            |                    |
| E-L06                              | 22-JI0007660 | External          | Handrails and balustrades – green paint                                 | 0.02% w/w  | N/A                |
| E-L07                              | 22-JI0007661 | External          | Steel framework – white paint                                           | <0.01% w/w | N/A                |
| <b>Former Monorail Station</b>     |              |                   |                                                                         |            |                    |
| E-L08                              | 22-JI0007662 | External          | Steel framework – grey paint                                            | <0.01% w/w | N/A                |
| E-L09                              | 22-JI0007663 | External          | Ticket booth structure, steel framework – black paint                   | 0.10% w/w  | N/A                |

#### 4.1.5 Polychlorinated Biphenyls

All fluorescent light fittings throughout the site were of modern age and appearance and are not suspected to contain PCB containing capacitors.

#### 4.1.6 Synthetic Mineral Fibres

Suspected SMF materials were identified in various forms throughout the site. Full details of all identified SMF materials are provided in the Hazardous Materials Register (**Appendix A**). The typical forms of SMF identified within each building are summarised below:

- Internal insulation to hot water systems and boilers;
- Insulation lagging to pipework;
- Insulation to HVAC ducting;
- Insulation slabs and to packing pillows within floor, wall and ceiling penetrations;
- Insulation to roof sarking;
- Internal wall insulation; and
- Suspended ceiling tiles to office spaces and retail tenancies.



## 4.2 Inaccessible Areas

There is potential for additional hazardous materials to be contained within inaccessible areas of the site as outlined in the following points:

- There was no internal access to the Ausgrid Substation 3092, which was constructed at the same time as the shopping centre (1988). There is the potential for a range of hazardous materials to be present within the substation and a detailed inspection should be undertaken once either decommissioned or safe access can be provided.
- Shop FF01 (formerly Unity Asian Supermarket) on Level 2 was locked and unable to be opened by Security at the time of inspection. Based on the results of this HBMS no hazardous materials are suspected to be present other than SMF insulation materials consistent with those identified throughout the building.
- Shop 433 (Hurricane's Grill) and Shop 347 (Scotch & Co) on Level 2 were locked and closed at the time of inspection and unable to be accessed. Based on the results of this HBMS no hazardous materials are suspected to be present other than SMF insulation materials consistent with those identified throughout the building.

## 5. Conclusions and Recommendations

Based on the scope of this assessment and with reference to the limitations included in **Section 6**, the following conclusions are made with respect to the Hazardous Materials Survey completed.

### 5.1 Hazardous Materials

Identified and suspected hazardous materials were observed throughout the building as a result of visual identification and laboratory analysis.

The following recommendations are made for the removal of the identified hazardous materials to potentially mitigate harmful effects as a result of the proposed works program. The person with management or control of the site, must ensure so far as is reasonably practicable that the identified hazardous materials are removed prior to the commencement of demolition works.

The identified and suspected hazardous materials are presented in the Hazardous Materials Register included as **Appendix A**.

#### 5.1.1 Asbestos Containing Materials

Non-friable ACM gaskets have been identified to Chiller #1 and Chiller #2 and are assumed to be present in Chiller #3, Chiller #4 and Chiller #5 within the chiller plant room of the Harbourside Shopping Centre. Prior to the commencement of demolition works, it is recommended that the following work is undertaken:

- A Class A or B licensed asbestos removalist shall be engaged to remove all asbestos containing materials as identified in the Hazardous Materials Register (**Appendix A**). Removal and disposal of non-friable asbestos materials shall be undertaken in accordance with the *Work Health and Safety Act (2011)*, *Work Health and Safety Regulation (2017)* and *SWNSW 2019a*.
- Although the quantity of identified ACM is less than 10 square metres it is recommended that a notification to remove non-friable asbestos shall be submitted to SafeWork NSW by the engaged Class A or B contractor prior to works commencing. No asbestos removal works should commence until receipt of the accepted notification to remove non-friable asbestos from SafeWork NSW.
- An asbestos removal control plan is to be developed by the engaged Class A or B licensed asbestos removalist prior to the removal works, outlining the specific removal methodologies and control measures necessary to minimise any risk from exposure to asbestos.
- Asbestos waste and asbestos impacted waste materials shall be disposed of to an appropriately licensed landfill in accordance with NSW EPA 2014.
- While not mandatory during the removal of non-friable ACM, it is considered best practice and recommended that asbestos air monitoring is undertaken during any non-friable asbestos removal works.
- Following removal works, a clearance inspection shall be completed by an independent competent person or licensed asbestos assessor (LAA) to ensure that the asbestos materials identified at the site have been removed to a satisfactory standard. Following the completion of the clearance inspection, a clearance certificate shall be issued by the independent competent person or LAA to confirm that the ACM has been successfully removed and that the site is suitable for planned demolition works to commence.

#### 5.1.2 Lead Containing Dust

No lead containing dusts above the adopted site criteria were identified at the time of inspection.

#### **5.1.3 Lead Based Paints**

No lead based paints were identified at the time of inspection.

#### **5.1.4 Polychlorinated Biphenyls**

No PCB materials were identified at the time of inspection.

#### **5.1.5 Synthetic Mineral Fibres**

The synthetic mineral fibres encountered during this inspection were generally contained and deemed to be low risk. These SMF materials can be removed with the building and demolition waste with care taken not to generate fibres. Appropriate PPE is recommended including the use of P2 respirator as minimum and appropriate removal methodology as outlined in [NOHSC: 1004(1990)] and [NOHSC: 2006(1990)].

#### **5.2 Inaccessible Areas**

Areas inaccessible during the current HBMS should be inspected by a suitably qualified competent person prior to any works commencing. In the event that suspected hazardous materials are encountered in the previously inaccessible areas, these should be sampled by a suitably qualified occupational hygienist/hazardous materials consultant prior to any works commencing.

#### **5.3 Unexpected Finds**

Any materials deemed to be consistent with those detailed in the Hazardous Materials Register that have not been previously identified should be assumed to have the same content and be treated accordingly.

Should any additional suspected hazardous materials be observed during or prior to demolition works, works should cease until a suitably qualified occupational hygienist/hazardous materials consultant can assess the suspected hazardous material and provide appropriate recommendations for management and/or removal.

## 6. Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only, and has been based in part on information obtained from the client and other parties.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by JBS&G, and should not be relied upon by other parties, who should make their own enquiries.

Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the regulatory requirements.

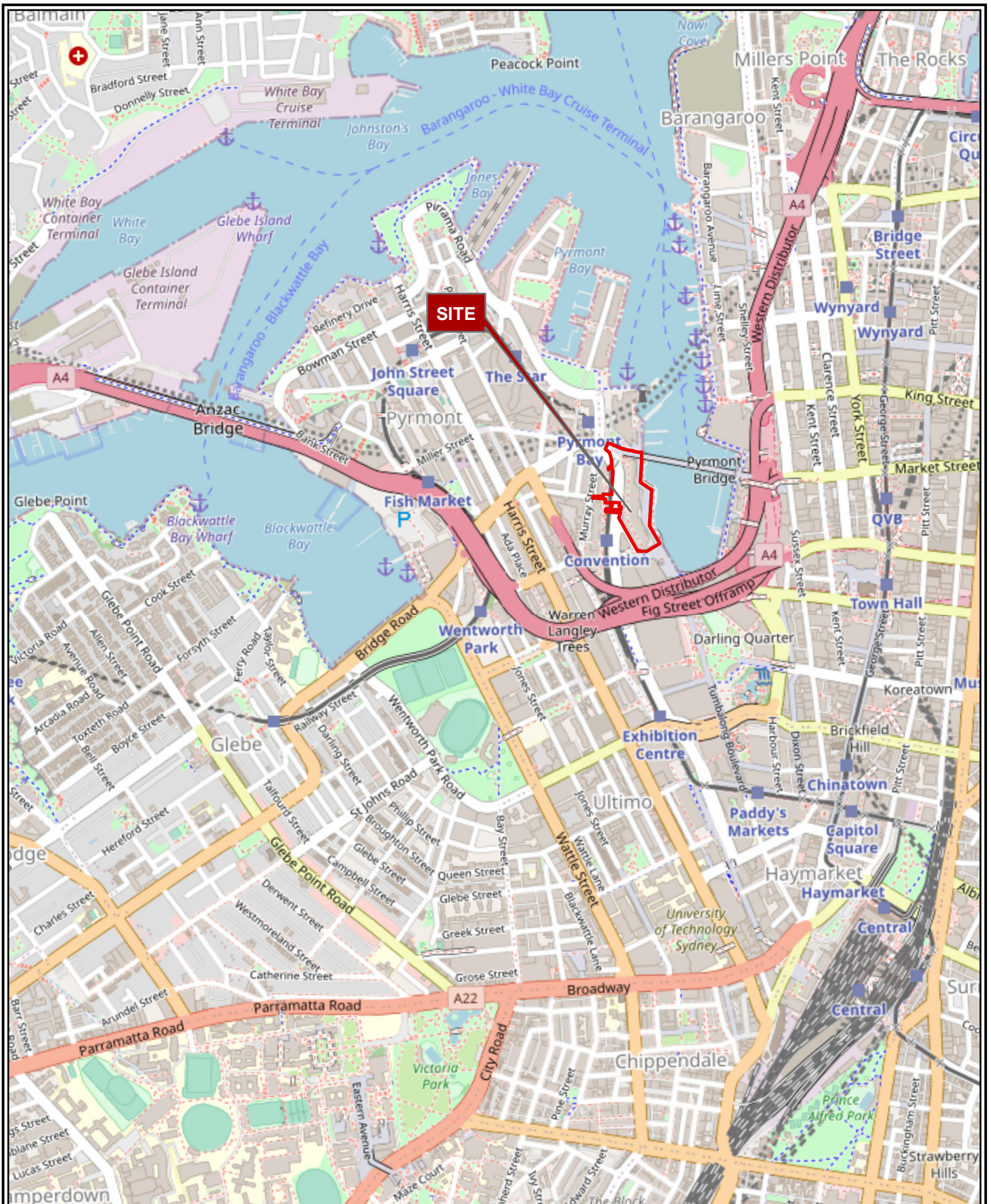
Limited sampling and laboratory analyses were undertaken as part of the investigations undertaken, as described herein. Ground conditions between sampling locations and media may vary, and this should be considered when extrapolating between sampling points. Chemical analytes are based on the information detailed in the site history. Further chemicals or categories of chemicals may exist at the site, which were not identified in the site history and which may not be expected at the site.

Changes to the subsurface conditions may occur subsequent to the investigations described herein, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this report are based on the information obtained at the time of the investigations.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, JBS&G reserves the right to review the report in the context of the additional information.

## Figures

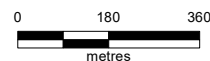




#### Legend:

Approximate DA Boundary - The Site

Scale 1:15,000



Coord. Sys. GDA 1994 MGA Zone 56



Job No: 62851

Client: Mirvac

Version: R04 Rev 0

Drawn By: AB

Date 18/07/2022

Checked By: SL

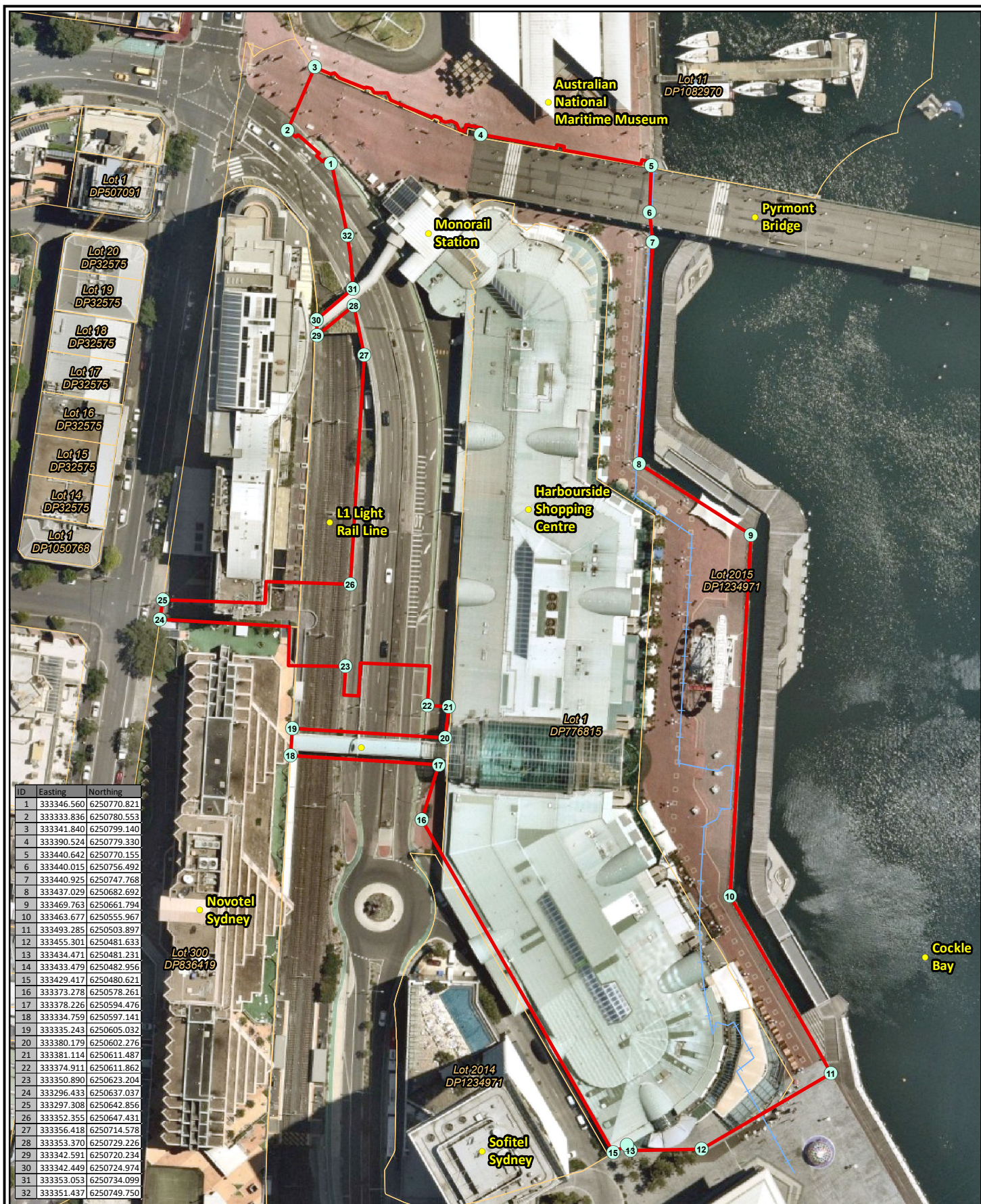
**Harbourside Shopping Centre,  
Darling Harbour**

**SITE LOCATION**

**FIGURE 1**



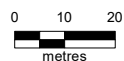




#### Legend:

- Approximate DA Boundary - The Site
- NSW Cadastre (DFS1, 2022)
- Structures Below the Harbour Promenade - Seaward Extent
- Site Features

Scale 1:1,500



Coord. Sys. GDA 1994 MGA Zone 56



Job No: 62851

Client: Mirvac

Version: R04 Rev 0

Drawn By: AB

Date 18/07/2022

Checked By: SL

Harbourside Shopping Centre,  
Darling Harbour

SITE LAYOUT

FIGURE 2





## Appendix A Hazardous Materials Register

**Hazardous Materials Register (Rev 0)**  
**Harbourside Shopping Centre Redevelopment**  
**2-10 Darling Drive, Sydney NSW**  
**Harbourside Shopping Centre**  
*Date of Production – 18<sup>th</sup> July 2022*



| JBS&G<br>SAMPLE NO.                                                        | LOCATION                    | MATERIAL DESCRIPTION             | PHOTO<br>NUMBER | ACCESSIBLE<br>AREA? | FRIABILITY | ANALYTICAL RESULT    | MATERIAL<br>CONDITION | APPROX.<br>QUANTITY | ACTION REQUIRED            | DATE OF LAST<br>INSPECTION (INCL.<br>COMPANY NAME<br>AND INITIALS) | DATE OF CONTROL<br>ACTION &/OR<br>REMOVAL |
|----------------------------------------------------------------------------|-----------------------------|----------------------------------|-----------------|---------------------|------------|----------------------|-----------------------|---------------------|----------------------------|--------------------------------------------------------------------|-------------------------------------------|
| <b>External</b>                                                            |                             |                                  |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| <b>Asbestos Containing Materials (ACM)</b>                                 |                             |                                  |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| No Asbestos Containing Materials were identified at the time of inspection |                             |                                  |                 |                     |            |                      |                       |                     | -                          | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>No Asbestos Detected (NAD)</b>                                          |                             |                                  |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| E-A01                                                                      | Glass windows/panels        | Black mastic sealant             | 2               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| E-A02                                                                      | External steel framework    | Grey mastic sealant              | 3               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| E-A03                                                                      | Glass windows/panels        | Black mastic sealant             | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| E-A04                                                                      | North aspect, wall cladding | Compressed fibre cement sheeting | 4               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| E-A05                                                                      | East aspect, wall cladding  | Compressed fibre cement sheeting | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| E-A06                                                                      | South aspect, wall cladding | Compressed fibre cement sheeting | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| E-A07                                                                      | Glass panel awnings         | Black mastic sealant             | 5               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| E-A08                                                                      | Metal cladding              | Mastic sealant                   | 6               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| E-A09                                                                      | Soffit linings              | Fibre cement sheeting            | 7               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| E-A10                                                                      | West aspect, wall cladding  | Compressed fibre cement sheeting | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| E-A11                                                                      | Soffit linings              | Fibre cement sheeting            | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |

**Hazardous Materials Register (Rev 0)**  
**Harbourside Shopping Centre Redevelopment**  
**2-10 Darling Drive, Sydney NSW**  
**Harbourside Shopping Centre**  
Date of Production – 18<sup>th</sup> July 2022



| JBS&G<br>SAMPLE NO.                                            | LOCATION                                                       | MATERIAL DESCRIPTION                | PHOTO<br>NUMBER | ACCESSIBLE<br>AREA? | FRIABILITY | ANALYTICAL RESULT    | MATERIAL<br>CONDITION | APPROX.<br>QUANTITY | ACTION REQUIRED                                | DATE OF LAST<br>INSPECTION (INCL.<br>COMPANY NAME<br>AND INITIALS) | DATE OF CONTROL<br>ACTION &/OR<br>REMOVAL |
|----------------------------------------------------------------|----------------------------------------------------------------|-------------------------------------|-----------------|---------------------|------------|----------------------|-----------------------|---------------------|------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------|
| <b>External</b>                                                |                                                                |                                     |                 |                     |            |                      |                       |                     |                                                |                                                                    |                                           |
| E-A12                                                          | Concrete walls,<br>expansion joints                            | Bituminous material                 | 8               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required                     | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| E-A13                                                          | Loading dock, floor<br>expansion joints                        | Bituminous material                 | 9               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required                     | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| E-A14                                                          | Ausgrid Substation and<br>chiller plant room, wall<br>cladding | Compressed fibre cement<br>sheeting | 10              | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required                     | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| As per<br>L3-A07                                               | Roof, guttering                                                | Waterproofing membrane              | -               | Yes                 | -          | Assumed Non-Asbestos | -                     | -                   | No further action required                     | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Lead Based Paints</b>                                       |                                                                |                                     |                 |                     |            |                      |                       |                     |                                                |                                                                    |                                           |
| No Lead Based Paints were identified at the time of inspection |                                                                |                                     |                 |                     |            |                      |                       |                     | -                                              | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Non-Lead Based Paints</b>                                   |                                                                |                                     |                 |                     |            |                      |                       |                     |                                                |                                                                    |                                           |
| E-L01                                                          | Corrugated metal roof                                          | Green paint                         | 11              | Yes                 | -          | <0.01% w/w           | -                     | -                   | No further action required                     | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| E-L02                                                          | External steel framework                                       | Grey paint                          | 12              | Yes                 | -          | <0.01% w/w           | -                     | -                   | No further action required                     | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| E-L03                                                          | External steel framework                                       | Grey paint                          | -               | Yes                 | -          | <0.01% w/w           | -                     | -                   | No further action required                     | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| E-L04                                                          | External bollards                                              | Yellow paint                        | -               | Yes                 | -          | 0.06% w/w            | -                     | -                   | No further action required                     | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Polychlorinated Biphenyls (PCBs)</b>                        |                                                                |                                     |                 |                     |            |                      |                       |                     |                                                |                                                                    |                                           |
| No PCB materials were identified at the time of inspection     |                                                                |                                     |                 |                     |            |                      |                       |                     | -                                              | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Synthetic Mineral Fibres (SMF)</b>                          |                                                                |                                     |                 |                     |            |                      |                       |                     |                                                |                                                                    |                                           |
| -                                                              | Loading dock and<br>storage area, hot water<br>systems         | Internal insulation                 | 13              | Yes                 | Bonded     | Assumed SMF          | Good                  | 3 units             | Remove in accordance with<br>NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |



**Hazardous Materials Register (Rev 0)**  
**Harbourside Shopping Centre Redevelopment**  
**2-10 Darling Drive, Sydney NSW**  
**Harbourside Shopping Centre**  
Date of Production – 18<sup>th</sup> July 2022



| JBS&G<br>SAMPLE NO.                        | LOCATION                                                                        | MATERIAL DESCRIPTION  | PHOTO<br>NUMBER | ACCESSIBLE<br>AREA? | FRIABILITY  | ANALYTICAL RESULT          | MATERIAL<br>CONDITION | APPROX.<br>QUANTITY | ACTION REQUIRED                                                                                                                                                                                                                                             | DATE OF LAST<br>INSPECTION (INCL.<br>COMPANY NAME<br>AND INITIALS) | DATE OF CONTROL<br>ACTION &/OR<br>REMOVAL |
|--------------------------------------------|---------------------------------------------------------------------------------|-----------------------|-----------------|---------------------|-------------|----------------------------|-----------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------|
| <b>Level 1</b>                             |                                                                                 |                       |                 |                     |             |                            |                       |                     |                                                                                                                                                                                                                                                             |                                                                    |                                           |
| <b>Asbestos Containing Materials (ACM)</b> |                                                                                 |                       |                 |                     |             |                            |                       |                     |                                                                                                                                                                                                                                                             |                                                                    |                                           |
| L1-A12                                     | Chiller plant room,<br>Chiller #1                                               | Gaskets               | 14              | Yes                 | Non-Friable | <b>Chrysotile Asbestos</b> | Good                  | 1 m <sup>2</sup>    | All gaskets to Chiller #1 and Chiller #2<br>must be assumed to contain<br>asbestos.<br>Remove prior to demolition. Works<br>to be completed under controlled<br>conditions by Class A or B licensed<br>removal contractor in accordance<br>with SWNSW 2019a | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L1-A11                                     | Chiller plant room,<br>Chiller #1t                                              | Gaskets               | -               | Yes                 | -           | No Asbestos Detected       |                       |                     |                                                                                                                                                                                                                                                             | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L1-A13                                     | Chiller plant room,<br>Chiller #2                                               | Gaskets               | 15              | Yes                 | -           | No Asbestos Detected       |                       |                     |                                                                                                                                                                                                                                                             | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| As per<br>L1-A12                           | Chiller plant room,<br>Chiller #2, Chiller #3,<br>Chiller #4 & Chiller #5       | Gaskets               | 16              | Yes                 | Non-Friable | <b>Assumed Asbestos</b>    | Good                  | 1 m <sup>2</sup>    | Remove prior to demolition. Works<br>to be completed under controlled<br>conditions by Class A or B licensed<br>removal contractor in accordance<br>with SWNSW 2019a                                                                                        | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>No Asbestos Detected (NAD)</b>          |                                                                                 |                       |                 |                     |             |                            |                       |                     |                                                                                                                                                                                                                                                             |                                                                    |                                           |
| L1-A01                                     | Shop 281 (formerly Mad<br>Mex), ceiling cavity, steel<br>beams                  | Vermiculite           | -               | Yes                 | -           | No Asbestos Detected       | -                     | -                   | No further action required                                                                                                                                                                                                                                  | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L1-A02                                     | Shop 197 (Cyren), steel<br>beams, ceilings,<br>pipework and upper<br>walls      | Vermiculite           | 17              | Yes                 | -           | No Asbestos Detected       | -                     | -                   | No further action required                                                                                                                                                                                                                                  | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L1-A03                                     | Bathrooms (south end),<br>walls behind ceramic<br>tiles                         | Fibre cement sheeting | -               | Yes                 | -           | No Asbestos Detected       | -                     | -                   | No further action required                                                                                                                                                                                                                                  | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L1-A04                                     | Shop 198 (The<br>Watershed), kitchen and<br>back of house, wall<br>linings      | Fibre cement sheeting | 18              | Yes                 | -           | No Asbestos Detected       | -                     | -                   | No further action required                                                                                                                                                                                                                                  | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L1-A05                                     | Shop 225 (formerly The<br>Port), store rooms and<br>toilets, wall linings       | Fibre cement sheeting | -               | Yes                 | -           | No Asbestos Detected       | -                     | -                   | No further action required                                                                                                                                                                                                                                  | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L1-A06                                     | Shop 225 (formerly The<br>Port), ceiling cavity, steel<br>beams                 | Vermiculite           | -               | Yes                 | -           | No Asbestos Detected       | -                     | -                   | No further action required                                                                                                                                                                                                                                  | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L1-A07                                     | Shop 293 (formerly<br>Toro), kitchen area and<br>back of house, wall<br>linings | Fibre cement sheeting | 19              | Yes                 | -           | No Asbestos Detected       | -                     | -                   | No further action required                                                                                                                                                                                                                                  | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |

**Hazardous Materials Register (Rev 0)**  
**Harbourside Shopping Centre Redevelopment**  
**2-10 Darling Drive, Sydney NSW**  
**Harbourside Shopping Centre**  
*Date of Production – 18<sup>th</sup> July 2022*



| JBS&G<br>SAMPLE NO.                       | LOCATION                                                        | MATERIAL DESCRIPTION  | PHOTO<br>NUMBER | ACCESSIBLE<br>AREA? | FRIABILITY | ANALYTICAL RESULT    | MATERIAL<br>CONDITION | APPROX.<br>QUANTITY | ACTION REQUIRED            | DATE OF LAST<br>INSPECTION (INCL.<br>COMPANY NAME<br>AND INITIALS) | DATE OF CONTROL<br>ACTION &/OR<br>REMOVAL |
|-------------------------------------------|-----------------------------------------------------------------|-----------------------|-----------------|---------------------|------------|----------------------|-----------------------|---------------------|----------------------------|--------------------------------------------------------------------|-------------------------------------------|
| <b>Level 1</b>                            |                                                                 |                       |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| L1-A08                                    | Sprinkler valve/pump room, sprinkler pump                       | Gasket                | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L1-A09                                    | Main switchroom, metal perforated ceiling panels, internal core | Fibre cement sheeting | 20              | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L1-A10                                    | Main switchroom, metal ceiling panels                           | Mastic sealant        | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L1-A14                                    | Chiller plant room, floor, expansion joints                     | Bituminous material   | 21              | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L1-AD01                                   | Food court toilet corridor, electrical cupboard                 | Settled dust          | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L1-AD02                                   | Shop 225 (formerly The Port), ceiling cavity                    | Settled dust          | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L1-AD03                                   | Main switchroom, floor                                          | Settled dust          | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L1-AD04                                   | Chiller plant room, floor                                       | Settled dust          | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| As per<br>L1-A01,<br>L1-A02 and<br>L1-A06 | Steel beams throughout                                          | Vermiculite           | -               | Yes                 | -          | Assumed Non-Asbestos | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| 60827-001-008<br>(Prensa 2019)            | Maintenance room, under sink                                    | Bituminous pad        | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Lead Containing Dust</b>               |                                                                 |                       |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| L1-LD01                                   | Food court toilet corridor, electrical cupboard                 | Settled dust          | -               | Yes                 | -          | 36 mg/kg             | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L1-LD02                                   | Shop 225 (formerly The Port), ceiling cavity                    | Settled dust          | -               | Yes                 | -          | 9.3 mg/kg            | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L1-LD03                                   | Main switchroom, floor                                          | Settled dust          | -               | Yes                 | -          | 170 mg/kg            | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |

**Hazardous Materials Register (Rev 0)**  
**Harbourside Shopping Centre Redevelopment**  
**2-10 Darling Drive, Sydney NSW**  
**Harbourside Shopping Centre**  
*Date of Production – 18<sup>th</sup> July 2022*



| JBS&G<br>SAMPLE NO.                                            | LOCATION                                                   | MATERIAL DESCRIPTION | PHOTO<br>NUMBER | ACCESSIBLE<br>AREA? | FRIABILITY | ANALYTICAL RESULT  | MATERIAL<br>CONDITION | APPROX.<br>QUANTITY  | ACTION REQUIRED                             | DATE OF LAST<br>INSPECTION (INCL.<br>COMPANY NAME<br>AND INITIALS) | DATE OF CONTROL<br>ACTION &/OR<br>REMOVAL |
|----------------------------------------------------------------|------------------------------------------------------------|----------------------|-----------------|---------------------|------------|--------------------|-----------------------|----------------------|---------------------------------------------|--------------------------------------------------------------------|-------------------------------------------|
| <b>Level 1</b>                                                 |                                                            |                      |                 |                     |            |                    |                       |                      |                                             |                                                                    |                                           |
| L1-LD04                                                        | Chiller plant room, floor                                  | Settled dust         | -               | Yes                 | -          | 63 mg/kg           | -                     | -                    | No further action required                  | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Lead Based Paints</b>                                       |                                                            |                      |                 |                     |            |                    |                       |                      |                                             |                                                                    |                                           |
| No Lead Based Paints were identified at the time of inspection |                                                            |                      |                 |                     |            |                    |                       |                      | -                                           | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Non-Lead Based Paints</b>                                   |                                                            |                      |                 |                     |            |                    |                       |                      |                                             |                                                                    |                                           |
| L1-L01                                                         | Shop 224/230 (Pancake on the Rocks, basement walls)        | Orange paint         | -               | Yes                 | -          | <0.01% w/w         | -                     | -                    | No further action required                  | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L1-L03                                                         | Sprinkler valve/pump room, pipework                        | Red paint            | 22              | Yes                 | -          | 0.09% w/w          | -                     | -                    | No further action required                  | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L1-L04                                                         | Chiller plant room, Chiller #1, Chiller #2 and Chiller #5  | Cream paint          | 23              | Yes                 | -          | 0.03% w/w          | -                     | -                    | No further action required                  | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L1-L05                                                         | Chiller plant room, pumps                                  | Blue paint           | 24              | Yes                 | -          | <0.01% w/w         | -                     | -                    | No further action required                  | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| As per L2-L01                                                  | Common areas, doors and door frames                        | Grey paint           | -               | Yes                 | -          | <0.01% w/w         | -                     | -                    | No further action required                  | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Polychlorinated Biphenyls (PCBs)</b>                        |                                                            |                      |                 |                     |            |                    |                       |                      |                                             |                                                                    |                                           |
| No PCB materials were identified at the time of inspection     |                                                            |                      |                 |                     |            |                    |                       |                      | -                                           | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Synthetic Mineral Fibres (SMF)</b>                          |                                                            |                      |                 |                     |            |                    |                       |                      |                                             |                                                                    |                                           |
| -                                                              | Throughout, ceiling cavities and plant rooms, HVAC ducting | Insulation           | 25              | Yes                 | Bonded     | <b>Assumed SMF</b> | Good                  | > 500 m <sup>2</sup> | Remove in accordance with NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| -                                                              | Throughout, ceiling cavities and plant rooms, pipework     | Insulation           | -               | Yes                 | Bonded     | <b>Assumed SMF</b> | Good                  | > 250 lin.m.         | Remove in accordance with NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |

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**Harbourside Shopping Centre Redevelopment**  
**2-10 Darling Drive, Sydney NSW**  
**Harbourside Shopping Centre**  
*Date of Production – 18<sup>th</sup> July 2022*



| JBS&G<br>SAMPLE NO.                                                                                                                                                                                                                                                                                                             | LOCATION                                                                | MATERIAL DESCRIPTION | PHOTO<br>NUMBER | ACCESSIBLE<br>AREA? | FRIABILITY | ANALYTICAL RESULT  | MATERIAL<br>CONDITION | APPROX.<br>QUANTITY  | ACTION REQUIRED                                | DATE OF LAST<br>INSPECTION (INCL.<br>COMPANY NAME<br>AND INITIALS) | DATE OF CONTROL<br>ACTION &/OR<br>REMOVAL |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|----------------------|-----------------|---------------------|------------|--------------------|-----------------------|----------------------|------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------|
| <b>Level 1</b>                                                                                                                                                                                                                                                                                                                  |                                                                         |                      |                 |                     |            |                    |                       |                      |                                                |                                                                    |                                           |
| -                                                                                                                                                                                                                                                                                                                               | Throughout, ceiling<br>cavities and plant rooms,<br>roof sarking        | Insulation           | 26              | Yes                 | Bonded     | <b>Assumed SMF</b> | Good                  | 500 m <sup>2</sup>   | Remove in accordance with<br>NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| -                                                                                                                                                                                                                                                                                                                               | Throughout, internal<br>walls                                           | Insulation           | -               | Yes                 | Bonded     | <b>Assumed SMF</b> | Good                  | > 500 m <sup>2</sup> | Remove in accordance with<br>NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
|                                                                                                                                                                                                                                                                                                                                 | Chiller plant room,<br>Chiller #3, Chiller #4 and<br>Chiller #5         | Insulation           | 27              | Yes                 | Bonded     | <b>Assumed SMF</b> | Good                  | 50 m <sup>2</sup>    | Remove in accordance with<br>NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
|                                                                                                                                                                                                                                                                                                                                 | Throughout, floor, wall<br>and ceiling penetrations,<br>packing pillows | Insulation           | -               | Yes                 | Bonded     | <b>Assumed SMF</b> | Good                  | 10 m <sup>2</sup>    | Remove in accordance with<br>NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
|                                                                                                                                                                                                                                                                                                                                 | Throughout, floor, wall<br>and ceiling penetrations                     | Insulation slabs     | -               | Yes                 | Bonded     | <b>Assumed SMF</b> | Good                  | 100 m <sup>2</sup>   | Remove in accordance with<br>NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
|                                                                                                                                                                                                                                                                                                                                 | Throughout tenancies,<br>hot water systems                              | Internal insulation  | 28              | Yes                 | Bonded     | <b>Assumed SMF</b> | Good                  | 10-15 units          | Remove in accordance with<br>NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
|                                                                                                                                                                                                                                                                                                                                 | Throughout Mirvac<br>Offices                                            | Ceiling tiles        | 29              | Yes                 | Bonded     | <b>Assumed SMF</b> | Good                  | 200 m <sup>2</sup>   | Remove in accordance with<br>NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Inaccessible Areas</b>                                                                                                                                                                                                                                                                                                       |                                                                         |                      |                 |                     |            |                    |                       |                      |                                                |                                                                    |                                           |
| There was no internal access to the Ausgrid Substation 3092, which was constructed at the same time as the shopping centre (1988). There is the potential for hazardous materials to be present within the substation and a detailed inspection should be undertaken once either decommissioned or safe access can be provided. |                                                                         |                      |                 |                     |            |                    |                       |                      |                                                |                                                                    |                                           |

**Hazardous Materials Register (Rev 0)**  
**Harbourside Shopping Centre Redevelopment**  
**2-10 Darling Drive, Sydney NSW**  
**Harbourside Shopping Centre**  
*Date of Production – 18<sup>th</sup> July 2022*



| JBS&G<br>SAMPLE NO.                                                        | LOCATION                                                                                                             | MATERIAL DESCRIPTION  | PHOTO<br>NUMBER | ACCESSIBLE<br>AREA? | FRIABILITY | ANALYTICAL RESULT    | MATERIAL<br>CONDITION | APPROX.<br>QUANTITY | ACTION REQUIRED            | DATE OF LAST<br>INSPECTION (INCL.<br>COMPANY NAME<br>AND INITIALS) | DATE OF CONTROL<br>ACTION &/OR<br>REMOVAL |
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| <b>Level 2</b>                                                             |                                                                                                                      |                       |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| <b>Asbestos Containing Materials (ACM)</b>                                 |                                                                                                                      |                       |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| No Asbestos Containing Materials were identified at the time of inspection |                                                                                                                      |                       |                 |                     |            |                      |                       |                     |                            | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>No Asbestos Detected (NAD)</b>                                          |                                                                                                                      |                       |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| L2-A01                                                                     | Shop 419 (formerly<br>Glue), rear store rooms,<br>floor                                                              | Cream vinyl           | 30              | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L2-A02                                                                     | Shop 321/357 (formerly<br>Hard Rock Café), kitchen,<br>floor                                                         | Black membrane        | 31              | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L2-A03                                                                     | Shop 316 (formerly<br>Racecentre), ceiling<br>cavity, steel beams                                                    | Vermiculite           | 32              | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L2-A04                                                                     | Plant and electrical<br>room, wall and ceiling<br>penetrations                                                       | Millboard             | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L2-A05                                                                     | Plant and electrical<br>room, behind corrugated<br>metal sheeting in vent<br>area                                    | Insulation            | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L2-A06                                                                     | Shop 402 (formerly<br>World Newsagency),<br>mezzanine, floor                                                         | Fibre cement sheeting | 33              | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L2-A07                                                                     | Shop 409 (Stateside<br>Sports), steel beams                                                                          | Vermiculite           | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L2-A08                                                                     | Shop 409 (Stateside<br>Sports), NW corner,<br>between steel<br>framework and arched<br>window frame, infill<br>panel | Fibre cement sheeting | 34              | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L2-A09                                                                     | Shop FF04A (formerly<br>Boost), wall linings                                                                         | Fibre cement sheeting | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L2-A10                                                                     | Shop 411 (formerly The<br>British Lolly Shop), floor                                                                 | Brown vinyl           | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |



**Hazardous Materials Register (Rev 0)**  
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**2-10 Darling Drive, Sydney NSW**  
**Harbourside Shopping Centre**  
*Date of Production – 18<sup>th</sup> July 2022*



| JBS&G<br>SAMPLE NO.                                            | LOCATION                                             | MATERIAL DESCRIPTION     | PHOTO<br>NUMBER | ACCESSIBLE<br>AREA? | FRIABILITY | ANALYTICAL RESULT    | MATERIAL<br>CONDITION | APPROX.<br>QUANTITY | ACTION REQUIRED            | DATE OF LAST<br>INSPECTION (INCL.<br>COMPANY NAME<br>AND INITIALS) | DATE OF CONTROL<br>ACTION &/OR<br>REMOVAL |
|----------------------------------------------------------------|------------------------------------------------------|--------------------------|-----------------|---------------------|------------|----------------------|-----------------------|---------------------|----------------------------|--------------------------------------------------------------------|-------------------------------------------|
| <b>Level 2</b>                                                 |                                                      |                          |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| L2-AD01                                                        | Plant and electrical plant room, floor               | Settled dust             | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| As per<br>L2-A02 and<br>L2-A07                                 | Steel beams throughout                               | Vermiculite              | -               | Yes                 | -          | Assumed Non-Asbestos | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| 60827-001-002<br>(Prensa 2019)                                 | Shop 319 (Chef's Academy), back of house             | Electrical backing board | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| 60827-001-004<br>(Prensa 2019)                                 | Shop 319 (Chef's Academy), west corner, infill panel | Fibre cement sheeting    | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| 60827-001-005<br>(Prensa 2019)                                 | 'Alpaca' tenancy, between cupboard                   | Electrical backing board | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Lead Containing Dust</b>                                    |                                                      |                          |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| L2-LD01                                                        | Plant and electrical plant room, floor               | Settled dust             | -               | Yes                 | -          | 110 mg/kg            | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Lead Based Paints</b>                                       |                                                      |                          |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| No Lead Based Paints were identified at the time of inspection |                                                      |                          |                 |                     |            |                      |                       |                     | -                          | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Non-Lead Based Paints</b>                                   |                                                      |                          |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| L2-L01                                                         | Common areas, doors and door frames                  | Grey paint               | 35              | Yes                 | -          | <0.01% w/w           | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| 60827-001-LCP001<br>(Prensa 2019)                              | 'Alpaca' tenancy, ceiling                            | White paint              | -               | Yes                 | -          | 0.01% w/w            | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Polychlorinated Biphenyls (PCBs)</b>                        |                                                      |                          |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| No PCB materials were identified at the time of inspection     |                                                      |                          |                 |                     |            |                      |                       |                     | -                          | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |

**Hazardous Materials Register (Rev 0)**  
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**2-10 Darling Drive, Sydney NSW**  
**Harbourside Shopping Centre**  
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| JBS&G<br>SAMPLE NO.                                                                                                                                                                                                                                                                                                             | LOCATION                                                                | MATERIAL DESCRIPTION | PHOTO<br>NUMBER | ACCESSIBLE<br>AREA? | FRIABILITY | ANALYTICAL RESULT  | MATERIAL<br>CONDITION | APPROX.<br>QUANTITY  | ACTION REQUIRED                                | DATE OF LAST<br>INSPECTION (INCL.<br>COMPANY NAME<br>AND INITIALS) | DATE OF CONTROL<br>ACTION &/OR<br>REMOVAL |
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| <b>Level 2</b>                                                                                                                                                                                                                                                                                                                  |                                                                         |                      |                 |                     |            |                    |                       |                      |                                                |                                                                    |                                           |
| <b>Synthetic Mineral Fibres (SMF)</b>                                                                                                                                                                                                                                                                                           |                                                                         |                      |                 |                     |            |                    |                       |                      |                                                |                                                                    |                                           |
| -                                                                                                                                                                                                                                                                                                                               | Throughout, ceiling<br>cavities and plant rooms,<br>HVAC ducting        | Insulation           | -               | Yes                 | Bonded     | <b>Assumed SMF</b> | Good                  | > 500 m <sup>2</sup> | Remove in accordance with<br>NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| -                                                                                                                                                                                                                                                                                                                               | Throughout, ceiling<br>cavities and plant rooms,<br>pipework            | Insulation           | -               | Yes                 | Bonded     | <b>Assumed SMF</b> | Good                  | > 250 lin.m.         | Remove in accordance with<br>NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| -                                                                                                                                                                                                                                                                                                                               | Throughout, ceiling<br>cavities and plant rooms,<br>roof sarking        | Insulation           | 36              | Yes                 | Bonded     | <b>Assumed SMF</b> | Good                  | 1000 m <sup>2</sup>  | Remove in accordance with<br>NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| -                                                                                                                                                                                                                                                                                                                               | Throughout, internal<br>walls                                           | Insulation           | -               | Yes                 | Bonded     | <b>Assumed SMF</b> | Good                  | > 500 m <sup>2</sup> | Remove in accordance with<br>NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
|                                                                                                                                                                                                                                                                                                                                 | Plant room, HVAC<br>ducting                                             | Insulation           | 37              | Yes                 | Bonded     | <b>Assumed SMF</b> | Good                  | 100 m <sup>2</sup>   | Remove in accordance with<br>NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
|                                                                                                                                                                                                                                                                                                                                 | Throughout, floor, wall<br>and ceiling penetrations,<br>packing pillows | Insulation           | -               | Yes                 | Bonded     | <b>Assumed SMF</b> | Good                  | 10 m <sup>2</sup>    | Remove in accordance with<br>NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
|                                                                                                                                                                                                                                                                                                                                 | Throughout, floor, wall<br>and ceiling penetrations                     | Insulation slabs     | 38              | Yes                 | Bonded     | <b>Assumed SMF</b> | Good                  | 100 m <sup>2</sup>   | Remove in accordance with<br>NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
|                                                                                                                                                                                                                                                                                                                                 | Throughout tenancies,<br>hot water systems                              | Internal insulation  | -               | Yes                 | Bonded     | <b>Assumed SMF</b> | Good                  | 10-15 units          | Remove in accordance with<br>NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Inaccessible Areas</b>                                                                                                                                                                                                                                                                                                       |                                                                         |                      |                 |                     |            |                    |                       |                      |                                                |                                                                    |                                           |
| Shop FF01 (formerly Unity Asian Supermarket) on Level 2 was locked and unable to be opened by Security at the time of inspection. Based on the results of this HBMS no hazardous materials are assumed to be present other than SMF insulation materials consistent with those identified throughout the building.              |                                                                         |                      |                 |                     |            |                    |                       |                      |                                                |                                                                    |                                           |
| Shop 433 (Hurricane's Grill) and Shop 347 (Scotch & Co) on Level 2 were locked and closed at the time of inspection and unable to be accessed. Based on the results of this HBMS no hazardous materials are assumed to be present other than SMF insulation materials consistent with those identified throughout the building. |                                                                         |                      |                 |                     |            |                    |                       |                      |                                                |                                                                    |                                           |

**Hazardous Materials Register (Rev 0)**  
**Harbourside Shopping Centre Redevelopment**  
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**Harbourside Shopping Centre**  
*Date of Production – 18<sup>th</sup> July 2022*



| JBS&G<br>SAMPLE NO.                                                        | LOCATION                                                  | MATERIAL DESCRIPTION                       | PHOTO<br>NUMBER | ACCESSIBLE<br>AREA? | FRIABILITY | ANALYTICAL RESULT    | MATERIAL<br>CONDITION | APPROX.<br>QUANTITY | ACTION REQUIRED            | DATE OF LAST<br>INSPECTION (INCL.<br>COMPANY NAME<br>AND INITIALS) | DATE OF CONTROL<br>ACTION &/OR<br>REMOVAL |
|----------------------------------------------------------------------------|-----------------------------------------------------------|--------------------------------------------|-----------------|---------------------|------------|----------------------|-----------------------|---------------------|----------------------------|--------------------------------------------------------------------|-------------------------------------------|
| <b>Level 3</b>                                                             |                                                           |                                            |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| <b>Asbestos Containing Materials (ACM)</b>                                 |                                                           |                                            |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| No Asbestos Containing Materials were identified at the time of inspection |                                                           |                                            |                 |                     |            |                      |                       |                     |                            | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>No Asbestos Detected (NAD)</b>                                          |                                                           |                                            |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| L3-A01                                                                     | Plant room, floor<br>between AHU 3.1 and<br>AHU 3.2       | Cream fibrous membrane                     | 39              | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L3-A02                                                                     | Plant room, base of<br>south wall                         | White caulking                             | 40              | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L3-A03                                                                     | Plant room, south wall                                    | Millboard                                  | 41              | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L3-A04                                                                     | Plant room, floor<br>between AHU 3.3 and<br>AHU 3.4       | Black membrane                             | 42              | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L3-A05                                                                     | Cooling towers, perforated wall linings                   | Fibre cement sheeting                      | 43              | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L3-A06                                                                     | Cooling towers, edge of<br>waterproofing membrane         | White mastic sealant                       | 44              | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L3-A07                                                                     | Cooling towers, floor                                     | Surface layer of<br>waterproofing membrane | 45              | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L3-A08                                                                     | Cooling towers, floor                                     | Bottom layer of<br>waterproofing membrane  | 45              | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L3-A09                                                                     | "low headroom" roof<br>void, ventilation ducting          | Black mastic sealant                       | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L3-A10                                                                     | Cooling towers, wall<br>linings behind insulation         | Fibre cement sheeting                      | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L3-A11                                                                     | "low headroom" roof<br>void, steel beams below<br>walkway | Vermiculite                                | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |

**Hazardous Materials Register (Rev 0)**  
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**2-10 Darling Drive, Sydney NSW**  
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| JBS&G<br>SAMPLE NO.                                            | LOCATION                               | MATERIAL DESCRIPTION             | PHOTO<br>NUMBER | ACCESSIBLE<br>AREA? | FRIABILITY | ANALYTICAL RESULT    | MATERIAL<br>CONDITION | APPROX.<br>QUANTITY | ACTION REQUIRED            | DATE OF LAST<br>INSPECTION (INCL.<br>COMPANY NAME<br>AND INITIALS) | DATE OF CONTROL<br>ACTION &/OR<br>REMOVAL |
|----------------------------------------------------------------|----------------------------------------|----------------------------------|-----------------|---------------------|------------|----------------------|-----------------------|---------------------|----------------------------|--------------------------------------------------------------------|-------------------------------------------|
| <b>Level 3</b>                                                 |                                        |                                  |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| L4-A01                                                         | Mezzanine, north and south wall panels | Compressed fibre cement sheeting | 46              | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L4-A02                                                         | Steel framework                        | Black mastic sealant             | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L3-AD01                                                        | Plant room, floor                      | Settled dust                     | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L3-AD02                                                        | Tenancies, ceiling cavity              | Settled dust                     | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| As per<br>L3-A11                                               | Steel beams throughout                 | Vermiculite                      | -               | Yes                 | -          | Assumed Non-Asbestos | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| 60827-001-006<br>(Prensa 2019)                                 | Colling towers, NW corner, pipe flange | Gasket                           | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| 60827-001-007<br>(Prensa 2019)                                 | Plant room, floor                      | Compressed fibre cement sheeting | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Lead Containing Dust</b>                                    |                                        |                                  |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| L3-LD01                                                        | Plant room, floor                      | Settled dust                     | -               | Yes                 | -          | 120 mg/kg            | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L3-LD02                                                        | Tenancies, ceiling cavity              | Settled dust                     | -               | Yes                 | -          | 86 kg/kg             | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Lead Based Paints</b>                                       |                                        |                                  |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| No Lead Based Paints were identified at the time of inspection |                                        |                                  |                 |                     |            |                      |                       |                     | -                          | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Non-Lead Based Paints</b>                                   |                                        |                                  |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| L3-L01                                                         | Plant room, walls                      | Cream paint                      | 47              | Yes                 | -          | <0.01% w/w           | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L3-L02                                                         | Plant room, HVAC ducting               | Aqua paint                       | 48              | Yes                 | -          | 0.02% w/w            | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |

**Hazardous Materials Register (Rev 0)**  
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**Harbourside Shopping Centre**  
Date of Production – 18<sup>th</sup> July 2022



| JBS&G<br>SAMPLE NO.                                        | LOCATION                                                           | MATERIAL DESCRIPTION  | PHOTO<br>NUMBER | ACCESSIBLE<br>AREA? | FRIABILITY | ANALYTICAL RESULT | MATERIAL<br>CONDITION | APPROX.<br>QUANTITY  | ACTION REQUIRED                             | DATE OF LAST<br>INSPECTION (INCL.<br>COMPANY NAME<br>AND INITIALS) | DATE OF CONTROL<br>ACTION &/OR<br>REMOVAL |
|------------------------------------------------------------|--------------------------------------------------------------------|-----------------------|-----------------|---------------------|------------|-------------------|-----------------------|----------------------|---------------------------------------------|--------------------------------------------------------------------|-------------------------------------------|
| <b>Level 3</b>                                             |                                                                    |                       |                 |                     |            |                   |                       |                      |                                             |                                                                    |                                           |
| L3-L04                                                     | Plant areas, doors and door frames                                 | Blue paint            | -               | Yes                 | -          | <0.01% w/w        | -                     | -                    | No further action required                  | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| L4-L01                                                     | Steel framework                                                    | Silver metallic paint | -               | Yes                 | -          | 0.01% w/w         | -                     | -                    | No further action required                  | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Polychlorinated Biphenyls (PCBs)</b>                    |                                                                    |                       |                 |                     |            |                   |                       |                      |                                             |                                                                    |                                           |
| No PCB materials were identified at the time of inspection |                                                                    |                       |                 |                     |            |                   |                       |                      | -                                           | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Synthetic Mineral Fibres (SMF)</b>                      |                                                                    |                       |                 |                     |            |                   |                       |                      |                                             |                                                                    |                                           |
| -                                                          | Throughout, roof void/ceiling cavities and fan rooms, HVAC ducting | Insulation            | -               | Yes                 | Bonded     | Assumed SMF       | Good                  | > 500 m <sup>2</sup> | Remove in accordance with NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| -                                                          | Throughout, roof void/ceiling cavities and fan rooms, roof sarking | Insulation            | -               | Yes                 | Bonded     | Assumed SMF       | Good                  | 8000 m <sup>2</sup>  | Remove in accordance with NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| -                                                          | Throughout, roof void/ceiling cavities and fan rooms, pipework     | Insulation            | -               | Yes                 | Bonded     | Assumed SMF       | Good                  | > 250 lin.m.         | Remove in accordance with NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| -                                                          | Throughout, internal walls                                         | Insulation            | -               | Yes                 | Bonded     | Assumed SMF       | Good                  | > 500 m <sup>2</sup> | Remove in accordance with NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| -                                                          | Cooling towers, walls                                              | Insulation            | 49              | Yes                 | Bonded     | Assumed SMF       | Good                  | 100 m <sup>2</sup>   | Remove in accordance with NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
|                                                            | Plant room, HVAC ducting                                           | Insulation            | 50              | Yes                 | Bonded     | Assumed SMF       | Good                  | 100 m <sup>2</sup>   | Remove in accordance with NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
|                                                            | Throughout, floor and wall penetrations, packing pillows           | Insulation            | 51              | Yes                 | Bonded     | Assumed SMF       | Good                  | 10 m <sup>2</sup>    | Remove in accordance with NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
|                                                            | Throughout, floor and wall penetrations                            | Insulation slabs      | -               | Yes                 | Bonded     | Assumed SMF       | Good                  | 100 m <sup>2</sup>   | Remove in accordance with NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
|                                                            | Shop 501 & 502 (Kingpin), bowling machine rooms                    | Ceiling tiles         | 52              | Yes                 | Bonded     | Assumed SMF       | Good                  | 150 m <sup>2</sup>   | Remove in accordance with NOHSC:2006 (1990) | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |



**Hazardous Materials Register (Rev 0)**  
**Harbourside Shopping Centre Redevelopment**  
**2-10 Darling Drive, Sydney NSW**  
**Pedestrian Link Bridge**  
*Date of Production – 18<sup>th</sup> July 2022*



| JBS&G<br>SAMPLE NO.                                                        | LOCATION                                       | MATERIAL DESCRIPTION             | PHOTO<br>NUMBER | ACCESSIBLE<br>AREA? | FRIABILITY | ANALYTICAL RESULT    | MATERIAL<br>CONDITION | APPROX.<br>QUANTITY | ACTION REQUIRED            | DATE OF LAST<br>INSPECTION (INCL.<br>COMPANY NAME<br>AND INITIALS) | DATE OF CONTROL<br>ACTION &/OR<br>REMOVAL |
|----------------------------------------------------------------------------|------------------------------------------------|----------------------------------|-----------------|---------------------|------------|----------------------|-----------------------|---------------------|----------------------------|--------------------------------------------------------------------|-------------------------------------------|
| <b>Asbestos Containing Materials (ACM)</b>                                 |                                                |                                  |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| No Asbestos Containing Materials were identified at the time of inspection |                                                |                                  |                 |                     |            |                      |                       |                     |                            | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>No Asbestos Detected (NAD)</b>                                          |                                                |                                  |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| E-A15                                                                      | Roof structures, east and west fascia cladding | Compressed fibre cement sheeting | 54              | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Lead Based Paints</b>                                                   |                                                |                                  |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| No Lead Based Paints were identified at the time of inspection             |                                                |                                  |                 |                     |            |                      |                       |                     | -                          | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Non-Lead Based Paints</b>                                               |                                                |                                  |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| E-L06                                                                      | Handrails and balustrades                      | Green paint                      | 55              | Yes                 | -          | 0.02% w/w            | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| E-L07                                                                      | Steel framework                                | White paint                      | 56              | Yes                 | -          | <0.01% w/w           | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Polychlorinated Biphenyls (PCBs)</b>                                    |                                                |                                  |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| No PCB materials were identified at the time of inspection                 |                                                |                                  |                 |                     |            |                      |                       |                     | -                          | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Synthetic Mineral Fibres (SMF)</b>                                      |                                                |                                  |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| No SMF materials were identified at the time of inspection                 |                                                |                                  |                 |                     |            |                      |                       |                     | -                          | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |

**Hazardous Materials Register (Rev 0)**  
**Harbourside Shopping Centre Redevelopment**  
**2-10 Darling Drive, Sydney NSW**  
**Former Monorail Station**  
*Date of Production – 18<sup>th</sup> July 2022*



| JBS&G<br>SAMPLE NO.                                                        | LOCATION                                | MATERIAL DESCRIPTION           | PHOTO<br>NUMBER | ACCESSIBLE<br>AREA? | FRIABILITY | ANALYTICAL RESULT    | MATERIAL<br>CONDITION | APPROX.<br>QUANTITY | ACTION REQUIRED            | DATE OF LAST<br>INSPECTION (INCL.<br>COMPANY NAME<br>AND INITIALS) | DATE OF CONTROL<br>ACTION &/OR<br>REMOVAL |
|----------------------------------------------------------------------------|-----------------------------------------|--------------------------------|-----------------|---------------------|------------|----------------------|-----------------------|---------------------|----------------------------|--------------------------------------------------------------------|-------------------------------------------|
| <b>Asbestos Containing Materials (ACM)</b>                                 |                                         |                                |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| No Asbestos Containing Materials were identified at the time of inspection |                                         |                                |                 |                     |            |                      |                       |                     |                            | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>No Asbestos Detected (NAD)</b>                                          |                                         |                                |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| E-A16                                                                      | Station platform, floor                 | Compressed fibre cement debris | 58              | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| E-AD01                                                                     | Station platform, floor                 | Settled dust                   | -               | Yes                 | -          | No Asbestos Detected | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Lead Containing Dust</b>                                                |                                         |                                |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| E-LD01                                                                     | Station platform, floor                 | Settled dust                   | -               | Yes                 | -          | 180 mg/kg            | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Lead Based Paints</b>                                                   |                                         |                                |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| No Lead Based Paints were identified at the time of inspection             |                                         |                                |                 |                     |            |                      |                       |                     | -                          | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Non-Lead Based Paints</b>                                               |                                         |                                |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| E-L08                                                                      | Steel framework                         | Grey paint                     | 59              | Yes                 | -          | <0.01% w/w           | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| E-L09                                                                      | Ticket booth structure, steel framework | Black paint                    | 60              | Yes                 | -          | 0.10% w/w            | -                     | -                   | No further action required | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Polychlorinated Biphenyls (PCBs)</b>                                    |                                         |                                |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| No PCB materials were identified at the time of inspection                 |                                         |                                |                 |                     |            |                      |                       |                     | -                          | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |
| <b>Synthetic Mineral Fibres (SMF)</b>                                      |                                         |                                |                 |                     |            |                      |                       |                     |                            |                                                                    |                                           |
| No SMF materials were identified at the time of inspection                 |                                         |                                |                 |                     |            |                      |                       |                     | -                          | 30/6/2022<br>JBS&G<br>SL & JG                                      |                                           |

## Appendix B Photographs



Photo 1: Overview of Harbourside Shopping Centre

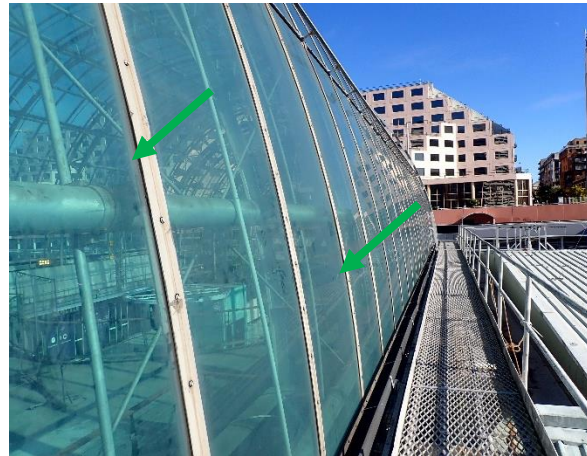


Photo 2: Harbourside – non-asbestos containing black mastic sealant to external glass windows/panels



Photo 3: Harbourside – non-asbestos containing grey mastic sealant to the external steel framework



Photo 4: Harbourside – non-asbestos containing compressed fibre cement sheeting to the external cladding



Photo 5: Harbourside – non-asbestos containing black mastic sealant to the glass panel awnings



Photo 6: Harbourside – non-asbestos containing mastic sealant to the external metal cladding

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## Appendix B: Photographs

Client: Mirvac Retail Sub SPV Pty Ltd

Project: Harbourside HBMS

Job No: 62851

File Name: R04 App B - Photo Log





Photo 7: Harbourside – non-asbestos containing fibre cement sheeting to the external soffit linings

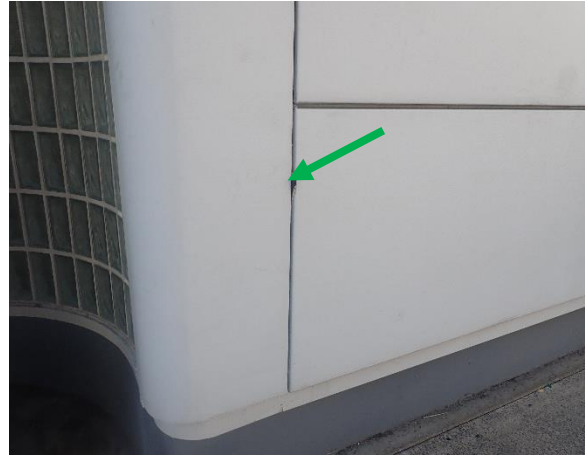


Photo 8: Harbourside – non-asbestos containing bituminous external wall expansion joints



Photo 9: Harbourside – non-asbestos containing bituminous floor external expansion joints



Photo 10: Harbourside – non-asbestos containing compressed fibre cement sheeting to the chiller plant room/Ausgrid Substation external cladding

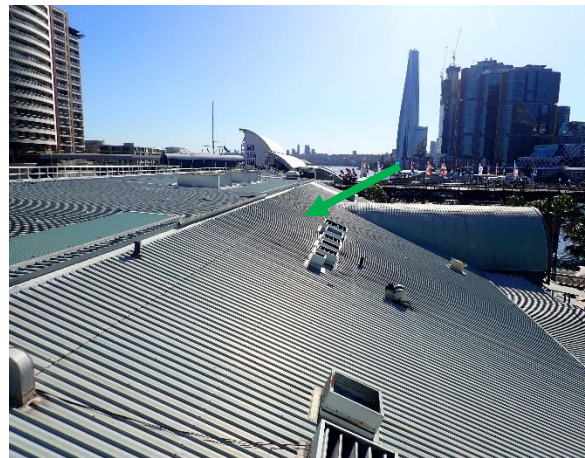


Photo 11: Harbourside – non-lead based green paint to the corrugated metal roof



Photo 12: Harbourside – non-lead based grey paint to the external steel framework

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## Appendix B: Photographs

Client: Mirvac Retail Sub SPV Pty Ltd

Project: Harbourside HBMS

Job No: 62851

File Name: R04 App B - Photo Log





Photo 13: Harbourside – assumed SMF internal insulation to hot water systems within the loading dock

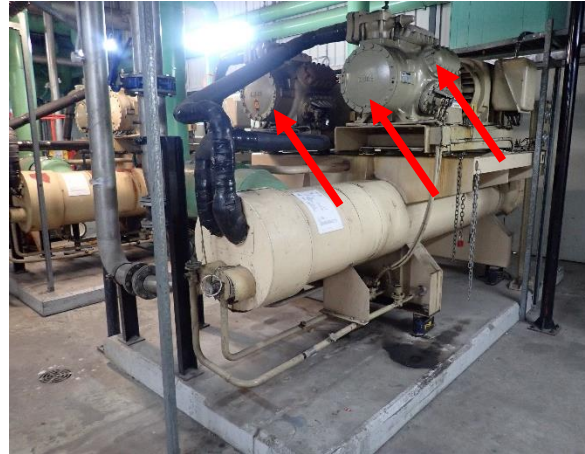


Photo 14: Harbourside – asbestos containing gaskets to Chiller #1 in the chiller plant room on Level 1

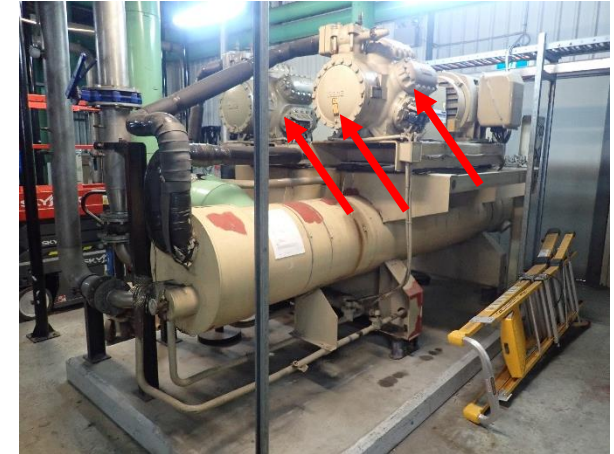


Photo 15: Harbourside – assumed asbestos containing gaskets to Chiller #2 in the chiller plant room on Level 1



Photo 16: Harbourside – assumed asbestos containing gaskets to Chiller #5 in the chiller plant room on Level 1



Photo 17: Harbourside – non-asbestos containing vermiculite to the steel beams & ceiling in Shop 198 (Cyren) on Level 1



Photo 18: Harbourside – non-asbestos containing fibre cement sheeting to the back of house/kitchen wall linings in Shop 198 (The Watershed) on Level 1

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## Appendix B: Photographs

Client: Mirvac Retail Sub SPV Pty Ltd

Project: Harbourside HBMS

Job No: 62851

File Name: R04 App B - Photo Log





Photo 19: Harbourside – non-asbestos containing fibre cement sheeting to the kitchen/back of house wall linings in Shop 293 (formerly Toro) on Level 1



Photo 20: Harbourside – non-asbestos containing fibre cement sheeting to the internal core of the ceiling panels in the main switchroom on Level 1



Photo 21: Harbourside – non-asbestos containing bituminous floor expansion joints within the chiller plant room on Level 1



Photo 22: Harbourside – non-lead based red paint to the pipework within the sprinkler valve/pump room on Level 1



Photo 23: Harbourside – non-lead based cream paint to Chillers #1, #2 & #5 in the chiller plant room on Level 1



Photo 24: Harbourside – non-lead based blue paint to the pumps in the chiller plant room on Level 1

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## Appendix B: Photographs

Client: Mirvac Retail Sub SPV Pty Ltd

Project: Harbourside HBMS

Job No: 62851

File Name: R04 App B - Photo Log





Photo 25: Harbourside – assumed SMF insulation to the HVAC ducting throughout the ceiling cavities/plant rooms on Level 1



Photo 26: Harbourside – assumed SMF insulation to the roof sarking within the ceiling cavities/plant rooms on Level 1



Photo 27: Harbourside – assumed SMF insulation to Chillers #3, #4 and #5 in the chiller plant room on Level 1



Photo 28: Harbourside – assumed SMF insulation to the hot water systems within the tenancies on Level 1



Photo 29: Harbourside – assumed SMF suspended ceiling tiles throughout the Mirvac Offices on Level 1



Photo 30: Harbourside – non-asbestos containing cream vinyl flooring to the rear store rooms of Shop 419 (formerly Glue) on Level 2

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## Appendix B: Photographs

Client: Mirvac Retail Sub SPV Pty Ltd

Project: Harbourside HBMS

Job No: 62851

File Name: R04 App B - Photo Log



Photo 31: Harbourside – non-asbestos containing black membrane to the kitchen floor of Shop 321/357 (formerly Hard Rock Café) on Level 2



Photo 32: Harbourside – non-asbestos containing vermiculite to the steel beams within the ceiling cavity of Shop 316 (formerly Racecentre) on Level 2



Photo 33: Harbourside – non-asbestos containing compressed fibre cement sheeting to the mezzanine floor of Shop 402 (formerly World Newsagency) on Level 2

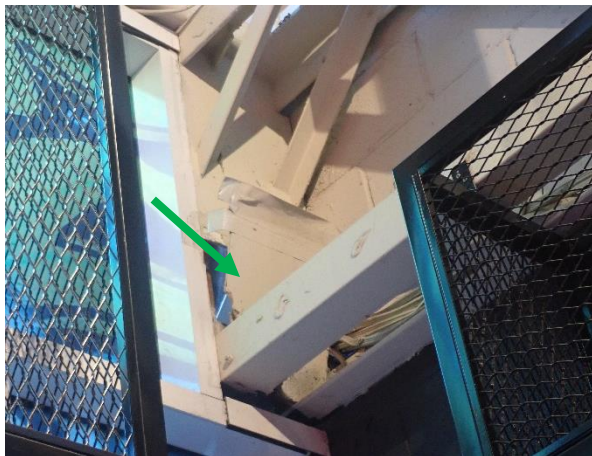


Photo 34: Harbourside – non-asbestos containing fibre cement sheeting to the infill panel between the steel framework and arched window frame in the NW corner of Shop409 (Stateside Sports) on Level 2



Photo 35: Harbourside – non-lead based grey paint to the common area doors and frames on Level 2



Photo 36: Harbourside – assumed SMF insulation to the roof sarking within the ceiling cavities/plant rooms on Level 2

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## Appendix B: Photographs

Client: Mirvac Retail Sub SPV Pty Ltd

Project: Harbourside HBMS

Job No: 62851

File Name: R04 App B - Photo Log





Photo 37: Harbourside – assumed SMF insulation to the HVAC ducting within the plant room on Level 2



Photo 38: Harbourside – assumed SMF insulation to floor, wall and ceiling penetrations on Level 2



Photo 39: Harbourside – non-asbestos containing cream fibrous membrane between AHU 3.1 & 3.2 in the plant room on Level 3



Photo 40: Harbourside – non-asbestos containing white caulking to the base of the south wall in the plant room on Level 3

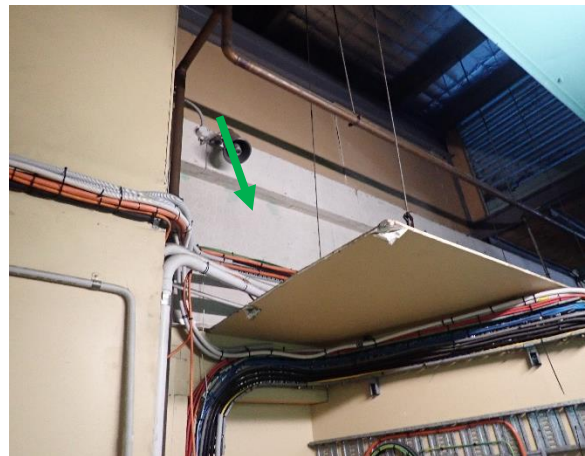


Photo 41: Harbourside – non-asbestos containing millboard to the south wall of the plant room on Level 3



Photo 42: Harbourside – non-asbestos containing black membrane between AHU 3.3 & 3.4 in the plant room on Level 3

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## Appendix B: Photographs

Client: Mirvac Retail Sub SPV Pty Ltd

Project: Harbourside HBMS

Job No: 62851

File Name: R04 App B - Photo Log





Photo 43: Harbourside – non-asbestos containing fibre cement sheeting to the walls of the cooling tower area on Level 3



Photo 44: Harbourside – non-asbestos containing white mastic sealant to the edge of the waterproofing membrane throughout the cooling tower area on Level 3



Photo 45: Harbourside – non-asbestos containing upper and lower waterproofing membranes to the cooling tower area on Level 3

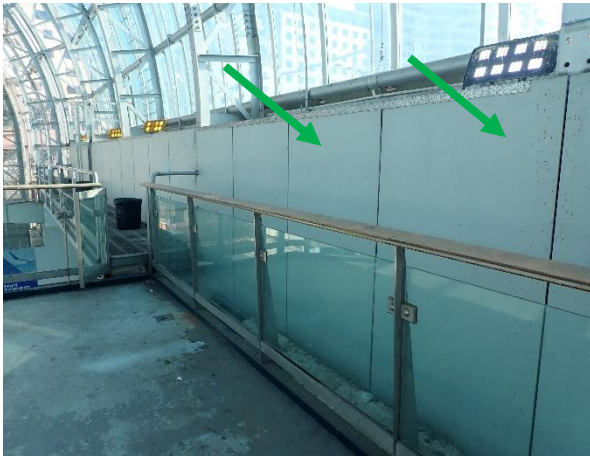


Photo 46: Harbourside – non-asbestos containing compressed fibre cement sheeting to the north and south wall panels on Level 3 mezzanine



Photo 47: Harbourside – non-lead based cream paint to the plant room walls on Level 3



Photo 48: Harbourside – non-lead based aqua paint to the HVAC ducting in the plant room on Level 3

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## Appendix B: Photographs

Client: Mirvac Retail Sub SPV Pty Ltd

Project: Harbourside HBMS

Job No: 62851

File Name: R04 App B - Photo Log





Photo 49: Harbourside – assumed SMF insulation to the walls of the cooling tower area on Level 3



Photo 50: Harbourside – assumed SMF insulation to the HVAC ducting in the plant room on Level 3



Photo 51: Harbourside – assumed SMF insulation to packing pillows



Photo 52: Harbourside – assumed SMF suspended ceiling tiles to the bowling machine rooms in Shop 501 & 502 (Kingpin) on Level 3



Photo 53: Overview of Pedestrian Link Bridge



Photo 54: Pedestrian Link Bridge – non-asbestos containing compressed fibre cement sheeting to the east and west fascia cladding

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|  |  | Appendix B: Photographs          |  |
| Client: Mirvac Retail Sub SPV Pty Ltd                                                 |  |                                  |  |
| Project: Harbourside HBMS                                                             |  |                                  |  |
| Job No: 62851                                                                         |  | File Name: R04 App B - Photo Log |  |





Photo 55: Pedestrian Link Bridge – non-lead based green paint to the handrails and balustrades



Photo 56: Pedestrian Link Bridge – non-lead based white paint to the steel framework



Photo 57: Overview of Former Monorail Station



Photo 58: Former Monorail Station – non-asbestos containing compressed fibre cement debris to the station platform



Photo 59: Former Monorail Station – non-lead based grey paint to the steel framework



Photo 60: Former Monorail Station – non-lead based black paint to the ticket booth structure

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## Appendix B: Photographs

Client: Mirvac Retail Sub SPV Pty Ltd

Project: Harbourside HBMS

Job No: 62851

File Name: R04 App B - Photo Log

## **Appendix C Laboratory Analysis Reports and Chain of Custody Documentation**

## Chain of Custody



|                                                                                                                                 |          |          |      |                     |    |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |                |
|---------------------------------------------------------------------------------------------------------------------------------|----------|----------|------|---------------------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|----------------|
| PROJECT NO.: 62851                                                                                                              |          |          |      |                     |    | LABORATORY BATCH NO.:                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |  |  |  |  |  |  |  |  |  |  |                |
| PROJECT NAME: Harbourside                                                                                                       |          |          |      |                     |    | SAMPLERS: Stuart Lumsden & Jordan Gomez                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  |  |  |  |  |  |  |  |  |  |  |                |
| DATE NEEDED BY: Standard                                                                                                        |          |          |      |                     |    | QC LEVEL: NEPM (2013)                                                                                                                                                                                                                                                                                                                                                                                                               |  |  |  |  |  |  |  |  |  |  |  |  |  |                |
| PHONE: Sydney 02 8245 0300   Perth 08 9488 0100   Brisbane 07 3112 2688   Melbourne 03 9642 0599   Adelaide 08 8431 7113        |          |          |      |                     |    |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |                |
| SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) slumsden@jbsg.com.au; (3) jgomez@jbsg.com.au; (4) ckauffman@jbsg.com.au |          |          |      |                     |    |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |                |
| COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:                                                                              |          |          |      |                     |    | <div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">LEAD IN PAINT</div> <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; width: 100%; height: 100%;"></div> <div style="border: 1px solid black; padding: 2px; text-align: center;">             TYPE OF<br/>ASBESTOS<br/>ANALYSIS           </div> </div> </div> |  |  |  |  |  |  |  |  |  |  |  |  |  |                |
|                                                                                                                                 |          |          |      |                     |    |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  | IDENTIFICATION |
| SAMPLE ID                                                                                                                       | MATRIX   | DATE     | TIME | TYPE & PRESERVATIVE | pH |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  | NOTES:         |
| E-A01                                                                                                                           | Material | 30/06/22 |      | Bag                 |    |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  | X              |
| E-A02                                                                                                                           | Material | 30/06/22 |      | Bag                 |    |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  | X              |
| E-A03                                                                                                                           | Material | 30/06/22 |      | Bag                 |    |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  | X              |
| E-A04                                                                                                                           | Material | 30/06/22 |      | Bag                 |    |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  | X              |
| E-A05                                                                                                                           | Material | 30/06/22 |      | Bag                 |    |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  | X              |
| E-A06                                                                                                                           | Material | 30/06/22 |      | Bag                 |    |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  | X              |
| E-A07                                                                                                                           | Material | 30/06/22 |      | Bag                 |    |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  | X              |
| E-A08                                                                                                                           | Material | 30/06/22 |      | Bag                 |    |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  | X              |
| E-A09                                                                                                                           | Material | 30/06/22 |      | Bag                 |    |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  | X              |
| E-A10                                                                                                                           | Material | 30/06/22 |      | Bag                 |    |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  | X              |
| E-A11                                                                                                                           | Material | 30/06/22 |      | Bag                 |    |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  | X              |
| E-A12                                                                                                                           | Material | 30/06/22 |      | Bag                 |    |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  | X              |
| E-A13                                                                                                                           | Material | 30/06/22 |      | Bag                 |    |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  | X              |
| E-A14                                                                                                                           | Material | 30/06/22 |      | Bag                 |    |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  | X              |
| E-A15                                                                                                                           | Material | 30/06/22 |      | Bag                 |    |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  | X              |
| E-A16                                                                                                                           | Material | 30/06/22 |      | Bag                 |    |                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |  |  |  |  |  |  |  |  |  |  |  |  | X              |
| E-L01                                                                                                                           | Material | 30/06/22 |      | Bag                 |    | X                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |  |  |  |  |  |  |  |  |  |  |  |                |
| E-L02                                                                                                                           | Material | 30/06/22 |      | Bag                 |    | X                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |  |  |  |  |  |  |  |  |  |  |  |                |
| E-L03                                                                                                                           | Material | 30/06/22 |      | Bag                 |    | X                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |  |  |  |  |  |  |  |  |  |  |  |                |

|                                                                                                                                                                                                                                                                                                               |                |                      |  |               |       |                                                           |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------|--|---------------|-------|-----------------------------------------------------------|--|
| RELINQUISHED BY:                                                                                                                                                                                                                                                                                              |                | METHOD OF SHIPMENT:  |  | RECEIVED BY:  |       | FOR RECEIVING LAB USE ONLY:                               |  |
| NAME: JG                                                                                                                                                                                                                                                                                                      | DATE: 30/06/22 | CONSIGNMENT NOTE NO. |  | NAME: Arany   |       | COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... |  |
| OF: JBS&G                                                                                                                                                                                                                                                                                                     |                | TRANSPORT CO.        |  | DATE: 30/6/22 |       | COOLER TEMP ..... deg C                                   |  |
| NAME:                                                                                                                                                                                                                                                                                                         | DATE:          | CONSIGNMENT NOTE NO. |  | NAME:         | DATE: | COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... |  |
| OF:                                                                                                                                                                                                                                                                                                           |                | TRANSPORT CO.        |  | OF:           |       | COOLER TEMP ..... deg C                                   |  |
| <small>Container &amp; Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other</small> |                |                      |  |               |       |                                                           |  |



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|                                                                                                                                                                                                                                                                                            |          |                      |      |                     |    |                                         |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------------------|------|---------------------|----|-----------------------------------------|------------------|--------------|--|-----------------------------------------------------------|--|--|--|--|--|--|--|--|--|--|--|---------------------------|---------|--------|
| PROJECT NO.: 62851                                                                                                                                                                                                                                                                         |          |                      |      |                     |    | LABORATORY BATCH NO.:                   |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| PROJECT NAME: Harbourside                                                                                                                                                                                                                                                                  |          |                      |      |                     |    | SAMPLERS: Stuart Lumsden & Jordan Gomez |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| DATE NEEDED BY: Standard                                                                                                                                                                                                                                                                   |          |                      |      |                     |    | QC LEVEL: NEPM (2013)                   |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| PHONE: Sydney 02 8245 0300   Perth 08 9488 0100   Brisbane 07 3112 2688   Melbourne 03 9642 0599   Adelaide 08 8431 7113                                                                                                                                                                   |          |                      |      |                     |    |                                         |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) slumsden@jbsg.com.au; (3) jgomez@jbsg.com.au (4) ckauffman@jbsg.com.au                                                                                                                                                             |          |                      |      |                     |    |                                         |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:                                                                                                                                                                                                                                         |          |                      |      |                     |    | LEAD IN PAINT                           | ASBESTOS IN DUST | LEAD IN DUST |  |                                                           |  |  |  |  |  |  |  |  |  |  |  | TYPE OF ASBESTOS ANALYSIS |         | NOTES: |
|                                                                                                                                                                                                                                                                                            |          |                      |      |                     |    |                                         |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  | IDENTIFICATION            | NEPM/WA |        |
| SAMPLE ID                                                                                                                                                                                                                                                                                  | MATRIX   | DATE                 | TIME | TYPE & PRESERVATIVE | pH |                                         |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| E-L04                                                                                                                                                                                                                                                                                      | Material | 30/06/22             |      | Bag                 |    | X                                       |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| E-L05                                                                                                                                                                                                                                                                                      | Material | 30/06/22             |      | Bag                 |    | X                                       |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| E-L06                                                                                                                                                                                                                                                                                      | Material | 30/06/22             |      | Bag                 |    | X                                       |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| E-L07                                                                                                                                                                                                                                                                                      | Material | 30/06/22             |      | Bag                 |    | X                                       |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| E-L08                                                                                                                                                                                                                                                                                      | Material | 30/06/22             |      | Bag                 |    | X                                       |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| E-L09                                                                                                                                                                                                                                                                                      | Material | 30/06/22             |      | Bag                 |    | X                                       |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| E-AD01                                                                                                                                                                                                                                                                                     | Dust     | 30/06/22             |      | Bag                 |    |                                         | X                |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| E-LD01                                                                                                                                                                                                                                                                                     | Dust     | 30/06/22             |      | Bag                 |    |                                         |                  | X            |  |                                                           |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L1-A01                                                                                                                                                                                                                                                                                     | Material | 30/06/22             |      | Bag                 |    |                                         |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L1-A02                                                                                                                                                                                                                                                                                     | Material | 30/06/22             |      | Bag                 |    |                                         |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L1-A03                                                                                                                                                                                                                                                                                     | Material | 30/06/22             |      | Bag                 |    |                                         |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L1-A04                                                                                                                                                                                                                                                                                     | Material | 30/06/22             |      | Bag                 |    |                                         |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L1-A05                                                                                                                                                                                                                                                                                     | Material | 30/06/22             |      | Bag                 |    |                                         |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L1-A06                                                                                                                                                                                                                                                                                     | Material | 30/06/22             |      | Bag                 |    |                                         |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L1-A07                                                                                                                                                                                                                                                                                     | Material | 30/06/22             |      | Bag                 |    |                                         |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L1-A08                                                                                                                                                                                                                                                                                     | Material | 30/06/22             |      | Bag                 |    |                                         |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L1-A09                                                                                                                                                                                                                                                                                     | Material | 30/06/22             |      | Bag                 |    |                                         |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L1-A10                                                                                                                                                                                                                                                                                     | Material | 30/06/22             |      | Bag                 |    |                                         |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L1-A11                                                                                                                                                                                                                                                                                     | Material | 30/06/22             |      | Bag                 |    |                                         |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| RELINQUISHED BY:                                                                                                                                                                                                                                                                           |          | METHOD OF SHIPMENT:  |      |                     |    | RECEIVED BY:                            |                  |              |  | FOR RECEIVING LAB USE ONLY:                               |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| NAME: JG DATE: 30/06/22                                                                                                                                                                                                                                                                    |          | CONSIGNMENT NOTE NO. |      |                     |    | NAME: DATE:                             |                  |              |  | COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| OF: JBS&G                                                                                                                                                                                                                                                                                  |          | TRANSPORT CO.        |      |                     |    | OF:                                     |                  |              |  | COOLER TEMP ..... deg C                                   |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| NAME: DATE:                                                                                                                                                                                                                                                                                |          | CONSIGNMENT NOTE NO. |      |                     |    | NAME: DATE:                             |                  |              |  | COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| OF:                                                                                                                                                                                                                                                                                        |          | TRANSPORT CO         |      |                     |    | OF:                                     |                  |              |  | COOLER TEMP ..... deg C                                   |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other |          |                      |      |                     |    |                                         |                  |              |  |                                                           |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |

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|                                                                                                                                |          |          |      |                     |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |                           |         |        |
|--------------------------------------------------------------------------------------------------------------------------------|----------|----------|------|---------------------|----|-----------------------------------------|------------------|--------------|--|--|--|--|--|--|--|--|--|--|---------------------------|---------|--------|
| PROJECT NO.: 62851                                                                                                             |          |          |      |                     |    | LABORATORY BATCH NO.:                   |                  |              |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| PROJECT NAME: Harbourside                                                                                                      |          |          |      |                     |    | SAMPLERS: Stuart Lumsden & Jordan Gomez |                  |              |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| DATE NEEDED BY: Standard                                                                                                       |          |          |      |                     |    | QC LEVEL: NEPM (2013)                   |                  |              |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| PHONE: Sydney 02 8245 0300   Perth 08 9488 0100   Brisbane 07 3112 2688   Melbourne 03 9642 0599   Adelaide 08 8431 7113       |          |          |      |                     |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) slumsden@jbsg.com.au; (3) jgomez@jbsg.com.au (4) ckauffman@jbsg.com.au |          |          |      |                     |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:                                                                             |          |          |      |                     |    | LEAD IN PAINT                           | ASBESTOS IN DUST | LEAD IN DUST |  |  |  |  |  |  |  |  |  |  | TYPE OF ASBESTOS ANALYSIS |         | NOTES: |
|                                                                                                                                |          |          |      |                     |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  | IDENTIFICATION            | NEPM/NA |        |
| SAMPLE ID                                                                                                                      | MATRIX   | DATE     | TIME | TYPE & PRESERVATIVE | pH |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L1-A12                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |                           | X       |        |
| L1-A13                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |                           | X       |        |
| L1-A14                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |                           | X       |        |
| L1-LO1                                                                                                                         | Material | 30/06/22 |      | Bag                 |    | X                                       |                  |              |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L1-LO2                                                                                                                         | Material | 30/06/22 |      | Bag                 |    | X                                       |                  |              |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L1-LO3                                                                                                                         | Material | 30/06/22 |      | Bag                 |    | X                                       |                  |              |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L1-LO4                                                                                                                         | Material | 30/06/22 |      | Bag                 |    | X                                       |                  |              |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L1-LO5                                                                                                                         | Material | 30/06/22 |      | Bag                 |    | X                                       |                  |              |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L1-AD01                                                                                                                        | Dust     | 30/06/22 |      | Bag                 |    |                                         | X                |              |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L1-AD02                                                                                                                        | Dust     | 30/06/22 |      | Bag                 |    |                                         | X                |              |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L1-AD03                                                                                                                        | Dust     | 30/06/22 |      | Bag                 |    |                                         | X                |              |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L1-AD04                                                                                                                        | Dust     | 30/06/22 |      | Bag                 |    |                                         | X                |              |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L1-LD01                                                                                                                        | Dust     | 30/06/22 |      | Bag                 |    |                                         |                  | X            |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L1-LD02                                                                                                                        | Dust     | 30/06/22 |      | Bag                 |    |                                         |                  | X            |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L1-LD03                                                                                                                        | Dust     | 30/06/22 |      | Bag                 |    |                                         |                  | X            |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L1-LD04                                                                                                                        | Dust     | 30/06/22 |      | Bag                 |    |                                         |                  | X            |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L2-A01                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |                           | X       |        |
| L2-A02                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |                           | X       |        |
| L2-A03                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |                           | X       |        |

|                  |                |                      |  |              |       |                                                           |  |
|------------------|----------------|----------------------|--|--------------|-------|-----------------------------------------------------------|--|
| RELINQUISHED BY: |                | METHOD OF SHIPMENT:  |  | RECEIVED BY: |       | FOR RECEIVING LAB USE ONLY:                               |  |
| NAME: JG         | DATE: 30/06/22 | CONSIGNMENT NOTE NO. |  | NAME:        |       | COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... |  |
| OF: JBS&G        |                | TRANSPORT CO.        |  | DATE:        |       | COOLER TEMP ..... deg C                                   |  |
| NAME:            | DATE:          | CONSIGNMENT NOTE NO. |  | NAME:        | DATE: | COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... |  |
| OF:              |                | TRANSPORT CO         |  | OF:          |       | COOLER TEMP ..... deg C                                   |  |

Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other

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|                                                                                                                                |          |          |      |                     |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
|--------------------------------------------------------------------------------------------------------------------------------|----------|----------|------|---------------------|----|-----------------------------------------|------------------|--------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---------------------------|---------|--------|
| PROJECT NO.: 62851                                                                                                             |          |          |      |                     |    | LABORATORY BATCH NO.:                   |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| PROJECT NAME: Harbourside                                                                                                      |          |          |      |                     |    | SAMPLERS: Stuart Lumsden & Jordan Gomez |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| DATE NEEDED BY: Standard                                                                                                       |          |          |      |                     |    | QC LEVEL: NEPM (2013)                   |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| PHONE: Sydney 02 8245 0300   Perth 08 9488 0100   Brisbane 07 3112 2688   Melbourne 03 9642 0599   Adelaide 08 8431 7113       |          |          |      |                     |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) slumsden@jbsg.com.au; (3) jgomez@jbsg.com.au (4) ckauffman@jbsg.com.au |          |          |      |                     |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:                                                                             |          |          |      |                     |    | LEAD IN PAINT                           | ASBESTOS IN DUST | LEAD IN DUST |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | TYPE OF ASBESTOS ANALYSIS |         | NOTES: |
|                                                                                                                                |          |          |      |                     |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | IDENTIFICATION            | NEPM/WA |        |
| SAMPLE ID                                                                                                                      | MATRIX   | DATE     | TIME | TYPE & PRESERVATIVE | pH |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L2-A04                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L2-A05                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L2-A06                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L2-A07                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L2-A08                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L2-A09                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L2-A10                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L2-L01                                                                                                                         | Material | 30/06/22 |      | Bag                 |    | X                                       |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L2-AD01                                                                                                                        | Dust     | 30/06/22 |      | Bag                 |    |                                         | X                |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L2-LD01                                                                                                                        | Dust     | 30/06/22 |      | Bag                 |    |                                         |                  | X            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L3-A01                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L3-A02                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L3-A03                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L3-A04                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L3-A05                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L3-A06                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L3-A07                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L3-A08                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L3-A09                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |

|                                                                                                                                                                                                                                                                                            |                |                      |  |              |       |                                                           |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------|--|--------------|-------|-----------------------------------------------------------|--|
| RELINQUISHED BY:                                                                                                                                                                                                                                                                           |                | METHOD OF SHIPMENT:  |  | RECEIVED BY: |       | FOR RECEIVING LAB USE ONLY:                               |  |
| NAME: JG                                                                                                                                                                                                                                                                                   | DATE: 30/06/22 | CONSIGNMENT NOTE NO. |  | NAME:        |       | COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... |  |
| OF: JBS&G                                                                                                                                                                                                                                                                                  |                | TRANSPORT CO.        |  | DATE:        |       | COOLER TEMP ..... deg C                                   |  |
| NAME:                                                                                                                                                                                                                                                                                      | DATE:          | CONSIGNMENT NOTE NO. |  | NAME:        | DATE: | COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... |  |
| OF:                                                                                                                                                                                                                                                                                        |                | TRANSPORT CO.        |  | OF:          |       | COOLER TEMP ..... deg C                                   |  |
| Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other |                |                      |  |              |       |                                                           |  |

## Chain of Custody



|                                                                                                                                |          |          |      |                     |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
|--------------------------------------------------------------------------------------------------------------------------------|----------|----------|------|---------------------|----|-----------------------------------------|------------------|--------------|--|--|--|--|--|--|--|--|--|--|--|--|--|---------------------------|---------|--------|
| PROJECT NO.: 62851                                                                                                             |          |          |      |                     |    | LABORATORY BATCH NO.:                   |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| PROJECT NAME: Harbourside                                                                                                      |          |          |      |                     |    | SAMPLERS: Stuart Lumsden & Jordan Gomez |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| DATE NEEDED BY: Standard                                                                                                       |          |          |      |                     |    | QC LEVEL: NEPM (2013)                   |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| PHONE: Sydney 02 8245 0300   Perth 08 9488 0100   Brisbane 07 3112 2688   Melbourne 03 9642 0599   Adelaide 08 8431 7113       |          |          |      |                     |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) slumsden@jbsg.com.au; (3) jgomez@jbsg.com.au (4) ckauffman@jbsg.com.au |          |          |      |                     |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:                                                                             |          |          |      |                     |    | LEAD IN PAINT                           | ASBESTOS IN DUST | LEAD IN DUST |  |  |  |  |  |  |  |  |  |  |  |  |  | TYPE OF ASBESTOS ANALYSIS |         | NOTES: |
|                                                                                                                                |          |          |      |                     |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  | IDENTIFICATION            | NEPM/WA |        |
| SAMPLE ID                                                                                                                      | MATRIX   | DATE     | TIME | TYPE & PRESERVATIVE | pH |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L3-A10                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L3-A11                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L3-L01                                                                                                                         | Material | 30/06/22 |      | Bag                 |    | X                                       |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L3-L02                                                                                                                         | Material | 30/06/22 |      | Bag                 |    | X                                       |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L3-L03                                                                                                                         | Material | 30/06/22 |      | Bag                 |    | X                                       |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L3-L04                                                                                                                         | Material | 30/06/22 |      | Bag                 |    | X                                       |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L3-L05                                                                                                                         | Material | 30/06/22 |      | Bag                 |    | X                                       |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L3-L06                                                                                                                         | Material | 30/06/22 |      | Bag                 |    | X                                       |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L3-AD01                                                                                                                        | Dust     | 30/06/22 |      | Bag                 |    |                                         | X                |              |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L3-AD02                                                                                                                        | Dust     | 30/06/22 |      | Bag                 |    |                                         | X                |              |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L3-LD01                                                                                                                        | Dust     | 30/06/22 |      | Bag                 |    |                                         |                  | X            |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L3-LD02                                                                                                                        | Dust     | 30/06/22 |      | Bag                 |    |                                         |                  | X            |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
| L4-A01                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L4-A02                                                                                                                         | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  | X                         |         |        |
| L4-L01                                                                                                                         | Material | 30/06/22 |      | Bag                 |    | X                                       |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
|                                                                                                                                | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
|                                                                                                                                | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
|                                                                                                                                | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
|                                                                                                                                | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |
|                                                                                                                                | Material | 30/06/22 |      | Bag                 |    |                                         |                  |              |  |  |  |  |  |  |  |  |  |  |  |  |  |                           |         |        |

|                                                                                                                                                                                                                                                                                            |                |                      |  |              |       |                                                           |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------|--|--------------|-------|-----------------------------------------------------------|--|
| RELINQUISHED BY:                                                                                                                                                                                                                                                                           |                | METHOD OF SHIPMENT:  |  | RECEIVED BY: |       | FOR RECEIVING LAB USE ONLY:                               |  |
| NAME: JG                                                                                                                                                                                                                                                                                   | DATE: 30/06/22 | CONSIGNMENT NOTE NO. |  | NAME:        |       | COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... |  |
| OF: JBS&G                                                                                                                                                                                                                                                                                  |                | TRANSPORT CO.        |  | DATE:        |       | COOLER TEMP ..... deg C                                   |  |
| NAME:                                                                                                                                                                                                                                                                                      | DATE:          | CONSIGNMENT NOTE NO. |  | NAME:        | DATE: | COOLER SEAL – Yes..... No ..... Intact ..... Broken ..... |  |
| OF:                                                                                                                                                                                                                                                                                        |                | TRANSPORT CO         |  | OF:          |       | COOLER TEMP ..... deg C                                   |  |
| Container & Preservative Codes: P = Plastic; J = Soil Jar; B = Glass Bottle; N = Nitric Acid Prsvd.; C = Sodium Hydroxide Prsvd; VC = Hydrochloric Acid Prsvd Vial; VS = Sulfuric Acid Prsvd Vial; S = Sulfuric Acid Prsvd; Z = Zinc Prsvd; E = EDTA Prsvd; ST = Sterile Bottle; O = Other |                |                      |  |              |       |                                                           |  |

903124

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NATA# 1261 Site# 1254

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IANZ# 1327

### Christchurch

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Christchurch 7675  
Tel: 0800 856 450  
IANZ# 1290

## Sample Receipt Advice

**Company name:** JBS & G Australia (NSW) P/L  
**Contact name:** Stuart Lumsden  
**Project name:** HARBOURSIDE  
**Project ID:** 62851  
**Turnaround time:** 5 Day  
**Date/Time received:** Jun 30, 2022 5:11 PM  
**Eurofins reference:** 903124

## Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✓ All samples have been received as described on the above COC.
- ✓ COC has been completed correctly.
- N/A Attempt to chill was evident.
- ✓ Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- ✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ✓ Appropriate sample containers have been used.
- ✓ Sample containers for volatile analysis received with zero headspace.
- ✗ Split sample sent to requested external lab.
- ✗ Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

## Notes

Analysis for sample L3-L03, E-L05, L1-L02, L3-L05 and L3-L06 cancelled due to insufficient sample amount.

## Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

**Hannah Mawbey on phone : or by email: [HannahMawbey@eurofins.com](mailto:HannahMawbey@eurofins.com)**

Results will be delivered electronically via email to Stuart Lumsden - [slumsden@jbsg.com.au](mailto:slumsden@jbsg.com.au).



**JBS & G Australia (NSW) P/L**  
**Level 1, 50 Margaret St**  
**Sydney**  
**NSW 2000**



**NATA Accredited**  
**Accreditation Number 1261**  
**Site Number 18217**

Accredited for compliance with ISO/IEC 17025—Testing  
 NATA is a signatory to the ILAC Mutual Recognition  
 Arrangement for the mutual recognition of the  
 equivalence of testing, medical testing, calibration,  
 inspection, proficiency testing scheme providers and  
 reference materials producers reports and certificates.

**Attention:** Stuart Lumsden  
**Report** 903124-AID  
**Project Name** HARBOURSIDE  
**Project ID** 62851  
**Received Date** Jun 30, 2022  
**Date Reported** Jul 13, 2022

### Methodology:

Asbestos Fibre  
 Identification

Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques.

*NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.*

Unknown Mineral  
 Fibres

Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity.

*NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.*

Subsampling Soil  
 Samples

The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) is employed.

*NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.*

Bonded asbestos-  
 containing material  
 (ACM)

The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination. The resultant material is then further examined in accordance with AS 4964 - 2004.

*NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.*

Limit of Reporting

The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w).

The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk).

*NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos". This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.*

**Project Name** HARBOURSIDE  
**Project ID** 62851  
**Date Sampled** Jun 30, 2022  
**Report** 903124-AID

| Client Sample ID | Eurofins Sample No. | Date Sampled | Sample Description                                                                                               | Result                                                                          |
|------------------|---------------------|--------------|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| E-A01            | 22-JI0007639        | Jun 30, 2022 | Approximate Sample 1g / 35x7x3mm<br>Sample consisted of: Black rubber material with foam like material layer     | No asbestos detected.<br>No trace asbestos detected.                            |
| E-A02            | 22-JI0007640        | Jun 30, 2022 | Approximate Sample 2g / 25x10x4mm<br>Sample consisted of: Off-white flexible sealant material with white coating | No asbestos detected.<br>No trace asbestos detected.                            |
| E-A03            | 22-JI0007641        | Jun 30, 2022 | Approximate Sample 1g / 30x10x4mm<br>Sample consisted of: Black rubber material                                  | No asbestos detected.<br>No trace asbestos detected.                            |
| E-A04            | 22-JI0007642        | Jun 30, 2022 | Approximate Sample 6g / 35x30x5mm<br>Sample consisted of: Grey layered fibre cement material with yellow coating | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected. |
| E-A05            | 22-JI0007643        | Jun 30, 2022 | Approximate Sample 11g / 45x18x10mm<br>Sample consisted of: Grey compressed fibre cement with dark grey coating  | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected. |
| E-A06            | 22-JI0007644        | Jun 30, 2022 | Approximate Sample 3g / 40x12x4mm<br>Sample consisted of: Grey compressed fibre cement                           | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected. |
| E-A07            | 22-JI0007645        | Jun 30, 2022 | Approximate Sample 1g / 10x7x2mm<br>Sample consisted of: Black flexible sealant material                         | No asbestos detected.<br>No trace asbestos detected.                            |
| E-A08            | 22-JI0007646        | Jun 30, 2022 | Approximate Sample 1g / 20x10x3mm<br>Sample consisted of: Dark grey sealant material                             | No asbestos detected.<br>No trace asbestos detected.                            |

| Client Sample ID | Eurofins Sample No. | Date Sampled | Sample Description                                                                                                                         | Result                                                                                                              |
|------------------|---------------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| E-A09            | 22-JI0007647        | Jun 30, 2022 | Approximate Sample 3g / 20x10x7mm<br>Sample consisted of: Grey compressed fibre cement                                                     | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                     |
| E-A10            | 22-JI0007648        | Jun 30, 2022 | Approximate Sample 12g / 30x20x10mm<br>Sample consisted of: Grey compressed fibre cement                                                   | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                     |
| E-A11            | 22-JI0007649        | Jun 30, 2022 | Approximate Sample 3g / 30x10x5mm<br>Sample consisted of: Grey layered fibre cement material                                               | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                     |
| E-A12            | 22-JI0007650        | Jun 30, 2022 | Approximate Sample 4g / 50x15x2mm<br>Sample consisted of: Black adhesive like material                                                     | No asbestos detected.<br>No trace asbestos detected.                                                                |
| E-A13            | 22-JI0007651        | Jun 30, 2022 | Approximate Sample 2g / 30x15x5mm<br>Sample consisted of: Black fibro bituminous material                                                  | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                     |
| E-A14            | 22-JI0007652        | Jun 30, 2022 | Approximate Sample 13g / 50x20x7mm<br>Sample consisted of: Grey compressed fibre cement                                                    | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                     |
| E-A15            | 22-JI0007653        | Jun 30, 2022 | Approximate Sample 26g / 60x20x7mm<br>Sample consisted of: Grey compressed fibre cement                                                    | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                     |
| E-A16            | 22-JI0007654        | Jun 30, 2022 | Approximate Sample 12g / 40x25x7mm<br>Sample consisted of: Grey compressed fibre cement                                                    | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                     |
| E-AD01           | 22-JI0007664        | Jun 30, 2022 | Approximate Sample 3g<br>Sample consisted of: Dust particles, fragments of soft fibrous material, plaster, paint flakes and organic debris | No asbestos detected at the reporting limit of 0.01% w/w.<br>Organic fibre detected.<br>No trace asbestos detected. |
| L1-A01           | 22-JI0007666        | Jun 30, 2022 | Approximate Sample 2g / 60x20x3mm<br>Sample consisted of: Grey fibro plaster material with grey coating                                    | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                     |
| L1-A02           | 22-JI0007667        | Jun 30, 2022 | Approximate Sample 4g / 80x50x5mm<br>Sample consisted of: White vitreous insulation material                                               | No asbestos detected.<br>Synthetic mineral fibre detected.<br>No trace asbestos detected.                           |
| L1-A03           | 22-JI0007668        | Jun 30, 2022 | Approximate Sample 4g / 40x25x4mm<br>Sample consisted of: Brown layered fibre cement material                                              | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                     |
| L1-A04           | 22-JI0007669        | Jun 30, 2022 | Approximate Sample 12g / 60x30x4mm<br>Sample consisted of: Brown fibre plaster cement material with dark brown coating                     | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                     |

| Client Sample ID | Eurofins Sample No. | Date Sampled | Sample Description                                                                                                                                                                                 | Result                                                                                                              |
|------------------|---------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| L1-A05           | 22-JI0007670        | Jun 30, 2022 | Approximate Sample 24g / 80x35x7mm<br>Sample consisted of: Grey layered fibre cement material with grey coating                                                                                    | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                     |
| L1-A06           | 22-JI0007671        | Jun 30, 2022 | Approximate Sample 14g / 80x40x3mm<br>Sample consisted of: Brown vermiculite plaster with white coating                                                                                            | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                     |
| L1-A07           | 22-JI0007672        | Jun 30, 2022 | Approximate Sample 1g / 20x10x4mm<br>Sample consisted of: Brown fibre plaster cement material with off-white coating                                                                               | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                     |
| L1-A08           | 22-JI0007673        | Jun 30, 2022 | Approximate Sample 2g / 70x5x5mm<br>Sample consisted of: Black fibrous gasket material                                                                                                             | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                     |
| L1-A09           | 22-JI0007674        | Jun 30, 2022 | Approximate Sample 3g / 25x15x4mm<br>Sample consisted of: Grey compressed fibre cement                                                                                                             | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                     |
| L1-A10           | 22-JI0007675        | Jun 30, 2022 | Approximate Sample 9g / 70x8x5mm<br>Sample consisted of: Yellow mastic like material                                                                                                               | No asbestos detected.<br>Synthetic mineral fibre detected.<br>No trace asbestos detected.                           |
| L1-A11           | 22-JI0007676        | Jun 30, 2022 | Approximate Sample 1g / 60x4x2mm<br>Sample consisted of: Black fibrous gasket material with green coating                                                                                          | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                     |
| L1-A12           | 22-JI0007677        | Jun 30, 2022 | Approximate Sample 1g / 8x4x2mm<br>Sample consisted of: Grey gasket material                                                                                                                       | Chrysotile asbestos detected.                                                                                       |
| L1-A13           | 22-JI0007678        | Jun 30, 2022 | Approximate Sample 2g / 30x4x2mm<br>Sample consisted of: Black fibrous gasket material with green coating                                                                                          | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                     |
| L1-A14           | 22-JI0007679        | Jun 30, 2022 | Approximate Sample 2g / 25x15x5mm<br>Sample consisted of: Black fibro bituminous material                                                                                                          | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                     |
| L1-AD01          | 22-JI0007685        | Jun 30, 2022 | Approximate Sample 5g<br>Sample consisted of: Dust particles, fragments of plastic, mastic material, glass, foam like material, plaster, metals, wood chips, paint flakes, sand and organic debris | No asbestos detected at the reporting limit of 0.01% w/w.<br>Organic fibre detected.<br>No trace asbestos detected. |
| L1-AD02          | 22-JI0007686        | Jun 30, 2022 | Approximate Sample 3g<br>Sample consisted of: Dust particles, fragments of cement, corroded metal, plaster, paint flakes, soft fibrous material and sand                                           | No asbestos detected at the reporting limit of 0.01% w/w.<br>Organic fibre detected.<br>No trace asbestos detected. |

| Client Sample ID | Eurofins Sample No. | Date Sampled | Sample Description                                                                                                                                                                                                              | Result                                                                                                                                                   |
|------------------|---------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| L1-AD03          | 22-JI0007687        | Jun 30, 2022 | Approximate Sample 1g<br>Sample consisted of: Dust particles, fragments paint flakes soft fibrous material, cement, plaster, adhesive like material, glass, paint flakes, corroded metal, wood residue, sand and organic debris | No asbestos detected at the reporting limit of 0.01% w/w.<br>Synthetic mineral fibre detected.<br>Organic fibre detected.<br>No trace asbestos detected. |
| L1-AD04          | 22-JI0007688        | Jun 30, 2022 | Approximate Sample 7g<br>Sample consisted of: Dust particles, fragments of metal, soft fibrous material, cement, plastic, glass, wood residue, paint flakes, sand and organic debris                                            | No asbestos detected at the reporting limit of 0.01% w/w.<br>Organic fibre detected.<br>No trace asbestos detected.                                      |
| L2-A01           | 22-JI0007689        | Jun 30, 2022 | Approximate Sample 4g / 40x25x2mm<br>Sample consisted of: Off-white flexible vinyl sheet with amber glue                                                                                                                        | No asbestos detected.<br>No trace asbestos detected.                                                                                                     |
| L2-A02           | 22-JI0007690        | Jun 30, 2022 | Approximate Sample 3g / 60x40x2mm<br>Sample consisted of: Dark brown flexible vinyl sheet                                                                                                                                       | No asbestos detected.<br>No trace asbestos detected.                                                                                                     |
| L2-A03           | 22-JI0007691        | Jun 30, 2022 | Approximate Sample 6g / 90x40x7mm<br>Sample consisted of: Light grey fibre plaster material                                                                                                                                     | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                                                          |
| L2-A04           | 22-JI0007692        | Jun 30, 2022 | Approximate Sample 2g / 40x25x7mm<br>Sample consisted of: Off-white fibro plaster material                                                                                                                                      | No asbestos detected.<br>Synthetic mineral fibre detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                     |
| L2-A05           | 22-JI0007693        | Jun 30, 2022 | Approximate Sample 1g / 30x15x2mm<br>Sample consisted of: White compressed fibrous material fragments                                                                                                                           | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                                                          |
| L2-A06           | 22-JI0007694        | Jun 30, 2022 | Approximate Sample 134g / 90x40x15mm<br>Sample consisted of: Grey compressed fibre cement                                                                                                                                       | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                                                          |
| L2-A07           | 22-JI0007695        | Jun 30, 2022 | Approximate Sample 5g / 70x40x3mm<br>Sample consisted of: Brown vermiculite plaster material                                                                                                                                    | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                                                          |
| L2-A08           | 22-JI0007696        | Jun 30, 2022 | Approximate Sample 4g / 20x15x5mm<br>Sample consisted of: Grey layered fibre cement material with white coating and glue attached                                                                                               | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                                                          |
| L2-A09           | 22-JI0007697        | Jun 30, 2022 | Approximate Sample 2g / 30x20x5mm<br>Sample consisted of: Grey layered fibre cement material with white/green coating                                                                                                           | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                                                          |
| L2-A10           | 22-JI0007698        | Jun 30, 2022 | Approximate Sample 2g / 30x15x2mm<br>Sample consisted of: Brown/ light grey flexible linoleum with fibrous backing and amber glue                                                                                               | No asbestos detected.<br>Synthetic mineral fibre detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                     |



| Client Sample ID | Eurofins Sample No. | Date Sampled | Sample Description                                                                                                                                                                                         | Result                                                                                                                                                   |
|------------------|---------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| L2-AD01          | 22-JI0007700        | Jun 30, 2022 | Approximate Sample 3g<br>Sample consisted of: Dust particles, fragments of plaster, soft fibrous material, cement, foam like material, corroded metal, paint flakes, wood residue, sand and organic debris | No asbestos detected at the reporting limit of 0.01% w/w.<br>Synthetic mineral fibre detected.<br>Organic fibre detected.<br>No trace asbestos detected. |
| L3-A01           | 22-JI0007702        | Jun 30, 2022 | Approximate Sample 1g / 25x10x3mm<br>Sample consisted of: Off-white semi brittle vinyl sheet with fibrous layer and foam like material                                                                     | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                                                          |
| L3-A02           | 22-JI0007703        | Jun 30, 2022 | Approximate Sample 3g / 20x8x4mm<br>Sample consisted of: White mastic material                                                                                                                             | No asbestos detected.<br>No trace asbestos detected.                                                                                                     |
| L3-A03           | 22-JI0007704        | Jun 30, 2022 | Approximate Sample 2g / 40x20x4mm<br>Sample consisted of: Brown vermiculite plaster material                                                                                                               | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                                                          |
| L3-A04           | 22-JI0007705        | Jun 30, 2022 | Approximate Sample 1g / 20x20x2mm<br>Sample consisted of: Black fibro bituminous material                                                                                                                  | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                                                          |
| L3-A05           | 22-JI0007706        | Jun 30, 2022 | Approximate Sample 8g / 40x15x5mm<br>Sample consisted of: Brown fibre plaster material                                                                                                                     | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                                                          |
| L3-A06           | 22-JI0007707        | Jun 30, 2022 | Approximate Sample 2g / 35x10x4mm<br>Sample consisted of: Light brown sealant material                                                                                                                     | No asbestos detected.<br>No trace asbestos detected.                                                                                                     |
| L3-A07           | 22-JI0007708        | Jun 30, 2022 | Approximate Sample 2g / 60x20x5mm<br>Sample consisted of: Grey flexible linoleum with black rubber sheet                                                                                                   | No asbestos detected.<br>Synthetic mineral fibre detected.<br>No trace asbestos detected.                                                                |
| L3-A08           | 22-JI0007709        | Jun 30, 2022 | Approximate Sample 2g / 50x20x2mm<br>Sample consisted of: Black rubber sheet with green coating                                                                                                            | No asbestos detected.<br>No trace asbestos detected.                                                                                                     |
| L3-A09           | 22-JI0007710        | Jun 30, 2022 | Approximate Sample 1g / 30x8x4mm<br>Sample consisted of: Black sealant material                                                                                                                            | No asbestos detected.<br>No trace asbestos detected.                                                                                                     |
| L3-A10           | 22-JI0007711        | Jun 30, 2022 | Approximate Sample 5g / 35x20x5mm<br>Sample consisted of: Grey layered fibre cement material                                                                                                               | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                                                          |
| L3-A11           | 22-JI0007712        | Jun 30, 2022 | Approximate Sample 2g / 40x30x3mm<br>Sample consisted of: Brown vermiculite plaster material                                                                                                               | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                                                          |

| Client Sample ID | Eurofins Sample No. | Date Sampled | Sample Description                                                                                                                                                                            | Result                                                                                                                                                   |
|------------------|---------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| L3-AD01          | 22-JI0007719        | Jun 30, 2022 | Approximate Sample 1g<br>Sample consisted of: Dust particles, fragments of soft fibrous material, plaster, paint flakes, corroded metal, glass, paint flakes, wood residue and organic debris | No asbestos detected at the reporting limit of 0.01% w/w.<br>Synthetic mineral fibre detected.<br>Organic fibre detected.<br>No trace asbestos detected. |
| L3-AD02          | 22-JI0007720        | Jun 30, 2022 | Approximate Sample 1g<br>Sample consisted of: Dust particles, fragments of soft fibrous material, paint flakes, wood residue and organic debris                                               | No asbestos detected at the reporting limit of 0.01% w/w.<br>Synthetic mineral fibre detected.<br>Organic fibre detected.<br>No trace asbestos detected. |
| L4-A01           | 22-JI0007723        | Jun 30, 2022 | Approximate Sample 11g / 40x20x7mm<br>Sample consisted of: Grey compressed fibre cement material                                                                                              | No asbestos detected.<br>Organic fibre detected.<br>No trace asbestos detected.                                                                          |
| L4-A02           | 22-JI0007724        | Jun 30, 2022 | Approximate Sample 1g / 25x5x3mm<br>Sample consisted of: Black rubber material                                                                                                                | No asbestos detected.<br>No trace asbestos detected.                                                                                                     |

**Sample History**

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

| Description             | Testing Site | Extracted    | Holding Time |
|-------------------------|--------------|--------------|--------------|
| Asbestos - LTM-ASB-8020 | Sydney       | Jul 05, 2022 | Indefinite   |
| Asbestos - LTM-ASB-8020 | Sydney       | Jul 05, 2022 | Indefinite   |

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**Address:** Level 1, 50 Margaret St  
Sydney  
NSW 2000  
  
**Project Name:** HARBOURSIDE  
**Project ID:** 62851

**Order No.:**  
**Report #:** 903124  
**Phone:** 02 8245 0300  
**Fax:**

**Received:** Jun 30, 2022 5:11 PM  
**Due:** Jul 7, 2022  
**Priority:** 5 Day  
**Contact Name:** Stuart Lumsden

Eurofins Analytical Services Manager : Hannah Mawbey

| Sample Detail                                |           |              |               |                    |               | Asbestos - AS4964 | Asbestos Absence / Presence | CANCELLED | Lead | Lead (% w/w) |
|----------------------------------------------|-----------|--------------|---------------|--------------------|---------------|-------------------|-----------------------------|-----------|------|--------------|
| Sydney Laboratory - NATA # 1261 Site # 18217 |           |              |               |                    |               | X                 | X                           | X         | X    | X            |
| External Laboratory                          |           |              |               |                    |               |                   |                             |           |      |              |
| No                                           | Sample ID | Sample Date  | Sampling Time | Matrix             | LAB ID        |                   |                             |           |      |              |
| 1                                            | E-A01     | Jun 30, 2022 |               | Building Materials | S22-JI0007639 |                   | X                           |           |      |              |
| 2                                            | E-A02     | Jun 30, 2022 |               | Building Materials | S22-JI0007640 |                   | X                           |           |      |              |
| 3                                            | E-A03     | Jun 30, 2022 |               | Building Materials | S22-JI0007641 |                   | X                           |           |      |              |
| 4                                            | E-A04     | Jun 30, 2022 |               | Building Materials | S22-JI0007642 |                   | X                           |           |      |              |
| 5                                            | E-A05     | Jun 30, 2022 |               | Building Materials | S22-JI0007643 |                   | X                           |           |      |              |
| 6                                            | E-A06     | Jun 30, 2022 |               | Building Materials | S22-JI0007644 |                   | X                           |           |      |              |
| 7                                            | E-A07     | Jun 30, 2022 |               | Building Materials | S22-JI0007645 |                   | X                           |           |      |              |
| 8                                            | E-A08     | Jun 30, 2022 |               | Building Materials | S22-JI0007646 |                   | X                           |           |      |              |

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| Sample Detail                                |       |              |  |                    |               | Asbestos - AS4964 | Asbestos Absence / Presence | CANCELLED | Lead | Lead (% w/w) |
|----------------------------------------------|-------|--------------|--|--------------------|---------------|-------------------|-----------------------------|-----------|------|--------------|
| Sydney Laboratory - NATA # 1261 Site # 18217 |       |              |  |                    |               | X                 | X                           | X         | X    | X            |
| 9                                            | E-A09 | Jun 30, 2022 |  | Building Materials | S22-JI0007647 |                   | X                           |           |      |              |
| 10                                           | E-A10 | Jun 30, 2022 |  | Building Materials | S22-JI0007648 |                   | X                           |           |      |              |
| 11                                           | E-A11 | Jun 30, 2022 |  | Building Materials | S22-JI0007649 |                   | X                           |           |      |              |
| 12                                           | E-A12 | Jun 30, 2022 |  | Building Materials | S22-JI0007650 |                   | X                           |           |      |              |
| 13                                           | E-A13 | Jun 30, 2022 |  | Building Materials | S22-JI0007651 |                   | X                           |           |      |              |
| 14                                           | E-A14 | Jun 30, 2022 |  | Building Materials | S22-JI0007652 |                   | X                           |           |      |              |
| 15                                           | E-A15 | Jun 30, 2022 |  | Building Materials | S22-JI0007653 |                   | X                           |           |      |              |
| 16                                           | E-A16 | Jun 30, 2022 |  | Building Materials | S22-JI0007654 |                   | X                           |           |      |              |
| 17                                           | E-L01 | Jun 30, 2022 |  | Paint              | S22-JI0007655 |                   |                             |           |      | X            |
| 18                                           | E-L02 | Jun 30, 2022 |  | Paint              | S22-JI0007656 |                   |                             |           |      | X            |



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Eurofins Analytical Services Manager : Hannah Mawbey

| Sample Detail                                |        |              |  |                    |               | Asbestos - AS4964 | Asbestos Absence / Presence | CANCELLED | Lead | Lead (% w/w) |
|----------------------------------------------|--------|--------------|--|--------------------|---------------|-------------------|-----------------------------|-----------|------|--------------|
| Sydney Laboratory - NATA # 1261 Site # 18217 |        |              |  |                    |               | X                 | X                           | X         | X    | X            |
| 19                                           | E-L03  | Jun 30, 2022 |  | Paint              | S22-JI0007657 |                   |                             |           |      | X            |
| 20                                           | E-L04  | Jun 30, 2022 |  | Paint              | S22-JI0007658 |                   |                             |           |      | X            |
| 21                                           | E-L06  | Jun 30, 2022 |  | Paint              | S22-JI0007660 |                   |                             |           |      | X            |
| 22                                           | E-L07  | Jun 30, 2022 |  | Paint              | S22-JI0007661 |                   |                             |           |      | X            |
| 23                                           | E-L08  | Jun 30, 2022 |  | Paint              | S22-JI0007662 |                   |                             |           |      | X            |
| 24                                           | E-L09  | Jun 30, 2022 |  | Paint              | S22-JI0007663 |                   |                             |           |      | X            |
| 25                                           | E-AD01 | Jun 30, 2022 |  | Dust               | S22-JI0007664 | X                 |                             |           |      |              |
| 26                                           | E-LD01 | Jun 30, 2022 |  | Dust               | S22-JI0007665 |                   |                             |           | X    |              |
| 27                                           | L1-A01 | Jun 30, 2022 |  | Building Materials | S22-JI0007666 |                   | X                           |           |      |              |
| 28                                           | L1-A02 | Jun 30, 2022 |  | Building Materials | S22-JI0007667 |                   | X                           |           |      |              |
| 29                                           | L1-A03 | Jun 30, 2022 |  | Building Materials | S22-JI0007668 |                   | X                           |           |      |              |
| 30                                           | L1-A04 | Jun 30, 2022 |  | Building Materials | S22-JI0007669 |                   | X                           |           |      |              |
| 31                                           | L1-A05 | Jun 30, 2022 |  | Building           | S22-JI0007670 |                   | X                           |           |      |              |

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| Sample Detail                                |        |              |  |                    |               | Asbestos - AS4964 | Asbestos Absence / Presence | CANCELLED | Lead | Lead (% w/w) |
|----------------------------------------------|--------|--------------|--|--------------------|---------------|-------------------|-----------------------------|-----------|------|--------------|
| Sydney Laboratory - NATA # 1261 Site # 18217 |        |              |  |                    |               | X                 | X                           | X         | X    | X            |
|                                              |        |              |  | Materials          |               |                   |                             |           |      |              |
| 32                                           | L1-A06 | Jun 30, 2022 |  | Building Materials | S22-JI0007671 |                   | X                           |           |      |              |
| 33                                           | L1-A07 | Jun 30, 2022 |  | Building Materials | S22-JI0007672 |                   | X                           |           |      |              |
| 34                                           | L1-A08 | Jun 30, 2022 |  | Building Materials | S22-JI0007673 |                   | X                           |           |      |              |
| 35                                           | L1-A09 | Jun 30, 2022 |  | Building Materials | S22-JI0007674 |                   | X                           |           |      |              |
| 36                                           | L1-A10 | Jun 30, 2022 |  | Building Materials | S22-JI0007675 |                   | X                           |           |      |              |
| 37                                           | L1-A11 | Jun 30, 2022 |  | Building Materials | S22-JI0007676 |                   | X                           |           |      |              |
| 38                                           | L1-A12 | Jun 30, 2022 |  | Building Materials | S22-JI0007677 |                   | X                           |           |      |              |
| 39                                           | L1-A13 | Jun 30, 2022 |  | Building Materials | S22-JI0007678 |                   | X                           |           |      |              |
| 40                                           | L1-A14 | Jun 30, 2022 |  | Building Materials | S22-JI0007679 |                   | X                           |           |      |              |

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| Sample Detail                                |         |              |  |                    |               | Asbestos - AS4964 | Asbestos Absence / Presence | CANCELLED | Lead | Lead (% w/w) |
|----------------------------------------------|---------|--------------|--|--------------------|---------------|-------------------|-----------------------------|-----------|------|--------------|
| Sydney Laboratory - NATA # 1261 Site # 18217 |         |              |  |                    |               | X                 | X                           | X         | X    | X            |
| 41                                           | L1-L01  | Jun 30, 2022 |  | Paint              | S22-JI0007680 |                   |                             |           |      | X            |
| 42                                           | L1-L03  | Jun 30, 2022 |  | Paint              | S22-JI0007682 |                   |                             |           |      | X            |
| 43                                           | L1-L04  | Jun 30, 2022 |  | Paint              | S22-JI0007683 |                   |                             |           |      | X            |
| 44                                           | L1-L05  | Jun 30, 2022 |  | Paint              | S22-JI0007684 |                   |                             |           |      | X            |
| 45                                           | L1-AD01 | Jun 30, 2022 |  | Dust               | S22-JI0007685 | X                 |                             |           |      |              |
| 46                                           | L1-AD02 | Jun 30, 2022 |  | Dust               | S22-JI0007686 | X                 |                             |           |      |              |
| 47                                           | L1-AD03 | Jun 30, 2022 |  | Dust               | S22-JI0007687 | X                 |                             |           |      |              |
| 48                                           | L1-AD04 | Jun 30, 2022 |  | Dust               | S22-JI0007688 | X                 |                             |           |      |              |
| 49                                           | L2-A01  | Jun 30, 2022 |  | Building Materials | S22-JI0007689 |                   | X                           |           |      |              |
| 50                                           | L2-A02  | Jun 30, 2022 |  | Building Materials | S22-JI0007690 |                   | X                           |           |      |              |
| 51                                           | L2-A03  | Jun 30, 2022 |  | Building Materials | S22-JI0007691 |                   | X                           |           |      |              |
| 52                                           | L2-A04  | Jun 30, 2022 |  | Building Materials | S22-JI0007692 |                   | X                           |           |      |              |
| 53                                           | L2-A05  | Jun 30, 2022 |  | Building           | S22-JI0007693 |                   | X                           |           |      |              |

**Company Name:** JBS & G Australia (NSW) P/L  
**Address:** Level 1, 50 Margaret St  
Sydney  
NSW 2000  
**Project Name:** HARBOURSIDE  
**Project ID:** 62851

**Order No.:**  
**Report #:** 903124  
**Phone:** 02 8245 0300  
**Fax:**

**Received:** Jun 30, 2022 5:11 PM  
**Due:** Jul 7, 2022  
**Priority:** 5 Day  
**Contact Name:** Stuart Lumsden

Eurofins Analytical Services Manager : Hannah Mawbey

| Sample Detail                                |         |              |  |                    |               | Asbestos - AS4964 | Asbestos Absence / Presence | CANCELLED | Lead | Lead (% w/w) |
|----------------------------------------------|---------|--------------|--|--------------------|---------------|-------------------|-----------------------------|-----------|------|--------------|
| Sydney Laboratory - NATA # 1261 Site # 18217 |         |              |  |                    |               | X                 | X                           | X         | X    | X            |
|                                              |         |              |  | Materials          |               |                   |                             |           |      |              |
| 54                                           | L2-A06  | Jun 30, 2022 |  | Building Materials | S22-JI0007694 |                   | X                           |           |      |              |
| 55                                           | L2-A07  | Jun 30, 2022 |  | Building Materials | S22-JI0007695 |                   | X                           |           |      |              |
| 56                                           | L2-A08  | Jun 30, 2022 |  | Building Materials | S22-JI0007696 |                   | X                           |           |      |              |
| 57                                           | L2-A09  | Jun 30, 2022 |  | Building Materials | S22-JI0007697 |                   | X                           |           |      |              |
| 58                                           | L2-A10  | Jun 30, 2022 |  | Building Materials | S22-JI0007698 |                   | X                           |           |      |              |
| 59                                           | L2-L01  | Jun 30, 2022 |  | Paint              | S22-JI0007699 |                   |                             |           |      | X            |
| 60                                           | L2-AD01 | Jun 30, 2022 |  | Dust               | S22-JI0007700 | X                 |                             |           |      |              |
| 61                                           | L2-LD02 | Jun 30, 2022 |  | Dust               | S22-JI0007701 |                   |                             |           | X    |              |
| 62                                           | L3-A01  | Jun 30, 2022 |  | Building Materials | S22-JI0007702 |                   | X                           |           |      |              |
| 63                                           | L3-A02  | Jun 30, 2022 |  | Building Materials | S22-JI0007703 |                   | X                           |           |      |              |

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Eurofins Analytical Services Manager : Hannah Mawbey

| Sample Detail                                |        |              |  |                    |               | Asbestos - AS4964 | Asbestos Absence / Presence | CANCELLED | Lead | Lead (% w/w) |
|----------------------------------------------|--------|--------------|--|--------------------|---------------|-------------------|-----------------------------|-----------|------|--------------|
| Sydney Laboratory - NATA # 1261 Site # 18217 |        |              |  |                    |               | X                 | X                           | X         | X    | X            |
| 64                                           | L3-A03 | Jun 30, 2022 |  | Building Materials | S22-JI0007704 |                   | X                           |           |      |              |
| 65                                           | L3-A04 | Jun 30, 2022 |  | Building Materials | S22-JI0007705 |                   | X                           |           |      |              |
| 66                                           | L3-A05 | Jun 30, 2022 |  | Building Materials | S22-JI0007706 |                   | X                           |           |      |              |
| 67                                           | L3-A06 | Jun 30, 2022 |  | Building Materials | S22-JI0007707 |                   | X                           |           |      |              |
| 68                                           | L3-A07 | Jun 30, 2022 |  | Building Materials | S22-JI0007708 |                   | X                           |           |      |              |
| 69                                           | L3-A08 | Jun 30, 2022 |  | Building Materials | S22-JI0007709 |                   | X                           |           |      |              |
| 70                                           | L3-A09 | Jun 30, 2022 |  | Building Materials | S22-JI0007710 |                   | X                           |           |      |              |
| 71                                           | L3-A10 | Jun 30, 2022 |  | Building Materials | S22-JI0007711 |                   | X                           |           |      |              |
| 72                                           | L3-A11 | Jun 30, 2022 |  | Building Materials | S22-JI0007712 |                   | X                           |           |      |              |
| 73                                           | L3-L01 | Jun 30, 2022 |  | Paint              | S22-JI0007713 |                   |                             |           |      | X            |



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**Priority:** 5 Day  
**Contact Name:** Stuart Lumsden

Eurofins Analytical Services Manager : Hannah Mawbey

| Sample Detail                                |         |              |  |                    |               | Asbestos - AS4964 | Asbestos Absence / Presence | CANCELLED | Lead | Lead (% w/w) |
|----------------------------------------------|---------|--------------|--|--------------------|---------------|-------------------|-----------------------------|-----------|------|--------------|
| Sydney Laboratory - NATA # 1261 Site # 18217 |         |              |  |                    |               | X                 | X                           | X         | X    | X            |
| 74                                           | L3-L02  | Jun 30, 2022 |  | Paint              | S22-JI0007714 |                   |                             |           |      | X            |
| 75                                           | L3-L03  | Jun 30, 2022 |  | Paint              | S22-JI0007715 |                   |                             | X         |      |              |
| 76                                           | L3-L04  | Jun 30, 2022 |  | Paint              | S22-JI0007716 |                   |                             |           |      | X            |
| 77                                           | L3-AD01 | Jun 30, 2022 |  | Dust               | S22-JI0007719 | X                 |                             |           |      |              |
| 78                                           | L3-AD02 | Jun 30, 2022 |  | Dust               | S22-JI0007720 | X                 |                             |           |      |              |
| 79                                           | L3-LD01 | Jun 30, 2022 |  | Dust               | S22-JI0007721 |                   |                             |           | X    |              |
| 80                                           | L3-LD02 | Jun 30, 2022 |  | Dust               | S22-JI0007722 |                   |                             |           | X    |              |
| 81                                           | L4-A01  | Jun 30, 2022 |  | Building Materials | S22-JI0007723 |                   | X                           |           |      |              |
| 82                                           | L4-A02  | Jun 30, 2022 |  | Building Materials | S22-JI0007724 |                   | X                           |           |      |              |
| 83                                           | L4-L01  | Jun 30, 2022 |  | Paint              | S22-JI0007725 |                   |                             |           |      | X            |
| 84                                           | L1-LD01 | Jun 30, 2022 |  | Dust               | S22-JI0007742 |                   |                             |           | X    |              |
| 85                                           | L1-LD02 | Jun 30, 2022 |  | Dust               | S22-JI0007743 |                   |                             |           | X    |              |
| 86                                           | L1-LD03 | Jun 30, 2022 |  | Dust               | S22-JI0007744 |                   |                             |           | X    |              |
| 87                                           | L1-LD04 | Jun 30, 2022 |  | Dust               | S22-JI0007745 |                   |                             |           | X    |              |

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**Eurofins Analytical Services Manager : Hannah Mawbey**

| Sample Detail                                |  | Asbestos - AS4964 | Asbestos Absence / Presence | CANCELLED | Lead | Lead (% w/w) |
|----------------------------------------------|--|-------------------|-----------------------------|-----------|------|--------------|
| Sydney Laboratory - NATA # 1261 Site # 18217 |  | X                 | X                           | X         | X    | X            |
| Test Counts                                  |  | 8                 | 53                          | 1         | 8    | 17           |

## Internal Quality Control Review and Glossary General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. Information identified on this report with the colour **blue** indicates data provided by customer that may have an impact on the results.
5. Information identified on this report with the colour **orange** indicates sections of the report not covered by the laboratory's scope of NATA accreditation.
6. This report replaces any interim results previously issued.

## Holding Times

Please refer to the most recent version of the 'Sample Preservation and Container Guide' for holding times (QS3001).

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported. Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

## Units

|        |                                                                                                                    |
|--------|--------------------------------------------------------------------------------------------------------------------|
| % w/w: | Percentage weight-for-weight basis, e.g. of asbestos in asbestos-containing finds in soil samples ( <b>% w/w</b> ) |
| F/ffd  | Airborne fibre filter loading as Fibres ( <b>N</b> ) per Fields counted ( <b>n</b> )                               |
| F/mL   | Airborne fibre reported concentration as Fibres per millilitre of air drawn over the sampler membrane ( <b>C</b> ) |
| g, kg  | Mass, e.g. of whole sample ( <b>M</b> ) or asbestos-containing find within the sample ( <b>m</b> )                 |
| g/kg   | Concentration in grams per kilogram                                                                                |
| L, mL  | Volume, e.g. of air as measured in AFM ( <b>V = r x t</b> )                                                        |
| L/min  | Airborne fibre sampling Flowrate as litres per minute of air drawn over the sampler membrane ( <b>r</b> )          |
| min    | Time ( <b>t</b> ), e.g. of air sample collection period                                                            |

## Calculations

Airborne Fibre Concentration: 
$$C = \left(\frac{A}{a}\right) \times \left(\frac{N}{r}\right) \times \left(\frac{1}{V}\right) \times \left(\frac{1}{t}\right) = K \times \left(\frac{N}{r}\right) \times \left(\frac{1}{V}\right)$$

Asbestos Content (as asbestos): 
$$\% w/w = \frac{(m \times P_A)}{M}$$

Weighted Average (of asbestos): 
$$\%_{WA} = \frac{\sum (m \times P_A) \times x}{x}$$

## Terms

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>%asbestos</b>                      | Estimated percentage of asbestos in a given matrix. May be derived from knowledge or experience of the material, informed by HSG264 <i>Appendix 2</i> , else assumed to be 15% in accordance with WA DOH <i>Appendix 2 (PA)</i> .                                                                                                                                                                                                                                       |
| <b>ACM</b>                            | Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded (non-friable) condition. For the purposes of the NEPM and WA DOH, ACM corresponds to material larger than 7 mm x 7 mm.                                                                                                                                                                                                                                    |
| <b>AF</b>                             | Asbestos Fines. Asbestos contamination within a soil sample, as defined by WA DOH. Includes loose fibre bundles and small pieces of friable and non-friable material such as asbestos cement fragments mixed with soil. Considered under the NEPM as equivalent to "non-bonded / friable".                                                                                                                                                                              |
| <b>AFM</b>                            | Airborne Fibre Monitoring, e.g. by the MFM.                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Amosite</b>                        | Amosite Asbestos Detected. Amosite may also refer to Fibrous Grunerite or Brown Asbestos. Identified in accordance with AS 4964-2004.                                                                                                                                                                                                                                                                                                                                   |
| <b>AS</b>                             | Australian Standard.                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Asbestos Content (as asbestos)</b> | Total % w/w asbestos content in asbestos-containing finds in a soil sample ( <b>% w/w</b> ).                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Chrysotile</b>                     | Chrysotile Asbestos Detected. Chrysotile may also refer to Fibrous Serpentine or White Asbestos. Identified in accordance with AS 4964-2004.                                                                                                                                                                                                                                                                                                                            |
| <b>COC</b>                            | Chain of Custody.                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Crocidolite</b>                    | Crocidolite Asbestos Detected. Crocidolite may also refer to Fibrous Riebeckite or Blue Asbestos. Identified in accordance with AS 4964-2004.                                                                                                                                                                                                                                                                                                                           |
| <b>Dry</b>                            | Sample is dried by heating prior to analysis.                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>DS</b>                             | Dispersion Staining. Technique required for Unequivocal Identification of asbestos fibres by PLM.                                                                                                                                                                                                                                                                                                                                                                       |
| <b>FA</b>                             | Fibrous Asbestos. Asbestos containing material that is wholly or in part friable, including materials with higher asbestos content with a propensity to become friable with handling, and any material that was previously non-friable and in a severely degraded condition. For the purposes of the NEPM and WA DOH, FA generally corresponds to material larger than 7 mm x 7 mm, although FA may be more difficult to visibly distinguish and may be assessed as AF. |
| <b>Fibre Count</b>                    | Total of all fibres (whether asbestos or not) meeting the counting criteria set out in the NOHSC:3003                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Fibre ID</b>                       | Fibre Identification. Unequivocal identification of asbestos fibres according to AS 4964-2004. Includes Chrysotile, Amosite (Grunerite) or Crocidolite asbestos.                                                                                                                                                                                                                                                                                                        |
| <b>Friable</b>                        | Asbestos-containing materials of any size that may be broken or crumbled by hand pressure. For the purposes of the NEPM, this includes both AF and FA. It is outside of the laboratory's remit to assess degree of friability.                                                                                                                                                                                                                                          |
| <b>HSG248</b>                         | UK HSE HSG248, <i>Asbestos: The Analysts Guide</i> , 2nd Edition (2021).                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>HSG264</b>                         | UK HSE HSG264, <i>Asbestos: The Survey Guide</i> (2012).                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>ISO (also ISO/IEC)</b>             | International Organization for Standardization / International Electrotechnical Commission.                                                                                                                                                                                                                                                                                                                                                                             |
| <b>K Factor</b>                       | Microscope constant ( <b>K</b> ) as derived from the effective filter area of the given AFM membrane used for collecting the sample ( <b>A</b> ) and the projected eyepiece graticule area of the specific microscope used for the analysis ( <b>a</b> ).                                                                                                                                                                                                               |
| <b>LOR</b>                            | Limit of Reporting.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>MFM (also NOHSC:3003)</b>          | Membrane Filter Method. As described by the Australian Government National Occupational Health and Safety Commission, <i>Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres</i> , 2nd Edition [NOHSC:3003(2005)].                                                                                                                                                                                                                      |
| <b>NEPM (also ASC NEPM)</b>           | National Environment Protection (Assessment of Site Contamination) Measure, (2013, as amended).                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Organic</b>                        | Organic Fibres Detected. Organic may refer to Natural or Man-Made Polymeric Fibres. Identified in accordance with AS 4964-2004.                                                                                                                                                                                                                                                                                                                                         |
| <b>PCM</b>                            | Phase Contrast Microscopy. As used for Fibre Counting according to the MFM.                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>PLM</b>                            | Polarised Light Microscopy. As used for Fibre Identification and Trace Analysis according to AS 4964-2004.                                                                                                                                                                                                                                                                                                                                                              |
| <b>SMF</b>                            | Synthetic Mineral Fibre Detected. SMF may also refer to Man Made Vitreous Fibres. Identified in accordance with AS 4964-2004.                                                                                                                                                                                                                                                                                                                                           |
| <b>SRA</b>                            | Sample Receipt Advice.                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Trace Analysis</b>                 | Analytical procedure used to detect the presence of respirable fibres (particularly asbestos) in a given sample matrix.                                                                                                                                                                                                                                                                                                                                                 |
| <b>UK HSE HSG</b>                     | United Kingdom, Health and Safety Executive, Health and Safety Guidance, publication.                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>UMF</b>                            | Unidentified Mineral Fibre Detected. Fibrous minerals that are detected but have not been unequivocally identified by PLM with DS according the AS 4964-2004. May include (but not limited to) Actinolite, Anthophyllite or Tremolite asbestos.                                                                                                                                                                                                                         |
| <b>WA DOH</b>                         | Reference document for the NEPM. Government of Western Australia, <i>Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia</i> (updated 2021), including Appendix Four: <i>Laboratory analysis</i>                                                                                                                                                                                                              |
| <b>Weighted Average</b>               | Combined average % w/w asbestos content of all asbestos-containing finds in the given aliquot or total soil sample ( <b>%<sub>WA</sub></b> ).                                                                                                                                                                                                                                                                                                                           |

## Comments

### Sample Integrity

|                                                                         |     |
|-------------------------------------------------------------------------|-----|
| Custody Seals Intact (if used)                                          | N/A |
| Attempt to Chill was evident                                            | N/A |
| Sample correctly preserved                                              | Yes |
| Appropriate sample containers have been used                            | Yes |
| Sample containers for volatile analysis received with minimal headspace | Yes |
| Samples received within HoldingTime                                     | Yes |
| Some samples have been subcontracted                                    | No  |

### Asbestos Counter/Identifier:

Chamath JHM Annakkage      Senior Analyst-Asbestos

### Authorised by:

Sayeed Abu      Senior Analyst-Asbestos



**Glenn Jackson**  
**General Manager**

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

\* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

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**JBS & G Australia (NSW) P/L**  
**Level 1, 50 Margaret St**  
**Sydney**  
**NSW 2000**



**NATA Accredited**  
**Accreditation Number 1261**  
**Site Number 18217**

Accredited for compliance with ISO/IEC 17025 – Testing  
 NATA is a signatory to the ILAC Mutual Recognition  
 Arrangement for the mutual recognition of the  
 equivalence of testing, medical testing, calibration,  
 inspection, proficiency testing scheme providers and  
 reference materials producers reports and certificates.

**Attention:** **Stuart Lumsden**

**Report** **903124-S**  
**Project name** **HARBOURSIDE**  
**Project ID** **62851**  
**Received Date** **Jun 30, 2022**

|                            |      |      |                      |                      |                      |                      |
|----------------------------|------|------|----------------------|----------------------|----------------------|----------------------|
| <b>Client Sample ID</b>    |      |      | <b>E-L01</b>         | <b>E-L02</b>         | <b>E-L03</b>         | <b>E-L04</b>         |
| <b>Sample Matrix</b>       |      |      | <b>Paint</b>         | <b>Paint</b>         | <b>Paint</b>         | <b>Paint</b>         |
| <b>Eurofins Sample No.</b> |      |      | <b>S22-JI0007655</b> | <b>S22-JI0007656</b> | <b>S22-JI0007657</b> | <b>S22-JI0007658</b> |
| <b>Date Sampled</b>        |      |      | <b>Jun 30, 2022</b>  | <b>Jun 30, 2022</b>  | <b>Jun 30, 2022</b>  | <b>Jun 30, 2022</b>  |
| <b>Test/Reference</b>      | LOR  | Unit |                      |                      |                      |                      |
|                            |      |      |                      |                      |                      |                      |
| <b>Lead (% w/w)</b>        | 0.01 | %    | < 0.01               | < 0.01               | < 0.01               | 0.06                 |

|                            |      |      |                      |                      |                      |                      |
|----------------------------|------|------|----------------------|----------------------|----------------------|----------------------|
| <b>Client Sample ID</b>    |      |      | <b>E-L06</b>         | <b>E-L07</b>         | <b>E-L08</b>         | <b>E-L09</b>         |
| <b>Sample Matrix</b>       |      |      | <b>Paint</b>         | <b>Paint</b>         | <b>Paint</b>         | <b>Paint</b>         |
| <b>Eurofins Sample No.</b> |      |      | <b>S22-JI0007660</b> | <b>S22-JI0007661</b> | <b>S22-JI0007662</b> | <b>S22-JI0007663</b> |
| <b>Date Sampled</b>        |      |      | <b>Jun 30, 2022</b>  | <b>Jun 30, 2022</b>  | <b>Jun 30, 2022</b>  | <b>Jun 30, 2022</b>  |
| <b>Test/Reference</b>      | LOR  | Unit |                      |                      |                      |                      |
|                            |      |      |                      |                      |                      |                      |
| <b>Lead (% w/w)</b>        | 0.01 | %    | 0.02                 | < 0.01               | < 0.01               | 0.10                 |

|                            |      |       |                      |                      |                      |                      |
|----------------------------|------|-------|----------------------|----------------------|----------------------|----------------------|
| <b>Client Sample ID</b>    |      |       | <b>E-LD01</b>        | <b>L1-L01</b>        | <b>L1-L03</b>        | <b>L1-L04</b>        |
| <b>Sample Matrix</b>       |      |       | <b>Dust</b>          | <b>Paint</b>         | <b>Paint</b>         | <b>Paint</b>         |
| <b>Eurofins Sample No.</b> |      |       | <b>S22-JI0007665</b> | <b>S22-JI0007680</b> | <b>S22-JI0007682</b> | <b>S22-JI0007683</b> |
| <b>Date Sampled</b>        |      |       | <b>Jun 30, 2022</b>  | <b>Jun 30, 2022</b>  | <b>Jun 30, 2022</b>  | <b>Jun 30, 2022</b>  |
| <b>Test/Reference</b>      | LOR  | Unit  |                      |                      |                      |                      |
|                            |      |       |                      |                      |                      |                      |
| <b>Lead (% w/w)</b>        | 0.01 | %     | -                    | < 0.01               | 0.09                 | 0.03                 |
| <b>Heavy Metals</b>        |      |       |                      |                      |                      |                      |
| <b>Lead</b>                | 5    | mg/kg | 180                  | -                    | -                    | -                    |

|                            |      |       |                      |                      |                      |                      |
|----------------------------|------|-------|----------------------|----------------------|----------------------|----------------------|
| <b>Client Sample ID</b>    |      |       | <b>L1-L05</b>        | <b>L2-L01</b>        | <b>L2-LD02</b>       | <b>L3-L01</b>        |
| <b>Sample Matrix</b>       |      |       | <b>Paint</b>         | <b>Paint</b>         | <b>Dust</b>          | <b>Paint</b>         |
| <b>Eurofins Sample No.</b> |      |       | <b>S22-JI0007684</b> | <b>S22-JI0007699</b> | <b>S22-JI0007701</b> | <b>S22-JI0007713</b> |
| <b>Date Sampled</b>        |      |       | <b>Jun 30, 2022</b>  | <b>Jun 30, 2022</b>  | <b>Jun 30, 2022</b>  | <b>Jun 30, 2022</b>  |
| <b>Test/Reference</b>      | LOR  | Unit  |                      |                      |                      |                      |
|                            |      |       |                      |                      |                      |                      |
| <b>Lead (% w/w)</b>        | 0.01 | %     | < 0.01               | < 0.01               | -                    | < 0.01               |
| <b>Heavy Metals</b>        |      |       |                      |                      |                      |                      |
| <b>Lead</b>                | 5    | mg/kg | -                    | -                    | 110                  | -                    |



|                     |      |       |               |               |                |                |
|---------------------|------|-------|---------------|---------------|----------------|----------------|
| Client Sample ID    |      |       | <b>L3-L02</b> | <b>L3-L04</b> | <b>L3-LD01</b> | <b>L3-LD02</b> |
| Sample Matrix       |      |       | Paint         | Paint         | Dust           | Dust           |
| Eurofins Sample No. |      |       | S22-JI0007714 | S22-JI0007716 | S22-JI0007721  | S22-JI0007722  |
| Date Sampled        |      |       | Jun 30, 2022  | Jun 30, 2022  | Jun 30, 2022   | Jun 30, 2022   |
| Test/Reference      | LOR  | Unit  |               |               |                |                |
|                     |      |       |               |               |                |                |
| Lead (% w/w)        | 0.01 | %     | 0.02          | < 0.01        | -              | -              |
| <b>Heavy Metals</b> |      |       |               |               |                |                |
| Lead                | 5    | mg/kg | -             | -             | 120            | 86             |

|                     |      |       |               |                |                |                |
|---------------------|------|-------|---------------|----------------|----------------|----------------|
| Client Sample ID    |      |       | <b>L4-L01</b> | <b>L1-LD01</b> | <b>L1-LD02</b> | <b>L1-LD03</b> |
| Sample Matrix       |      |       | Paint         | Dust           | Dust           | Dust           |
| Eurofins Sample No. |      |       | S22-JI0007725 | S22-JI0007742  | S22-JI0007743  | S22-JI0007744  |
| Date Sampled        |      |       | Jun 30, 2022  | Jun 30, 2022   | Jun 30, 2022   | Jun 30, 2022   |
| Test/Reference      | LOR  | Unit  |               |                |                |                |
|                     |      |       |               |                |                |                |
| Lead (% w/w)        | 0.01 | %     | 0.01          | -              | -              | -              |
| <b>Heavy Metals</b> |      |       |               |                |                |                |
| Lead                | 5    | mg/kg | -             | 36             | 9.3            | 170            |

|                     |     |       |                |
|---------------------|-----|-------|----------------|
| Client Sample ID    |     |       | <b>L1-LD04</b> |
| Sample Matrix       |     |       | Dust           |
| Eurofins Sample No. |     |       | S22-JI0007745  |
| Date Sampled        |     |       | Jun 30, 2022   |
| Test/Reference      | LOR | Unit  |                |
| <b>Heavy Metals</b> |     |       |                |
| Lead                | 5   | mg/kg | 63             |

**Sample History**

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

| Description                                                                          | Testing Site | Extracted    | Holding Time |
|--------------------------------------------------------------------------------------|--------------|--------------|--------------|
| Lead (% w/w)<br>- Method: LTM-MET-3040 Metals in Waters Soils & Sediments by ICP-MS  | Sydney       | Jul 05, 2022 | 6 Months     |
| Heavy Metals<br>- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | Sydney       | Jul 06, 2022 | 28 Days      |

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**Project Name:** HARBOURSIDE  
**Project ID:** 62851

**Order No.:**  
**Report #:** 903124  
**Phone:** 02 8245 0300  
**Fax:**

**Received:** Jun 30, 2022 5:11 PM  
**Due:** Jul 7, 2022  
**Priority:** 5 Day  
**Contact Name:** Stuart Lumsden

Eurofins Analytical Services Manager : Hannah Mawbey

| Sample Detail                                |           |              |               |                    |               | Asbestos - AS4964 | Asbestos Absence / Presence | CANCELLED | Lead | Lead (% w/w) |
|----------------------------------------------|-----------|--------------|---------------|--------------------|---------------|-------------------|-----------------------------|-----------|------|--------------|
| Sydney Laboratory - NATA # 1261 Site # 18217 |           |              |               |                    |               | X                 | X                           | X         | X    | X            |
| External Laboratory                          |           |              |               |                    |               |                   |                             |           |      |              |
| No                                           | Sample ID | Sample Date  | Sampling Time | Matrix             | LAB ID        |                   |                             |           |      |              |
| 1                                            | E-A01     | Jun 30, 2022 |               | Building Materials | S22-JI0007639 |                   | X                           |           |      |              |
| 2                                            | E-A02     | Jun 30, 2022 |               | Building Materials | S22-JI0007640 |                   | X                           |           |      |              |
| 3                                            | E-A03     | Jun 30, 2022 |               | Building Materials | S22-JI0007641 |                   | X                           |           |      |              |
| 4                                            | E-A04     | Jun 30, 2022 |               | Building Materials | S22-JI0007642 |                   | X                           |           |      |              |
| 5                                            | E-A05     | Jun 30, 2022 |               | Building Materials | S22-JI0007643 |                   | X                           |           |      |              |
| 6                                            | E-A06     | Jun 30, 2022 |               | Building Materials | S22-JI0007644 |                   | X                           |           |      |              |
| 7                                            | E-A07     | Jun 30, 2022 |               | Building Materials | S22-JI0007645 |                   | X                           |           |      |              |
| 8                                            | E-A08     | Jun 30, 2022 |               | Building Materials | S22-JI0007646 |                   | X                           |           |      |              |

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| Sample Detail                                |       |              |  |                    |               | Asbestos - AS4964 | Asbestos Absence / Presence | CANCELLED | Lead | Lead (% w/w) |
|----------------------------------------------|-------|--------------|--|--------------------|---------------|-------------------|-----------------------------|-----------|------|--------------|
| Sydney Laboratory - NATA # 1261 Site # 18217 |       |              |  |                    |               | X                 | X                           | X         | X    | X            |
| 9                                            | E-A09 | Jun 30, 2022 |  | Building Materials | S22-JI0007647 |                   | X                           |           |      |              |
| 10                                           | E-A10 | Jun 30, 2022 |  | Building Materials | S22-JI0007648 |                   | X                           |           |      |              |
| 11                                           | E-A11 | Jun 30, 2022 |  | Building Materials | S22-JI0007649 |                   | X                           |           |      |              |
| 12                                           | E-A12 | Jun 30, 2022 |  | Building Materials | S22-JI0007650 |                   | X                           |           |      |              |
| 13                                           | E-A13 | Jun 30, 2022 |  | Building Materials | S22-JI0007651 |                   | X                           |           |      |              |
| 14                                           | E-A14 | Jun 30, 2022 |  | Building Materials | S22-JI0007652 |                   | X                           |           |      |              |
| 15                                           | E-A15 | Jun 30, 2022 |  | Building Materials | S22-JI0007653 |                   | X                           |           |      |              |
| 16                                           | E-A16 | Jun 30, 2022 |  | Building Materials | S22-JI0007654 |                   | X                           |           |      |              |
| 17                                           | E-L01 | Jun 30, 2022 |  | Paint              | S22-JI0007655 |                   |                             |           |      | X            |
| 18                                           | E-L02 | Jun 30, 2022 |  | Paint              | S22-JI0007656 |                   |                             |           |      | X            |

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| Sample Detail                                |        |              |  |                    |               | Asbestos - AS4964 | Asbestos Absence / Presence | CANCELLED | Lead | Lead (% w/w) |
|----------------------------------------------|--------|--------------|--|--------------------|---------------|-------------------|-----------------------------|-----------|------|--------------|
| Sydney Laboratory - NATA # 1261 Site # 18217 |        |              |  |                    |               | X                 | X                           | X         | X    | X            |
| 19                                           | E-L03  | Jun 30, 2022 |  | Paint              | S22-JI0007657 |                   |                             |           |      | X            |
| 20                                           | E-L04  | Jun 30, 2022 |  | Paint              | S22-JI0007658 |                   |                             |           |      | X            |
| 21                                           | E-L06  | Jun 30, 2022 |  | Paint              | S22-JI0007660 |                   |                             |           |      | X            |
| 22                                           | E-L07  | Jun 30, 2022 |  | Paint              | S22-JI0007661 |                   |                             |           |      | X            |
| 23                                           | E-L08  | Jun 30, 2022 |  | Paint              | S22-JI0007662 |                   |                             |           |      | X            |
| 24                                           | E-L09  | Jun 30, 2022 |  | Paint              | S22-JI0007663 |                   |                             |           |      | X            |
| 25                                           | E-AD01 | Jun 30, 2022 |  | Dust               | S22-JI0007664 | X                 |                             |           |      |              |
| 26                                           | E-LD01 | Jun 30, 2022 |  | Dust               | S22-JI0007665 |                   |                             |           | X    |              |
| 27                                           | L1-A01 | Jun 30, 2022 |  | Building Materials | S22-JI0007666 |                   | X                           |           |      |              |
| 28                                           | L1-A02 | Jun 30, 2022 |  | Building Materials | S22-JI0007667 |                   | X                           |           |      |              |
| 29                                           | L1-A03 | Jun 30, 2022 |  | Building Materials | S22-JI0007668 |                   | X                           |           |      |              |
| 30                                           | L1-A04 | Jun 30, 2022 |  | Building Materials | S22-JI0007669 |                   | X                           |           |      |              |
| 31                                           | L1-A05 | Jun 30, 2022 |  | Building           | S22-JI0007670 |                   | X                           |           |      |              |



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| Sample Detail                                |        |              |  |                    |               | Asbestos - AS4964 | Asbestos Absence / Presence | CANCELLED | Lead | Lead (% w/w) |
|----------------------------------------------|--------|--------------|--|--------------------|---------------|-------------------|-----------------------------|-----------|------|--------------|
| Sydney Laboratory - NATA # 1261 Site # 18217 |        |              |  |                    |               | X                 | X                           | X         | X    | X            |
|                                              |        |              |  | Materials          |               |                   |                             |           |      |              |
| 32                                           | L1-A06 | Jun 30, 2022 |  | Building Materials | S22-JI0007671 |                   | X                           |           |      |              |
| 33                                           | L1-A07 | Jun 30, 2022 |  | Building Materials | S22-JI0007672 |                   | X                           |           |      |              |
| 34                                           | L1-A08 | Jun 30, 2022 |  | Building Materials | S22-JI0007673 |                   | X                           |           |      |              |
| 35                                           | L1-A09 | Jun 30, 2022 |  | Building Materials | S22-JI0007674 |                   | X                           |           |      |              |
| 36                                           | L1-A10 | Jun 30, 2022 |  | Building Materials | S22-JI0007675 |                   | X                           |           |      |              |
| 37                                           | L1-A11 | Jun 30, 2022 |  | Building Materials | S22-JI0007676 |                   | X                           |           |      |              |
| 38                                           | L1-A12 | Jun 30, 2022 |  | Building Materials | S22-JI0007677 |                   | X                           |           |      |              |
| 39                                           | L1-A13 | Jun 30, 2022 |  | Building Materials | S22-JI0007678 |                   | X                           |           |      |              |
| 40                                           | L1-A14 | Jun 30, 2022 |  | Building Materials | S22-JI0007679 |                   | X                           |           |      |              |

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| Sample Detail                                |         |              |  |                    |               | Asbestos - AS4964 | Asbestos Absence / Presence | CANCELLED | Lead | Lead (% w/w) |
|----------------------------------------------|---------|--------------|--|--------------------|---------------|-------------------|-----------------------------|-----------|------|--------------|
| Sydney Laboratory - NATA # 1261 Site # 18217 |         |              |  |                    |               | X                 | X                           | X         | X    | X            |
| 41                                           | L1-L01  | Jun 30, 2022 |  | Paint              | S22-JI0007680 |                   |                             |           |      | X            |
| 42                                           | L1-L03  | Jun 30, 2022 |  | Paint              | S22-JI0007682 |                   |                             |           |      | X            |
| 43                                           | L1-L04  | Jun 30, 2022 |  | Paint              | S22-JI0007683 |                   |                             |           |      | X            |
| 44                                           | L1-L05  | Jun 30, 2022 |  | Paint              | S22-JI0007684 |                   |                             |           |      | X            |
| 45                                           | L1-AD01 | Jun 30, 2022 |  | Dust               | S22-JI0007685 | X                 |                             |           |      |              |
| 46                                           | L1-AD02 | Jun 30, 2022 |  | Dust               | S22-JI0007686 | X                 |                             |           |      |              |
| 47                                           | L1-AD03 | Jun 30, 2022 |  | Dust               | S22-JI0007687 | X                 |                             |           |      |              |
| 48                                           | L1-AD04 | Jun 30, 2022 |  | Dust               | S22-JI0007688 | X                 |                             |           |      |              |
| 49                                           | L2-A01  | Jun 30, 2022 |  | Building Materials | S22-JI0007689 |                   | X                           |           |      |              |
| 50                                           | L2-A02  | Jun 30, 2022 |  | Building Materials | S22-JI0007690 |                   | X                           |           |      |              |
| 51                                           | L2-A03  | Jun 30, 2022 |  | Building Materials | S22-JI0007691 |                   | X                           |           |      |              |
| 52                                           | L2-A04  | Jun 30, 2022 |  | Building Materials | S22-JI0007692 |                   | X                           |           |      |              |
| 53                                           | L2-A05  | Jun 30, 2022 |  | Building           | S22-JI0007693 |                   | X                           |           |      |              |

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| Sample Detail                                |         |              |  |                    |               | Asbestos - AS4964 | Asbestos Absence / Presence | CANCELLED | Lead | Lead (% w/w) |
|----------------------------------------------|---------|--------------|--|--------------------|---------------|-------------------|-----------------------------|-----------|------|--------------|
| Sydney Laboratory - NATA # 1261 Site # 18217 |         |              |  |                    |               | X                 | X                           | X         | X    | X            |
|                                              |         |              |  | Materials          |               |                   |                             |           |      |              |
| 54                                           | L2-A06  | Jun 30, 2022 |  | Building Materials | S22-JI0007694 |                   | X                           |           |      |              |
| 55                                           | L2-A07  | Jun 30, 2022 |  | Building Materials | S22-JI0007695 |                   | X                           |           |      |              |
| 56                                           | L2-A08  | Jun 30, 2022 |  | Building Materials | S22-JI0007696 |                   | X                           |           |      |              |
| 57                                           | L2-A09  | Jun 30, 2022 |  | Building Materials | S22-JI0007697 |                   | X                           |           |      |              |
| 58                                           | L2-A10  | Jun 30, 2022 |  | Building Materials | S22-JI0007698 |                   | X                           |           |      |              |
| 59                                           | L2-L01  | Jun 30, 2022 |  | Paint              | S22-JI0007699 |                   |                             |           |      | X            |
| 60                                           | L2-AD01 | Jun 30, 2022 |  | Dust               | S22-JI0007700 | X                 |                             |           |      |              |
| 61                                           | L2-LD02 | Jun 30, 2022 |  | Dust               | S22-JI0007701 |                   |                             |           | X    |              |
| 62                                           | L3-A01  | Jun 30, 2022 |  | Building Materials | S22-JI0007702 |                   | X                           |           |      |              |
| 63                                           | L3-A02  | Jun 30, 2022 |  | Building Materials | S22-JI0007703 |                   | X                           |           |      |              |

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| Sample Detail                                |        |              |  |                    |               | Asbestos - AS4964 | Asbestos Absence / Presence | CANCELLED | Lead | Lead (% w/w) |
|----------------------------------------------|--------|--------------|--|--------------------|---------------|-------------------|-----------------------------|-----------|------|--------------|
| Sydney Laboratory - NATA # 1261 Site # 18217 |        |              |  |                    |               | X                 | X                           | X         | X    | X            |
| 64                                           | L3-A03 | Jun 30, 2022 |  | Building Materials | S22-JI0007704 |                   | X                           |           |      |              |
| 65                                           | L3-A04 | Jun 30, 2022 |  | Building Materials | S22-JI0007705 |                   | X                           |           |      |              |
| 66                                           | L3-A05 | Jun 30, 2022 |  | Building Materials | S22-JI0007706 |                   | X                           |           |      |              |
| 67                                           | L3-A06 | Jun 30, 2022 |  | Building Materials | S22-JI0007707 |                   | X                           |           |      |              |
| 68                                           | L3-A07 | Jun 30, 2022 |  | Building Materials | S22-JI0007708 |                   | X                           |           |      |              |
| 69                                           | L3-A08 | Jun 30, 2022 |  | Building Materials | S22-JI0007709 |                   | X                           |           |      |              |
| 70                                           | L3-A09 | Jun 30, 2022 |  | Building Materials | S22-JI0007710 |                   | X                           |           |      |              |
| 71                                           | L3-A10 | Jun 30, 2022 |  | Building Materials | S22-JI0007711 |                   | X                           |           |      |              |
| 72                                           | L3-A11 | Jun 30, 2022 |  | Building Materials | S22-JI0007712 |                   | X                           |           |      |              |
| 73                                           | L3-L01 | Jun 30, 2022 |  | Paint              | S22-JI0007713 |                   |                             |           |      | X            |

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| Sample Detail                                |         |              |  |                    |               | Asbestos - AS4964 | Asbestos Absence / Presence | CANCELLED | Lead | Lead (% w/w) |
|----------------------------------------------|---------|--------------|--|--------------------|---------------|-------------------|-----------------------------|-----------|------|--------------|
| Sydney Laboratory - NATA # 1261 Site # 18217 |         |              |  |                    |               | X                 | X                           | X         | X    | X            |
| 74                                           | L3-L02  | Jun 30, 2022 |  | Paint              | S22-JI0007714 |                   |                             |           |      | X            |
| 75                                           | L3-L03  | Jun 30, 2022 |  | Paint              | S22-JI0007715 |                   |                             | X         |      |              |
| 76                                           | L3-L04  | Jun 30, 2022 |  | Paint              | S22-JI0007716 |                   |                             |           |      | X            |
| 77                                           | L3-AD01 | Jun 30, 2022 |  | Dust               | S22-JI0007719 | X                 |                             |           |      |              |
| 78                                           | L3-AD02 | Jun 30, 2022 |  | Dust               | S22-JI0007720 | X                 |                             |           |      |              |
| 79                                           | L3-LD01 | Jun 30, 2022 |  | Dust               | S22-JI0007721 |                   |                             |           | X    |              |
| 80                                           | L3-LD02 | Jun 30, 2022 |  | Dust               | S22-JI0007722 |                   |                             |           | X    |              |
| 81                                           | L4-A01  | Jun 30, 2022 |  | Building Materials | S22-JI0007723 |                   | X                           |           |      |              |
| 82                                           | L4-A02  | Jun 30, 2022 |  | Building Materials | S22-JI0007724 |                   | X                           |           |      |              |
| 83                                           | L4-L01  | Jun 30, 2022 |  | Paint              | S22-JI0007725 |                   |                             |           |      | X            |
| 84                                           | L1-LD01 | Jun 30, 2022 |  | Dust               | S22-JI0007742 |                   |                             |           | X    |              |
| 85                                           | L1-LD02 | Jun 30, 2022 |  | Dust               | S22-JI0007743 |                   |                             |           | X    |              |
| 86                                           | L1-LD03 | Jun 30, 2022 |  | Dust               | S22-JI0007744 |                   |                             |           | X    |              |
| 87                                           | L1-LD04 | Jun 30, 2022 |  | Dust               | S22-JI0007745 |                   |                             |           | X    |              |



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| Sample Detail                                |  |  |  |  | Asbestos - AS4964 | Asbestos Absence / Presence | CANCELLED | Lead | Lead (% w/w) |
|----------------------------------------------|--|--|--|--|-------------------|-----------------------------|-----------|------|--------------|
| Sydney Laboratory - NATA # 1261 Site # 18217 |  |  |  |  | X                 | X                           | X         | X    | X            |
| Test Counts                                  |  |  |  |  | 8                 | 53                          | 1         | 8    | 17           |

## Internal Quality Control Review and Glossary

### General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

### Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

### Units

|                                                  |                                           |                                                                          |
|--------------------------------------------------|-------------------------------------------|--------------------------------------------------------------------------|
| <b>mg/kg:</b> milligrams per kilogram            | <b>mg/L:</b> milligrams per litre         | <b>µg/L:</b> micrograms per litre                                        |
| <b>ppm:</b> parts per million                    | <b>ppb:</b> parts per billion             | <b>%:</b> Percentage                                                     |
| <b>org/100 mL:</b> Organisms per 100 millilitres | <b>NTU:</b> Nephelometric Turbidity Units | <b>MPN/100 mL:</b> Most Probable Number of organisms per 100 millilitres |

### Terms

|                         |                                                                                                                                                                                                                                                                                               |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>APHA</b>             | American Public Health Association                                                                                                                                                                                                                                                            |
| <b>COC</b>              | Chain of Custody                                                                                                                                                                                                                                                                              |
| <b>CP</b>               | Client Parent - QC was performed on samples pertaining to this report                                                                                                                                                                                                                         |
| <b>CRM</b>              | Certified Reference Material (ISO17034) - reported as percent recovery.                                                                                                                                                                                                                       |
| <b>Dry</b>              | Where a moisture has been determined on a solid sample the result is expressed on a dry basis.                                                                                                                                                                                                |
| <b>Duplicate</b>        | A second piece of analysis from the same sample and reported in the same units as the result to show comparison.                                                                                                                                                                              |
| <b>LOR</b>              | Limit of Reporting.                                                                                                                                                                                                                                                                           |
| <b>LCS</b>              | Laboratory Control Sample - reported as percent recovery.                                                                                                                                                                                                                                     |
| <b>Method Blank</b>     | In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.                                                                                                                                |
| <b>NCP</b>              | Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.                                                                                                                            |
| <b>RPD</b>              | Relative Percent Difference between two Duplicate pieces of analysis.                                                                                                                                                                                                                         |
| <b>SPIKE</b>            | Addition of the analyte to the sample and reported as percentage recovery.                                                                                                                                                                                                                    |
| <b>SRA</b>              | Sample Receipt Advice                                                                                                                                                                                                                                                                         |
| <b>Surr - Surrogate</b> | The addition of a like compound to the analyte target and reported as percentage recovery.                                                                                                                                                                                                    |
| <b>TBTO</b>             | Tributyltin oxide ( <i>bis</i> -tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits. |
| <b>TCLP</b>             | Toxicity Characteristic Leaching Procedure                                                                                                                                                                                                                                                    |
| <b>TEQ</b>              | Toxic Equivalency Quotient or Total Equivalence                                                                                                                                                                                                                                               |
| <b>QSM</b>              | US Department of Defense Quality Systems Manual Version 5.4                                                                                                                                                                                                                                   |
| <b>US EPA</b>           | United States Environmental Protection Agency                                                                                                                                                                                                                                                 |
| <b>WA DWER</b>          | Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA                                                                                                                                                                                                                 |

### QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

### QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

## Quality Control Results

| Test                      |               |           |       | Units    | Result 1 |          |     | Acceptance Limits | Pass Limits | Qualifying Code |
|---------------------------|---------------|-----------|-------|----------|----------|----------|-----|-------------------|-------------|-----------------|
| <b>Method Blank</b>       |               |           |       |          |          |          |     |                   |             |                 |
| Lead (% w/w)              |               |           |       | %        | < 0.01   |          |     | 0.01              | Pass        |                 |
| <b>Method Blank</b>       |               |           |       |          |          |          |     |                   |             |                 |
| <b>Heavy Metals</b>       |               |           |       |          |          |          |     |                   |             |                 |
| Lead                      |               |           |       | mg/kg    | < 5      |          |     | 5                 | Pass        |                 |
| <b>LCS - % Recovery</b>   |               |           |       |          |          |          |     |                   |             |                 |
| <b>Heavy Metals</b>       |               |           |       |          |          |          |     |                   |             |                 |
| Lead                      |               |           |       | %        | 98       |          |     | 80-120            | Pass        |                 |
| Test                      | Lab Sample ID | QA Source | Units | Result 1 |          |          |     | Acceptance Limits | Pass Limits | Qualifying Code |
| <b>Spike - % Recovery</b> |               |           |       |          |          |          |     |                   |             |                 |
| <b>Heavy Metals</b>       |               |           |       |          |          |          |     |                   |             |                 |
| Lead                      |               |           |       |          | Result 1 |          |     |                   |             |                 |
| Lead                      |               |           |       | %        | 101      |          |     | 75-125            | Pass        |                 |
| Test                      | Lab Sample ID | QA Source | Units | Result 1 |          |          |     | Acceptance Limits | Pass Limits | Qualifying Code |
| <b>Duplicate</b>          |               |           |       |          |          |          |     |                   |             |                 |
| <b>Heavy Metals</b>       |               |           |       |          |          |          |     |                   |             |                 |
| Lead                      |               |           |       |          | Result 1 | Result 2 | RPD |                   |             |                 |
| Lead                      |               |           |       | mg/kg    | 21       | 17       | 22  | 30%               | Pass        |                 |

## Comments

### Sample Integrity

|                                                                         |     |
|-------------------------------------------------------------------------|-----|
| Custody Seals Intact (if used)                                          | N/A |
| Attempt to Chill was evident                                            | N/A |
| Sample correctly preserved                                              | Yes |
| Appropriate sample containers have been used                            | Yes |
| Sample containers for volatile analysis received with minimal headspace | Yes |
| Samples received within HoldingTime                                     | Yes |
| Some samples have been subcontracted                                    | No  |

### Authorised by:

|                  |                             |
|------------------|-----------------------------|
| Hannah Mawbey    | Analytical Services Manager |
| Sayeed Abu       | Senior Analyst-Asbestos     |
| Gabriele Cordero | Senior Analyst-Metal        |



**Glenn Jackson**  
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

\* Indicates NATA accreditation does not cover the performance of this service

Measurement uncertainty of test data is available on request or please [click here](#).

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#### Document Status

| Rev No. | Author         | Reviewer       | Approved for Issue |                                                                                      |           |
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