Detailed Site Investigation (DSI) of Potential Asbestos Contamination at Little Bay Beach, Little Bay NSW

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Table of Contents

Abbreviations **6**

Executive Summary **7**

1. Introduction **9**

2. Background **11**
2.1 Site Location and Identification 11
2.2 Site Features and Visual Observations 12
2.3 Site Topography and Drainage 14

3. Limited Site History Review **15**
3.1 Site Interviews 17
3.2 NSW EPA Records 18
3.3 Council Section 10.7 (2) and (5) Planning Certificate Search 18
3.4 Council Record Search Available under the GIPA Act 2010 19
3.5 Summary of Previous Investigations 19
3.5.1 Trinitas Preliminary Technical Brief 19
3.5.2 Trinitas Site Inspections, Emu-picking, Clearance and Air Monitoring Reports 20
3.5.3 JBSG Interim Human Health Risk Assessment Report 21
3.5.4 Previous Site Auditor Statement and Preliminary Site Investigation Reports 21
3.6 Site Gaps in the Site History 23
3.7 Integrity Assessment 24

4. Literature Review of Similar Asbestos Impacted Beaches in Australia **25**

5. Data Quality Objectives **26**
5.1 Data Quality Objectives 26
5.1.1 State the Problem 26
5.1.2 Identify the Decision 26
5.1.3 Develop a Decision Rule 27
5.1.4 Optimise the Design for Obtaining Data 29
5.2 Data Quality Indicators 29

6. Site Assessment Criteria **30**
6.1 Asbestos in Soil Assessment Criteria 30

7. Methodology, Sampling and Analysis Plan **32**
7.1 Visual Inspection & Assessment 32
7.2 Identification of Materials to Contain Asbestos 32
7.3 Soil Sampling, Air Monitoring and Laboratory Analysis 32
7.3.1 Sampling Plan and Methodology 32
7.3.2 Quality Assurance and Quality Control 35
7.3.3 Laboratory Analysis 35
7.3.4 Air Monitoring 35

8. Preliminary Conceptual Site Model and Risk Assessment **36**
8.1 Potential Areas and Contaminants of Environmental Concern 36
8.2 Potential Sources, Pathways and Receptors of Contamination 36

9. Findings and Conclusions 38
9.1 Air monitoring and Visual Surface Clearance Inspections 38
9.2 Site inspection 38
9.3 Asbestos in/on soil findings 39

10. Recommendations 40
10.1 Makesafe Measures 41
10.1.1 Stage One 1B: Diving Investigation - Visual Inspection and Contamination Assessment of Underwater Sand in the Bay (if required) 41
10.1.2 Stage One 1C: Detailed Site Investigation and Contamination Assessment for Three Crown Gullies, Catchments and adjacent Golf Course Hill slopes (if required) 41
10.2 Human Health Risk Assessment 41
10.3 Stage Two: Remedial Action Plan (RAP) (if required formally) 42
10.4 Stage Three: Validation after Remediation (if required formally) 43
10.5 Stage Four: Long Term Environmental Management Plan (EMP) (if required formally) 43
10.6 Recommendation Summary 43

11. Assumptions 45

12. Limitations 46

13. References 47

Appendices 48
Appendix A Site Layout and Investigation Areas of Detailed Site Investigation at Little Bay Beach 49
Appendix B Positive Test Pits, Hotspot, Rock Area, Unknown Underwater Area at Southern Beach 50
Appendix C Positive Test Pits, Hotspot, Rock Area, Unknown Underwater Area at Middle Beach . 51
Appendix D Positive Test Pits, Hotspot, Unknown Underwater Area at Northern Beach 52
Appendix E Suspected Point Sources, Diffused Sources and Dumped Waste at Little Bay Beach 53
Appendix F Historical Site Plan, Historical Site Layouts and Previous Sampling Locations from ERM Site Audit Statement 54
Appendix G Representative Photographic Records 55
Appendix H Test Pit Log 67
Appendix I DSI Analytical Data Summary 68
Appendix J Laboratory Analysis Results 69
Appendix K Air Monitoring, Clearance and Laboratory Analysis Results 70
Appendix L Certificate 10.7 71

Tables

Table 1 Site Details 11
Table 2 List of representative site photos around Little Bay Beach 15
Table 3 Potential sources of contamination and preliminary analysis 20
Table 4 Data Quality Objectives, Requirements and Indicators 29
Table 5 Health Screening Levels for Asbestos Contamination in Soil (NEPM 2013) 31
Table 6 Sampling Plan and Site Investigation Summary for Areas of Environmental Concern 33
Table 7 Air Monitoring Trigger Levels 35
Table 8 Potential Areas of Environmental Concern (AECs) and Contaminants of Potential Concern (COPCs)* 36
Table 9 Potential Sources, Pathways and Receptors of Contamination 37
Table 10 Recommendation Summary 43

Table 11 Photos - highly polished Bonded ACM fragments..... 55
Table 12 Photos – Three beaches impacted by high tide and rough swell 55
Table 13 Photos - Southern Beach - Hotspot Area from Crown Gully 3 Outlet to Rock Area..... 56
Table 14 Photos - Southern Beach – Rock Area or Unknown Underwater Area 59
Table 15 Photos - Middle Beach (Western Beach) – Hotspot throughout the whole sand area 59
Table 16 Photos - Representative Photos of Asbestos observed in Rock Area or Unknown Underwater Areas at Middle Beach 61
Table 17 Photos - Representative Photos of Asbestos observed in Crown Gully 2, Middle Beach (Western Beach) 61
Table 18 Photos - Northern Beach Sand Area - Hotspot Area..... 62
Table 19 Photos - Representative Photos of Asbestos Observed in Rock Area and Eroded Northern Beach 65
Table 20 Photos – Representative Photos of Asbestos Observed, Stockpiles, Exposed Soils on Golf Course, upgradient of Crown Gully 1, Northern Beach 66

Figures

Figure 1 Overview of Little Bay Beach (Northern Beach, Middle Beach, Southern Beach)..... 11
Figure 2 Preliminary decision tree approach for assessing asbestos contamination at Little Bay Beach 40

Abbreviations

ACM	Asbestos Containing Material
AF/FA	Asbestos Fines / Fibrous Asbestos
AEC	Area of Environmental Concern
AHD	Australian Height Datum
ANZECC	Australia and New Zealand Environment and Conservation Council
ASC NEPM	National Environment Protection (Assessment of Site Contamination) Measure
BGS	Below Ground Surface
CoPC	Chemical of Potential Concern
AEC	Area of Environmental Concern
Council	Randwick City Council
ESL	Ecological Screening Level
Trinitas	Trinitas Group Pty Ltd
HIL	Health Investigation Level
HSL	Health Screening Level
NATA	National Association of Testing Authorities, Australia
NEPC	National Environment Protection Council
NSW DECC	Department of Environment and Climate Change of New South Wales
NSW EPA	Environment Protection Authority of new South Wales
NSW OEH	Office of Environment and Heritage of New South Wales
QA	Quality Assurance
QC	Quality Control
RPD	Relative Percentage Difference
SOP	Standard Operating Procedure
PSI	Preliminary Site Investigation
DSI	Detailed Site Investigation
RAP	Remedial Action Plan
EMP	Environmental Management Plan

Executive Summary

Based on the best available data sources, previous reports and site investigations, Trinitas concludes that:

Daily Background Asbestos Air Monitoring was undertaken throughout the duration of the site work completed as part of this Detailed Site Investigation (DSI). Air Monitoring reports including laboratory certificates from a NATA accredited laboratory (Eurofins) have been presented in *Appendix K - Air Monitoring, Clearance and Laboratory Analysis Results.* All background air monitoring results were below the detection limit of 0.01 fibres/mL of air, the lowest detectable limit for the method used. Therefore, results were also below the National Exposure Standard (NES) for asbestos which is 0.1 f/mL.

A visual clearance inspection was undertaken for all areas of the Site following completion of the DSI to ensure that no ACM fragments remained exposed on the soil surfaces after test pit excavation and backfilling. A clearance certificate was provided upon completion of the visual clearance inspection which is attached in *Appendix K - Air Monitoring, Clearance and Laboratory Analysis Results.*

Field observation and inspection indicated that:

Prior to DSI

- Prior to the commencement of the DSI works, approximately 2000 fragments were collected during bi-weekly emu picking and clearance inspections undertaken between August 2020 and April 2021 at Little Bay Beach. There was no conclusive or scientific evidence to demonstrate a decreasing trend in terms of ACM fragment quantity or numbers identified and removed from the site during the bi-weekly site inspections and emu-picking being completed by Trinitas Licensed Asbestos Assessors and Occupational Hygienists. These reports can be accessed via the Randwick City Council Website at http://www.randwick.nsw.gov.au/planning-and-building/council-works-and-upgrades/major-projects/little-bay-beach-asbestos-management#reports

During DSI

- ACM fragments were washed up and down the three beaches at Little Bay Beach consistently by tidal movements.
- ACM fragments identified and removed from Little Bay Beach during the one-week investigation period of the DSI had the physical characteristics (pattern, colour, shape and morphology) of asbestos sheeting fragments and corrugated super 6 sheeting fragments.
- Several ACM fragments were collected from areas adjacent to the outlet of Stormwater Pipe at Crown Gully 3 and then all the way to the rocky area in the bay, the whole sand and rock area at the Middle Beach; the areas adjacent to the creek from the Heritage Wall and Crown Gully 1 at the Northern Beach.
- Visual inspections were undertaken within the soil surfaces within Gully 2, and suspected ACM fragments within dumped building waste were observed. Due to lack of safe access, no samples were collected from Gully 2.
- Suspected ACM fragments were sighted and confirmed within all the Rock Areas and some Unknown Underwater Areas adjacent to the three beaches.
- It is the opinion of Trinitas Group that all fragments collected during the DSI were bonded in nature.

- To assess the potential sources of contamination at the Site, visual inspections were undertaken in areas adjacent to the boundary of the Site. Suspected ACM fragments were observed within the following areas;
    - Stockpiles, Exposed Soils at Golf Course adjacent to the catchment, Crown Gully 1;
    - Dumped waste adjacent to Heritage Wall at Northern Beach;
    - Cleared land at the upstream of Crown Gully 3
    - Sand Area under open water in the bay.

This DSI identified contamination as follows:

- 15 out of 45 Test Pits reported asbestos contamination (positive): sighted, confirmed in 10 L of soil, or confirmed in 500 mL of soil.
- 4 out of 45 Test Pits were confirmed with bonded asbestos contamination over HSL threshold 0.02% w/w.
- No friable asbestos (AF/FA) was identified within any of the 45 Test Pits. No asbestos was detected at the reporting limit of 0.001% w/w. No trace asbestos was detected.
- Three Hotspots included:
    - Southern Beach (25% positive Test Pits) had the Hotspot with the area of 1200 m^2 (approximately 800 m^3), up to 1 m.
    - Middle Beach (78% positive Test Pits) had the Hotspot with the area of 1000 m^2 (approximately 750 m^3), up to 0.5 m;
    - Northern Beach (12% positive Test Pits) had the Hotspot with the area of 1600 m^2 (approximately 1000 m^3), up to 1 m.

Due to the nature of site contamination by bonded asbestos fragments in soil and on sand surfaces, it is the opinion of Trinitas that asbestos contamination at the Site poses a potentially low health risk to site users. The final risk ratings are to be determined by the Site Human Health Risk Assessment report.

Trinitas recommended a series of approaches, measures, and strategies for the site and for the current and future Recreational C land use (Public open space) subject to change with the required consultation among the client, community, decision makers and stakeholders, including:

- Further Risk Assessment completed in consultation with relevant stakeholders,
- Additional site investigations,
- Remedial Action Plan and/or Environmental Management Plan

1. Introduction

In response to the urgent request for a site investigation at Little Bay Beach – Lot 97, DP270427 ("The Site") on 3 August 2020 from Randwick City Council ("The Client"), Trinitas Group Pty Ltd ("Trinitas") conducted a visual inspection within a suspected asbestos contaminated area on the Northern Beach, also known as the Northern Sand Area of Little Bay Beach (See Figure 1). Emu-picking of suspected asbestos fragments was undertaken in conjunction with RMA Group ("Class A Licensed Asbestos Removal Contractor").

Trinitas noted that a local resident reported suspected shell-like ACM fragments within the Northern Beach of Little Bay Beach on 2 August 2020. Interviews conducted at the Site revealed that it is the opinion of local residents that the Asbestos contamination is a result of widespread dumping activities undertaken during the redevelopment of Prince Henry Hospital (Lot 98).

Following a site meeting with the Client on 3 August 2020, Trinitas Hygienists collected ten (10) suspected ACM fragments from the Northern Beach and Middle Beach. All 10 samples returned positive for asbestos. Immediate measures and actions were implemented by the Client to remove any visible ACM pieces at the Site on 4 August 2020. The removal of surface ACM was undertaken by RMA Group on 4 and 5 of August 2020. Subsequent site walkovers and inspections also identified additional ACM fragments which were collected from the Southern Beach all the way up to the edge of the Rock Area during low tide periods.

Subsequent make safe measures including background air monitoring and emu-picking were undertaken by Trinitas Licensed Asbestos Assessors and Occupational Hygienists daily until 7 August 2020. From 7 August 2020 onwards, bi-weekly emu-picking and surface clearance inspections have been undertaken by Trinitas Group within the three sections of the beach above the tidal line.

During the first week of inspections, Trinitas Hygienists collected approximately one hundred (**100**) ACM fragments across the Northern, Western and Southern section of the Site. By 21 August 2020, over two hundred (200) suspected visible ACM fragments (including over 1 Kg of Super 6 corrugated sheeting chunks, flat fibrous cement sheeting and shell-like ACM fragments) had been collected by Trinitas hygienists.

Trinitas proposed that further investigation and assessment of the Site may need be required to understand the nature of asbestos contamination, the location and quantity of contaminated soil and dumped waste, risk assessment, remedial action plan and/or environmental management plan. Subsequently Trinitas was engaged by the Client to undertake a Detailed Site Investigation (DSI) at the Site to assess and report the extent of Asbestos Contamination at the Site (defined as Lot 97, DP270427)

The objectives of the DSI were to:

- Identify Areas of Environmental Concern ("**AECs**") in relation to the Asbestos contamination at the Site;
- Assess the potential for contamination to exist at the Site, as a result of historical and current Site activities;
- Assess the presence of contamination across the Site;

- Assess the suitability of the Site for the proposed land use (from a contamination viewpoint);
- Provide recommendation for further investigation of areas of environmental concern; and
- Provide recommendations for remediation and/or management, if required.

In order to meet the above objectives, Trinitas carried out the following scope of works:

- A review of Site topography and geology;
- A limited Site history review, including a review of aerial photography, a review of previous contamination / remediation reports pertaining to the subject site and adjacent golf course site and a review of records held by relevant regulatory authorities;
- A Site walkover;
- A sampling program, targeting the potential AECs across the Site;
- Laboratory analysis of the samples for Asbestos; and
- Preparation of this DSI Report.

2. Background

Little Bay Beach is a popular beach with golden sands, sandstone outcrops and platforms as shown in Figure 1.

The east-facing bay is extremely popular among the locals, surrounding residents and tourists. It's well protected from large coastal swells making it perfect for swimming, fishing and snorkelling. The rock ledges to the north and south are well-known, but sometimes dangerous, fishing spots. Access to the secluded beach is via a steep timber staircase. A café is located in the Prince Henry Centre towards the top of the beach near the chapel.

NSW Office of Environment and Heritage Beachwatch program advises as a general precaution to avoid swimming during and for 24-hours after heavy rain. Stormwater runoff from surrounding streets drains to the beach which may pollute the water (https://www.randwick.nsw.gov.au/facilities-and-recreation/beaches-and-coast/beaches/little-bay-beach).

Figure 1 Overview of Little Bay Beach (Northern Beach, Middle Beach, Southern Beach)

2.1 Site Location and Identification

General Site details are included below in Table 1, Figure 1, Appendix A ~ Appendix F.

Table 1 Site Details

Item	Description
Site Address:	4R Coast Hospital Road, Little Bay, NSW. The Site location is shown in Figure 1
Approximate Site Area:	Maximum accessible total area of ~11000 m^2 during the DSI period (low tide ~0.3 m to 0.5 m), the required investigation areas of environmental concern by the Client, as shown in Appendix A. The investigation areas accessible as practically as possible during the DSI period included: • Northern Sand Area (~3600 m^2) • Middle Sand Area (~1200 m^2) • Southern Sand Area (~5300 m^2)

Item	Description
	Note: • Sand (~10000 m^2) under open water in the bay was not part of the current scope of work); • All gullies, dumped waste/stockpiles, exposed soils in the surrounding areas were out of the scope of work. • The sand areas varied all the time under dynamic environment. • Under extreme conditions (i.e., high tide (1.8 m), gust, rough swell), the total non-water-impacted area of three beaches could be less than ~2000 m^2, as shown in Table 12. • Identification of the accurate positions of upper tidal line and lower tidal line were out of the scope of the DSI.
Site Identification Details:	As shown in Figure 1, the Site with three Sand Areas (Southern Beach, Middle Beach, Northern Beach), was located at Lot 97, DP 270427 (Previous Lot 33, DP 270427 in 2005) **Note:** Lot depicts a parcel of land created on a survey plan. The site boundaries extracted from NSW Land Parcel and Property generally have positional accuracy in the range from less than 5 m from true position in rural areas to less than 0.2 m from true position in urban areas, dependent on the survey control available (A certified survey plan to accurately define the site boundaries should be conducted by the Client, other land-owners and/or stakeholders, which was out of the scope of the DSI).
Current Land Use:	The Site is currently used as a public open space
Future Land Use:	The Site is going to be used as a public open space
Surrounding Land Uses:	• Residential properties to the West • Chapel, Prince Henry Centre and Golf Club Centre to the west and southwest • The Coast Golf Course surrounding from North to South, • New development or cleared land/paddocks, 300 m upstream of Crown Gully 2, was observed. • Open water to the east
Site Co-ordinates:	The approximate centre of the site was located at 338437.053 (E), 6238704.688 (N) (GDA94 MGA Zone 56)

Note:

a. The domains in previous Douglas Partners' reports could refer to Domain 7 (Little Bay Beach & Foreshore), adjacent areas including Domain 4, 6, 3, 2 and 1, as these areas were included or adjacent to the Site in this report.
b. Trinitas noticed that in the boundaries of this DSI there could be some "**grey areas**" with land, water and/or soil. Whether they were located at the Council area, Landcom, Developer(s), other land-owners, and/or he Crown Land were out of the scope of this DSI report.

2.2 Site Features and Visual Observations

From the Site layout shown in the pictures above and photos in Appendix G, site features identified during the Site walkover were described below:

For **Southern Beach** Sand Area (1000 ~ 5300 m^2), Appendix B

- Soil erosion on the slope of the golf course was observed.
- Surface ACM fragments were observed and collected.

- ACM fragments were identified and confirmed across the whole beach sand area all the way up to the rock area under water during low tide (0.3 m).
- ACM fragments are constantly being pushed up and down the beach sand area with tidal movements

For **Middle Beach** Sand Area (0 ~ 1200 m^2), Appendix C

- Fill material was observed throughout the Crown Gully 2 and a stockpile of old bricks and concrete were stacked on the outlet of the gully.
- ACM fragments were identified and confirmed in the gully surface and buried within demolition material (only halfway towards the overpass was accessible at the time of inspection).
- ACM fragments are constantly being pushed up and down the sand area with tidal movements
- Hundreds of ACM fragments (super 6 corrugated sheeting chunks, flat ACM sheeting) have been collected since 21 August 2020.
- Crown Gully 2 has limited access.
- Visible ACM fragments were identified under the rock platform immediately adjacent to the low tide water line.
- Fill materials such as building rubbles and solid waste (including plastic, tiles, rubber, tyre, bricks) were observed along the edge of the hill slope.

For **Northern Beach** Sand Area (500 ~ 3600 m^2), as shown Appendix D:

- Crown Gully 1 (no access) runs from the northern golf course, where a historical retaining wall forms a barrier with stormwater outlet.
- The channel with boulders runs from the retaining wall towards the bay. Under beach sand and around the boulders, dumped waste materials were observed. Several ACM fragments were collected and observed from the channel.
- Stained water from the gully flows toward the bay.
- Fill materials such as building rubbles and solid waste (including plastic, tiles, rubber, tyre, bricks) were observed along the edge of the hill slope and stockpiles adjacent to the Northern Beach.
- The eastern section of Northern Beach under the cliff has sandstone platform and abundant boulders.
- Visible ACM fragments were identified under the rock platform immediately adjacent to the low tide water line.
- ACM fragments are being pushed up and down the sand area with tidal movements

Rock outcrops separate the Middle Beach and Southern Beach. However, there is no apparent physical boundary between the Northern Beach and Middle Beach. Abundant ACM fragments (super 6 corrugated sheeting chunks, flat ACM sheeting) were observed, during the bi-weekly visual inspections undertaken prior to the DSI, within these rocky areas.

While Underwater Sand Area (~10000 m^2) in the bay was out of the scope of work, ACM fragments have been observed between or under rocks/boulders in the water during the lowest tide period (~0.2 m). During high tide period (~2 m), the whole Middle Beach, most of the Northern Beach and half of the Southern Beach are under water or impacted by strong tides.

During heavy rain events, three creeks from the gullies change dramatically in terms of soil disturbance, flow direction, flow rate and bed depths. Overall, the site is very dynamic.

2.3 Site Topography and Drainage

Reference to the Bondi 9130-2S topographic map (1:25000) (accessed through the Spatial Information Exchange https://six.nsw.gov.au/etopo) indicates that the Site is situated under the cliffs from the north to the south. The Site steeply slopes toward the bay. The approximate elevation of the timber entry to the beach is 20 m(AHD).

Surface water generated during heavy rainfall events and from upper Golf Course and surrounding Little Bay areas is anticipated to flow into the three gullies towards the bay.

2.4 Site Geology

A review of the Sydney 1:100 000 Geological Series Map (Sheet 9130) indicated that the Site is underlain by Hawkesbury Sandstone, comprising medium to coarse grained sandstone with minor shale and laminate lenses.

3. Limited Site History Review

With reference to high resolution Aerial Photographs (Nearmap) since October 2009, there is no evidence of major landscape change at Little Bay Beach, however the redevelopment of the adjacent Prince Henry Hospital area has been undertaken in several stages. A review of the historical satellite images dating from 1943 - 2006 available via the NSW Spatial Services was conducted. While the resolution of aerial photographs prior to 1998 is considered to be insufficient to conduct a detailed review of changes to finished levels and conditions of the gullies / drainage channels, it is noted that potentially large-scale levelling of the golf course was undertaken between 1965 and 1970. The use of introduced fill to level the golf course has also been mentioned several times within 'Remediation Strategy Report & Future Site Management Principles Prince Henry Redevelopment Site – Undevelopable Area' prepared by EMS (EMS 2005). There is high potential that the asbestos contamination present within the introduced fill (Lot 98) over the years may have migrated to the Site via natural phenomenon such as, wind, storm water and soil erosion, and is considered a major source of ACM contamination at the Site (Lot 97).

Table 2 List of representative site photos around Little Bay Beach

	
Image 1: Old Hospital Facility around Crown Gully (Source: The Coast https://www.coastgolf.com.au/cms/about-us/#history)	Image 2: Male Lazaret around Crown Gully 1 (Source: The Coast https://www.coastgolf.com.au/cms/about-us/#history)

Image 3: Aerial Photograph dated 1998 (Source: NSW Spatial Services)

Image 4: Aerial Photograph dated 2005 (Source: NSW Spatial Services)

Image 5: Aerial Photograph dated 1965 (Source: NSW Spatial Services)

Image 6: Aerial Photograph dated 1970 (Source: NSW Spatial Services)

Image 7: 1900s Section of the Prince Henry Hospital looking north across Little Bay (Source: Randwick City Council archives)	Image 8: 1900s Little Bay Looking South 2 (Source: Randwick City Council archives)

"Prince Henry Hospital (Image 1 in Table 2) commenced it's working life as a quarantine facility at the end of the 19th Century and was originally quite a remote area of Sydney, toward the end of the tram line to La Perouse, on the beach side of the northern peninsula of Botany Bay. The original hospital at Little Bay was known as 'The Coast Hospital' of which the Golf Club later became known. The hospital had a golf course in differing layouts since about 1922 for staff recreation.

The old hospital laundry was designated to become the Licensed premises for the golf club. The building being a "u" shaped brick construction with the northern aspect in weatherboard. Initial renovations in 1969 filled in the "u" shape to create a function room. In 1997 the clubhouse was internally renovated.

With the closure of Prince Henry Hospital and subsequent development of the site, the course moved into the transitional ownership of Landcom and later was later declared to Crown Lands. The Club was granted a long-term lease (75 years) and began its next phase of renovation and upgrade work. Subsequent refurbishments of the Clubhouse have embraced Club heritage, while modernizing the facilities for Club members, local residents and vising patrons who are always most welcome.

The course has continued to improve over the past decade with ongoing improvements to fairway drainage, cart paths and two new greens on the 13th and 9th holes. With the introduction of a bent green nursery in 2014, the Club will continue to replace greens as it become necessary. In early 2017 members unanimously agreed to undertake a $1.4 million replacement of the Irrigation system. Stage 1 of holes 10-17 were completed in late 2017 and the final stage was completed in December 2019." (The Coast https://www.coastgolf.com.au/cms/about-us/#history and A Coast Chronicle – The History of the Prince Henry Hospital by C.R. Boughton and edited by George Caiger and Photos by Bob Burgess)

As observed in image 3 and image 4 in Table 2, large scale redevelopment of the areas surrounding the Site (Lot 98) was undertaken between 1998 and 2005 which involved demolition of several buildings and clearing of land. A review of 'Remediation Strategy Report & Future Site Management Principles Prince Henry Redevelopment Site – Undevelopable Area' prepared by EMS (EMS 2005) was undertaken and it is noted that the drainage channels where introduced fill was exposed were remediated via surface removal of asbestos cement fragments followed by installing a 'vegetative promoting geotextile mesh' and a layer of topsoil in addition to diverting the flow of runoff to PVC pipework. It is the opinion of Trinitas that these remediation measures failed to prove adequate as the exposed introduced fill can be observed at the surface of the drainage channels specifically within 'domain 3 – former Ambulance Corps Area' and asbestos contamination within these fill layers from Lot 98 to the sand areas within the Site (Lot 97) via natural phenomenon.

3.1 Site Interviews

As part of the Site history review, an interview was held with the Client representative on 3 August 2020. The interview revealed no former report of asbestos contamination at Little Bay Beach.

A Trinitas Consultant met a local resident (Greg Bond) on the beach on 31st August 2020. Greg has around 50 years of knowledge of the Site. Greg indicated that "the legacy dumped tip is located on

the northern hilltop adjacent to Crown Gully 1 and Northern Beach", but the demolition of buildings of Male Lazaret and Female Lazaret or other subsequent buildings around the Crown Gully 1 and Crown Gully 2 during a 100-year period could not be reflected. Trinitas believes that this may have been reference to the entombed containment cell within the northern portion of Lot 98 containing ~7800 m^3 cube of asbestos waste. However, it is noted that the site audit report for lot 98 considers the design and integrity of the containment cell to be satisfactory.

3.2 NSW EPA Records

A review of the NSW Office of Environment and Heritage (OEH) Contaminated Land – Record of Notices listed by the NSW EPA under the Contaminated Land Management Act 1997 on July 13 2020 did not identify former or current notices to the Site within the LGA of Randwick City Council (https://apps.epa.nsw.gov.au/prclmapp/searchregister.aspx).

A review on 14 July 2021 of the 'List of NSW Contaminated Sites Notified to the EPA' listed by the NSW EPA under the Contaminated Land Management Act 1997 (https://www.epa.nsw.gov.au/your-environment/contaminated-land/notified-and-regulated-contaminated-land/list-of-notified-sites) did not identify any notified sites in the Little Bay Beach area.

With reference to the NSW Office of Environment and Heritage and the NSW Office of Environment and Heritage's Atlas of NSW Wildlife, any investigations of ecological constraints or endangered and vulnerable species have not been conducted at the Site (out of the scope of work). If in doubt, further consulting services should be pursued by the Client.

Other regulatory databases were not conducted as the preliminary inspection only focuses on the asbestos on sand surfaces of the Site as instructed by the Client.

3.3 Council Section 10.7 (2) and (5) Planning Certificate Search

Section 10.7(2)&(5) Certificate is attached. See Appendix L

A review of information provided under Section 10.7 (2) has indicated the following;

- The land **IS NOT** significantly contaminated land within the meaning of the Contaminated Land Management Act 1997.
- The land **IS NOT** subject to a management order within the meaning of the Contaminated Land Management Act 1997.
- The land **IS NOT** the subject of an approved voluntary management proposal within the meaning of the Contaminated Land Management Act 1997.
- The land **IS NOT** the subject to an ongoing maintenance order within the meaning of the Contaminated Land Management Act 1997.
- Council **HAS** received a copy of a site audit statement, within the meaning of the Contaminated Land Management Act 1997, for this land.

A review of information provided under Section 10.7 (5) has indicated the following;

- Council has no obligation to provide any advice in this planning certificate in response to a request made under s.10.7 (5) of the Act.
- Draft Local Environmental Plans that have yet to be placed on Community Consultation under the Environmental Planning and Assessment Act, 1979.

- Council **IS** in possession of a flood study that covers the catchment in which this property is located. The flood study is available for inspection at the Council if required.

3.4 Council Record Search Available under the GIPA Act 2010

Trinitas understands from review of development application records that the Council did not hold any records of potentially contaminated land at the site. Further confirmation with the Client is recommended. A review of the title deeds / lot subdivision history was undertaken via council records and a timeline of the changes in lot subdivision is presented below:

- Prior to 2005: Part of same parcel of land as golf course / Prince Henry Hospital – Lot 23, DP 270427
- 16/03/2005: Subdivided into Lot 33, DP 2740427
- 15.12.2009: Consolidated and changed from Lot 33, DP 2740427 to Lot 97, DP 2740427

3.5 Summary of Previous Investigations

3.5.1 Trinitas Preliminary Technical Brief

In the previous Preliminary Technical Brief for Potential Asbestos Contamination at Little Bay Beach, Little Bay NSW by Trinitas on 24 August 2020 (Trinitas Ref. No.: Technical Brief Little Bay Beach_Brief_20200818_JYDBJYDB), several potential sources of asbestos contamination were identified as shown in Table 3.

There is high uncertainty of asbestos impacted fill in the three gullies. No sampling was undertaken within the gully areas as they fall outside of the Site boundary. However, considering that they are potentially major sources of contamination at the Site, further investigation within these areas is recommended.

There is high uncertainty of asbestos impacted sand at underwater area in the bay because ACM fragments are being pushed up and down the sand areas with tidal movements.

The likelihood of non-point source of contamination in both Golf Club Course (including catchments, hill slopes, soil erosion, land clearance) and waste under sand in the three beaches could be medium to high, in Table 3 on the following page.

Table 3 Potential sources of contamination from surrounding land use and preliminary findings

Potential Sources	Likelihood	Preliminary Finding	Recommendation
Point Sources			
Crown Gully 1	High	No access	Investigation required
Crown Gully 2	High	Confirmed up to the overpass bridge from Middle Beach	Further Investigation required
Crown Gully 3	Low	No access	Investigation required
Non-point Sources			
Underwater Sand	High	NA	Investigation required
Golf Club Course Catchments and Stockpiles, Exposed Soils	Medium to High	Partially confirmed via visual observation at southern hill and the catchment areas between Crown Gully 1 and Crown Gully 2	Investigation required
Northern Beach - Waste transported via natural phenomenon	Medium to High	NA	Investigation required
Middle Beach - Waste transported via natural phenomenon	Medium	NA	Investigation required
Southern Beach - Waste transported via natural phenomenon	Medium	NA	Investigation required

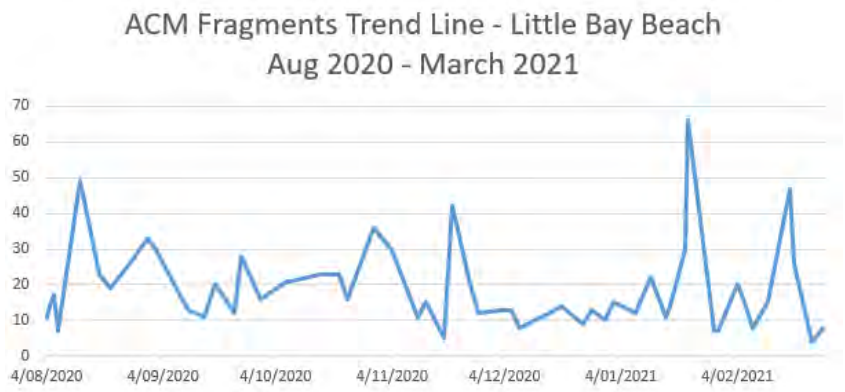
3.5.2 Trinitas Site Inspections, Emu-picking, Clearance and Air Monitoring Reports

During bi-weekly site inspections and Emu-picking since 2 August 2020, Trinitas consultants have collected over **2000** ACM fragments from the three beach areas.

Background Air Monitoring was conducted during all emu picking and visual clearance inspections undertaken by Trinitas. No background air monitoring results identified airborne levels of fibres equal to or exceeding 0.01 f/ml.

Based on laboratory analytical results and visual inspections from August 2020 to June 2021, Trinitas summarised major findings as follows:

- ACM fragments were observed throughout the three beaches from the low tide line, shore boulders, and then up to the Coast Golf Course.
- Visual inspections and Emu-picking from 3 August 2020 to 2 June 2021 indicated that there was no obvious decreasing trend of visible ACM fragments throughout the three beaches. See chart below representing the number of fragments collected from the Site over a period of 7 months from August 2020 to March 2021;



- Several bonded ACM fragments were observed at Southern Beach (Table 11)
- ACM fragments were observed in Crown Gully 2 (Table 17)
- Significant amount of ACM fragments (>1 Kg) was collected adjacent to the outlet of stormwater pipe at Crown Gully 3 and then all the way to the rocky area in the bay.
- ACM fragments were observed up to the Golf Course between Crown Gully 1 and Crown Gully 2, wherever soil is stockpiled, has been disturbed and/or eroded (land bush clearance, golf car drive path, stormwater runoff channels, fill slopes), asbestos fragments were scattered significantly below and above the plastic mesh material (Table 20)
- There are high uncertainties of ACM fragments on sand and/or under rocks within underwater area of the bay (out of the scope of work of this report), Table 14, Table 16, Table 19
- There are high uncertainties of ACM fragments on Coast Golf Course areas (out of the scope of work of this report (Table 20)

3.5.3 JBSG Interim Human Health Risk Assessment Report

Updated Human health risk assessment for asbestos, Little Bay Beach by JBSG ("**JBSG Report"**, Report Reference No.: 59811-138906 Revision B) on 11 July 2021 conservatively concluded that:

- "Levels of asbestos on the site have not been found to pose a potentially unacceptable health risk to current / future users of the site as consistent with a recreational land-use, recreational uses in proximity of the site, nor occupants of residential properties in proximity of the site"
- "The fate and transport assessment has estimated the potential worse case airborne concentration of asbestos fibres on the site. This has been found to be well below a level of 0.01 f/ml as identified in Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997, 2015, NSW EPA as a potential trigger to warrant reporting under the Contaminated Lands Management Act 1997"
- "Further recent respirable fibre monitoring undertaken by Trinitas during site assessment / remediation works has not identified airborne levels of fibres equal to or exceeding 0.01 f/ml. It is concluded on this basis that there is not a requirement to report asbestos impact to the NSW EPA"

3.5.4 Previous Site Auditor Statement and Preliminary Site Investigation Reports

A number of previous Site Investigation and Assessment reports were conducted on surrounding areas in/before 2005 and/or "undevelopable area", "foreshore" area, or beach areas at Little Bay Beach. Woodward Clyde carried out a limited Preliminary Site investigation but most of this was confined to Lot 98 (surrounding areas of the Site).

Preliminary Site Investigations (PSI) reports undertaken by Douglas Partners were specifically concentrated on foreshore, immediate surroundings or rock areas adjacent to three beaches of the **Site** in this report, however these PSI reports were not made available by Douglas Partners for review during the DSI process.

Report titled: *Remediation strategy report & future site management principles, Prince Henry Redevelopment Site – Undevelopment Area* by Environmental Monitoring Services in December, 2005 ("**EMS Report**", Reference No.: EMS 05 4328) summarised the key findings of previous reports adjacent to or/and related with, or on the Site in their DSI report.

"Douglas Partners have carried out a due diligence contamination assessment and two separate contamination assessments in the undevelopable area since March 2000. Details of these reports are as follows:

1. *Preliminary Site Contamination Assessment* prepared *by Woodward Clyde*, dated October 1999;
2. *Douglas Partners Draft Report on Contamination Assessment*, Prince Henry Hospital redevelopment, Little Bay, prepared for Landcom, dated March 2000, comprising the collection of fill and soil samples collected at 22 locations across the whole of the Site;
3. *Douglas Partners Report on Contamination Assessment*, Prince Henry Hospital Undevelopable Area, Anzac Parade, Little Bay February 2003. The report was prepared for Landcom and comprised the collection of fill, soil and surface water samples collected at 111 locations in 2001 – 2002; and
4. *Douglas Partners Draft Report on Supplementary Contamination Assessment*, Prince Henry at Little Bay, Undevelopable Area, Anzac Parade, Little Bay (September 2004). This report was prepared for Landcom and included the collection of soil and fill samples from 125 test pits excavated in 2004."

Key findings relevant to the Site in this report were summarised:

- "Domain 4 – The former Male Lazaret has heterogeneous fill to depths of 0.5 metres below ground level. Some profiles along the creek were however deeper than 1 metre. Fill material consisted of either gravelly sand with some ash and demolition rubble, or grey black silty sand with decaying organic material inclusions and trace glass fragments, ceramics, cutlery and plastic." However, whether the Northern Beach Area in this DSI report was investigated or not is not clear.
- "Domain 7 – The Little Bay beach has medium to coarse grained sands with some building rubble inclusions. Two creeks intermittently flow over the beach into Little Bay. Sandstone outcropping is present on some locations of the beach."
- "Fragments of asbestos cement are present on the surface of some of the areas of the undevelopable areas of the Site. These fragments appear to be widespread and were observed in all Domains including the southern foreshore of Little Bay beach."
- "The top 500 mm of soil in the undevelopable area of the site has been shown to have low levels of asbestos contamination. A review of the asbestos data from the various investigations that have been carried out on the site shows that only one of the 58 targeted surface samples (<500 mm bgl) contained asbestos.

In an email (H04/6326(3) File NO: 04/2717) from Michael Staff, Director, Environmental Health Branch, to Mr Garry Bauer, Development Director, LANDCOM stated that "Should the remediation

approach and associated protocols outlined in your present documentation be followed as the Undevelopment Area site, the existing land use is not likely to pose any unacceptable risk to people's health from asbestos exposure". Those measures included, but not limited to, :
"…

- There is a protocol for removal of any visible fragments of asbestos materials from surficial soils;
- There is a protocol for rediverting drainage channels, fixing and managing erosion exposing underlying introduced fill materials (which may contain asbestos);
- The construction of two containment cells with the construction and maintenance of an effective barrier;
- There is an Unexpected finds protocol to be followed should asbestos materials be accidently uncovered in the future;
- There is a long term Site Management Plan outlined that will govern the future use of the Undevelopable Area and prevent or control activities with the potential to disturb asbestos materials and place either visitors or maintenance personnel at risk. Ongoing inspection and maintenance of the barrier over fill material is stipulated. …"

However, as shown in Appendix F, nil of the 34 boreholes conducted by Douglas Partners and/or EMS on Three Beach Sand Areas, the Site in this report, was confirmed with asbestos contamination, with reference to the previous investigation sampling map on Page 76, "ANNEX A Figures and Photographs, Figure 8 Borehole Location Plan (Survey Drawing Plan Supplied by: Connell Wagner (Ref: 051122 REV 18 int. DGN))"from Paul Steinwede, ERM, NSW Site Auditor Scheme Site Audit Statement, Reference No.: PS53-Lot 33_SAR1 on 20 July 2006.

All the emails, documents and reports from Douglas Partners Pty Ltd (DP) and Environmental Monitoring Services Pty Ltd (EMS) were not made available for reference at the time of this report. Emails between EMS, Randwick City Council and ERM were difficult to understand as photos and maps were not clearly described, how and what they had completed to implement these measures, who had implemented and will implement these measures.

While it is hard to review the PSIs conceptual site models, historical site records and implementation of these aforementioned strategies for management asbestos risk on the Site, ACM fragments have been exposed on the beach since 2005.

3.6 Gaps in the Site History – Little Bay Beach and Surrounding Land Use

There is very limited historical contamination information about the subject site (Lot 97), however, the following gaps have been identified within reports / investigations relating to Lot 98:

- The Site walkover indicated that there were potential fill materials in immediate surroundings including exposed soils at the golf course, stockpiles adjacent to Crown Gully 1, dumped waste along the Heritage Wall, dumped waste inside of Crown Gully 2. However the details of fill materials (if present), such as origin or extent, were not known (some stockpiles could be traceable to the ongoing landscaping activities from the golf course);
- The Site walkover indicated the presence of visible ACM fragments throughout the Site. The origin of these fragments was not known;
- The Site walkover also identified several ACM fragments under boulders in all of the three rock areas. It was not known if there was further potential asbestos contamination across the underwater sands and rock areas;
- Both Crown Gully 1 and Crown Gully 3 were not accessible and were out of the scope of this work. However, ACM fragments were confirmed in the lower section of Crown Gully 2.

- Both soil erosion and bush clearance were observed at the upstream of Crown Gully 3 and Crown Gully 1. The sources of accumulative ACM fragments adjacent to the outlets were not known.
- Stormwater runoff and soil erosion cut through the beds of Crown Gully 1 and Crown Gully 2, by over 1 m deep at some visible sections. The conditions and extents of contamination in these gullies were not clear.
- The review of limited aerial photo Imagery indicated that the residential dwelling around the Site has been continuously developed for decades. It was not clear whether the residential development and bush clearance (i.e., north-western cleared paddocks at the upstream of Crown Gully 2, Middle Beach; upgradient of Crown Gully 1) resulted from the failure of former environmental management plans as listed in the previous Site Auditor Statement Letter.
- It was not clear that to what extent, the potential contamination sources (from the Open Water, Crown Gully 1, Crown Gully 2 and Crown Gully 3, up to the Golf Course) led to asbestos fragments disturbance in soils capped by layers of plastic mesh and imported clay soils.
- It was not clear to what extent, the ACM fragments being washed back and forth from the Bay, originated from dumped materials during redevelopment works.

3.7 Integrity Assessment

Where available this limited site history assessment utilised formal sources of information issued by NSW EPA, and NSW Land & Property Information. These formal sources were supplemented by information provided by the client, landowner, and observations made by Trinitas professionals during site inspections.

4. Literature Review of Similar Asbestos Impacted Beaches in Australia

The dumping of material in the world's oceans has a long history. Historically, obsolete ammunition, organic refuse, chemicals and other waste have also been dumped off Australia (Sea Dumping in Australia: Historical and Contemporary Aspects, Geoff Plunkett, 2003). For example, Nightcliff Beach in NT and Esperance Beach in WA were impacted by asbestos. In NSW, it is not unusual that some coastal areas were historical dumped tips (i.e., Stockton beach in Newcastle; Terrigal Beach in Central Coast; Little Bay Beach, Yarra Bay Beach, Maroubra Beach in Sydney).

From April 2018 to July 2020 on Terrigal and Wamberal Beach, fragments of asbestos washing up and down on local shores continued to be a problem for Central Coast Council, which has urged members of the public to exercise caution if they notice any pieces of the mineral fibre. Even though the local council took approaches such as emu-picking on sand and bulldozer stockpiling of top sand, the asbestos impacted beach continues to be the hotspot in headlines due to the lack of a thorough understanding of the sources of asbestos impacted areas (https://www.smh.com.au/national/nsw/the-beach-is-riddled-with-asbestos-erosion-unearths-toxic-legacy-at-wamberal-20200723-p55evt.html#:~:text=Asbestos%20has%20been%20discovered%20strewn,disgraced%20Labor%20powerbroker%20Eddie%20Obeid.)

The Newcastle Herald revealed in January 2018 that an old council tip on land owned by Hunter Water and NSW Crown Lands had been exposed by ongoing erosion and rubbish was washing into the sea. Angry residents questioned source of deadly asbestos littered along Stockton beach. In June 2018, Hunter Water began removing 8000 tonnes of waste from the tip site, near Corroba Oval, which took around three weeks and cost about $1.9 million. Hunter Water secured the site by a geo-fabric cover, that was regularly inspected and maintained and stated that “There has been no further exposure of the landfill on our site since the initial incident” (https://www.newcastleherald.com.au/story/5503885/deadly-find-on-popular-stockton-beach-angers-residents/)

The City of Darwin Council in NT has been challenged by a long term cleaning up for the asbestos impacted Nightcliff Beach due to the unknown source or diffused asbestos contamination which was used for decades as a legacy dumping tip. "Eventually we have to get rid of it but it's going to be a long-term project and there's going to be a huge cost associated with it," Mr David Bridgman said. "Once you start mentioning asbestos people do start thinking about liability and responsibility, particularly if you're a government agency or a council." (https://www.abc.net.au/news/2018-06-12/why-does-asbestos-pepper-darwin-beaches-what-being-done-about-it/9837262)

As each beach has a specific set of site conditions, history and community perception, there is not a one-size-fits-all approach to managing asbestos related risks.

5. Data Quality Objectives

5.1 Data Quality Objectives

In order to determine the requirements for preliminary characterisation of the Site, Trinitas adopted the data quality objectives (DQOs) planning process as recommended in the National Environment Protection (Assessment of Site Contamination) Measure 2013 (ASC NEPM, 2013), Contaminated Land Guidelines Consultants Reporting on Contaminated Land (NSW EPA, 2020).

A review of all available soil and water data relevant to the Site was undertaken in order to develop a preliminary conceptual site model (CSM). A conceptual site model can take various forms, including text, tables, graphics, and flow diagrams, they can also take the form of site-specific plans and figures including cross-sections. Developing and refining a conceptual site model is an iterative process. The conceptual site model was refined throughout the site assessment process based on any available environmental or site historical or field information.

Details of the DQOs process was presented below.

5.1.1 State the Problem

The Site had historically been utilised for open space, recreational purpose. Previous contaminating activities or historical activities at the Site or adjacent areas could not be reviewed confidently.

Asbestos containing materials (ACM) from structures, landfill, and contaminated land may have been dumped, buried or used as fill in the immediate surrounding areas including Lot 98. Visual observations of ACM within gullies suggests that soil erosion of gullies are potential sources of contamination.

Although several measures were proposed and/or were implemented as indicated by previous investigation reports, management reports and site audit reports, suspected asbestos fragments were observed throughout the site. The sources and contents of potential contamination could not be confidently identified, therefore, the problem as it stood was that the site needs to be further investigated to characterise the potential for contamination at the site and assess the suitability of the site for the Recreational C setting (Public open space).

5.1.2 Identify the Decision

To assess whether the historical land use of the Site has led to potential contamination of soils, at concentrations that would preclude current and future Recreational C land use, the following decisions need to be addressed:

- Is soil contamination present on-site at concentrations exceeding adopted health screening levels for Recreational C land use setting?
- Are the sources of potential contamination from on-site and /or off-site migration?
- Is there sufficient soil information to allow a detailed remediation plan to be developed?
- Will the DSI provide a data set that is suitable to assess the risk posed by contamination (if present) to human health, ecological receptors (open water) and potential future liability of material that will remain at the Site?
- Do the findings provide a high degree of certainty of the source of identified contamination?

- Does the data set provide sufficient information to assess the potential for any off-site migration of contaminant?
- Will the DSI recommend further site investigation based on limited sampling?
- Does the DSI provide adequate preliminary characterisation to enable an assessment of remedial options, remedial cost estimates and or management of the contamination (if present)?

5.1.2.1 Identify Inputs into the Decision

The inputs required to make the decision include the following:

- Geological data;
- Visual observations of staining, odours and of building waste containing ACM;
- Comparing the concentrations of asbestos in/on soil to HSL-Recreational C to evaluate the potential for contamination adversely impacting on human health and ecological receptors; and
- The vertical and lateral distribution of contaminants in the subsurface.

5.1.2.2 Define the Boundaries of the Study

The Site is defined as Lot 97, DP270427.

The vertical investigation boundary was defined as up to 2.5 m below ground level, which was the maximum depth of the intrusive investigation without shoring for sand using 5 T excavation.

The temporal boundaries were determined on the basis of the timeline of one week for the current investigation. Importantly this report intentionally selected the time window with low tide of ~0.3 m, light wind and calm swell to cover all exposed soil/rock/sand areas as much as possible, because at ~2 m high tide, 80% of the investigation areas could be under water or impacted by tides, resulting in low possibility to delineate the contamination.

5.1.3 Develop a Decision Rule

The statistical parameters of interest and assessment criteria were presented in Section 6. These criteria were used as screening levels for Recreational C setting to determine whether additional assessment, remediation, and/or management could be required.

If the data were collected in an appropriate manner to establish completeness, comparability, representativeness, precision and accuracy, it was considered suitable for the purposes of this assessment;

If soil contamination were identified on-site at concentrations exceeding the HSL-Recreational C, then further assessment, remediation and/or management of the contamination may be required.

5.1.3.1 Optimise the design for obtaining data

This was achieved through the development of an appropriate sampling and analytical strategy which was reviewed and refined as necessary during the assessment evaluating field observations and analytical results. This included collection and analysis of soil and groundwater samples, and visual, observation for surface asbestos containing materials.

5.1.3.2 Aesthetic

The decision rule adopted for validation of aesthetic impact including removal of anthropogenic materials is as follows:

- Visual inspection including photographic record of the base and walls of the excavation in the identified burial pit areas must not identify areas containing anthropogenic materials to the extent practicable.
- Visual inspection including photographic record of the material to be backfilled must not identify areas containing anthropogenic materials to the extent practicable.

5.1.3.3 Specify Acceptable Limits of Decision Errors

Two primary decision error-types may occur due to uncertainties or limitations in the project data set:

- A sample/area may be deemed to pass the nominated criteria, when in fact it does not. This may occur if contamination is 'missed' due to limitations in the sampling plan, or if the project analytical data set is unreliable.
- A sample/area may be deemed to fail the nominated criteria, when in fact it does not. This may occur if the project analytical data set is unreliable, due to inappropriate sampling, sample handling, or analytical procedures.

The acceptable limit of error for sampling techniques and laboratory analysis was defined by the DQIs as follows:

5.1.3.4 Data Representativeness

It expresses the degree which sample data accurately and precisely represents a characteristic of a population or an environmental condition.

Representativeness was achieved by collecting samples in an appropriate pattern across the site, and by using an adequate number of sample locations to characterise the site. Consistent and repeatable sampling techniques and methods were utilised throughout the sampling.

5.1.3.5 Completeness

It is defined as the percentage of measurements made which are judged to be valid measurements. The completeness goal is set at there being sufficient valid data generated during the study. If there is insufficient valid data, then additional data are required to be collected.

5.1.3.6 Comparability

A qualitative comparison of the confidence with which one data set can be compared to another. This is achieved through consistent sampling, analytical testing and reporting techniques. Until an alternative method to identify asbestos in bulk materials (including soil) is developed and validated, the use of the Australian Standard Method for the Qualitative Identification of asbestos in bulk samples (AS4964-2004).

5.1.3.7 Accuracy

Accuracy - measures the bias in a measurement system. Accuracy can be undermined by such factors as field contamination of samples, poor preservation of samples, poor sample preparation techniques and poor selection of analytical techniques by the analysing laboratory. Accuracy is assessed by reference to the analytical results of laboratory control samples, laboratory spikes, laboratory blanks and analyses against reference standards.

5.1.4 Optimise the Design for Obtaining Data

This was achieved through the development of an appropriate sampling and analytical strategy which was reviewed and refined as necessary during the assessment evaluating field observations and analytical results. This included collection and analysis of soil samples, and visual, observation for surface asbestos containing materials.

5.2 Data Quality Indicators

The DQOs, requirements and indicators for the assessment are presented in Table 4.

Table 4 Data Quality Objectives, Requirements and Indicators

Data Quality Objective	Requirement	Data Quality Indicator	Conclusion
Precision			
Standard operating procedures appropriate and complied with	The sampling methods comply with industry standards and guidelines	Meet Requirement	Acceptable
Accuracy			
Laboratory Control Samples	At least 1 per batch per analyte tested for	Result < Limit of reporting	Acceptable
Representativeness			
Sampling methodology - preservation	Appropriate for the sample type and analytes	Meet Requirement	Acceptable
Samples extracted and analysed within holding times	Specific to each analyte Meet Requirement	Meet Requirement	Acceptable
Comparability			
Sampling approach	Consistent for each sample	Meet Requirement	Acceptable
Analysis methodology Consistent methodology for each sample	Consistent methodology for each sample	Meet Requirement	Acceptable

6. Site Assessment Criteria

The Site assessment criteria adopted for this project are predominantly based on the following references:

- NEPC (2013) National Environment Protection (Assessment of Site Contamination Measure) Measure 1999 (2013 amendment); and
- WA DoH (2009) Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia.

The sections below discuss the adopted Site assessment criteria.

6.1 Asbestos in Soil Assessment Criteria

Trinitas has adopted the most recent Amended NEPM (2013) Tier 1 Guidelines over the criteria listed in NSW DEC (2006) as it is the most recent guidance available that has been approved by the NSW EPA under Section 105 of the Contaminated Land Management Act, 1997.

The WA DoH (2009) Guidelines and ASC NEPM 2013 provide the following definitions / groups for asbestos:

- ACM is defined as material, which is in sound condition, the asbestos is bound in a matrix, and cannot pass through a 7 mm x 7 mm sieve;
- Fibrous Asbestos ("**FA**") encompasses friable asbestos material, such as severely weathered ACM, and asbestos in the form of loose fibrous materials such as insulation products. Friable asbestos is defined here as asbestos material that is in a degraded condition such that it can be broken or crumbled by hand pressure; and
- Asbestos Fines ("**AF**") includes free fibres of asbestos, small fibre bundles and ACM fragments that can pass through a 7 mm x 7 mm sieve.

From a risk to human health perspective, FA and AF are considered to be equivalent to "friable" asbestos in Safe Work Australia (2011), which is defined therein as 'material that is in a powder form or that can be crumbled, pulverised or reduced to a powder by hand pressure when dry, and contains asbestos'. Bonded asbestos ACM in sound condition represents a low human health risk. However, both FA and AF materials have a significantly higher potential to generate, or be associated with, free asbestos fibres and may represent a significant human health risk if disturbed and fibres are made airborne.

Non-friable asbestos may become friable as a result of work processes over time (for example, degradation due to chemical exposure) or due to other factors (for example, damage by fire).

The WA DoH (2009) Guidelines and ASC NEPM 2013 also provide Health Screening Levels ("HSLs") for the assessment of asbestos concentrations in soil, for each of the three definitions / groups listed above. The HILs have been developed for various land use scenarios including low-density residential, high-density residential (with minimal access to soils), recreational and commercial / industrial.

Table 5 Health Screening Levels for Asbestos Contamination in Soil (NEPM 2013)

Form of asbestos	Health Screening Level (w/w)			
	Residential A[1]	**Residential B[2]**	**Recreational C[3]**	**Commercial/ Industrial D[4]**
Bonded ACM	0.01%	0.04%	**0.02%**	0.05%
FA and AF (friable asbestos)	**0.001%**			
All forms of asbestos	No visible asbestos for surface soil			

1. Recreational C with garden/accessible soil also includes children's day care centres, preschools and primary schools.
2. Residential B with minimal opportunities for soil access; includes dwellings with fully and permanently paved yard space such as high-rise buildings and apartments.
3. Recreational C includes public open space such as parks, playgrounds, playing fields (e.g. ovals), secondary schools and unpaved footpaths.
4. Commercial/industrial D includes premises such as shops, offices, factories and industrial sites.

The NEPM (2013) Schedule B (2) - Guideline on Site Characterisation provide the following management options in accordance with the WA Guidelines:

Asbestos buried deeper than 3 m is not usually regarded as contamination provided it is not likely to be disturbed.

The Guidelines provide that the percentage of soil asbestos is calculated using the following formula:

$$\%\ \text{w/w asbestos in soil} = \frac{\%\ \text{asbestos content x (ACM) kg}}{\text{Soil volume (L) x soil density (kg/L)}}$$

In the example included in enHealth (2005) it was assumed that:
% asbestos content (within bonded ACM) = 15% and soil density (for sandy soil) = 1.65 kg/L.

The Site assessment criteria applicable for asbestos in soil adopted for this project are:

- ACM = 0.02% (weight of asbestos per weight of soil) since the Site is proposed for Recreational C purpose.
- FA and AF = 0.001% (weight of asbestos per weight of soil); and
- No visible asbestos on soil surface.

The adopted asbestos in soil assessment criteria were provided in Table 5

7. Methodology, Sampling and Analysis Plan

Trinitas Consultants employed the following methodologies for the assessment in relation to identification of suspected asbestos contamination from any potentially disturbed ACM on the site and immediate surrounding areas of environmental concern.

7.1 Visual Inspection & Assessment

Trinitas Consultants conducted the inspections, allowing inspection to be completed on a grid system walking across the surface at 90 degrees to each walk path within the grid. For each grid (5 m x 5 m) for areas of concern in the site, a walkover visual inspection was undertaken to identify suspected ACM in/on the surface to identify damaged and unstable ACM, fragments and debris as applicable.

The inspection process was listed below:

- Trinitas personnel walked across the surface. The inspection was carried out by means of a visual observation, during a slow traverse across the materials, with the consultant inspecting on a grid pattern at 90 degrees to each walk path. The surfaces were inspected to detect evidence of suspected asbestos containing materials (ACM). Colour, size and shape are used as indicators.

If suspected ACM was observed and/or identified during the inspection, it was marked as a suspected ACM sample. All ACM fragments sighted during investigation could be picked up and/or tested.

The remainder of the surface was inspected for any additional suspected ACM.

7.2 Identification of Materials to Contain Asbestos

Materials suspected to contain asbestos were collected and selected based on the likely pattern, morphology and appearance of the materials as well as our professional experience in the visual identification of such materials. The collected representative samples were sent to a NATA accredited laboratory for analysis in accordance with Australian Standard AS4964-2004 Method for the qualitative identification of asbestos in bulk samples.

7.3 Soil Sampling, Air Monitoring and Laboratory Analysis

7.3.1 Sampling Plan and Methodology

Sampling of the site was undertaken by Trinitas Consultants (Dr Jeffrey Yu, Asfar Riaz and Kieran Mackowski) from 26th to 30th of April 2021, as shown in Table 6 and Appendix B ~ Appendix D

Table 6 Sampling Plan and Site Investigation Summary for Areas of Environmental Concern

Zone	Area of Concern		Area /m²	Minimum Sampling No.	Trinitas TP No.	Trinitas Positive TP No.	Contamination Depth /m BGL	Estimated Contamination Volume /m³ (~ ±25%)
Northern Beach	Sand Area (from lowest tidal line 0.3 m)	Hotspot	**~1600**	-	20	TP07, 08, 10, 16, 19	0.0 - 1	**1000**
		Dumped Waste/Stockpile	~1000	-		-	0.0 - 2	1000
		Clean Sand Area	~1000			-	0.0 - 1	-
	Unknown_Underwater		~1000	-		-	>-0.5	-
Crown Gully 1 (Lot 98)			~1000	-		-	-	-
Golf Course Exposed Soil/Stockpile (Lot 98)			~1500	-		-	0.0 - >0.1	throughout
Middle Beach (Western Beach)	Hotspot (at lowest tide of 0.3 m)		**1500**	-	9	7 out of 9 TPs	0.0 - 0.5	**750**
	Unknown_Underwater including Rock Area		-	-	-	-	-	NA (ACM Observed)
Crown Gully 2 (Lot 98)			2500	-	-	-	>1	NA (ACM Observed)
Southern Breach	Sand Area (up to lowest tidal line, 0.3 m)	Hotspot	**1200**	-	9	TP36, 39, 41	0.1 - 1.7	**800**
		Clean Sand	4100	-	-	-	0.0 - 2.5	-
	Unknown_Underwater including Rock Area		2000	-		-	-	NA (ACM Observed)
Crown Gully 3 (Lot 98)				-	-	-	-	-
TOTAL			~11000	21 - 25	45	**15**	0 – 2.5	

Note 1. ACM fragments were sighted, detected or confirmed in 15 out of 45 test pits. Hotspot areas have visually broad ACM contamination.
Note 2. Both wet sands and fill with bricks and boulders resulted in inspection challenges.
Note 3. Building rubble, especially glass, tiles and ash were observed throughout the Site.
Note 4. The areas were estimated at low tide ~0.5 m. At high tide ~2 m, ~80% of sand areas were impacted by water or under water.
Note 5. The differentiation of ownership among land owners for land, soil and water was out of the scope of work.

The NSW EPA (1995) Sampling Design Guidelines and the WA Department of Health (2009) Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (adopted by ASC NEPM 2013) recommends that the minimum sampling points required for site characterisation based on detection of circular hot spots using systematic GRID sampling pattern should be around 22 (21 - 25) for area with ~11000 m^2.

Trinitas undertook a combination of systematic grid-based sampling method and stratified sampling for localised silty sand/fill, identified in each location around hotspots and from the site history and site observation. Additional targeted sampling was undertaken within hotspot areas.

According to the provided design drawings, a discrete sample was taken from each sampling location and analysed individually.

Therefore, to provide a contamination assessment of asbestos at the Site, Trinitas carried out double-density sampling from at least forty-four (44) locations across the potential areas of environmental concern with various depth up to 2.5 m at 25 cm increment. Note: If any suspect materials (identified by unusual staining, odour, discolouration or inclusions such as building rubble, asbestos sheets/pieces/pipes, ash material, etc.) or any potentially contaminated area(s) and filled area(s) in or between the sampling locations, were encountered during site investigation, further sampling was undertaken. Consultation through on-site meeting, email and or telephone with written records should be taken with key stakeholders as soon as practical after testing results indicated unexpected finds or excessive scale of heavy contamination.

The sampling was undertaken by a senior Trinitas environmental scientist, trained in sampling contaminated land. Trinitas allowed for:

- Collection of soil samples in an approximate grid pattern across the Site. The samples were collected using excavator, shovels, hand trowels, or other hand tools as appropriate.
- Sampling for asbestos was undertaken in accordance with the procedure outlined in the WA Department of Health (2009) Guidelines. Each sample included:
  - A 10 L soil sample collected from each sample location, which were weighed;
  - The 10 L sample was sieved through a 7 mm sieve;
  - ACM fragments captured on the sieve were placed into a zip-lock plastic bag and weighed in relation to the 10 L sample; and
  - A separate 500 mL soil sample were collected and placed into a zip-lock plastic bag for NEPM asbestos analysis.
  - ACM fragment(s) observed on the surface of a test pit was also collected and and placed into a zip-lock plastic bag for asbestos analysis.
- A clean pair of disposable nitrile gloves were worn when collecting each sample.
- The sample locations were recorded with a hand-held GPS or measured relative to Site features; or measured on the landscape footing marking piers.

Each sample was dispatched to a NATA-accredited laboratory and analysed for asbestos identification and quantitation in soil in accordance with the ASC NEPM (2013) guideline and WA Department of Health (2009) Guidelines.

7.3.2 Quality Assurance and Quality Control

Sampling was carried out in accordance with Trinitas Standard Operating Procedures ("**SOPs**"), which were based on current industry standards.

7.3.3 Laboratory Analysis

The soil samples collected were dispatched to the National Association of Testing Authorities ("**NATA**") accredited laboratory. The samples were analysed for Asbestos (NEPM)

7.3.4 Air Monitoring

Daily Background Air Monitoring was undertaken at the Site throughout the duration of the DSI site work. Calibrated air monitoring pumps were installed at the boundary fences of the exclusion zone for the designated asbestos works area.

Filter samples were submitted to a NATA accredited laboratory for fibre count analysis. Results of air monitoring were compared against the trigger levels outlined in Table 7 below. All Air Monitoring Results were below 0.01 fibres/mL. Air Monitoring reports including laboratory certificates from a NATA accredited laboratory (Eurofins) have been presented in *Appendix K - Air Monitoring, Clearance and Laboratory Analysis Results*

Table 7 Air Monitoring Trigger Levels

Trigger Level	Fibre Concentration	Asbestos Management Action
(I)	< 0.01 fibres/mL	Continue works and maintain effective site controls.
(II)	≥0.01 but < 0.02 fibres/mL	Review site control measures and introduce more stringent controls. Notify Asbestos Assessor to advise on improved site controls.
(III)	≥0.02 fibres/mL	Stop work. Notify SafeWork NSW. Identify the cause of the elevated concentrations and update site protocols for approval by Asbestos Assessor prior to recommencing works.

8. Preliminary Conceptual Site Model and Risk Assessment

Based on the limited site history review, Site walkover undertaken as part of Trinitas Group's visual inspections, a preliminary CSM for asbestos in/on soil at the Site was prepared (all other Areas of concern are not addressed in this report as instructed by the Client). The preliminary CSM is discussed in the sections below.

8.1 Potential Areas and Contaminants of Environmental Concern

Based on preliminary findings, visual inspections and laboratory results, risk of asbestos contamination could not be underestimated, even though daily air monitoring data confirmed fibres in the air during the sampling periods did not exceed the adopted criteria. Table 5 summarises the preliminary assessment of potential areas of environmental concern.

Table 8 Potential Areas of Environmental Concern (AECs) and Contaminants of Potential Concern (COPCs)*

AEC	Potential Contaminating Activity	COPCs#	Risk of Contamination*
Norther Beach, Western Beach and Southern Beach	Contaminant on beach sand surfaces	Asbestos	Low to Medium
	Potential fill of unknown origin	Asbestos	Low to Medium
	Potential hazardous building materials on subsurface	Asbestos	Low to Medium

Notes:
*The risk of contamination provided was based on the qualitative risk of the contamination identified and does not represent the financial risk of the contamination.
*All gullies, catchments, underwater sand, golf course land were out of scope of work in this report.
*No AF/FA was identified within any samples collected from the Site.

8.2 Potential Sources, Pathways and Receptors of Contamination

NEPM Schedule A provides an overview of the site assessment process and the application of investigation and screening levels for human health and ecological risk assessment. While protection of human health often drives the first stages of assessment, protection of the environment (terrestrial and aquatic) should be a consideration for all site assessments. In assessing the overall risk to the environment from soil contamination the following site-specific aspects should be considered:

- the location of the contamination in relation to any on-site and off-site sensitive receptors, e.g. watercourses, estuaries, groundwater resources, sensitive ecological areas.
- the existing or proposed land use(s)
- the presentation of contaminants including areal extent, depth below finished ground level, the presence of barriers or containment that prevents or minimises the migration of contamination or exposure pathways

- the potential for contaminants to be transported from the site at levels of concern by erosive natural forces.

The potential sources, pathways and receptors of contamination are provided below in Table 9.

Table 9 Potential Sources, Pathways and Receptors of Contamination

Source	Pathway	Receptor	Comment
Migration and deposition due to natural phenomenon of waste materials including Asbestos under three beaches	Ingestion and dermal contact	Current and future Site users (residents, visitors, children, workers)	There is high potential for Site users to come into contact with subsurface contamination, therefore a complete pathway does potentially exist. But for asbestos contamination, this pathway usually not considered to pose risks.
	Inhalation of dust	Current and future Site users and surrounding Site users	There is potential for Site users and surrounding land users to be exposed to dust and vapours from the subsurface soil, therefore a complete pathway is considered likely
	Surface water runoff	Current and future Site users (residents, visitors, children, workers)	There is medium potential for stormwater runoff from the Site to be impacted from surface/subsurface soil contamination, which can then impact off-site surface water receptors through stormwater system flow or into the sea, therefore a complete pathway potentially exists.
Potentially hazardous building materials in water	Inhalation of mist after ACM fragments were flushed into water	Current and future Site users (residents, visitors, children, workers)	There is potential for Site users and to be exposed to mist from the Site, therefore a complete pathway potentially exists.
All adjacent Coast Golf Course land	Out of work scope	Out of work scope	A complete pathway potentially exists (out of work scope).
All open water areas	Out of work scope	Out of work scope	A complete pathway potentially exists (out of work scope).

Trinitas recommends an updated risk assessment for this Site.

9. Findings and Conclusions

Based on the best available data sources, previous reports and site investigations, Trinitas concluded that:

9.1 Air monitoring and Visual Surface Clearance Inspections

Daily Background Air Monitoring was undertaken at the Site throughout the duration of the DSI site work. Calibrated air monitoring pumps were installed at the boundary fences of the exclusion zone for the designated asbestos works area.

Filter samples were submitted to a NATA accredited laboratory for fibre count analysis. All Air Monitoring Results were below 0.01 fibres/mL. Air Monitoring reports including laboratory certificates from a NATA accredited laboratory (Eurofins) have been presented in Appendix K - Air Monitoring, Clearance and Laboratory Analysis Results.

A visual surface clearance inspection was undertaken for all areas of the Site following completion of the site work to ensure that no ACM fragments remained exposed on the soil surfaces after test pit excavation and backfilling. A clearance certificate was provided upon completion of the visual clearance inspection which is attached in Appendix K - Air Monitoring, Clearance and Laboratory Analysis Results.

9.2 Site inspection

Prior to DSI

- Prior to the commencement of the DSI works, approximately 2000 fragments were collected during bi-weekly emu picking and clearance inspections undertaken between August 2020 and April 2021 at Little Bay Beach. There was no conclusive or scientific evidence to demonstrate a decreasing trend in terms of ACM fragment quantity or numbers identified and removed from the site during the bi-weekly site inspections and emu-picking being completed by Trinitas Licensed Asbestos Assessors and Occupational Hygienists. These reports can be accessed via the Randwick City Council Website at http://www.randwick.nsw.gov.au/planning-and-building/council-works-and-upgrades/major-projects/little-bay-beach-asbestos-management#reports

During DSI

- ACM fragments were washed up and down the three beaches at Little Bay Beach consistently by tidal movements.
- ACM fragments identified and removed from Little Bay Beach during the one-week investigation period of the DSI had the physical characteristics (pattern, colour, shape and morphology) of asbestos sheeting fragments and corrugated super 6 sheeting fragments.
- Several ACM fragments were collected from areas adjacent to the outlet of Stormwater Pipe at Crown Gully 3 and then all the way to the rocky area in the bay, the whole sand and rock area at the Middle Beach; the areas adjacent to the creek from the Heritage Wall and Crown Gully 1 at the Northern Beach.
- Visual inspections were undertaken within the soil surfaces within Gully 2, and suspected ACM fragments within dumped building waste were observed. Due to lack of safe access, no samples were collected from Gully 2.

- Suspected ACM fragments were sighted and confirmed within all the Rock Areas and some Unknown Underwater Areas adjacent to the three beaches.
- It is the opinion of Trinitas Group that all fragments collected during the DSI were bonded in nature.
- To assess the potential sources of contamination at the Site, visual inspections were undertaken in areas adjacent to the boundary of the Site. Suspected ACM fragments were observed within the following areas;
    - Stockpiles, Exposed Soils at Golf Course adjacent to the catchment, Crown Gully 1;
    - Dumped waste adjacent to Heritage Wall at Northern Beach;
    - Cleared land at the upstream of Crown Gully 3
    - Sand Area under open water in the bay.

9.3 Asbestos in/on soil findings

This DSI identified contamination as follows:

- 15 out of 45 Test Pits reported asbestos contamination (positive): sighted, confirmed in 10 L of soil, or confirmed in 500 mL of soil.
- 4 out of 45 Test Pits were confirmed with bonded asbestos contamination over HSL threshold 0.02% w/w.
- No friable asbestos (AF/FA) was identified within any of the 45 Test Pits. No asbestos was detected at the reporting limit of 0.001% w/w. No trace asbestos was detected.
- Three Hotspots included:
    - Southern Beach (25% positive Test Pits) had the Hotspot with the area of 1200 m^2 (approximately 800 m^3), up to 1 m.
    - Middle Beach (78% positive Test Pits) had the Hotspot with the area of 1000 m^2 (approximately 750 m^3), up to 0.5 m;
    - Northern Beach (12% positive Test Pits) had the Hotspot with the area of 1600 m^2 (approximately 1000 m^3), up to 1 m.

Due to the nature of site contamination by bonded asbestos fragments in soil and on sand surfaces, it is the opinion of Trinitas that asbestos contamination at the Site poses a potentially low health risk to site users. The final risk ratings are to be determined by the Site Human Health Risk Assessment report.

10. Recommendations

Trinitas recommends a series of approaches, measures, and strategies including further risk assessment, additional site investigation, Remedial Action Plan and Environmental Management Plan to make the site suitable for the current and future public open space land use with the consultation among the client, community, decision makers and stakeholders.

As illustrated in Figure 2, Trinitas recommends the following measures and approaches to meet the guideline criteria based on limited visual inspections, laboratory results and limited site information:

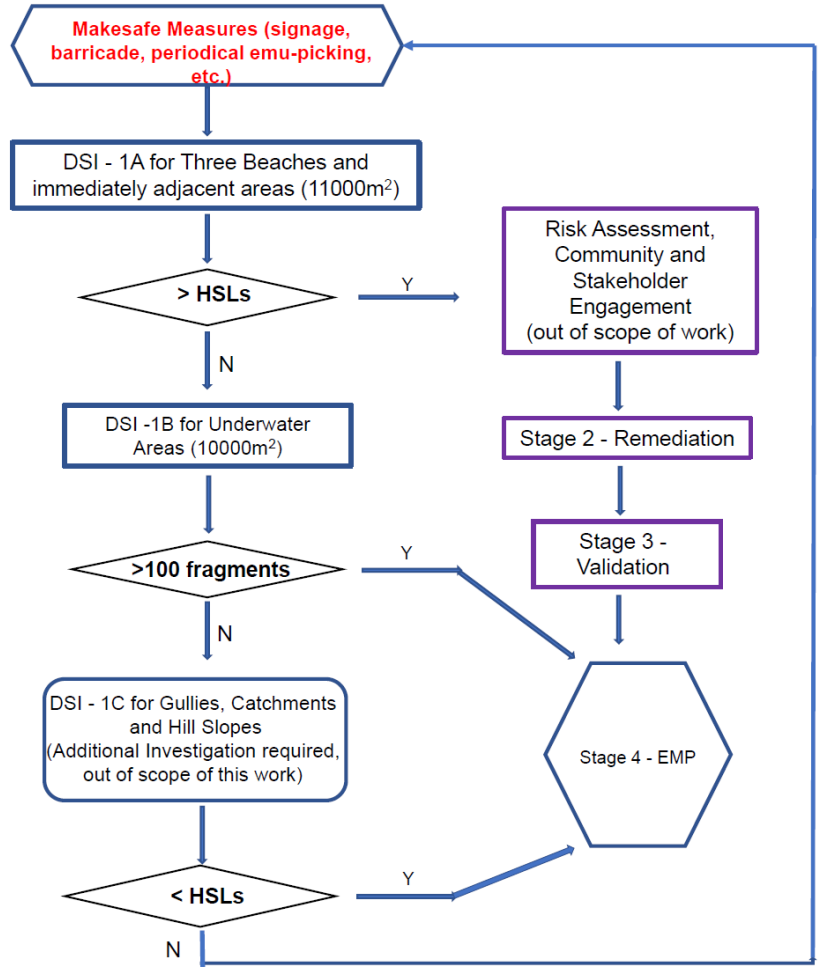


Figure 2 - Preliminary decision tree approach for assessing asbestos contamination at Little Bay Beach

10.1 Makesafe Measures

Makesafe Immediate Measures should be conducted in the short term as soon as reasonably practical, which includes, but not limited to:

- Air Monitoring and Emu-picking should be conducted at least twice per week (more frequently during warm seasons due to the high numbers of people visiting the beach) by a competent Licensed Asbestos Assessor or Competent Occupational Hygienist.
- Following storms and /or heavy rain, emu-picking should be conducted as soon as practical by a competent Licensed Asbestos Assessor or Competent Occupational Hygienist.
- Warning signage should be implemented as soon as possible around all the entries (wood stairs, footpaths from gullies to the beaches, Midden, Southern Rock Area, Northern Rock Area), the Northern Beach, the Western Beach and the Southern Beach, for example,

Warning/Danger:
NO shell, NO pebble, NO glass, NO tile to be taken away from the beach
All suspected materials are Prohibited to be taken from Little Bay Beach

- Barricades erected in place as soon as practicable in the following sections or hotspots:
  1) around the canal all the away from Old Concrete Pipe outlet adjacent to Crown Gully 3 all the way to the water in Southern Beach;
  2) around the canal all the away from Old Heritage Wall adjacent to Crown Gully 1 outlet all the way to the water in Southern Beach;
  3) all of the sand area at Middle Beach.
- Note that the erection of barricades should be part of a Safety Risk Assessment completed in consultation with key stakeholders including council Trinitas, Randwick City Council and Subject Matter Experts.
- The Client should prepare an information sheet outlining the potential risks of contact with asbestos material and distribute that information sheet to residents that live close to the Site.

10.1.1 Stage One 1B: Diving Investigation - Visual Inspection and Contamination Assessment of Underwater Sand in the Bay (if required)

If underwater visual inspection observes similar extent of contamination (for example, >100 ACM fragments on 10000 m^2 of sand surface), Stage Three: Long Term Environmental Management Plan (EMP) (if Required) should be conducted via consultation with the Client and stakeholders rather than Stage Two: Remedial Action Plan (RAP) with the consultation of stakeholders (the client, EPA, Safework, etc.)

10.1.2 Stage One 1C: Detailed Site Investigation and Contamination Assessment for Three Crown Gullies, Catchments and adjacent Golf Course Hill slopes (if required)

This investigation is out of the scope of this DSI, however further investigation into the source and extent of contamination will provide value to the investigation works

10.2 Human Health Risk Assessment

An updated Human Health risk assessment report should be completed upon receipt of final version of this DSI report.

All of these make safe measures and/or other measures recommended by Trinitas are subject to change according to the updated JBSG Risk Assessment Report and/or Site Auditor Statement.

10.3 Stage Two: Remedial Action Plan (RAP) (if required formally)

If Stage One 1B: Diving Investigation - Visual Inspection and Contamination Assessment of Underwater Sand in the Bay observe the similar contamination to the three beaches, Stage Three: Long Term Environmental Management Plan (EMP) should be conducted with the consultation of the Client and stakeholders rather than a RAP.

Depending on Trinitas's Site investigation and assessment report and other previous assessment reports, a Remedial Action Plan for the Site could be conducted.

The objectives of the RAP are to:

- Summarise the characteristics of the Site;
- Define the extent of remediation required;
- Identify potential remediation options and justify the selection of the preferred remediation option in comparison with unexpected failure of precious management plans/measures/strategies taken 15 years ago;
- Outline the methodology required to implement the preferred remediation option;
- Establish validation criteria in order to validate the Site to a level suitable for the proposed Recreational C land use;
- Outline regulatory environments applicable to the remediation works; and
- Outline requirements for the protection of human health and the environment during the remediation works.

The scope of work in the RAP will include the following:

- Background information on the project and Site;
- A summary of previous assessment reports and the detailed investigation works undertaken by Trinitas;
- Based on the findings of the site investigations and assessment reports, a Conceptual Site Model (CSM) for the Site will be prepared. The CSM includes:
    - summarises the Areas of Environmental Concern ("AEC's") and associated Contaminants of Concern ("CoC's") for the Site
    - Identify the potential sources, pathways and receptors of contamination
    - Consideration of different remediation options;
    - Identification and justification of the preferred remediation option (with the consultation with the Client and the regulator;
    - Procedures to be undertaken to carry out the preferred remediation option (including additional sampling if considered beneficial to the remediation phase of the project);
    - Procedures for Site validation, to confirm that remediation has been appropriately completed;
    - Site validation reporting requirements;
    - Environmental and Workplace Health & Safety ("WHS") management requirements;
    - Procedures for the management of unexpected finds (unexpected finds protocol); and
    - Communication and consultation requirements (including regulatory authority notification requirements).

- Identification of areas of the site that require remediation. This will be provided in the form of GPS locations and a clear site plan which highlights in red the remediation areas.
- The RAP will be undertaken in accordance with all Environmental Protection Authority requirements including but not limited to 'Guidelines for Consultants Reporting on Contaminated Sites'. The RAP will also consider NEPM and SafeWork NSW Codes of Practice relating to asbestos.
- Trinitas will provide one electronic (pdf) copy of a final version of the RAP to the Client.

10.4 Stage Three: Validation after Remediation (if required formally)

If required a validation investigation and report after remediation will be prepared. The validation report will clearly identify the areas of the site that are remediated and will be provided in the form of GPS locations and a clear site plan which highlights the remediated areas in red.
Note: Short Term and/or Long-Term Environmental Management Plan could be required. Makesafe Immediate Measures could also be implanted by the Client according to the updated JBSG Risk Assessment Report and Site Auditor Statement.

10.5 Stage Four: Long Term Environmental Management Plan (EMP) (if required formally)

Long Term Environmental Management Plan for the Site (immediately surrounding areas both up to the top of three catchment areas and down to the underwater area should be managed by the land owner, but are out of the scope of work in this report) should be conducted (if required).

10.6 Recommendation Summary

Table 10 Recommendation Summary

Item	Timeframe	Organisation	Recommendation
1.	On-going	Randwick City Council	Air Monitoring and Emu-picking should be conducted at least twice per week (more frequently during warm seasons) by a competent Licensed Asbestos Assessor. Following storms and /or heavy rain, emu-picking should be conducted as soon as practical to remove surface fragments from the sand areas.
2.	Short Term	Randwick City Council	Issue report to independent auditor and Human Health Risk Assessor for their review
3.	Short Term	Randwick City Council	Obtain and issue HHRA report to independent auditor for their review
4.	Short Term	Randwick City Council	Obtain SAS and SAR for the DSI and HHRA from RA. This is an endorsement from the RA of the DSI and HHRA.
5.	Short Term	Randwick City Council	Issue Detailed Site Investigation report to relevant stakeholders for review and action including: • Landcom • Department of Planning Industry and Environment (DPIE) • Golfcourse tenants • EPA • Crown Land
6.	Short term	Randwick City Council	Warning signage should be implemented as soon as possible around all entries to the beach including (wood stairs, footpaths from gullies to the beaches, Midden, Southern Rock Area, Northern Rock Area), the Northern Beach, the Western Beach and the Southern Beach as reasonably practical

Item	Timeframe	Organisation	Recommendation
7.	Short term	Randwick City Council	Prepare an information sheet outlining the potential risks of contact with asbestos material, which includes the findings from the HHRA and distribute that information sheet to residents that live close to the Site.
8.	Medium Term	Randwick City Council / Landcom / Golf course / DPIE / Crown Land / EPA	Investigate a sediment control barrier to prevent fragments from entering the sand/bay area from the gullies and catchment areas.
9.	Medium Term	DPIE	Diving Investigation - Visual Inspection and Contamination Assessment of Surface and Underwater Sand in the Bay to identify the extent of asbestos contamination in the underwater bay area
10.	Medium Term	Landcom / Golf Course Tenants / DPIE / Crown Land / EPA	The owner of adjacent property should be responsible to undertake what ever due diligence (be it DSI, contamination assessment or other appropriate mitigation as they feel necessary) based on the findings of this report as a means to limit further ongoing ACM material from making its way onto RCC operated property. Areas include: • Three Crown Gullies, • Catchments and • Adjacent Golf Course Hill slopes
11.	Long Term	Randwick City Council	Remedial Action Plan (RAP) to be completed based on the findings of the additional site investigations, see item 7, 8, and 9.
12.	Long Term	Randwick City Council / Landcom / Golf Course Tenants / DPIE / Crown Land / EPA	Remediation of contaminated areas
13.	Long Term	Randwick City Council / Landcom / Golf Course Tenants / DPIE / Crown Land / EPA	Validation after Remediation of contaminated areas
14.	Long Term	Randwick City Council / Landcom / Golf Course Tenants / DPIE / Crown Land / EPA	Long Term Environmental Management Plan (LTEMP)

11. Assumptions

The following assumptions have been made when preparing this report

- The DSI period was one week with low tide at 0.3 m ~ 0.5 m.
- The investigation areas covered all beach sand areas accessible for excavation as practically as possible.
- ~80% investigation areas could be impacted by water or underwater under high tide or extreme conditions. Therefore, the estimated investigation areas were approximate due to dynamic environment at Little Bay Beach.
- Surveying of Lot boundaries or accurate positions were out of the scope of work.
- A DSI review undertaken by a Certified Environmental Practitioner was out of the scope of work.

12. Limitations

We have prepared this proposal for the purpose set out above. As we have prepared this proposal for that purpose, it is not appropriate for this proposal to be used for any other purpose, without our prior written consent. It is also not appropriate for this proposal to be released to any other party (either in whole or in part) without our prior written consent. In the event this proposal is used for a purpose for which it was not prepared, then neither Trinitas nor any member or employee of Trinitas, accept responsibility or liability for the use of this proposal for that purpose.

In addition, this proposal does not, and does not purport to, give legal advice as to your actual or potential asbestos or hazardous material liabilities, or draw conclusions as to whether any particular circumstances constitute a breach of relevant legislation. You will appreciate that this advice can only be given by qualified legal practitioners.

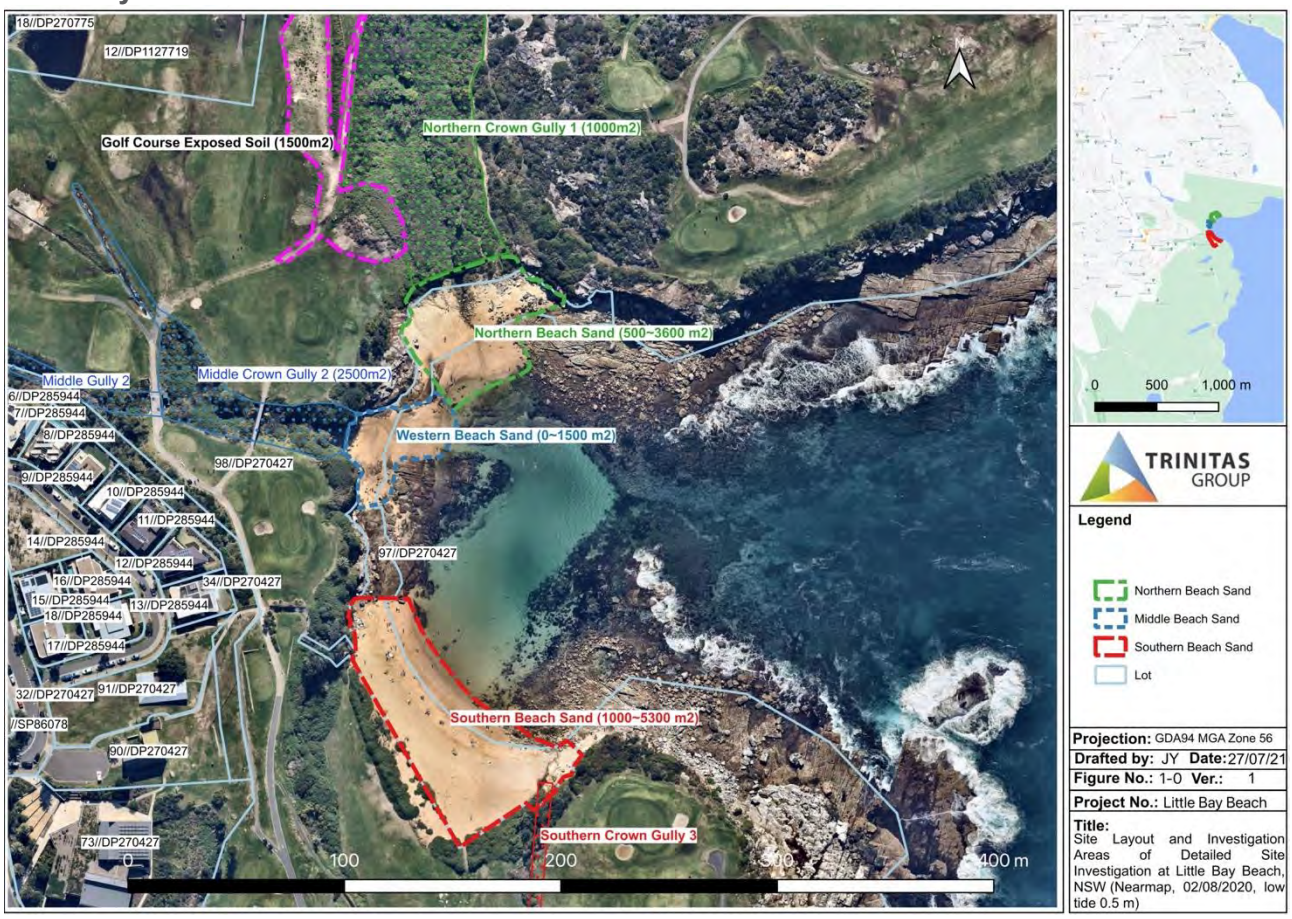
Finally, Trinitas does not make any other warranty, expressed or implied, as to the professional advice contained in this proposal.

13. References

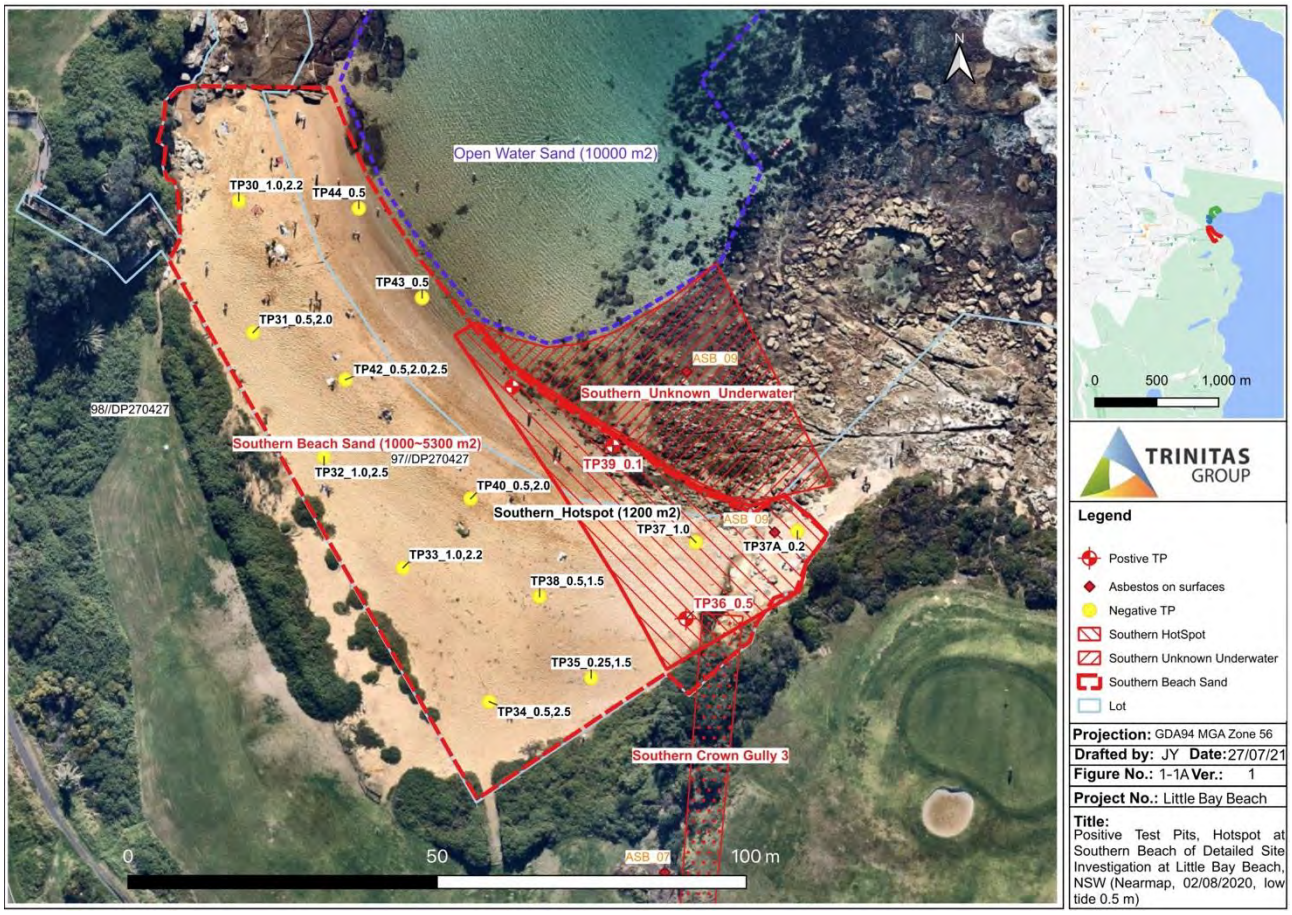
- NSW Work Health and Safety Regulation (2017)
- How to Manage and Control Asbestos in the Workplace Code of Practice (2019)
- How to Safely Remove Asbestos Code of Practice (2019)
- Contaminated Land Management Act 1997
- National Environment Protection (Assessment of Site Contamination) Measure 1999
- enHEALTH Management of Asbestos in the Non-Occupational Environment (2005)
- Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia, May 2009
- National Environment Protection (Assessment of Site Contamination) Measure. Schedule B (1) - Guideline on Investigation Levels for Soil and Groundwater (May 2013)
- National Environment Protection (Assessment of Site Contamination) Measure. Schedule B2 - Guideline on site characterisation.
- NSW Environment Protection Authority (EPA) Waste Classification Guidelines – Part 1: Classification of waste (November 2014)
- Office of Environment & Heritage - Guidelines for Consultants Reporting on Contaminated Sites (2011).
- The NSW EPA, Sampling Design Guidelines (1995)
- Australian Standard AS4964-2004 Method for the qualitative identification of asbestos in bulk samples.
- National Environment Protection Council (NEPC) (2013) National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1), Schedule B2: Guideline on Site Characterisation.
- Department of Environment and Conservation NSW (DEC) (2006) Contaminated Sites: Guidelines for the NSW Auditor Scheme (2nd Edition).
- US Environmental Protection Agency (USEPA) (2006) Guidance on Systematic Planning Using the Data Quality Objectives Process, EPA QA/G-4, (Ref. EPA/240/B-06/001).
- Australian Standard AS 4482.1—2005, Guide to the investigation and sampling of sites with potentially contaminated soil, Part 1: Non-volatile and semi-volatile compounds.
- NSW EPA Contaminated Land Guidelines - Consultants Reporting on Contaminated Land (2020)
- Heads of EPA Australia and New Zealand (2020), PFAS National Environmental Management Plan Version 2.0.
- D00229667 Environmental Monitoring Services - Prince Henry Redvelopment Site - PHLB Undevelopable areas remediation strategy report EMS 211205.
- D03973784 Paul Steinwede ERM Prince Henry Hospital at Little Bay - Documentation Lot 33 Little Bay Beach Site ~ 1430 Anzac Parade Little Bay(3).
- Trinitas Clearance certificates and air monitoring reports, https://www.randwick.nsw.gov.au/planning-and-building/council-works-and-upgrades/major-projects/little-bay-beach-asbestos-management
- D04018270 Little Bay Beach Asbestos Interim Human Health Risk Assessment JBSG Australia Pty Ltd, 7-October-2020

Appendices

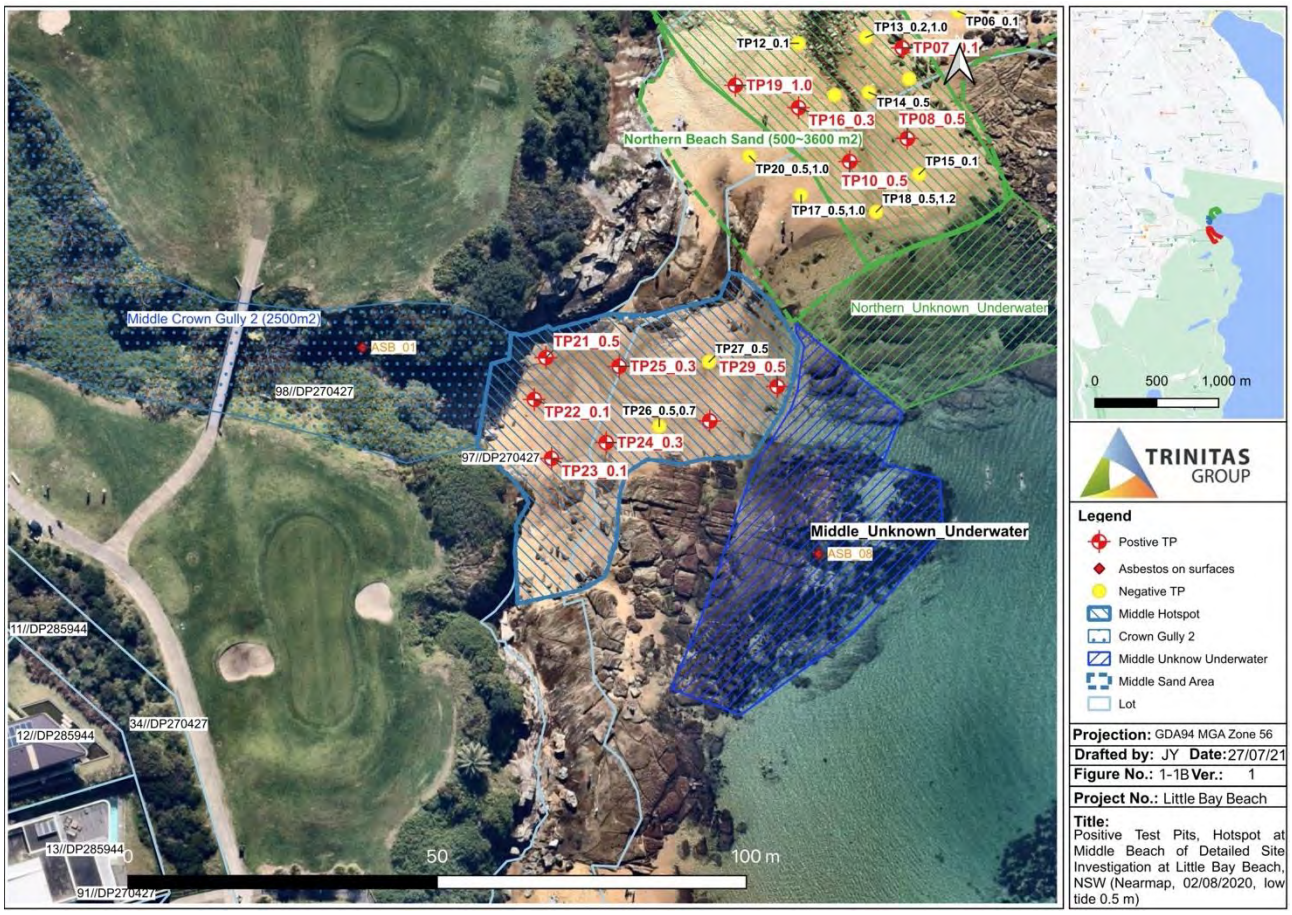
Appendix A Site Layout and Investigation Areas of Detailed Site Investigation at Little Bay Beach



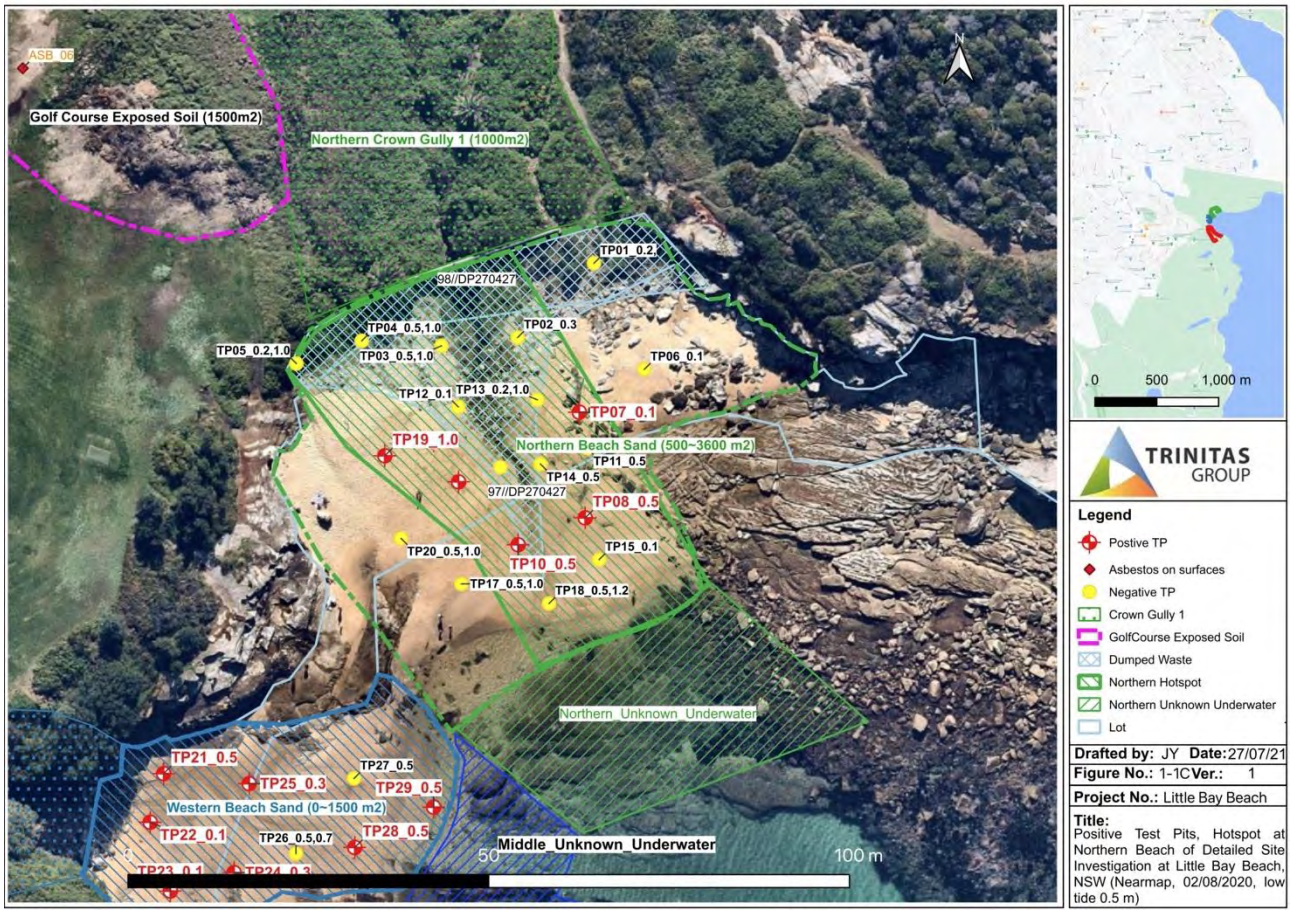
Appendix B Positive Test Pits, Hotspot, Rock Area, Unknown Underwater Area at Southern Beach



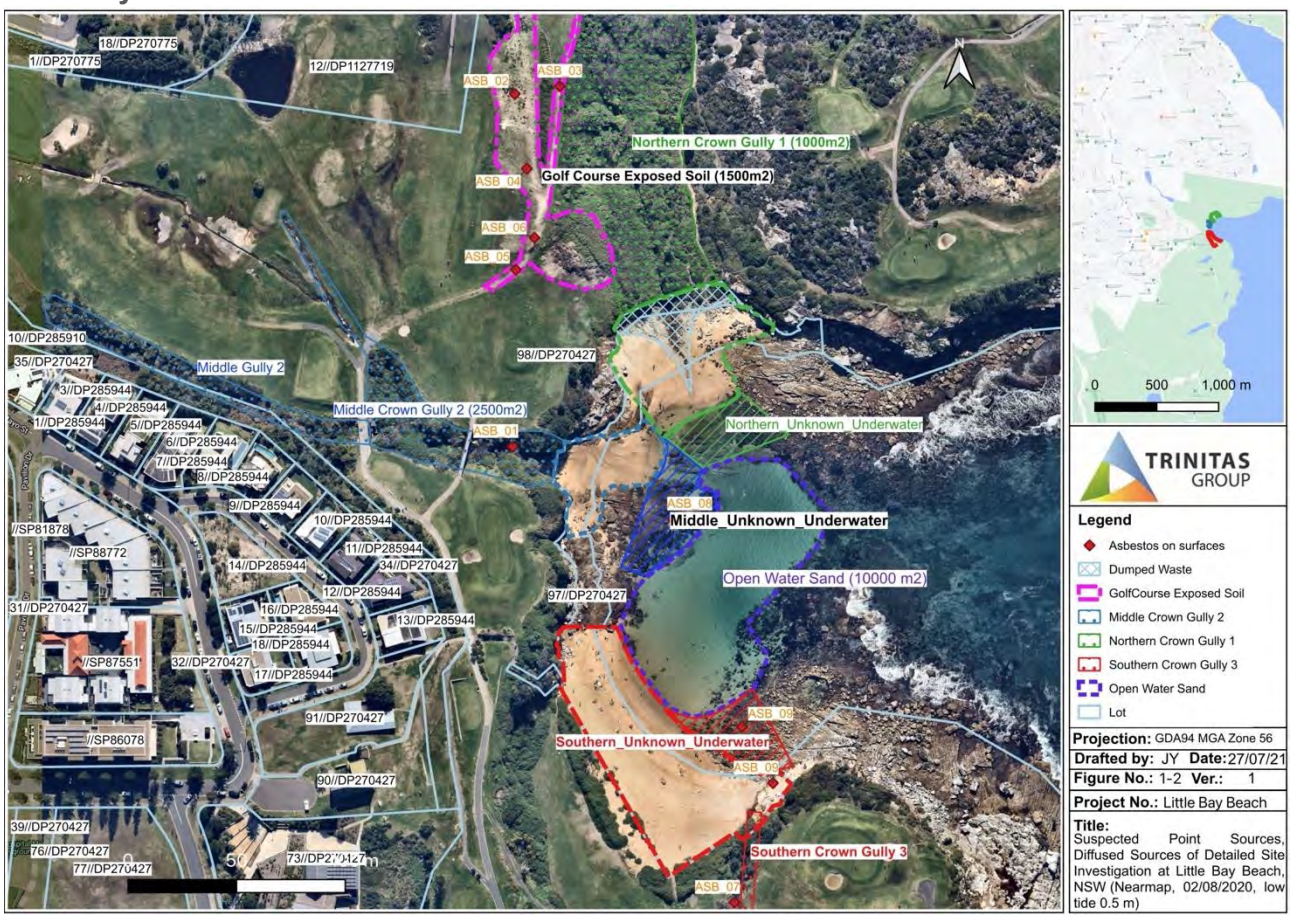
Appendix C Positive Test Pits, Hotspot, Rock Area, Unknown Underwater Area at Middle Beach



Appendix D Positive Test Pits, Hotspot, Unknown Underwater Area at Northern Beach



Appendix E Suspected Point Sources, Diffused Sources and Dumped Waste at Little Bay Beach



Appendix F Historical Site Plan, Historical Site Layouts and Previous Sampling Locations from ERM Site Audit Statement

Figure 2 Location of Lot 33

Landcom
Prince Henry Site, Little Bay

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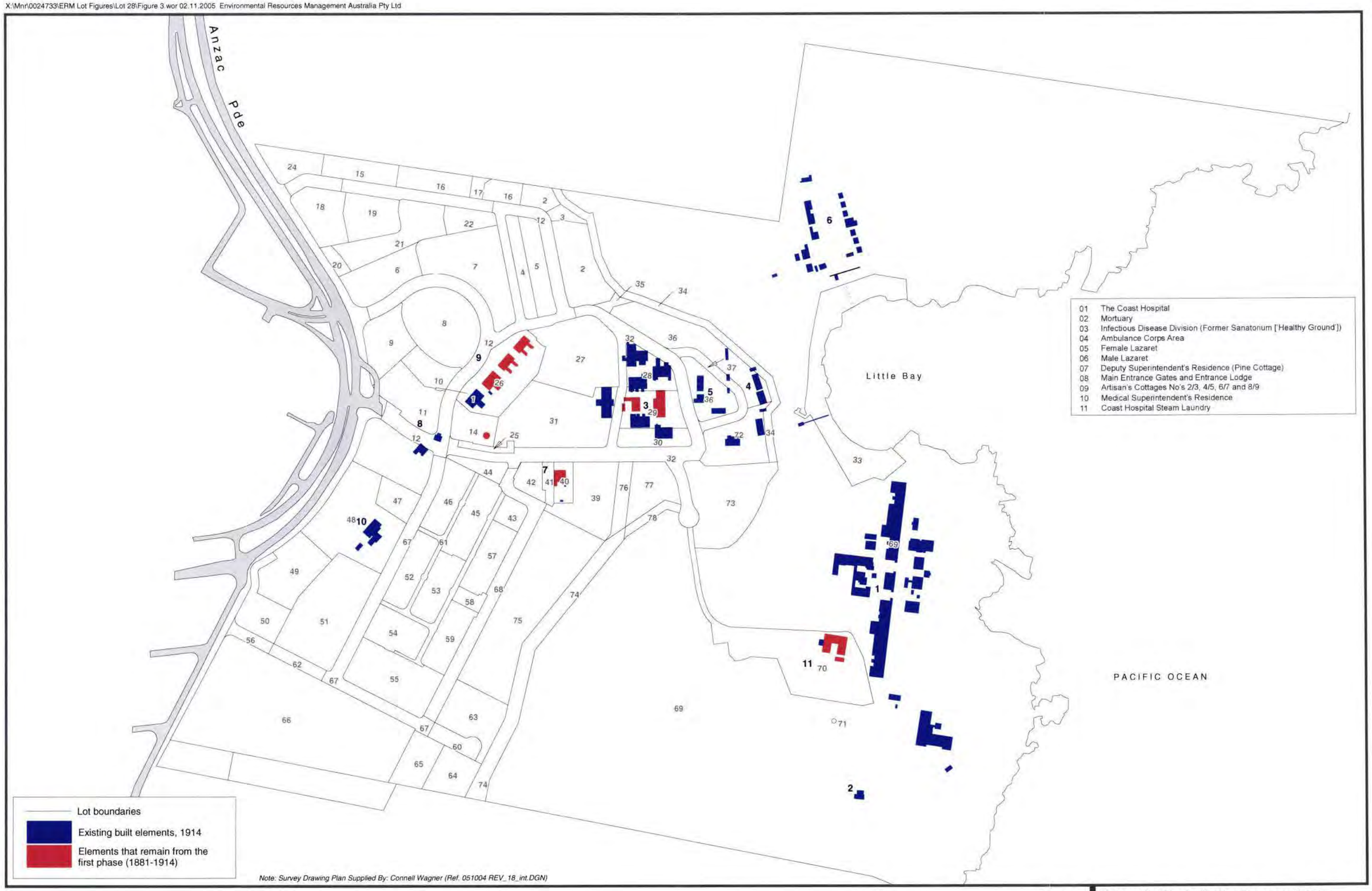

Figure 3 Schematic Plan indicating the approximate location of historical development (1881-1914), in comparison to Lot Areas

Landcom
Prince Henry Site, Little Bay

Figure 4 Schematic Plan indicating the approximate location of historical development (1915-1934), in comparison to Lot Areas

Landcom
Prince Henry Site, Little Bay

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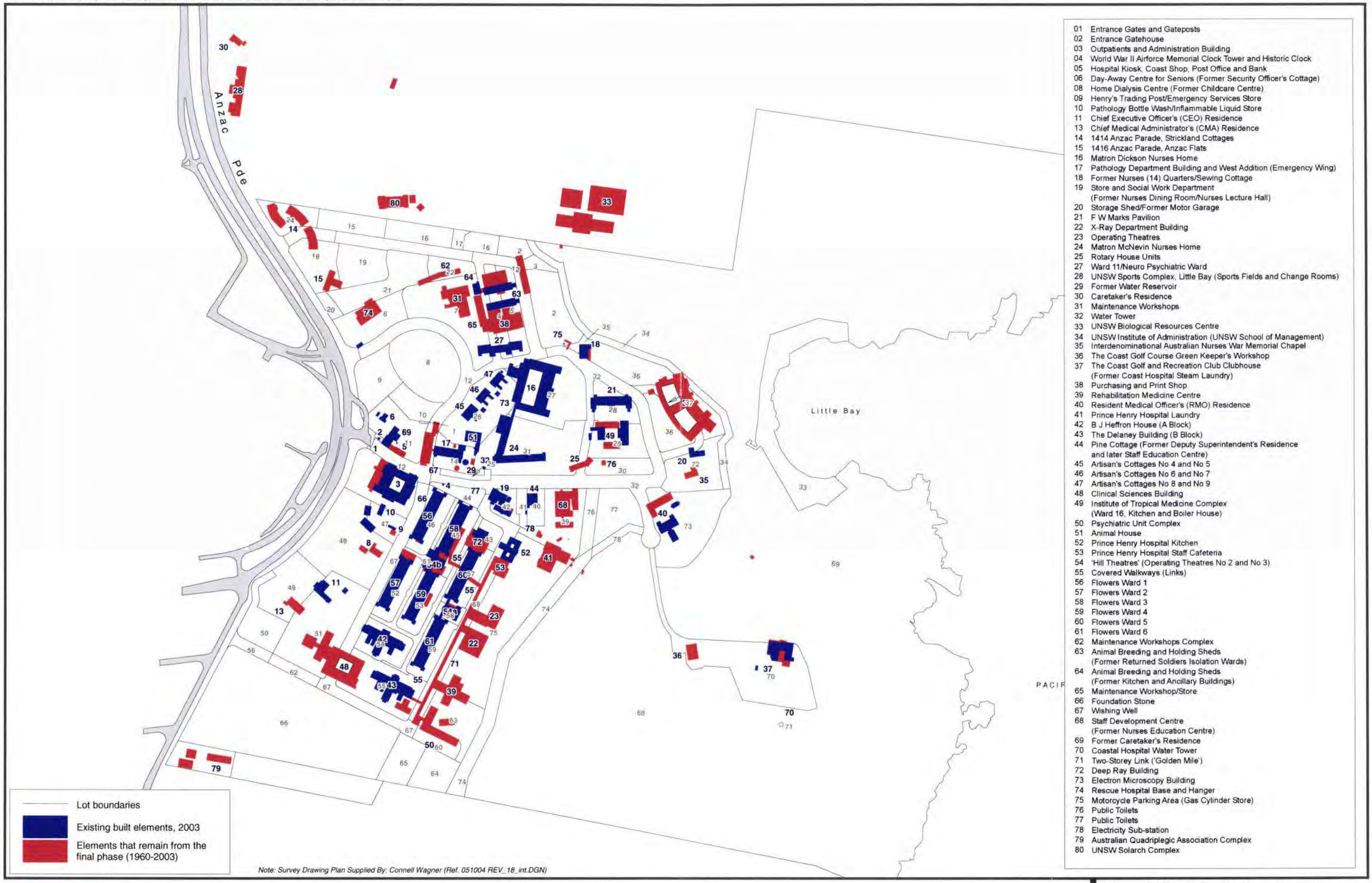
ERM

0 150 300
Metres

Figure 5 Schematic Plan indicating the approximate location of historical development (1935-1959), in comparison to Lot Areas

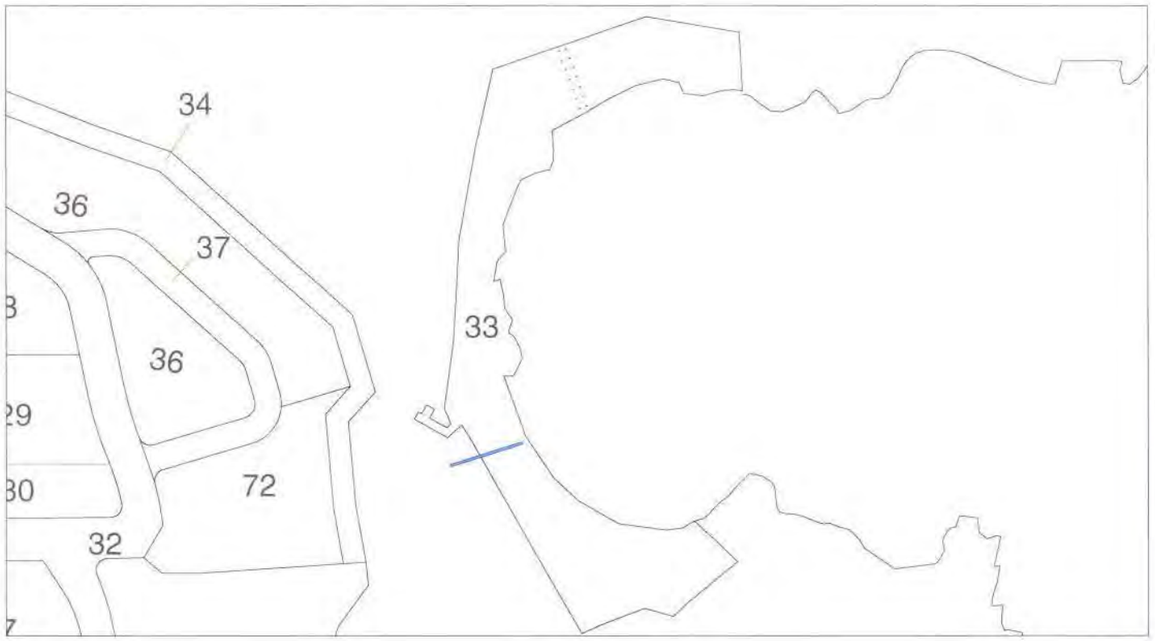
Landcom
Prince Henry Site, Little Bay



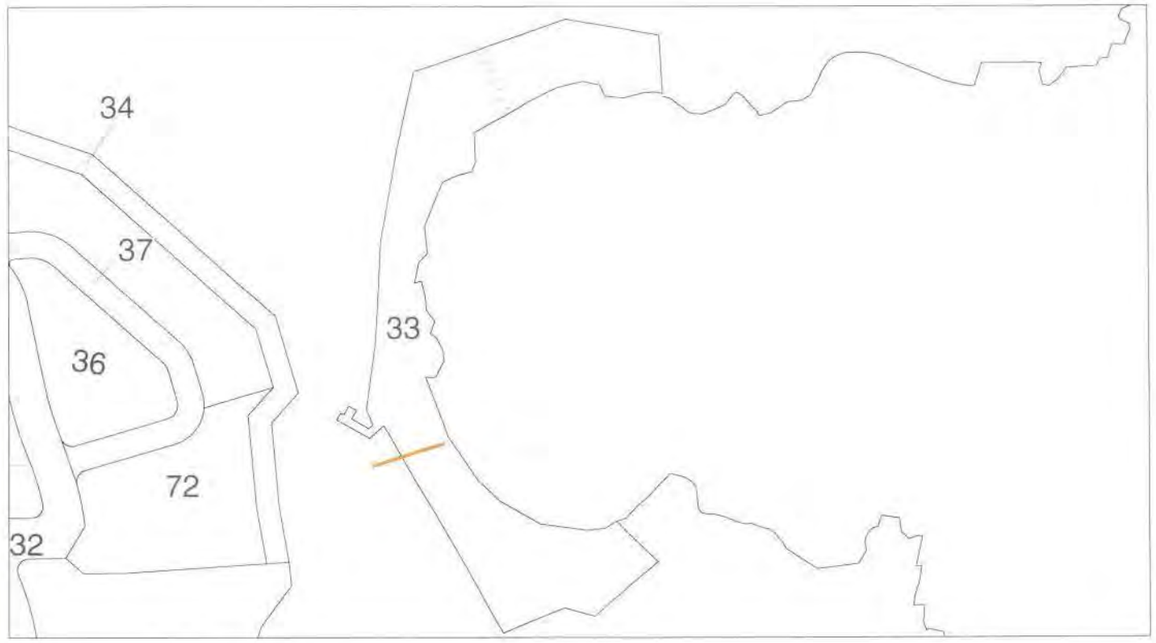
01 Entrance Gates and Gateposts
02 Entrance Gatehouse
03 Outpatients and Administration Building
04 World War II Airforce Memorial Clock Tower and Historic Clock
05 Hospital Kiosk, Coast Shop, Post Office and Bank
06 Day-Away Centre for Seniors (Former Security Officer's Cottage)
08 Home Dialysis Centre (Former Childcare Centre)
09 Henry's Trading Post/Emergency Services Store
10 Pathology Bottle Wash/Inflammable Liquid Store
11 Chief Executive Officer's (CEO) Residence
13 Chief Medical Administrator's (CMA) Residence
14 1414 Anzac Parade, Strickland Cottages
15 1416 Anzac Parade, Anzac Flats
16 Matron Dickson Nurses Home
17 Pathology Department Building and West Addition (Emergency Wing)
18 Former Nurses (14) Quarters/Sewing Cottage
19 Store and Social Work Department (Former Nurses Dining Room/Nurses Lecture Hall)
20 Storage Shed/Former Motor Garage
21 F W Marks Pavilion
22 X-Ray Department Building
23 Operating Theatres
24 Matron McNevin Nurses Home
25 Rotary House Units
27 Ward 11/Neuro Psychiatric Ward
28 UNSW Sports Complex, Little Bay (Sports Fields and Change Rooms)
29 Former Water Reservoir
30 Caretaker's Residence
31 Maintenance Workshops
32 Water Tower
33 UNSW Biological Resources Centre
34 UNSW Institute of Administration (UNSW School of Management)
35 Interdenominational Australian Nurses War Memorial Chapel
36 The Coast Golf Course Green Keeper's Workshop
37 The Coast Golf and Recreation Club Clubhouse (Former Coast Hospital Steam Laundry)
38 Purchasing and Print Shop
39 Rehabilitation Medicine Centre
40 Resident Medical Officer's (RMO) Residence
41 Prince Henry Hospital Laundry
42 B J Heffron House (A Block)
43 The Delaney Building (B Block)
44 Pine Cottage (Former Deputy Superintendent's Residence and later Staff Education Centre)
45 Artisan's Cottages No 4 and No 5
46 Artisan's Cottages No 6 and No 7
47 Artisan's Cottages No 8 and No 9
48 Clinical Sciences Building
49 Institute of Tropical Medicine Complex (Ward 16, Kitchen and Boiler House)
50 Psychiatric Unit Complex
51 Animal House
52 Prince Henry Hospital Kitchen
53 Prince Henry Hospital Staff Cafeteria
54 'Hill Theatres' (Operating Theatres No 2 and No 3)
55 Covered Walkways (Links)
56 Flowers Ward 1
57 Flowers Ward 2
58 Flowers Ward 3
59 Flowers Ward 4
60 Flowers Ward 5
61 Flowers Ward 6
62 Maintenance Workshops Complex
63 Animal Breeding and Holding Sheds (Former Returned Soldiers Isolation Wards)
64 Animal Breeding and Holding Sheds (Former Kitchen and Ancillary Buildings)
65 Maintenance Workshop/Store
66 Foundation Stone
67 Wishing Well
68 Staff Development Centre (Former Nurses Education Centre)
69 Former Caretaker's Residence
70 Coastal Hospital Water Tower
71 Two-Storey Link ('Golden Mile')
72 Deep Ray Building
73 Electron Microscopy Building
74 Rescue Hospital Base and Hanger
75 Motorcycle Parking Area (Gas Cylinder Store)
76 Public Toilets
77 Public Toilets
78 Electricity Sub-station
79 Australian Quadriplegic Association Complex
80 UNSW Solarch Complex

Figure 6 Schematic Plan indicating the approximate location of historical development (1960-2003), in comparison to Lot Areas

Landcom
Prince Henry Site, Little Bay

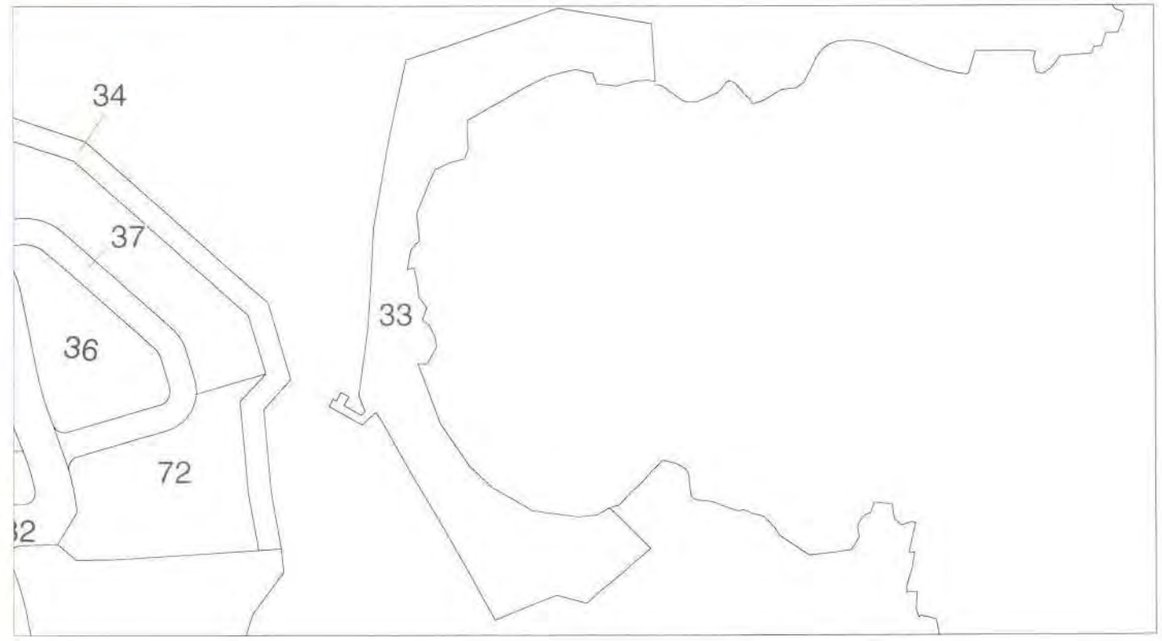


Existing buildings on Lot 33 in 1914



Existing buildings on Lot 33 in 1934

Existing buildings on Lot 33 in 1959



No buildings were present on Lot 33 in 2003

Note: Survey Drawing Plan Supplied By: Connell Wagner (Ref. 051004 REV_18_int.DGN)

ERM

0 50 100
Metres

Figure 7 Representation of Lot 33 Site History

Landcom
Prince Henry Site, Little Bay

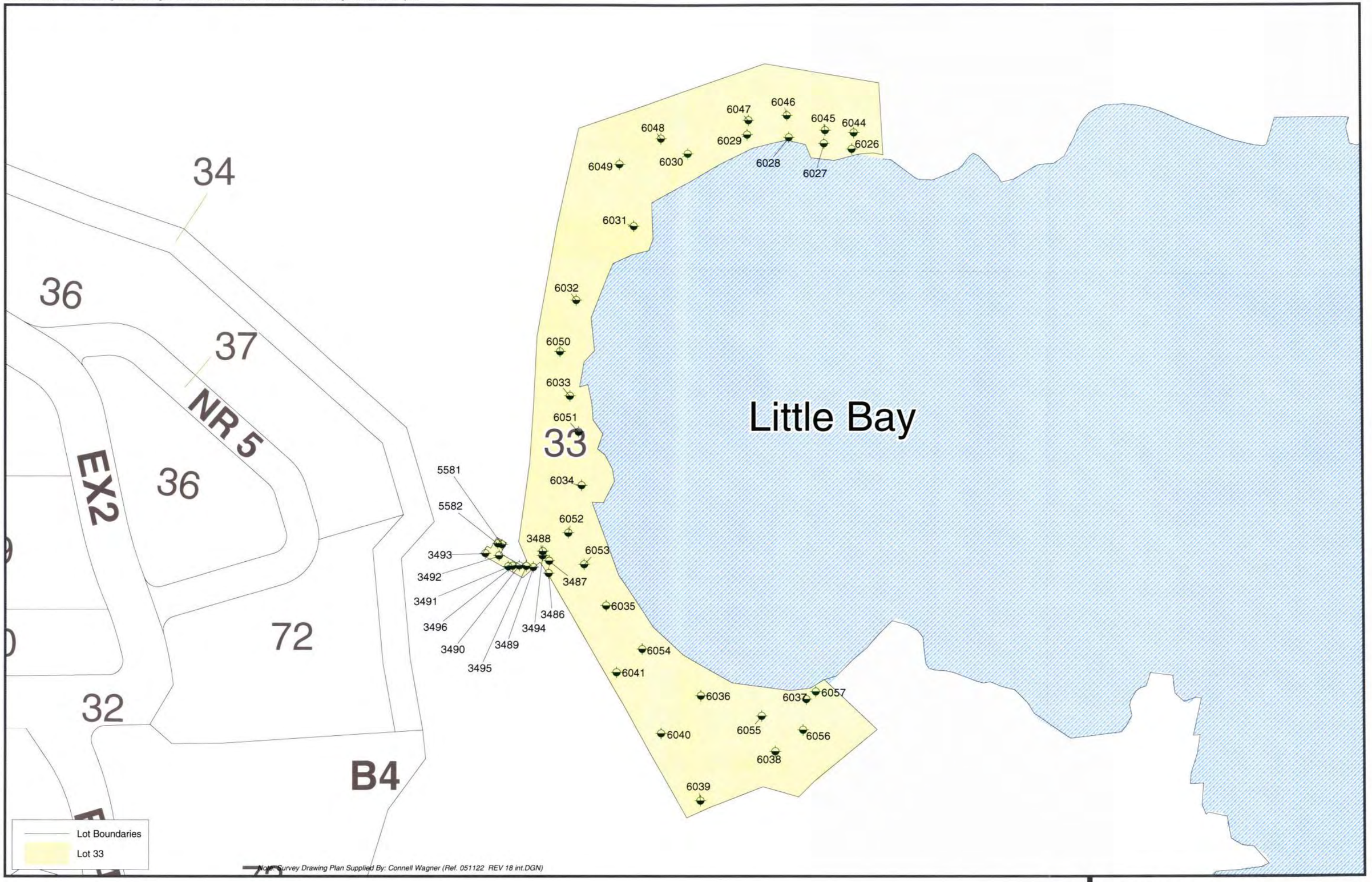


Figure 8 Borehole Location Plan

Landcom
Prince Henry Site, Little Bay

Appendix G Representative Photographic Records

Table 11 Photos – Thin Bonded ACM fragments

	
Thin ACM fragments, Southern Beach, collected during Make-safe Emu-picking and clearance before DSI	Thin ACM fragments, Southern Beach, collected during Make-safe Emu-picking and clearance before DSI

Table 12 Photos – Three beaches impacted by high tide and rough swell

	
Southern Beach impacted by high tide, rough swell (~1500 m^2 left)	Southern Beach impacted by high tide, rough swell (~1500 m^2 left)

	
Northern Beach impacted by high tide, rough swell (~500 m^2 left)	Middle Beach impacted by high tide, rough swell (0 m^2 left, all underwater)

Table 13 Photos - Southern Beach - Hotspot Area from Crown Gully 3 Outlet to Rock Area

	
Southern beach, TP41_0.5, Sand and rock with tiles, abundant glasses, fibro cement pieces	Southern beach, TP41_0.5FC01, FC sheeting fragments around 10cm×10cm

	
Southern beach, TP41_1.0, Sand and rock with glass, tiles and shell, ACM fragments.	Southern beach, TP41_1.0FC02, Sand and rock with glass, tiles and shell, ACM fragments.
	
Southern beach, TP36_0.5, sand, small suspected ACM fragment 1 cmx1 cm, sandstone boulders from 0.6 m.	Southern beach, TP39_0.1, Rock and sand with FC sheeting fragments 1.5 kg.

	
Southern beach, TP39_0.1FC02, two FC sheeting fragments	Southern beach, TP39_0.1FC01, several FC sheeting fragments (including one 6 cm×20 cm corrugated sheeting fragments)
	
Southern Beach – Hotspot Area, ACM fragments, high tide	Southern Beach –Hotspot, ACM fragments, low tide

Table 14 Photos - Southern Beach – Rock Area or Unknown Underwater Area

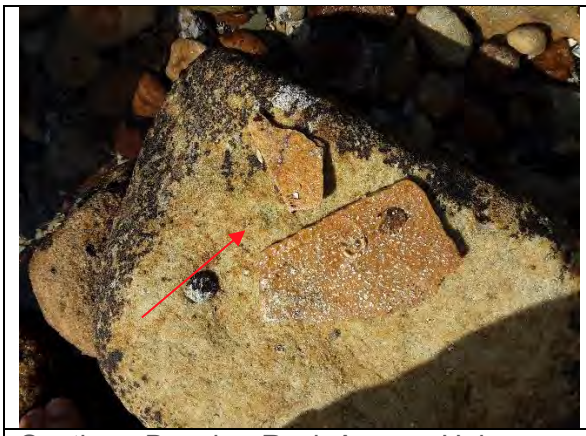
	
Southern Beach – Rock Area or Unknown Underwater Area, low tide	Southern Beach – Rock Area or Unknown Underwater Area, low tide

Table 15 Photos - Middle Beach (Western Beach) – Hotspot throughout the whole sand area

	
Middle beach, TP22_0.1, Fill with brick, building debris, FC fragments, tile, rocks.	Middle beach, TP22_0.1FC01, FC fragments

	
Middle beach, TP22_1.0, Fill with brick, glass, tile and concrete under top sand.	Middle beach, TP29_0.3, Fill with brick, glass, sand, shell, rocks, ACM fragments.
	
Middle beach, TP29_0.5FC01, FC fragments	Middle beach, soil erosion and disturbance

Table 16 Photos - Representative Photos of Asbestos observed in Rock Area or Unknown Underwater Areas at Middle Beach

	
Middle beach, ACM fragments under water, low tide	Middle beach, ACM fragments under water, low tide

Table 17 Photos - Representative Photos of Asbestos observed in Crown Gully 2, Middle Beach (Western Beach)

	
Crown Gully 2, landfill, ACM fagments	Crown Gully 2, eroded creek bed, ~1 m deep

Table 18 Photos - Northern Beach Sand Area - Hotspot Area

	
Northern beach, TP19_0.3, sand with gravel at 0.3 m	Northern beach, TP19_1.0FC01, ACM fragment
	
Northern beach, TP19_1.0, large sandstone boulders, building debris, bricks, ACM fragment	Northern beach, TP05_0.2, Fill with glasses, tiles, brick, plastic, metal, concrete and coal.

	
Northern beach, TP05_1.0, Fill with glasses, tiles, brick, plastic, metal, concrete and coal.	Northern beach, TP03_0.5, Fill with silty sand loam, boulders, bricks, plastic, glasses.
	
Northern beach, TP03_1.0, Fill with bricks, boulders, minor plastic. Dumped waste up to around 1.5 m.	Northern beach, TP10_0.5, sand, rocks, shell fragments, glass, soil, brick, sandstone layer at 0.3 m.

	
Northern beach, TP10_0.5FC01, ACM Fragment	Northern beach, TP08_0.5FC01, Sand with shells, boulders, tiles, glasses. Rock platform from 0.5 m.
	
Northern beach, TP09_0.5, Sand with boulders, sediment or stained soil around boulders.	Northern beach, TP09_1.5, Fill with abundant glasses, brick, tiles and plastic.

Table 19 Photos - Representative Photos of Asbestos Observed in Rock Area and Eroded Northern Beach

	
Northern Beach, Asbestos Observed in Rock Area	Northern Beach, Asbestos Observed in Rock Area
	
Northern Beach, eroded sand, up to 1 m deep, Gully 1	Northern Beach, ACM fragments on creek bed, Gully 1

Table 20 Photos – Representative Photos of Asbestos Observed, Stockpiles, Exposed Soils on Golf Course, upgradient of Crown Gully 1, Northern Beach

	
Exposed Soils on Golf Course, adjacent to Gully 1	Suspected ACM fragments on Exposed Soils, Golf Course, adjacent to Gully 1
	
Northern Beach, land clearance, stockpile, adjacent to Crown Gully 1	Northern Beach, land clearance, stockpile, adjacent to Crown Gully 1

Appendix H Test Pit Log

ENVIRONMENTAL BOREHOLE / TESTPIT TP01

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 30/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Showel
TOTAL DEPTH 0.2

COORDINATES 338516.737, 6238869.021
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 3 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP01_0.2	Y		SAND	Fill with bricks, tiles and glasses. Boulders obstacles. NO access for excavation.	Fill with bricks, tiles and glasses. Boulders obstacles. NO access for excavation.
					Termination Depth at: 0.2 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP02

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 30/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 0.3

COORDINATES 338506.134, 6238858.629
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 3 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP02_0.3	Y		SAND	Silty sand. Rock platform or boulders from 0.3 m.	Sand. Boulder or sandstone layer from 0.3 m.
					Termination Depth at: 0.3 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP03

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 29/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 1.0

COORDINATES 338484.560, 6238858.154
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 3 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP03_0.5	Y		Fill	Fill with glasses, tiles, brick, plastic, boulders and shell.	Under weeds, Legacy tip or fill with glasses, tiles, brick, plastic, metal, concrete and coal.
				Fill		
0.5	TP03_1.0	Y			Fill with glasses, tiles, brick, plastic, boulders and shell. Boulder and brown silty sand were observed from 1 m.	Legacy tip or fill with glasses, tiles, brick, plastic, metal, concrete and coal. Boulders and brown silty sand observed from 1 m.
1					Termination Depth at: 1 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP04

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 29/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 1.0

COORDINATES 338484.560, 6238858.154
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 3 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP04_0.5	Y		Fill	Fill with glasses, tiles, brick, plastic, metal, concrete and coal.	Under weeds, Legacy tip or fill with glasses, tiles, brick, plastic, metal, concrete and coal.
				Fill		Legacy tip or fill with glasses, tiles, brick, plastic, metal, concrete and coal. Boulders and brown silty sand observed from 1 m.
0.5	TP04_1.0	Y			Fill with glasses, tiles, brick, plastic, metal, concrete and coal. Boulder and brown silty sand were observed from 1 m.	
1					Termination Depth at: 1 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP05

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 29/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 1.0

COORDINATES 338475.434, 6238855.095
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 3 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP05_0.2	Y		Fill	Fill with glasses, tiles, brick, plastic, metal, concrete and coal.	Under weeds, Legacy tip or fill with glasses, tiles, brick, plastic, metal, concrete and coal.
0.5	TP05_1.0	Y		Fill	Fill with glasses, tiles, brick, plastic, metal, concrete and coal. Boulder and brown silty sand were observed from 1 m.	Legacy tip or fill with glasses, tiles, brick, plastic, metal, concrete and coal. Boulders and brown silty sand observed from 1 m.
1					Termination Depth at: 1 m	

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ENVIRONMENTAL BOREHOLE / TESTPIT TP06

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 30/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavation
TOTAL DEPTH 0.1

COORDINATES 338523.700, 6238854.251
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 3 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP06_0.1	Y		SAND	Sand. Boulders or outcrop from 0.1 m.	Boulders or outcrop from 0.1 m.
					Termination Depth at: 0.1 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP07

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 30/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 0.3

COORDINATES 338514.733, 6238848.290
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 2 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP07_0.3; TP07_0.1FC01	Y		SAND	Sand. ACM fragment observed. Rock platform or boulders from 0.3 m.	Sand. ACM fragment observed. Boulder or sandstone layer from 0.3 m.
					Termination Depth at: 0.3 m	

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ENVIRONMENTAL BOREHOLE / TESTPIT TP08

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 30/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 0.5

COORDINATES 338515.524, 6238833.626
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 1 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP08_0.5; TP08_FC01	Y		SAND with building rubble	Sand with shell, brick, glass. Water seepage from the creek.	Sand with shell, brick, glass, rock over 0.5 m. ACM fragment observed. Refusal due to water seepage. Boulder or sandstone layer from 0.5 m.
0.5					Termination Depth at: 0.5 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP09

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 30/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 1.7

COORDINATES 338503.813, 6238840.747
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 2 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP09_0.5	Y		SAND with building rubble	Sand with shell, brick, abundant glass, tiles, plastic. Rock and boulders from 0.5 m up to 1.7 m.	Sand with shell, brick, glass, rock over 1.5 m. Silty sand or loam from 1.5 m. Boulder or sandstone layer from 0.5 m up to 1.7 m.
0.5	TP09_1.5	Y				
1						
1.5				Silty Sand or Fill		Silty sand or loam from 1.5 m. Boulder or sandstone layer from 1.7 m.
					Termination Depth at: 1.7 m	

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ENVIRONMENTAL BOREHOLE / TESTPIT TP10

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 29/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 0.5

COORDINATES 338506.240, 6238829.880
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 1 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP10_0.5; TP10_0.5FC01	Y		SAND with building rubble	Sand with shell, brick, glass, rock, and tiles. Boulder or rock platform from 0.3 m.	Sand with shell, brick, glass, rock, and tiles up to 0.5 m. ACM fragments observed. Sandstone platform or boulder from 0.3 m.
0.5					Termination Depth at: 0.5 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP11

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 29/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 0.5

COORDINATES 338484.560, 6238858.154
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 2 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP11_0.5	Y		SAND and Boulder	Sand with boulders. Sandstone platform from 0.5 m.	Sand with boulders. Sandstone platform from 0.5 m.
0.5					Termination Depth at: 0.5 m	

Disclaimer This log is intended for environmental not geotechnical purposes.

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ENVIRONMENTAL BOREHOLE / TESTPIT TP12

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 29/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavation
TOTAL DEPTH 0.1

COORDINATES 338497.983, 6238849.011
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 3 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP12_0.1	N		SAND and Boulder	Sand. Boulders or outcrop from 0.1 m.	Boulders or outcrop from 0.1 m.
					Termination Depth at: 0.1 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP13

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 29/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 1

COORDINATES 338508.877, 6238850.031
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 2 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP13_0.2	Y		SAND with building rubble	Sand with shell, brick, glass, rock, plastic, and tiles up to 1 m.	Sand with shell, brick, glass, rock, plastic, and tiles up to 1 m. Sandstone platform or boulder from 1 m.
	TP13_1.0	N			Sand with shell, brick, glass, rock, plastic, and tiles up to 1 m. Sandstone layer from 1 m.	
0.5						
1					Termination Depth at: 1 m	

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ENVIRONMENTAL BOREHOLE / TESTPIT TP14

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 29/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 0.5

COORDINATES 338509.352, 6238841.116
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 1 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP14_0.5	Y		SAND with building rubble	Sand with shell, brick, glass. Water seepage from the creek.	Sand with shell, brick, glass, rock over 0.5 m. Refusal due to water seepage.
0.5					Termination Depth at: 0.5 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP15

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 29/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavation
TOTAL DEPTH 0.1

COORDINATES 338517.348,6238827.819
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 1 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP15_0.1	N		SAND and Boulder	Sand with tiles and glasses.	Sand with tiles and glasses. Excavation had to be redirected to Middle Beach for investigation during low tide.
					Termination Depth at: 0.1 m	

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ENVIRONMENTAL BOREHOLE / TESTPIT TP16

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 29/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 1

COORDINATES 338498.011, 6238838.637
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 1 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP16_0.3; TP16_0.3FC01	Y		SAND with building rubble	Sand with shell, brick, glass, plastic and tiles. ACM fragment observed. Boulders from 0.3 m to over 1 m.	Sand with shell, brick, glass, rock, and tiles over 1 m. ACM fragments observed. Boulders from 0.3 m.
	TP16_1.0	Y				
0.5						
1					Termination Depth at: 1 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP17

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 28/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 1.0

COORDINATES 338498.333, 6238824.666
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 2 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP17_0.5	Y		SAND	SAND: well graded, brown with shell, brick, concrete, tiles and glasses up to 1 m.	Dry topsand to sand moist., with shells and building rubble.
0.5	TP17_1.0	Y			SAND: with shells and rocks, brick, concrete, tiles and glasses. Sandstone layer from 1 m. Water seepage.	Sand with shell, brick, concrete, tiles and glasses. Sandstone layer observed from 1 m.
1					Termination Depth at: 1.0 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP18

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 28/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 1.2

COORDINATES 338510.488, 6238821.828
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 1 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP18_0.5	Y		SAND	SAND: well graded, brown with shell, brick, concrete, tiles and glasses up to 1.2 m.	Dry topsand to sand moist., with shells and building rubble. On the lower tidal line during low tide.
0.5	TP18_1.2	Y			SAND: with shells and rocks, brick, concrete, tiles and glasses. Sandstone layer from 1.2 m. Water seepage.	Sand with shell, brick, concrete, tiles and glasses. Sandstone layer observed from 1.2 m. Water seepage at around 0.5 m.
1						
					Termination Depth at: 1.2 m	

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ENVIRONMENTAL BOREHOLE / TESTPIT TP19

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 28/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 1.0

COORDINATES 338487.707, 6238842.207
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 3 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP19_0.3	Y		SAND	SAND: well graded, brown with shell and rocks over 1 m. Sandstone boulder gravels from 0.3 m.	Dry topsand to sand moist., with shells.
	TP19_1.0	Y			SAND: with shells and rocks. ACM fragments observed. Seems weathered.	Sand with Boulder observed. ACM fragments. Looks weathered.
0.5						
1					Termination Depth at: 1.0 m	

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ENVIRONMENTAL BOREHOLE / TESTPIT TP20

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 28/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 1.0

COORDINATES 338490.036, 6238830.853
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 2 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP20_0.5	Y		SAND	SAND: well graded, brown with shell.	Dry topsand to sand moist., with shells.
0.5	TP20_1.0	Y			SAND: with shells and rocks. Sandstone layer from 1 m.	Sand with shell. Sandstone layer observed from 1 m.
1					Termination Depth at: 1.0 m	

produced by ESlog.ESdat.net on 27 May 2021

ENVIRONMENTAL BOREHOLE / TESTPIT TP21

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 29/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavation
TOTAL DEPTH 0.5

COORDINATES 338456.934, 6238798.334
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 2 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP21_0.5; TP21_0.5FC01	Y		SAND	Sand with tiles and glasses.	Sand with tiles and glasses.
				Fill	Fill with several bricks, glasses. ACM fragment observed. Sandstone formation from 0.5 m.	Fill with several bricks, glasses. ACM fragment observed. Sandstone formation from 0.5 m.
0.5					Termination Depth at: 0.5 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP22

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 29/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavation
TOTAL DEPTH 1

COORDINATES 338455.440, 6238790.802
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 2 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP22_0.1; TP22_0.1FC01	Y		SAND	Sand with tiles and glasses.	Sand with tiles and glasses. ACM fragment observed.
	TP22_1.0	Y		Fill	Fill with several bricks, glasses, tiles, concrete. Stained sand observed.	Fill with several bricks, tiles, concrete, glasses. Stained sand from 0.2 m.
0.5						
1					Termination Depth at: 1 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP23

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 29/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavation
TOTAL DEPTH 0.1

COORDINATES 338457.680, 6238781.403
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 2 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP23_0.1; TP23_0.1FC01	Y		SAND	Sand with bricks, tiles and glasses. Sandstone from 0.1 m.	Sand with bricks, tiles and glasses. ACM fragment observed. Sandstone from 0.1 m.
					Termination Depth at: 0.1 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP24

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 29/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavation
TOTAL DEPTH 0.3

COORDINATES 338466.893, 6238784.391
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 2 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP24_0.3; TP24_0.3FC01	Y		SAND	Sand with bricks, tiles and glasses.	Sand with bricks, tiles and glasses. ACM fragment observed in the following day.
					Termination Depth at: 0.3 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP25

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 29/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavation
TOTAL DEPTH 0.3

COORDINATES 338468.816, 6238796.992
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 1 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP25_0.3; TP25_0.3FC01	Y		SAND	Sand with bricks, glasses, tiles.	Sand with bricks, tiles and glasses. ACM fragment observed. Sandstone formation from 0.3 m.
					Termination Depth at: 0.3 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP26

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 29/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavation
TOTAL DEPTH 0.7

COORDINATES 338474.809, 6238789.684
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 0 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP26_0.5	Y		SAND	Sand with bricks, glasses, tiles.	Sand with bricks, tiles and glasses. Sandstone formation from 0.7 m.
0.5	TP26_0.7	N				
					Termination Depth at: 0.7 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP27

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 29/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavation
TOTAL DEPTH 0.5

COORDINATES 338483.214, 6238796.335
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 1 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP27_0.5	Y		SAND	Sand with bricks, glasses, tiles.	Sand with bricks, tiles and glasses. Sandstone formation from 0.5 m.
0.5					Termination Depth at: 0.5 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP28

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 29/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavation
TOTAL DEPTH 0.5

COORDINATES 338483.653, 6238787.930
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 0 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP28_0.5; TP28_0.5FC01	Y		SAND	Sand with bricks, tiles and glasses.	Sand with bricks, tiles and glasses. ACM fragment observed.
0.5					Termination Depth at: 0.5 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP29

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 29/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavation
TOTAL DEPTH 0.5

COORDINATES 338494.529, 6238793.541
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 0 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP29_0.3	Y		SAND	Sand with bricks, tiles and glasses.	Sand with bricks, tiles and glasses.
	TP29_0.5; TP29_0.5FC01	Y		SAND		Sand with rocks, tiles and glasses. ACM fragment observed.
0.5					Termination Depth at: 0.5 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP30

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 27/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 2.2

COORDINATES 338461.108, 6238702.353
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 3 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP30_1.0	Y		SAND	SAND: well graded, brown with shell over 2 m.	Dry topsand to sand moist., with shells. Over 2 m.
2	TP30_2.2	Y		SAND	SAND: brown silty sand with shells.	Brown silty sand layer observed. Refusal due to sand wall collapsed.
					Termination Depth at: 2.2 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP31

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 28/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 2.0

COORDINATES 338463.018, 6238677.383
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 3 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP31_0.5	Y		SAND	SAND: well graded, brown with shell over 2 m.	Dry topsand to sand moist., with shells. Over 2 m. Refusal due to sand wall collapsed.
0.5	TP31_2.0	Y		SAND		
1						
1.5						
2					Termination Depth at: 2.0 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP32

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 28/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 2.5

COORDINATES 338474.344, 6238657.051
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 3 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
0.5	TP32_1.0	Y		SAND	SAND: well graded, brown with shell	Dry topsand to sand moist., with shells. Over 2.5 m. Refusal due to sand wall collapsed.
1	TP32_2.5	Y		SAND	SAND: well graded, brown with shell over 2.5 m.	
1.5						
2						
2.5					Termination Depth at: 2.5 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP33

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 28/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 2.5

COORDINATES 338487.443, 6238639.449
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 3 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP33_1.0	Y		SAND	SAND: well graded, brown with shell	Dry topsand to sand moist., with shells. Over 2.5 m. Refusal due to sand wall collapsed.
0.5						
1	TP33_2.2	Y		SAND	SAND: well graded, brown with shell over 2.5 m.	
1.5						
2						
2.5					Termination Depth at: 2.5 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP34

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 28/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 2.6

COORDINATES 338501.361, 6238617.617
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 2 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP34_0.5	Y		SAND	SAND: well graded, brown with shell	Dry topsand to sand moist., with shells.
0.5						
1						
1.5						
2						
2.5	TP34_2.5	Y		Silty Clay with abunda shell deposit.	Black silty clay from 2.5 m.	After 2.5 m, Black silty clay or sandy clay with abundant shell deposit.
					Termination Depth at: 2.6 m	

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ENVIRONMENTAL BOREHOLE / TESTPIT TP35

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 27/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 2.5

COORDINATES 338517.899, 6238621.489
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 2 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP35_0.25	Y		SAND	SAND: well graded, brown, minor shell, tiles and glasses up to 1.5 m.	Dry topsand to sand moist., with minor glasses, and shells.
0.5				SAND	SAND: Well graded, brown, moist. After 1.5 m, underlain brown deposited sandy layer with rock platform and boulders.	Sand with shells. After 1.5 m, Brown coarse sand and sandstone.
1	TP35_1.5	Y		Sand with humus hint	Sand: brown, humus hint.	
1.5				Sandsto	Sandstone platform	
					Termination Depth at: 1.5 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP36

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 28/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 0.5

COORDINATES 338533.032, 6238630.959
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 2 m
LOGGED BY Jeffrey YU
CHECKED BY AR

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP36_0.5	Y		SAND	SAND: well graded, brown, and polished ACM fragments.	Dry topsand to sand moist., with rocks, and shells. ACM fragments.
0.5				Sandsto or boulder	Sandstone platform or boulder from 0.5 m.	After 0.5 m, sandstone platform or boulder.
					Termination Depth at: 0.5 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP37A

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 28/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 0.2

COORDINATES 338551.210, 6238645.407
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 2 m
LOGGED BY Jeffrey YU
CHECKED BY AR

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP37A_0.2	Y		SAND	SAND: well graded, dry sand with shell	Dry topsand to sand moist., with shells. Sandstone outcrop from 0.2 m.
					Sandstone platform from 0.2 m. Termination Depth at: 0.2 m	After 0.2 m, sandstone platform.

ENVIRONMENTAL BOREHOLE / TESTPIT TP37

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 28/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 1.1

COORDINATES 338534.688, 6238643.424
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 2 m
LOGGED BY Jeffrey YU
CHECKED BY AR

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
0.5	TP37_1.0	Y		SAND	SAND: well graded, brown with shell	Dry topsand to sand moist., with rocks, and shells.
1				Sandsto or boulder	Sandstone platform or boulder from 1 m.	After 1 m, sandstone platform or boulder.
					Termination Depth at: 1.1 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP38

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 27/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 2.5

COORDINATES 338509.497, 6238634.691
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 3 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP38_0.5	Y		SAND	SAND: Dry topsand, well graded, brown, minor shell, minor glasses up to 1.5 m.	Dry topsand to sand moist. with minor glasses and shells.
0.5					SAND: well graded, brown, shell and minor glasses up to 1.5 m.	
1						
	TP38_1.5	Y		SAND	SAND: Brown deposited shell sandy layers. Refusal, collapsed sand walls.	After 1.5 m, Brown coarse sand and dominant shell deposit layers with humus hint. Refusal due to rock platform at the bottom.
1.5						
					Termination Depth at: 1.6 m	

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ENVIRONMENTAL BOREHOLE / TESTPIT TP39

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 26/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 0.1

COORDINATES 338521.049, 6238659.145
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 0 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP39_0.1, TP39_0.1FC01, TP39_0.1FC02	Y		SAND and Boulder	SAND: well graded, brown, shell, glasses, tiles, rocks and ACM fragments (~1.5 Kg). Underlain outcrop.	Wet topsand to sand saturated with rocks, shells and ACM fragments (over 1.5 Kg). Underlain outcrop.
0.1					Termination Depth at: 0.1 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP40

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 27/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 2.0

COORDINATES 338498.096, 6238650.744
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 0 - 2 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP40_0.5	Y		SAND	SAND: well graded, brown, minor shell, tiles and glasses up to 2 m.	Dry topsand to sand moist., with minor glasses, tiles and shells. Upper tidal line.
0.5				SAND	SAND: Well graded, brown, moist. After 2 m, underlain brown deposited shell sandy layer with humus hint. Refusal, collapsed sand walls.	Sand with abundant shells. After 2 m, Brown coarse sand and dominant shell deposit layers with humus hint. Refusal.
1						
1.5						
	TP40_2.0	Y				
2					Termination Depth at: 2 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP41

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 26/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 0.5

COORDINATES 338504.697, 6238668.747
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 0 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP41_0.5, TP41_0.5FC01	Y		SAND and Boulder	SAND: well graded, brown, shell, glasses, tiles, rocks and ACM fragments (~1 Kg)	Wet topsand to sand saturated with minor glasses, bricks, shells and ACM fragments.
0.5	TP41_1.0, TP41_1.0FC02	Y		SAND and Boulder	Sand and boulders with several glass, tiles, shells, several ACM fragments (over 1.5 kg)	Sand and boulders with several glass, tiles, shells, several ACM fragments (over 1.5 kg)
1					Termination Depth at: 1.0 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP42

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 26/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 2.5

COORDINATES 338477.904, 6238669.651
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
				SW	SAND: well graded, brown, minor shell	Dry topsand to sand moist.with minor glassess
0.5				SW	SAND: SW, Well graded, brown, moist.	Sand with abundant shells, minor rock and concrete
1						
1.5						
2	TP42_2.0	Y		SW	SAND: SW, abundant shells, minor rock and minor concrete	
2.5					Termination Depth at: 2.5 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP43

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 26/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 0.5

COORDINATES 338490.594, 6238682.849
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION 0 m
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP43_0.5	Y		SAND	SAND: well graded, brown, shell, glasses, tiles, rocks	Wet topsand to sand saturated with minor glasses, bricks, shells
0.5					Termination Depth at: 0.5 m	

ENVIRONMENTAL BOREHOLE / TESTPIT TP44

PROJECT NUMBER Little Bay
PROJECT NAME Little Bay Beach
CLIENT RCC
ADDRESS 4R Coast Hospital Rd, Little Bay NSW 2036

DRILLING DATE 26/04/2021
DRILLING COMPANY RMA
DRILLER RMA
DRILLING METHOD Excavator
TOTAL DEPTH 0.5

COORDINATES 338480.060, 6238697.349
COORD SYS GDA94 MGA Zone 56
SURFACE ELEVATION
LOGGED BY Jeffrey YU
CHECKED BY KM

COMMENTS

Depth (m)	Samples	Is Analysed?	Graphic Log	USCS	Material Description	Additional Observations
	TP44_0.5	Y		SW	SAND: well graded, brown, minor shell, bricks, rocks	Wet topsand to sand saturated with minor glasses, bricks, shells
0.5				SW	Termination Depth at: 0.5 m	

Appendix I DSI Analytical Data Summary

Sample No. with Depth	GPS location (GDA 94, MGA Zone 56)	Description	ACM (10L Sample) /% w/w	Asbestos NEPM for FA &AF %w/w	Asbestos NEPM for ACM /g	ACM Visually Observed	ACM in 10L Soil collected /g	Depth of Asbestos Contamination /m	Asbestos Type
Northern B each Sand Area (Hotspot along the creek, which originates from Heritage Wall and Crown Gully 1 over 1 m deep eroded)									
TP01_0.2	338516.737, 6238869.021	Fill with bricks, tiles and glasses. Boulders obstacles. NO access for excavation.	NA	<0.001%	NA	N	NA		
TP02_0.3	338506.134, 6238858.629	Silty sand. Rock platform or boulders from 0.3 m.	NA	<0.001%	NA	N	NA		
TP03_0.5	338484.560, 6238858.154	Under weeds, Legacy tip or fill with glasses, tiles, brick, plastic, metal, concrete and coal.	NA	<0.001%	NA	N	NA		
TP03_1.0	338484.560, 6238858.154	Legacy tip or fill with glasses, tiles, brick, plastic, metal, concrete and coal. Boulders and brown silty sand observed from 1 m.	NA	<0.001%	NA	N	NA		
TP04_0.5	338484.560, 6238858.154	Legacy tip or fill with glasses, tiles, brick, plastic, metal, concrete and coal. Boulders and brown silty sand observed from 1 m.	NA	<0.001%	NA	N	NA		
TP04_1.0	338484.560, 6238858.154	Fill with glasses, tiles, brick, plastic, metal, concrete and coal. Boulder and brown silty sand were observed from 1 m.	NA	<0.001%	NA	N	NA		
TP05_0.2	338475.434, 6238855.095	Under weeds, Legacy tip or fill with glasses, tiles, brick, plastic, metal, concrete and coal.	NA	<0.001%	NA	N	NA		
TP05_1.0	338475.434, 6238855.095	Legacy tip or fill with glasses, tiles, brick, plastic, metal, concrete and coal. Boulders and brown silty sand observed from 1 m.	NA	<0.001%	NA	N	NA		
TP06_0.1	338523.700, 6238854.251	Sand. Boulders or outcrop from 0.1 m.	NA	<0.001%	NA	N	NA		
TP07_0.3	338514.733, 6238848.290	Sand. ACM fragment observed on surface. Rock platform or boulders from 0.3 m.	0.0008	<0.001%	NA	Y	1	0.1	Chrysotile
TP08_0.5	338515.524, 6238833.626	Sand with shell, brick, glass, rock over 0.5 m. ACM fragment observed. Refusal due to water seepage. Boulder or sandstone layer from 0.5 m.	NA	<0.001%	NA	Y	NA		Chrysotile
TP09_0.5	338503.813, 6238840.747	Sand with shell, brick, glass, rock over 1.5 m. Silty sand or loam from 1.5 m. Boulder or sandstone layer from 0.5 m up to 1.7 m.	NA	<0.001%	NA	N	NA		
TP09_1.5	338503.813, 6238840.747	Silty sand or loam from 1.5 m. Boulder or sandstone layer from 0.5 m up to 1.7 m.	NA	<0.001%	NA	N	NA		
TP10_0.5	338506.240, 6238829.880	Sand with shell, brick, glass, rock, and tiles up to 0.5 m. ACM fragments observed. Sandstone platform or boulder from 0.3 m.	NA	<0.001%	NA	Y	1	0.5	Chrysotile
TP11_0.5	338484.560, 6238858.154	Sand with boulders. Sandstone platform from 0.5 m.	NA	<0.001%	NA	N	NA		
TP12_01	338497.983, 6238849.011	Boulders or outcrop from 0.1 m.	NA	<0.001%	NA	N	NA		
TP13_0.2	338508.877, 6238850.031	Sand with shell, brick, glass, rock, plastic, and tiles up to 1 m.	NA	<0.001%	NA	N	NA		
TP13_1.0	338508.877, 6238850.031	Sand with shell, brick, glass, rock, plastic, and tiles up to 1 m. Sandstone layer from 1 m.	NA	<0.001%	NA	N	NA		
TP14_0.5	338509.352, 6238841.116	Sand with shell, brick, glass. Water seepage from the creek.	NA	<0.001%	NA	N	NA		
TP15_0.1	338517.348,6238827.819	Sand with tiles and glasses.	NA	<0.001%	NA	N	NA		
TP16_0.3	338498.011, 6238838.637	Sand with shell, brick, glass, plastic and tiles. ACM fragment observed. Boulders from 0.3 m to over 1 m.	NA	<0.001%	NA	Y	1	0.3	Chrysotile and Crocidolite
TP16_1.0	338498.011, 6238838.637	Boulders from 0.3 m to over 1 m.	NA	<0.001%	NA	N	NA		
TP17_0.5	338498.333, 6238824.666	SAND: well graded, brown with shell, brick, concrete, tiles and glasses up to 1 m.	NA	<0.001%	NA	N	NA		
TP17_1.0	338498.333, 6238824.666	Sand with shell, brick, concrete, tiles and glasses. Sandstone layer observed from 1 m.	NA	<0.001%	NA	N	NA		
TP18_0.5	338510.488, 6238821.828	SAND: well graded, brown with shell, brick, concrete, tiles and glasses up to 1.2 m.	NA	<0.001%	NA	N	NA		
TP18_1.2	338510.488, 6238821.828	Sand with shell, brick, concrete, tiles and glasses. Sandstone layer observed from 1.2 m. Water seepage at around 0.5 m.	NA	<0.001%	NA	N	NA		
TP19_0.3	338487.707, 6238842.207	SAND: well graded, brown with shell and rocks over 1 m. Sandstone boulder gravels from 0.3 m.	NA	<0.001%	NA	N	NA		
TP19_1.0	338487.707, 6238842.207	SAND: with shells and rocks. ACM fragments observed and weathered.	**0.0315**	<0.001%	NA	Y	42	1	Chrysotile
TP20_0.5	338490.036, 6238830.853	SAND: well graded, brown with shell.	NA	<0.001%	NA	N	NA		
TP20_1.0	338490.036, 6238830.853	SAND: with shells and rocks. Sandstone layer from 1 m.	NA	<0.001%	NA	N	NA		
Middle Beach Sand Area (Hotspot, ACM fragments observed throughout the sand area, up to Rock Area or further into water)									
TP21_0.5	338456.934, 6238798.334	Sand with tiles and glasses. Fill with several bricks, glasses. ACM fragment observed. Sandstone formation from 0.5 m.	0.0023	<0.001%	NA	Y	3	0.5	Chrysotile and Crocidolite
TP22_0.1	338455.440, 6238790.802	Sand with tiles and glasses. ACM fragment observed.	0.0195	<0.001%	NA	Y	26	0.1	Chrysotile and Crocidolite
TP22_1.0	338455.440, 6238790.802	Fill with several bricks, tiles, concrete, glasses. Stained sand from 0.2 m.	NA	<0.001%	NA	N	NA		
TP23_0.1	338457.680, 6238781.403	Sand with bricks, tiles and glasses. Sandstone from 0.1 m	0.0015	<0.001%	NA	Y	2	0.1	Chrysotile and Crocidolite
TP24_0.3	338466.893, 6238784.391	Sand with bricks, tiles and glasses. ACM fragment observed in the following day.	NA	<0.001%	NA	Y	114	0.3	Chrysotile and Crocidolite
TP25_0.3	338468.816, 6238796.992	Sand with bricks, tiles and glasses. ACM fragment observed. Sandstone formation from 0.3 m.	0.0008	<0.001%	NA	Y	1	0.3	Chrysotile
TP26_0.5	338474.809, 6238789.684	Sand with bricks, tiles and glasses. Sandstone formation from 0.7 m.	NA	<0.001%	NA	N	NA		
TP27_0.5	338483.214, 6238796.335	Sand with bricks, tiles and glasses. Sandstone formation from 0.5 m.	NA	<0.001%	NA	N	NA		
TP28_0.5	338483.653, 6238787.930	Sand with bricks, tiles and glasses. ACM fragment observed.	NA	<0.001%	2.4 (0.013% w/w)	N	NA	0.5	Chrysotile
TP29_0.3	338494.529, 6238793.541	Sand with bricks, tiles and glasses.	NA	<0.001%	NA	N	NA		
TP29_0.5	338494.529, 6238793.541	Sand with rocks, tiles and glasses. ACM fragment observed.	0.0008	<0.001%	NA	Y	1	0.5	Chrysotile and Amosite
Southern Beach Sand Area (Hotspot around the downstreem of Crown Gully 3, Stormwater Pipe up to Rock Area or futher; other sand areas were neither detected nor observed with ACM fragments)									
TP30_1.0	338461.108, 6238702.353	SAND: well graded, brown with shell over 2 m.	NA	<0.001%	NA	N	NA		
TP30_2.2	338461.108, 6238702.353	Brown silty sand layer observed. Refusal due to sand wall collapsed.	NA	<0.001%	NA	N	NA		
TP31_0.5	338463.018, 6238677.383	Dry topsand to sand moist., with shells Over 2 m. Refusal due to sand wall collapsed.	NA	<0.001%	NA	N	NA		
TP31_2.0	338463.018, 6238677.383	Dry topsand to sand moist., with shells Over 2 m. Refusal due to sand wall collapsed.	NA	<0.001%	NA	N	NA		
TP32_1.0	338474.344, 6238657.051	Dry topsand to sand moist., with shells Over 2.5 m. Refusal due to sand wall collapsed.	NA	<0.001%	NA	N	NA		

TP32_2.5	338474.344, 6238657.051	Dry topsand to sand moist., with shells Over 2.5 m. Refusal due to sand wall collapsed.	NA	<0.001%	NA	N	NA		
TP33_1.0	338487.443, 6238639.449	Dry topsand to sand moist., with shells. Over 2.5 m. Refusal due to sand wall collapsed.	NA	<0.001%	NA	N	NA		
TP33_2.2	338487.443, 6238639.449	Dry topsand to sand moist., with shells. Over 2.5 m. Refusal due to sand wall collapsed.	NA	<0.001%	NA	N	NA		
TP34_0.5	338501.361, 6238617.617	SAND: well graded, brown with shell	NA	<0.001%	NA	N	NA		
TP34_2.6	338501.361, 6238617.617	After 2.5 m, Black silty clay or sandy clay with abundant shell deposit.	NA	<0.001%	NA	N	NA		
TP35_0.25	338517.899, 6238621.489	SAND: well graded, brown, minor shell, tiles and glasses up to 1.5 m.	NA	<0.001%	NA	N	NA		
TP35_1.5	338517.899, 6238621.489	SAND: Well graded, brown, moist. After 1.5 m, underlain brown deposited sandy layer with rock platform and boulders.	NA	<0.001%	NA	N	NA		
TP36_0.5	338533.032, 6238630.959	Dry topsand to sand moist., with rocks, and shells. ACM fragments.	NA	<0.001%	NA	Y	NA		0.5
TP37A_0.2	338551.210, 6238645.407	Dry topsand to sand moist., with shells. Sandstone outcrop from 0.2 m.	NA	<0.001%	NA	N	NA		
TP37_1.0	338534.688, 6238643.424	Dry topsand to sand moist., with rocks, and shells.	NA	<0.001%	NA	N	NA		
TP38_0.5	338509.497, 6238634.691	Dry topsand to sand moist. with minor glasses and shells.	NA	<0.001%	NA	N	NA		
TP38_1.5	338509.497, 6238634.691	After 1.5 m, Brown coarse sand and dominant shell deposit layers with humus hint. Refusal due to rock platform at the bottom.	NA	<0.001%	NA	N	NA		
TP39_0.1	338521.049, 6238659.145	SAND: well graded, brown, shell, glasses, tiles, rocks and ACM fragments (~1.5 Kg). Underlain outcrop.	**0.121**	<0.001%	NA	Y	161	0.1	Chrysotile
TP40_0.5	338498.096, 6238650.744	Dry topsand to sand moist., with minor glasses, tiles and shells. Upper tidal line.	NA	<0.001%	NA	N	NA		
TP40_2.0	338498.096, 6238650.744	Sand with abundant shells. After 2 m, Brown coarse sand and dominant shell deposit layers with humus hint. Refusal.	NA	<0.001%	NA	N	NA		
TP41_0.5	338504.697, 6238668.747	SAND: well graded, brown, shell, glasses, tiles, rocks and ACM fragments (~1 Kg)	**0.176**	<0.001%	NA	Y	235	1	Chrysotile
TP41_1.0	338504.697, 6238668.747	Sand and boulders with several glass, tiles, shells, several ACM fragments (over 1.5 kg)	**1.125**	<0.001%	NA	Y	1500	1	Chrysotile
TP42_2.0	338477.904, 6238669.651	Sand with abundant shells, minor rock and concrete.	NA	<0.001%	NA	N	NA		
TP43_0.5	338490.594, 6238682.849	Wet topsand to sand saturated with minor glasses, bricks, shells	NA	<0.001%	NA	N	NA		
TP44_0.5	338480.060, 6238697.349	Wet topsand to sand saturated with minor glasses, bricks, shells	NA	<0.001%	NA	N	NA		

TRINITAS	ACM (10L Sample) /% w/w	Asbestos NEPM for FA &AF %w/w	Asbestos NEPM for ACM /g	ACM Visually Observed	ACM (10L sample) collected /g	Depth of Asbestos Contamination
Bonded Asbestos HSL C	0.02	NA				
Friable Asbestos HSL C	NA	0.001				
NO Asbestos fragment on surface						
TP No.> HSL C	**4**					
TP No. Positive				**15**		

Notes to Table

ND – Not detected / below Practical Quantitation Limit (PQL).
NA – Not Applicable
Landuse: Public Open Space C
All FC sheeting fragments on the beach surface are highly polished.
All FC sheeting fragments under rock or under water are in a fair or slightly weathered condition.

Gravemetric Concentration Calculation	asbestos content in %w/w	Soil density /Kg/L	Bucket soil /L
	15	2	10

cement Brown fine-grained sandy soil

Appendix J Laboratory Analysis Resuls

TRINITAS GROUP

Chain of Custody					
Client Name		Trinitas Group Pty Ltd			
Client Address		Level 3, 24 Hunter St, Parramatta NSW 2150			
Project Name		**Little Bay Beach**			
Project Manager Name		Denny Bolatti			
Project Manager Contact Number		0412827006			
Lab Results Email Distribution		labreports@trinitasgroup.com.au			
Consultant Name		Jeffrey Yu			
Sample Analysis Turn Around Time (TAT)		Standard 5 day			
Relinquished By:		**Received by Name:**	**Received Date:**	**Received by Time:**	**Received by Signature:**
Jeffrey Yu	Jeffrey Yu	Grace Turnbull	30/4	2:15	

791697

AI Chain of Custody

TRINITAS GROUP

Sample Information					
ITEM		**SAMPLE ID and MATERIAL**	**DATE**	**TOTAL CONTAINERS**	**ANALYSIS REQUIRED**
1		TP42_0.5, Sand with shell and minor glasses	26/04/2021	1	Asbestos in Soil Analysis NEPM
2		TP42_2.0, Sand with shell	26/04/2021	1	Asbestos in Soil Analysis NEPM
3		TP44_0.5, Sand with rocks, shells and bricks.	26/04/2021	1	Asbestos in Soil Analysis NEPM
4		TP43_0.5, Sand with rock, glass, shell, and tiles	26/04/2021	1	Asbestos in Soil Analysis NEPM
5		TP41_0.5, Sand and rock with tiles, abundant glass and fibro cement pieces	26/04/2021	1	Asbestos in Soil Analysis NEPM
6		TP41_0.5FC01, FC sheeting fragments around 10cm×10cm	26/04/2021	1	Asbestos
7		TP41_1.0FC02, Sand and rock with abundant glass and tiles.	26/04/2021	1	Asbestos

NSW GOVERNMENT Supplier on scheme Performance and Management Services

791697

TRINITAS GROUP

Sample Information					
ITEM		**SAMPLE ID and MATERIAL**	**DATE**	**TOTAL CONTAINERS**	**ANALYSIS REQUIRED**
8		TP41_1.0, Sand and rock with glass, tiles and shell, ACM fragments.	26/04/2021	1	Asbestos in Soil Analysis NEPM
9		TP39_0.1FC01, Rock and several FC sheeting fragments (including one 6cm×20cm corrugated sheeting)	26/04/2021	1	Asbestos
10		TP39_0.1, Rock and sand with FC sheeting fragments 1.5 kg.	26/04/2021	1	Asbestos in Soil Analysis NEPM
11		TP39_0.1FC02, Two FC sheeting fragments	26/04/2021	1	Asbestos
			TOTAL	11	

7916977

eurofins | Environment Testing

ABN: 50 005 085 521 www.eurofins.com.au EnviroSales@eurofins.com

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Site # 1254 & 14271

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NATA # 1261
Site # 23736

Newcastle
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Mayfield East NSW 2304
PO Box 60 Wickham 2293
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Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Trinitas Group Pty Ltd
Contact name:	- RESULTS/SRAs
Project name:	LITTLE BAY BEACH
Project ID:	Not provided
Turnaround time:	5 Day
Date/Time received	Apr 30, 2021 2:15 PM
Eurofins reference	791697

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.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

TP42_0.5 not received, analysis cancelled. TP40_0.5 received extra and placed for analysis, please confirm.

Contact

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

Elvis Dsouza on phone : or by email: ElvisDsouza@eurofins.com

Results will be delivered electronically via email to - RESULTS/SRAs - labreports@trinitasgroup.com.au.

Global Leader - Results you can trust

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IANZ # 1290

Company Name: Trinitas Group Pty Ltd
Address: Level 3, 24 Hunter Street
Parramatta
NSW 2150

Project Name: LITTLE BAY BEACH

Order No.:
Report #: 791697
Phone: 02 8810 4445
Fax: 02 8016 0875

Received: Apr 30, 2021 2:15 PM
Due: May 7, 2021
Priority: 5 Day
Contact Name: - RESULTS/SRAs

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	CANCELLED
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory - NATA Site # 25079								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	TP42_0.5	Apr 26, 2021		Soil	S21-Ap57827			X
2	TP42_2.0	Apr 26, 2021		Soil	S21-Ap57828	X		
3	TP44_0.5	Apr 26, 2021		Soil	S21-Ap57829	X		
4	TP43_0.5	Apr 26, 2021		Soil	S21-Ap57830	X		
5	TP41_0.5	Apr 26, 2021		Soil	S21-Ap57831	X		
6	TP41_0.5FC01	Apr 26, 2021		Building Materials	S21-Ap57832		X	
7	TP41_1.0FC02	Apr 26, 2021		Building Materials	S21-Ap57833		X	
8	TP41_1.0	Apr 26, 2021		Soil	S21-Ap57834	X		

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ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

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Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: Trinitas Group Pty Ltd
Address: Level 3, 24 Hunter Street
Parramatta
NSW 2150

Project Name: LITTLE BAY BEACH

Order No.:
Report #: 791697
Phone: 02 8810 4445
Fax: 02 8016 0875

Received: Apr 30, 2021 2:15 PM
Due: May 7, 2021
Priority: 5 Day
Contact Name: - RESULTS/SRAs

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	CANCELLED
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory - NATA Site # 25079								
External Laboratory								
9	TP39_0.1FC01	Apr 26, 2021		Building Materials	S21-Ap57835		X	
10	TP39_0.1	Apr 26, 2021		Soil	S21-Ap57836	X		
11	TP39_0.1FC02	Apr 26, 2021		Building Materials	S21-Ap57837		X	
12	TP40_0.5	Apr 26, 2021		Soil	S21-Ap58064	X		
Test Counts						7	4	1

Certificate of Analysis

Trinitas Group Pty Ltd
Level 3, 24 Hunter Street
Parramatta
NSW 2150

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 and proficiency testing scheme providers reports.

Attention:	- RESULTS/SRAs
Report	791697-AID
Project Name	LITTLE BAY BEACH
Received Date	Apr 30, 2021
Date Reported	May 05, 2021

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 LITTLE BAY BEACH
Project ID
Date Sampled Apr 26, 2021
Report 791697-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
TP42_2.0	21-Ap57828	Apr 26, 2021	Approximate Sample 680g Sample consisted of: Brown coarse-grained sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP44_0.5	21-Ap57829	Apr 26, 2021	Approximate Sample 690g Sample consisted of: Brown coarse-grained sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP43_0.5	21-Ap57830	Apr 26, 2021	Approximate Sample 712g Sample consisted of: Brown coarse-grained sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP41_0.5	21-Ap57831	Apr 26, 2021	Approximate Sample 676g Sample consisted of: Brown coarse-grained sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP41_0.5FC01	21-Ap57832	Apr 26, 2021	Approximate Sample 235g / 200x100x7mm Sample consisted of: Grey fibre cement material	Chrysotile asbestos detected.
TP41_1.0FC02	21-Ap57833	Apr 26, 2021	Approximate Sample 5g / 150x50x4mm Sample consisted of: Grey compressed fibre cement material	Chrysotile asbestos detected.
TP41_1.0	21-Ap57834	Apr 26, 2021	Approximate Sample 568g Sample consisted of: Brown coarse-grained sandy soil, plaster, glass, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP39_0.1FC01	21-Ap57835	Apr 26, 2021	Approximate Sample 59g / 200x40x5mm Sample consisted of: Grey fibre cement material	Chrysotile asbestos detected.

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 and proficiency testing scheme providers reports.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
TP39_0.1	21-Ap57836	Apr 26, 2021	Approximate Sample 661g Sample consisted of: Brown coarse-grained sandy soil, corroded metal, coal, glass, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP39_0.1FC02	21-Ap57837	Apr 26, 2021	Approximate Sample 102g / 160x150x4mm Sample consisted of: Grey compressed fibre cement material	Chrysotile asbestos detected.
TP40_0.5	21-Ap58064	Apr 26, 2021	Approximate Sample 637g Sample consisted of: Brown coarse-grained sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. 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	Apr 30, 2021	Indefinite
Asbestos - LTM-ASB-8020	Sydney	Apr 30, 2021	Indefinite

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IANZ # 1290

Company Name: Trinitas Group Pty Ltd
Address: Level 3, 24 Hunter Street
Parramatta
NSW 2150

Project Name: LITTLE BAY BEACH

Order No.:
Report #: 791697
Phone: 02 8810 4445
Fax: 02 8016 0875

Received: Apr 30, 2021 2:15 PM
Due: May 5, 2021
Priority: 3 Day
Contact Name: - RESULTS/SRAs

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	CANCELLED
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory - NATA Site # 25079								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	TP42_0.5	Apr 26, 2021		Soil	S21-Ap57827			X
2	TP42_2.0	Apr 26, 2021		Soil	S21-Ap57828	X		
3	TP44_0.5	Apr 26, 2021		Soil	S21-Ap57829	X		
4	TP43_0.5	Apr 26, 2021		Soil	S21-Ap57830	X		
5	TP41_0.5	Apr 26, 2021		Soil	S21-Ap57831	X		
6	TP41_0.5FC01	Apr 26, 2021		Building Materials	S21-Ap57832		X	
7	TP41_1.0FC02	Apr 26, 2021		Building Materials	S21-Ap57833		X	
8	TP41_1.0	Apr 26, 2021		Soil	S21-Ap57834	X		

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Contact Name: - RESULTS/SRAs

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	CANCELLED
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory - NATA Site # 25079								
External Laboratory								
9	TP39_0.1FC01	Apr 26, 2021		Building Materials	S21-Ap57835		X	
10	TP39_0.1	Apr 26, 2021		Soil	S21-Ap57836	X		
11	TP39_0.1FC02	Apr 26, 2021		Building Materials	S21-Ap57837		X	
12	TP40_0.5	Apr 26, 2021		Soil	S21-Ap58064	X		
Test Counts						7	4	1

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 blue colour, indicates data provided by customer, that may have an impact on the results.
5. 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 Sample Receipt Advice.

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: weight for weight basis	grams per kilogram
Filter loading:	fibres/100 graticule areas
Reported Concentration:	fibres/mL
Flowrate:	L/min

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to “non-bonded / friable”.
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	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.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Laxman Dias	Senior Analyst-Asbestos (NSW)

Authorised by:

Chamath JHM Annakkage	Senior Analyst-Asbestos (NSW)

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.

TRINITAS GROUP

Chain of Custody					
Client Name	Trinitas Group Pty Ltd				
Client Address	Level 3, 24 Hunter St, Parramatta NSW 2150				
Project Name	**Little Bay Beach**				
Project Manager Name	Denny Bolatti				
Project Manager Contact Number	0412827006				
Lab Results Email Distribution	labreports@trinitasgroup.com.au				
Consultant Name	Jeffrey Yu				
Sample Analysis Turn Around Time (TAT)	Standard 5 day				
Relinquished By:		**Received by Name:**	**Received Date:**	**Received by Time:**	**Received by Signature:**
Jeffrey Yu	Jeffrey Yu	Grace Tuckwell	30/4	2:15	

791702

TRINITAS GROUP

Sample Information					
ITEM		**SAMPLE ID and MATERIAL**	**DATE**	**TOTAL CONTAINERS**	**ANALYSIS REQUIRED**
1		TP40_0.5, Sand with shells, minor tiles and glass up to 2m.	27/04/2021	1	Asbestos in Soil Analysis NEPM
2		TP40_2.0, Brown Coarse sand and dominant shell deposit layer with humus hint	27/04/2021	1	Asbestos in Soil Analysis NEPM
3		TP38_0.5, Sand with shells and minor glasses up to 1.5m.	27/04/2021	1	Asbestos in Soil Analysis NEPM
4		TP38_1.5, Well graded Brown sand with minor glasses and then dominant shell deposits and rocks at the bottom	27/04/2021	1	Asbestos in Soil Analysis NEPM
5		TP35_0.25, Sand with shells and glasses and several bricks.	27/04/2021	1	Asbestos in Soil Analysis NEPM

791702

TRINITAS GROUP

Sample Information					
ITEM		**SAMPLE ID and MATERIAL**	**DATE**	**TOTAL CONTAINERS**	**ANALYSIS REQUIRED**
6		TP35_1.5, Rock platform and boulders with dark to brown sandy deposit.	27/04/2021	1	Asbestos in Soil Analysis NEPM
7		TP34_0.5, Sand with shells up to 2.5m.	27/04/2021	1	Asbestos in Soil Analysis NEPM
8		TP34_2.5, Dark silty clay	27/04/2021	1	Asbestos in Soil Analysis NEPM
9		TP33_1.0, Sand with shells up to 2m.	27/04/2021	1	Asbestos in Soil Analysis NEPM
10		TP33_2.2, Sand with shells over 2.5m.	27/04/2021	1	Asbestos in Soil Analysis NEPM
11		TP32_1.0, Sand with shells up to 2.5m.	27/04/2021	1	Asbestos in Soil Analysis NEPM
12		TP32_2.5, Sand with shell over 2.5m.	27/04/2021	1	Asbestos in Soil Analysis NEPM
13		TP31_0.5, Sand with shells.	27/04/2021	1	Asbestos in Soil Analysis NEPM
14		TP31_2.0, Sand with shells over 2m.	27/04/2021	1	Asbestos in Soil Analysis NEPM

Supplier on scheme Performance and Management Services

791702

TRINITAS GROUP

Sample Information					
ITEM		**SAMPLE ID and MATERIAL**	**DATE**	**TOTAL CONTAINERS**	**ANALYSIS REQUIRED**
15		TP30_1.0, Sand with shells over 2m.	27/04/2021	1	Asbestos in Soil Analysis NEPM
16		TP30_2.2, Brown silty sand layer with shells.	27/04/2021	1	Asbestos in Soil Analysis NEPM
			TOTAL	16	

791702

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Sample Receipt Advice

Company name:	Trinitas Group Pty Ltd
Contact name:	- RESULTS/SRAs
Project name:	LITTLE BAY BEACH
Project ID:	Not provided
Turnaround time:	3 Day
Date/Time received	Apr 30, 2021 2:15 PM
Eurofins reference	791702

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.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

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

Elvis Dsouza on phone : or by email: ElvisDsouza@eurofins.com

Results will be delivered electronically via email to - RESULTS/SRAs - labreports@trinitasgroup.com.au.

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Company Name: Trinitas Group Pty Ltd
Address: Level 3, 24 Hunter Street
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NSW 2150

Project Name: LITTLE BAY BEACH

Order No.:
Report #: 791702
Phone: 02 8810 4445
Fax: 02 8016 0875

Received: Apr 30, 2021 2:15 PM
Due: May 5, 2021
Priority: 3 Day
Contact Name: - RESULTS/SRAs

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217						X	X
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory - NATA Site # 25079							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	TP40_0.5	Apr 27, 2021		Soil	S21-Ap57839		X
2	TP40_2.0	Apr 27, 2021		Soil	S21-Ap57840		X
3	TP38_0.5	Apr 27, 2021		Soil	S21-Ap57841		X
4	TP38_1.5	Apr 27, 2021		Soil	S21-Ap57842		X
5	TP35_0.25	Apr 27, 2021		Soil	S21-Ap57843		X
6	TP35_1.5	Apr 27, 2021		Soil	S21-Ap57844		X
7	TP34_0.5	Apr 27, 2021		Soil	S21-Ap57845		X
8	TP34_2.5	Apr 27, 2021		Soil	S21-Ap57846	X	
9	TP33_1.0	Apr 27, 2021		Soil	S21-Ap57847		X
10	TP33_2.2	Apr 27, 2021		Soil	S21-Ap57848		X

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Project Name: LITTLE BAY BEACH

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Received: Apr 30, 2021 2:15 PM
Due: May 5, 2021
Priority: 3 Day
Contact Name: - RESULTS/SRAs

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217						X	X
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory - NATA Site # 25079							
External Laboratory							
11	TP32_1.0	Apr 27, 2021		Soil	S21-Ap57849		X
12	TP32_2.5	Apr 27, 2021		Soil	S21-Ap57850		X
13	TP31_0.5	Apr 27, 2021		Soil	S21-Ap57851		X
14	TP31_2.0	Apr 27, 2021		Soil	S21-Ap57852		X
15	TP30_1.0	Apr 27, 2021		Soil	S21-Ap57853		X
16	TP30_2.2	Apr 27, 2021		Soil	S21-Ap57854		X
Test Counts						1	15

Certificate of Analysis

Trinitas Group Pty Ltd
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Accreditation Number 1261
Site Number 18217

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Attention:	- RESULTS/SRAs
Report	791702-AID
Project Name	LITTLE BAY BEACH
Received Date	Apr 30, 2021
Date Reported	May 05, 2021

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 LITTLE BAY BEACH
Project ID
Date Sampled Apr 27, 2021
Report 791702-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
TP40_0.5	21-Ap57839	Apr 27, 2021	Approximate Sample 562g Sample consisted of: Brown coarse-grained sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP40_2.0	21-Ap57840	Apr 27, 2021	Approximate Sample 606g Sample consisted of: Brown coarse-grained sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP38_0.5	21-Ap57841	Apr 27, 2021	Approximate Sample 841g Sample consisted of: Brown coarse-grained sandy soil, corroded metal, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP38_1.5	21-Ap57842	Apr 27, 2021	Approximate Sample 812g Sample consisted of: Brown coarse-grained sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP35_0.25	21-Ap57843	Apr 27, 2021	Approximate Sample 850g Sample consisted of: Brown coarse-grained sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP35_1.5	21-Ap57844	Apr 27, 2021	Approximate Sample 706g Sample consisted of: Brown coarse-grained sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP34_0.5	21-Ap57845	Apr 27, 2021	Approximate Sample 817g Sample consisted of: Brown coarse-grained sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP34_2.5	21-Ap57846	Apr 27, 2021	Approximate Sample 162g Sample consisted of: Black coarse-grained soil, charcoal, organic debris and rocks	No asbestos detected at the reporting limit of 0.01% w/w. Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
TP33_1.0	21-Ap57847	Apr 27, 2021	Approximate Sample 771g Sample consisted of: Brown coarse-grained sandy soil, coal, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP33_2.2	21-Ap57848	Apr 27, 2021	Approximate Sample 705g Sample consisted of: Brown coarse-grained sandy soil, corroded metal, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP32_1.0	21-Ap57849	Apr 27, 2021	Approximate Sample 706g Sample consisted of: Brown coarse-grained sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP32_2.5	21-Ap57850	Apr 27, 2021	Approximate Sample 756g Sample consisted of: Brown coarse-grained sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP31_0.5	21-Ap57851	Apr 27, 2021	Approximate Sample 796g Sample consisted of: Brown coarse-grained sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP31_2.0	21-Ap57852	Apr 27, 2021	Approximate Sample 706g Sample consisted of: Brown coarse-grained sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP30_1.0	21-Ap57853	Apr 27, 2021	Approximate Sample 710g Sample consisted of: Brown coarse-grained sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP30_2.2	21-Ap57854	Apr 27, 2021	Approximate Sample 791g Sample consisted of: Brown coarse-grained sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. 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	May 05, 2021	Indefinite
Asbestos - LTM-ASB-8020	Sydney	May 05, 2021	Indefinite

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Company Name: Trinitas Group Pty Ltd
Address: Level 3, 24 Hunter Street
Parramatta
NSW 2150

Project Name: LITTLE BAY BEACH

Order No.:
Report #: 791702
Phone: 02 8810 4445
Fax: 02 8016 0875

Received: Apr 30, 2021 2:15 PM
Due: May 5, 2021
Priority: 3 Day
Contact Name: - RESULTS/SRAs

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217						X	X
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory - NATA Site # 25079							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	TP40_0.5	Apr 27, 2021		Soil	S21-Ap57839		X
2	TP40_2.0	Apr 27, 2021		Soil	S21-Ap57840		X
3	TP38_0.5	Apr 27, 2021		Soil	S21-Ap57841		X
4	TP38_1.5	Apr 27, 2021		Soil	S21-Ap57842		X
5	TP35_0.25	Apr 27, 2021		Soil	S21-Ap57843		X
6	TP35_1.5	Apr 27, 2021		Soil	S21-Ap57844		X
7	TP34_0.5	Apr 27, 2021		Soil	S21-Ap57845		X
8	TP34_2.5	Apr 27, 2021		Soil	S21-Ap57846	X	
9	TP33_1.0	Apr 27, 2021		Soil	S21-Ap57847		X
10	TP33_2.2	Apr 27, 2021		Soil	S21-Ap57848		X

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Company Name:	Trinitas Group Pty Ltd	**Order No.:**	
Address:	Level 3, 24 Hunter Street Parramatta NSW 2150	**Report #:**	791702
		Phone:	02 8810 4445
		Fax:	02 8016 0875
Project Name:	LITTLE BAY BEACH		

Received:	Apr 30, 2021 2:15 PM	
Due:	May 5, 2021	
Priority:	3 Day	
Contact Name:	- RESULTS/SRAs	

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Asbestos - AS4964	Asbestos - WA guidelines
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217						X	X
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory - NATA Site # 25079							
External Laboratory							
11	TP32_1.0	Apr 27, 2021		Soil	S21-Ap57849		X
12	TP32_2.5	Apr 27, 2021		Soil	S21-Ap57850		X
13	TP31_0.5	Apr 27, 2021		Soil	S21-Ap57851		X
14	TP31_2.0	Apr 27, 2021		Soil	S21-Ap57852		X
15	TP30_1.0	Apr 27, 2021		Soil	S21-Ap57853		X
16	TP30_2.2	Apr 27, 2021		Soil	S21-Ap57854		X
Test Counts						1	15

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 blue colour, indicates data provided by customer, that may have an impact on the results.
5. 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 Sample Receipt Advice.

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: weight for weight basis	grams per kilogram
Filter loading:	fibres/100 graticule areas
Reported Concentration:	fibres/mL
Flowrate:	L/min

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to “non-bonded / friable”.
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	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.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Laxman Dias	Senior Analyst-Asbestos (NSW)

Authorised by:

Chamath JHM Annakkage	Senior Analyst-Asbestos (NSW)

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.

TRINITAS GROUP

Chain of Custody					
Client Name	Trinitas Group Pty Ltd				
Client Address	Level 3, 24 Hunter St, Parramatta NSW 2150				
Project Name	**Little Bay Beach**				
Project Manager Name	Denny Bolatti				
Project Manager Contact Number	0412827006				
Lab Results Email Distribution	labreports@trinitasgroup.com.au				
Consultant Name	Jeffrey Yu				
Sample Analysis Turn Around Time (TAT)	Standard 5 day				
Relinquished By:		**Received by Name:**	**Received Date:**	**Received by Time:**	**Received by Signature:**
Jeffrey Yu	Jeffrey Yu	Grace Tuscan	30/4	2:15	

791703

TRINITAS GROUP

Sample Information					
ITEM		**SAMPLE ID and MATERIAL**	**DATE**	**TOTAL CONTAINERS**	**ANALYSIS REQUIRED**
1		TP17_0.5, sand with brick concrete tile and glass up to 1.0 m, bedrock and water table at 1.0	28/04/2021	1	Asbestos in Soil Analysis NEPM
2		TP17_1.0, wet sand with shells	28/04/2021	1	Asbestos in Soil Analysis NEPM
3		TP18_0.5, Coarse sand with brick, tile, gravels, pebbles and shells up to 1.2m	28/04/2021	1	Asbestos in Soil Analysis NEPM
4		TP18_1.2, bedrock and water table at 1.2, sand with gravels and shells	28/04/2021	1	Asbestos in Soil Analysis NEPM
			TOTAL	4	

791703

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Sample Receipt Advice

Company name:	Trinitas Group Pty Ltd
Contact name:	- RESULTS/SRAs
Project name:	LITTLE BAY BEACH
Project ID:	Not provided
Turnaround time:	5 Day
Date/Time received	Apr 30, 2021 2:15 PM
Eurofins reference	791703

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.
✓	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.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

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

Elvis Dsouza on phone : or by email: ElvisDsouza@eurofins.com

Results will be delivered electronically via email to - RESULTS/SRAs - labreports@trinitasgroup.com.au.

Global Leader - Results you can trust

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Company Name:	Trinitas Group Pty Ltd	**Order No.:**	
Address:	Level 3, 24 Hunter Street Parramatta NSW 2150	**Report #:**	791703
		Phone:	02 8810 4445
		Fax:	02 8016 0875
Project Name:	LITTLE BAY BEACH		

Received:	Apr 30, 2021 2:15 PM
Due:	May 7, 2021
Priority:	5 Day
Contact Name:	- RESULTS/SRAs

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Asbestos - WA guidelines
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217						X
Brisbane Laboratory - NATA Site # 20794						
Perth Laboratory - NATA Site # 23736						
Mayfield Laboratory - NATA Site # 25079						
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	TP17_0.5	Apr 28, 2021		Soil	S21-Ap57855	X
2	TP17_1.0	Apr 28, 2021		Soil	S21-Ap57856	X
3	TP18_0.5	Apr 28, 2021		Soil	S21-Ap57857	X
4	TP18_1.2	Apr 28, 2021		Soil	S21-Ap57858	X
Test Counts						4

Certificate of Analysis

Trinitas Group Pty Ltd
Level 3, 24 Hunter Street
Parramatta
NSW 2150

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 and proficiency testing scheme providers reports.

Attention:	- RESULTS/SRAs
Report	791703-AID
Project Name	LITTLE BAY BEACH
Received Date	Apr 30, 2021
Date Reported	May 05, 2021

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 LITTLE BAY BEACH
Project ID
Date Sampled Apr 28, 2021
Report 791703-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
TP17_0.5	21-Ap57855	Apr 28, 2021	Approximate Sample 791g Sample consisted of: Brown coarse-grained sandy soil, coal, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP17_1.0	21-Ap57856	Apr 28, 2021	Approximate Sample 766g Sample consisted of: Brown coarse-grained sandy soil, corroded metal, glass, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP18_0.5	21-Ap57857	Apr 28, 2021	Approximate Sample 650g Sample consisted of: Brown coarse-grained sandy soil, glass, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP18_1.2	21-Ap57858	Apr 28, 2021	Approximate Sample 650g Sample consisted of: Brown coarse-grained sandy soil, glass, brick, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. 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	Apr 30, 2021	Indefinite

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Company Name:	Trinitas Group Pty Ltd	**Order No.:**	
Address:	Level 3, 24 Hunter Street Parramatta NSW 2150	**Report #:**	791703
		Phone:	02 8810 4445
		Fax:	02 8016 0875
Project Name:	LITTLE BAY BEACH		

Received:	Apr 30, 2021 2:15 PM
Due:	May 5, 2021
Priority:	3 Day
Contact Name:	- RESULTS/SRAs

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Asbestos - WA guidelines
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217						X
Brisbane Laboratory - NATA Site # 20794						
Perth Laboratory - NATA Site # 23736						
Mayfield Laboratory - NATA Site # 25079						
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	TP17_0.5	Apr 28, 2021		Soil	S21-Ap57855	X
2	TP17_1.0	Apr 28, 2021		Soil	S21-Ap57856	X
3	TP18_0.5	Apr 28, 2021		Soil	S21-Ap57857	X
4	TP18_1.2	Apr 28, 2021		Soil	S21-Ap57858	X
Test Counts						4

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 blue colour, indicates data provided by customer, that may have an impact on the results.
5. 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 Sample Receipt Advice.

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: weight for weight basis	grams per kilogram
Filter loading:	fibres/100 graticule areas
Reported Concentration:	fibres/mL
Flowrate:	L/min

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to “non-bonded / friable”.
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	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.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Laxman Dias	Senior Analyst-Asbestos (NSW)

Authorised by:

Chamath JHM Annakkage	Senior Analyst-Asbestos (NSW)

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.

TRINITAS GROUP

Chain of Custody					
Client Name	Trinitas Group Pty Ltd				
Client Address	Level 3, 24 Hunter St, Parramatta NSW 2150				
Project Name	**Little Bay Beach**				
Project Manager Name	Denny Bolatti				
Project Manager Contact Number	0412827006				
Lab Results Email Distribution	labreports@trinitasgroup.com.au				
Consultant Name	Jeffrey Yu				
Sample Analysis Turn Around Time (TAT)	Standard 5 day				
Relinquished By:		**Received by Name:**	**Received Date:**	**Received by Time:**	**Received by Signature:**
Jeffrey Yu	Jeffrey Yu	Grace Tuvuki	30/4	2:15	

7/4/24

TRINITAS GROUP

Sample Information					
ITEM		**SAMPLE ID and MATERIAL**	**DATE**	**TOTAL CONTAINERS**	**ANALYSIS REQUIRED**
1		TP37_0.2, Sand with shells, sandstone at 0.2m	28/04/2021	1	Asbestos in Soil Analysis NEPM
2		TP36_0.5, sand and shells, small suspected ACM fragment 1cm, sandstone boulders at 0.6	28/04/2021	1	Asbestos in Soil Analysis NEPM
3		TP37_1.0, Sandstone layer, small shell and sand with sandstone boulders	28/04/2021	1	Asbestos in Soil Analysis NEPM
4		TP19_0.3, sand with some shell material, sandstone gravel at 0.3	28/04/2021	1	Asbestos in Soil Analysis NEPM
5		TP19_1.0FC01, Fibre cement sheet	28/04/2021	1	Asbestos
6		TP19_1.0, large sandstone boulders,	28/04/2021	1	Asbestos in Soil Analysis NEPM

7917024

TRINITAS GROUP

Sample Information					
ITEM		**SAMPLE ID and MATERIAL**	**DATE**	**TOTAL CONTAINERS**	**ANALYSIS REQUIRED**
		building debris, bricks, sand			
7		TP20_0.5, sand with some shell fragments	28/04/2021	1	Asbestos in Soil Analysis NEPM
8		TP20_1.0, sandstone layer at 1.0m, sand with some shell fragments	28/04/2021	1	Asbestos in Soil Analysis NEPM
			TOTAL	8	

7a/7024

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ABN: 50 005 085 521 www.eurofins.com.au EnviroSales@eurofins.com

Australia

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Site # 1254 & 14271

Sydney
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NATA # 1261 Site # 18217

Brisbane
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NATA # 1261 Site # 20794

Perth
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NATA # 1261
Site # 23736

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NATA # 1261 Site # 25079

New Zealand

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Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Trinitas Group Pty Ltd
Contact name:	- RESULTS/SRAs
Project name:	LITTLE BAY BEACH
Project ID:	Not provided
Turnaround time:	3 Day
Date/Time received	Apr 30, 2021 2:15 PM
Eurofins reference	791704

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.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

Contact

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

Elvis Dsouza on phone : or by email: ElvisDsouza@eurofins.com

Results will be delivered electronically via email to - RESULTS/SRAs - labreports@trinitasgroup.com.au.

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ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

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Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: Trinitas Group Pty Ltd
Address: Level 3, 24 Hunter Street
Parramatta
NSW 2150

Project Name: LITTLE BAY BEACH

Order No.:
Report #: 791704
Phone: 02 8810 4445
Fax: 02 8016 0875

Received: Apr 30, 2021 2:15 PM
Due: May 5, 2021
Priority: 3 Day
Contact Name: - RESULTS/SRAs

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217						X	X
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory - NATA Site # 25079							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	TP37_0.2	Apr 28, 2021		Soil	S21-Ap57859	X	
2	TP36_0.5	Apr 28, 2021		Soil	S21-Ap57860	X	
3	TP37_1.0	Apr 28, 2021		Soil	S21-Ap57861	X	
4	TP19_0.3	Apr 28, 2021		Soil	S21-Ap57862	X	
5	TP19_1.0FC01	Apr 28, 2021		Building Materials	S21-Ap57863		X
6	TP19_1.0	Apr 28, 2021		Soil	S21-Ap57864	X	
7	TP20_0.5	Apr 28, 2021		Soil	S21-Ap57865	X	
8	TP20_1.0	Apr 28, 2021		Soil	S21-Ap57866	X	
Test Counts						7	1

Certificate of Analysis

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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 and proficiency testing scheme providers reports.

Trinitas Group Pty Ltd
Level 3, 24 Hunter Street
Parramatta
NSW 2150

Attention:	- RESULTS/SRAs
Report	791704-AID
Project Name	LITTLE BAY BEACH
Received Date	Apr 30, 2021
Date Reported	May 05, 2021

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 LITTLE BAY BEACH
Project ID
Date Sampled Apr 28, 2021
Report 791704-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
TP37_0.2	21-Ap57859	Apr 28, 2021	Approximate Sample 696g Sample consisted of: Brown coarse-grained soil, organic debris, glass, corroded metal and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP36_0.5	21-Ap57860	Apr 28, 2021	Approximate Sample 737g Sample consisted of: Brown coarse-grained soil, organic debris, glass, and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP37_1.0	21-Ap57861	Apr 28, 2021	Approximate Sample 690g Sample consisted of: Brown coarse-grained soil, organic debris, glass, corroded metal and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP19_0.3	21-Ap57862	Apr 28, 2021	Approximate Sample 796g Sample consisted of: Brown coarse-grained sandy soil, glass and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP19_1.0FC01	21-Ap57863	Apr 28, 2021	Approximate Sample 42g / 100x40x4mm Sample consisted of: Grey fibre plaster cement material	Chrysotile asbestos detected.
TP19_1.0	21-Ap57864	Apr 28, 2021	Approximate Sample 754g Sample consisted of: Brown coarse-grained sandy soil, glass and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP20_0.5	21-Ap57865	Apr 28, 2021	Approximate Sample 604g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP20_1.0	21-Ap57866	Apr 28, 2021	Approximate Sample 623g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. 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	Apr 30, 2021	Indefinite
Asbestos - LTM-ASB-8020	Sydney	Apr 30, 2021	Indefinite

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ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

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Site # 23736

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Christchurch
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Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: Trinitas Group Pty Ltd
Address: Level 3, 24 Hunter Street
Parramatta
NSW 2150

Project Name: LITTLE BAY BEACH

Order No.:
Report #: 791704
Phone: 02 8810 4445
Fax: 02 8016 0875

Received: Apr 30, 2021 2:15 PM
Due: May 5, 2021
Priority: 3 Day
Contact Name: - RESULTS/SRAs

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217						X	X
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory - NATA Site # 25079							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	TP37_0.2	Apr 28, 2021		Soil	S21-Ap57859	X	
2	TP36_0.5	Apr 28, 2021		Soil	S21-Ap57860	X	
3	TP37_1.0	Apr 28, 2021		Soil	S21-Ap57861	X	
4	TP19_0.3	Apr 28, 2021		Soil	S21-Ap57862	X	
5	TP19_1.0FC01	Apr 28, 2021		Building Materials	S21-Ap57863		X
6	TP19_1.0	Apr 28, 2021		Soil	S21-Ap57864	X	
7	TP20_0.5	Apr 28, 2021		Soil	S21-Ap57865	X	
8	TP20_1.0	Apr 28, 2021		Soil	S21-Ap57866	X	
Test Counts						7	1

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 blue colour, indicates data provided by customer, that may have an impact on the results.
5. 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 Sample Receipt Advice.

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: weight for weight basis	grams per kilogram
Filter loading:	fibres/100 graticule areas
Reported Concentration:	fibres/mL
Flowrate:	L/min

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to “non-bonded / friable”.
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	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.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Laxman Dias	Senior Analyst-Asbestos (NSW)

Authorised by:

Sayeed Abu	Senior Analyst-Asbestos (NSW)

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.

TRINITAS GROUP

Chain of Custody						
Client Name		Trinitas Group Pty Ltd				
Client Address		Level 3, 24 Hunter St, Parramatta NSW 2150				
Project Name		**Little Bay Beach**				
Project Manager Name		Denny Bolatti				
Project Manager Contact Number		0412827006				
Lab Results Email Distribution		labreports@trinitasgroup.com.au				
Consultant Name		Jeffrey Yu				
Sample Analysis Turn Around Time (TAT)		Standard 5 day				
Relinquished By:		**Received by Name:**	**Received Date:**	**Received by Time:**	**Received by Signature:**	
Jeffrey Yu	Jeffrey Yu	Grace Tuckwell	3/9/14	2:15		

791709

TRINITAS GROUP

Sample Information					
ITEM		**SAMPLE ID and MATERIAL**	**DATE**	**TOTAL CONTAINERS**	**ANALYSIS REQUIRED**
1		TP05_0.2, Fill with glasses, tiles, brick, plastic, metal, concrete and coal.	29/04/2021	1	Asbestos in Soil Analysis NEPM
2		TP05_1.0, Fill with glasses, tiles, brick, plastic, metal, concrete and coal.	29/04/2021	1	Asbestos in Soil Analysis NEPM
3		TP04_0.5, Fill with glasses, plastic, bricks, coal and rocks. up to 1m.	29/04/2021	1	Asbestos in Soil Analysis NEPM
4		TP04_1.0, Silty sand with boulders.	29/04/2021	1	Asbestos in Soil Analysis NEPM
5		TP03_0.5, Fill with Silty sand, boulders, bricks, plastic, glasses and shells.	29/04/2021	1	Asbestos in Soil Analysis NEPM
6		TP03_1.5, Fill with bricks, boulders, minor plastic.	29/04/2021	1	Asbestos in Soil Analysis NEPM

79709

TRINITAS GROUP

Sample Information					
ITEM		**SAMPLE ID and MATERIAL**	**DATE**	**TOTAL CONTAINERS**	**ANALYSIS REQUIRED**
7		TP11_0.5, Sand with boulders.	29/04/2021	1	Asbestos in Soil Analysis NEPM
8		TP13_0.2, Sand with shell fragments up to 1m brick, glass, rock, plastic, tile up to 1.0m.	29/04/2021	1	Asbestos in Soil Analysis NEPM
9		TP10_0.5, sand, rocks, shell fragments, glass, soil, brick, sandstone layer at 0.3m.	29/04/2021	1	Asbestos in Soil Analysis NEPM
10		TP10_0.5FC01, FC Fragment	29/04/2021	1	Asbestos
11		TP16_0.3FC01, FC fragments	29/04/2021	1	Asbestos
12		TP16_0.3, Brick, shell, sand, FC fragments, glass, plastic	29/04/2021	1	Asbestos in Soil Analysis NEPM
13		TP16_1.0, Fill with Glass, brick, sandstone, sand, shells, plastic, tile.	29/04/2021	1	Asbestos in Soil Analysis NEPM

Supplier accreditation scheme Performance and Management Services

791709

TRINITAS GROUP

Sample Information					
ITEM		**SAMPLE ID and MATERIAL**	**DATE**	**TOTAL CONTAINERS**	**ANALYSIS REQUIRED**
14		TP14_0.5, Sand, brick, rock, glass, shell	29/04/2021	1	Asbestos in Soil Analysis NEPM
15		TP21_0.5, Brick, sand, shell, glass, FC fragments. Sandstone platform at 0.5m.	29/04/2021	1	Asbestos in Soil Analysis NEPM
16		TP21_0.5FC01, FC fragments	29/04/2021	1	Asbestos
17		TP22_0.1FC01, FC fragments	29/04/2021	1	Asbestos
18		TP22_0.1, Fill with Sand, brick, building debris, FC fragments, tile, stone.	29/04/2021	1	Asbestos in Soil Analysis NEPM
19		TP22_1.0, Fill with Brick, glass, sand, tile, shell, concrete under top sand.	29/04/2021	1	Asbestos in Soil Analysis NEPM
20		TP23_0.1FC01, FC fragments	29/04/2021	1	Asbestos

Supplier on scheme Performance and Management Services

794709

TRINITAS GROUP

Sample Information					
ITEM		SAMPLE ID and MATERIAL	DATE	TOTAL CONTAINERS	ANALYSIS REQUIRED
21		TP23_0.1, Brick, sand, shell, glass, tile, sandstone layer at 0.1m.	29/04/2021	1	Asbestos in Soil Analysis NEPM
22		TP24_0.3, Fill with Brick, sand, glass, shell	29/04/2021	1	Asbestos in Soil Analysis NEPM
23		TP29_0.3, Fill with Brick, glass, sand, shell, rocks	29/04/2021	1	Asbestos in Soil Analysis NEPM
24		TP29_0.5FC01, FC fragments	29/04/2021	1	Asbestos
25		TP27_0.5, Sand, brick, shell, stone	29/04/2021	1	Asbestos in Soil Analysis NEPM
26		TP28_0.5, Brick, FC fragments, sand, shell	29/04/2021	1	Asbestos in Soil Analysis NEPM
27		TP28_0.5FC01, FC fragments	29/04/2021	1	Asbestos
28		TP26_0.5, Fill with Sand, brick, shell	29/04/2021	1	Asbestos in Soil Analysis NEPM
29		TP25_0.3, Brick, FC fragment, sand, shell	29/04/2021	1	Asbestos in Soil Analysis NEPM

Supplier on scheme Performance and Management Services

741709

TRINITAS GROUP

Sample Information					
ITEM		**SAMPLE ID and MATERIAL**	**DATE**	**TOTAL CONTAINERS**	**ANALYSIS REQUIRED**
30		TP25_0.3FC01, FC fragments	29/04/2021	1	Asbestos
31		TP24_0.3FC01, Fill with building rubble and ACM fragments	29/04/2021	1	Asbestos
			TOTAL	31	

7a1709

RE: Attention: Eurofins - Report 791709 : Site LITTLE BAY BEACH

Jeffrey Yu <jeffrey.yu@trinitasgroup.com.au>

Sat 5/1/2021 2:22 PM

To: Trinitas Lab Reports <labreports@trinitasgroup.com.au>; Elvis Dsouza <ElvisDsouza@eurofins.com>
Cc: #AU04_Enviro_Sample_NSW <EnviroSampleNSW@eurofins.com>

1 attachments (425 KB)

Update COC5_29042021 Little Bay Beach-Chain Of Custody.docx;

HI Grace

The update COC was a ached.

The sample TP24_0.3FC01 and air samples are ready for picking up from my mailbox.

Best regards,

Jeffrey Yu

PhD (EnvEng), PhD (MedChem)
Senior Environmental Consultant
NSW Licensed Asbestos Assessor (LAA 001366)

A: Level 3, 24 Hunter Street Parramatta NSW 2150
T: 1800 4 TRINITAS M: 0406 201 136
E: jeffrey.yu@trinitasgroup.com.au
W: www.trinitasgroup.com.au

From: EnviroSampleNSW@eurofins.com <EnviroSampleNSW@eurofins.com>
Sent: Friday, 30 April 2021 11:23 PM
To: Trinitas Lab Reports <labreports@trinitasgroup.com.au>

Cc: Jeffrey Yu <jeffrey.yu@trinitasgroup.com.au>
Subject: A en on: Eurofins - Report 791709 : Site LITTLE BAY BEACH

Dear Valued Client,

TP24_0.3FC01 not received, analysis cancelled. TP03_1.5 received as TP03_1.0, logged as per COC.

Please find attached a Sample Receipt Advice (SRA), a Summary Sheet and a scanned copy of your Chain-of-Custody (COC). It is important that you check this documentation to ensure that the details are correct such as the Client Job Number, Turn Around Time, any comments in the Notes section and sample numbers as well as the requested analysis. If there are any irregularities then please contact your Eurofins | Environment Testing Analytical Services Manager as soon as possible to make certain that they get changed.

Regards

Grace Tuckwell
Sample Receipt

Eurofins | Environment Testing
Unit F3, Parkview Building
16 Mars Road
LANE COVE WEST NSW 2066
AUSTRALIA
Phone: +61 29900 8421
Email: EnviroSampleNSW@eurofins.com
Website:[http://]environment.eurofins.com.au

EnviroNote 1108 - Emissions from Sta onary Sources
EnviroNote 1103 - NATA Accredita on for Dioxins

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Sample Receipt Advice

Company name:	Trinitas Group Pty Ltd
Contact name:	- RESULTS/SRAs
Project name:	LITTLE BAY BEACH
Project ID:	Not provided
Turnaround time:	3 Day
Date/Time received	Apr 30, 2021 2:15 PM
Eurofins reference	791709

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.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

TP03_1.5 received as TP03_1.0, logged as per COC.

Contact

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

Elvis Dsouza on phone : or by email: ElvisDsouza@eurofins.com

Results will be delivered electronically via email to - RESULTS/SRAs - labreports@trinitasgroup.com.au.

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Company Name: Trinitas Group Pty Ltd
Address: Level 3, 24 Hunter Street
Parramatta
NSW 2150

Project Name: LITTLE BAY BEACH

Order No.:
Report #: 791709
Phone: 02 8810 4445
Fax: 02 8016 0875

Received: Apr 30, 2021 2:15 PM
Due: May 5, 2021
Priority: 3 Day
Contact Name: - RESULTS/SRAs

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217						X	X
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory - NATA Site # 25079							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	TP05_0.2	Apr 29, 2021		Soil	S21-Ap57884	X	
2	TP05_1.0	Apr 29, 2021		Soil	S21-Ap57885	X	
3	TP04_0.5	Apr 29, 2021		Soil	S21-Ap57886	X	
4	TP04_1.0	Apr 29, 2021		Soil	S21-Ap57887	X	
5	TP03_0.5	Apr 29, 2021		Soil	S21-Ap57888	X	
6	TP03_1.5	Apr 29, 2021		Soil	S21-Ap57889	X	
7	TP11_0.5	Apr 29, 2021		Soil	S21-Ap57890	X	
8	TP13_0.2	Apr 29, 2021		Soil	S21-Ap57891	X	
9	TP10_0.5	Apr 29, 2021		Soil	S21-Ap57892	X	
10	TP10_0.5FC0	Apr 29, 2021		Building	S21-Ap57893		X

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Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory - NATA Site # 25079							
External Laboratory							
	1			Materials			
11	TP16_0.3FC01	Apr 29, 2021		Building Materials	S21-Ap57894		X
12	TP16_0.3	Apr 29, 2021		Soil	S21-Ap57895	X	
13	TP16_1.0	Apr 29, 2021		Soil	S21-Ap57896	X	
14	TP14_0.5	Apr 29, 2021		Soil	S21-Ap57897	X	
15	TP21_0.5	Apr 29, 2021		Soil	S21-Ap57898	X	
16	TP21_0.5FC01	Apr 29, 2021		Building Materials	S21-Ap57899		X
17	TP22_0.1FC01	Apr 29, 2021		Building Materials	S21-Ap57900		X
18	TP22_0.1	Apr 29, 2021		Soil	S21-Ap57901	X	

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Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory - NATA Site # 25079							
External Laboratory							
19	TP22_1.0	Apr 29, 2021		Soil	S21-Ap57902	X	
20	TP23_0.1FC01	Apr 29, 2021		Building Materials	S21-Ap57903		X
21	TP23_0.1	Apr 29, 2021		Soil	S21-Ap57904	X	
22	TP24_0.3	Apr 29, 2021		Soil	S21-Ap57905	X	
23	TP29_0.3	Apr 29, 2021		Soil	S21-Ap57906	X	
24	TP29_0.5FC01	Apr 29, 2021		Building Materials	S21-Ap57907		X
25	TP27_0.5	Apr 29, 2021		Soil	S21-Ap57908	X	
26	TP28_0.5	Apr 29, 2021		Soil	S21-Ap57909	X	
27	TP28_0.5FC01	Apr 29, 2021		Building Materials	S21-Ap57910		X

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Due: May 5, 2021
Priority: 3 Day
Contact Name: - RESULTS/SRAs

Eurofins Analytical Services Manager : Elvis Dsouza

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Sydney Laboratory - NATA Site # 18217						X	X
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory - NATA Site # 25079							
External Laboratory							
28	TP26_0.5	Apr 29, 2021		Soil	S21-Ap57911	X	
29	TP25_0.3	Apr 29, 2021		Soil	S21-Ap57912	X	
30	TP25_0.3FC01	Apr 29, 2021		Building Materials	S21-Ap57913		X
31	TP24_0.3FC01	Apr 29, 2021		Building Materials	S21-Ap57914		X
Test Counts						22	9

Certificate of Analysis

Trinitas Group Pty Ltd
Level 3, 24 Hunter Street
Parramatta
NSW 2150

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 and proficiency testing scheme providers reports.

Attention:	- RESULTS/SRAs
Report	791709-AID
Project Name	LITTLE BAY BEACH
Received Date	Apr 30, 2021
Date Reported	May 05, 2021

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 LITTLE BAY BEACH
Project ID
Date Sampled Apr 29, 2021
Report 791709-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
TP05_0.2	21-Ap57884	Apr 29, 2021	Approximate Sample 500g Sample consisted of: Brown coarse-grained sandy soil, coal, corroded metal and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP05_1.0	21-Ap57885	Apr 29, 2021	Approximate Sample 578g Sample consisted of: Brown coarse-grained sandy soil, glass, corroded metal and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP04_0.5	21-Ap57886	Apr 29, 2021	Approximate Sample 667g Sample consisted of: Brown coarse-grained sandy soil, coal, corroded metal and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP04_1.0	21-Ap57887	Apr 29, 2021	Approximate Sample 756g Sample consisted of: Brown coarse-grained sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP03_0.5	21-Ap57888	Apr 29, 2021	Approximate Sample 800g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP03_1.5	21-Ap57889	Apr 29, 2021	Approximate Sample 660g Sample consisted of: Brown coarse-grained sandy soil, glass, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP11_0.5	21-Ap57890	Apr 29, 2021	Approximate Sample 773g Sample consisted of: Brown coarse-grained sandy soil and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP13_0.2	21-Ap57891	Apr 29, 2021	Approximate Sample 669g Sample consisted of: Brown coarse-grained sandy soil, glass, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
TP10_0.5	21-Ap57892	Apr 29, 2021	Approximate Sample 535g Sample consisted of: Brown coarse-grained sandy soil, organic debris and rocks	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP10_0.5FC01	21-Ap57893	Apr 29, 2021	Approximate Sample 1g / 25x20x1mm Sample consisted of: Brown fibre cement material	Chrysotile asbestos detected.
TP16_0.3FC01	21-Ap57894	Apr 29, 2021	Approximate Sample 1g / 25x20x1mm Sample consisted of: Brown fibre cement material	Chrysotile and crocidolite asbestos detected.
TP16_0.3	21-Ap57895	Apr 29, 2021	Approximate Sample 786g Sample consisted of: Brown fine-grained sandy soil, glass, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP16_1.0	21-Ap57896	Apr 29, 2021	Approximate Sample 682g Sample consisted of: Brown fine-grained sandy soil, glass, coal, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP14_0.5	21-Ap57897	Apr 29, 2021	Approximate Sample 730g Sample consisted of: Brown fine-grained sandy soil, glass, coal, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP21_0.5	21-Ap57898	Apr 29, 2021	Approximate Sample 906g Sample consisted of: Brown fine-grained sandy soil, glass, coal, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP21_0.5FC01	21-Ap57899	Apr 29, 2021	Approximate Sample 3g / 35x20x3mm Sample consisted of: Brown fibre cement material	Chrysotile and crocidolite asbestos detected.
TP22_0.1FC01	21-Ap57900	Apr 29, 2021	Approximate Sample 26g / 105x50x4mm Sample consisted of: Brown fibre cement material	Chrysotile and crocidolite asbestos detected.
TP22_0.1	21-Ap57901	Apr 29, 2021	Approximate Sample 832g Sample consisted of: Brown fine-grained sandy soil, glass, coal, brick, fragments of ceramic material, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP22_1.0	21-Ap57902	Apr 29, 2021	Approximate Sample 803g Sample consisted of: Brown fine-grained sandy soil, glass, coal, brick, bitumen, fragments of ceramic material, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP23_0.1FC01	21-Ap57903	Apr 29, 2021	Approximate Sample 2g / 30x16x5mm Sample consisted of: Brown fibre cement material	Chrysotile and crocidolite asbestos detected.
TP23_0.1	21-Ap57904	Apr 29, 2021	Approximate Sample 868g Sample consisted of: Brown fine-grained sandy soil, brick, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
TP24_0.3	21-Ap57905	Apr 29, 2021	Approximate Sample 667g Sample consisted of: Brown fine-grained sandy soil, glass, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP29_0.3	21-Ap57906	Apr 29, 2021	Approximate Sample 728g Sample consisted of: Brown fine-grained sandy soil, glass, coal, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP29_0.5FC01	21-Ap57907	Apr 29, 2021	Approximate Sample 1g / 20x17x2mm Sample consisted of: Brown fibre cement material	Chrysotile and amosite asbestos detected.
TP27_0.5	21-Ap57908	Apr 29, 2021	Approximate Sample 882g Sample consisted of: Brown fine-grained sandy soil, glass, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP28_0.5	21-Ap57909	Apr 29, 2021	Approximate Sample 920g Sample consisted of: Brown fine-grained sandy soil, brick, coal, glass and rocks	ACM: Chrysotile asbestos detected in fibre cement fragment. Approximate raw weight of ACM = 2.4g Total estimated asbestos content in ACM = 0.12g* Total estimated asbestos concentration in ACM = 0.013% w/w* Organic fibre detected. No trace asbestos detected.
TP28_0.5FC01	21-Ap57910	Apr 29, 2021	Approximate Sample 1g / 22x16x2mm Sample consisted of: Brown fibre cement material	Chrysotile asbestos detected.
TP26_0.5	21-Ap57911	Apr 29, 2021	Approximate Sample 936g Sample consisted of: Brown fine-grained sandy soil, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP25_0.3	21-Ap57912	Apr 29, 2021	Approximate Sample 865g Sample consisted of: Brown fine-grained sandy soil, coal, brick, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP25_0.3FC01	21-Ap57913	Apr 29, 2021	Approximate Sample <1g / 20x15x2mm Sample consisted of: Brown fibre cement material	Chrysotile asbestos detected.
TP24_0.3FC01	21-Ap57914	Apr 29, 2021	Approximate Sample 114g / 170x80x6mm Sample consisted of: Grey compressed fibre cement material	Chrysotile and crocidolite 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	May 03, 2021	Indefinite
Asbestos - LTM-ASB-8020	Sydney	May 03, 2021	Indefinite

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Parramatta
NSW 2150

Project Name: LITTLE BAY BEACH

Order No.:
Report #: 791709
Phone: 02 8810 4445
Fax: 02 8016 0875

Received: Apr 30, 2021 2:15 PM
Due: May 5, 2021
Priority: 3 Day
Contact Name: - RESULTS/SRAs

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence
Melbourne Laboratory - NATA Site # 1254 & 14271							
Sydney Laboratory - NATA Site # 18217						X	X
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory - NATA Site # 25079							
External Laboratory							
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**		
1	TP05_0.2	Apr 29, 2021		Soil	S21-Ap57884	X	
2	TP05_1.0	Apr 29, 2021		Soil	S21-Ap57885	X	
3	TP04_0.5	Apr 29, 2021		Soil	S21-Ap57886	X	
4	TP04_1.0	Apr 29, 2021		Soil	S21-Ap57887	X	
5	TP03_0.5	Apr 29, 2021		Soil	S21-Ap57888	X	
6	TP03_1.5	Apr 29, 2021		Soil	S21-Ap57889	X	
7	TP11_0.5	Apr 29, 2021		Soil	S21-Ap57890	X	
8	TP13_0.2	Apr 29, 2021		Soil	S21-Ap57891	X	
9	TP10_0.5	Apr 29, 2021		Soil	S21-Ap57892	X	
10	TP10_0.5FC0	Apr 29, 2021		Building	S21-Ap57893		X

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ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

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6 Monterey Road
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Site # 1254 & 14271

Sydney
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Company Name: Trinitas Group Pty Ltd
Address: Level 3, 24 Hunter Street
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Mayfield Laboratory - NATA Site # 25079							
External Laboratory							
	1			Materials			
11	TP16_0.3FC01	Apr 29, 2021		Building Materials	S21-Ap57894		X
12	TP16_0.3	Apr 29, 2021		Soil	S21-Ap57895	X	
13	TP16_1.0	Apr 29, 2021		Soil	S21-Ap57896	X	
14	TP14_0.5	Apr 29, 2021		Soil	S21-Ap57897	X	
15	TP21_0.5	Apr 29, 2021		Soil	S21-Ap57898	X	
16	TP21_0.5FC01	Apr 29, 2021		Building Materials	S21-Ap57899		X
17	TP22_0.1FC01	Apr 29, 2021		Building Materials	S21-Ap57900		X
18	TP22_0.1	Apr 29, 2021		Soil	S21-Ap57901	X	

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Sydney Laboratory - NATA Site # 18217						X	X
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory - NATA Site # 25079							
External Laboratory							
19	TP22_1.0	Apr 29, 2021		Soil	S21-Ap57902	X	
20	TP23_0.1FC01	Apr 29, 2021		Building Materials	S21-Ap57903		X
21	TP23_0.1	Apr 29, 2021		Soil	S21-Ap57904	X	
22	TP24_0.3	Apr 29, 2021		Soil	S21-Ap57905	X	
23	TP29_0.3	Apr 29, 2021		Soil	S21-Ap57906	X	
24	TP29_0.5FC01	Apr 29, 2021		Building Materials	S21-Ap57907		X
25	TP27_0.5	Apr 29, 2021		Soil	S21-Ap57908	X	
26	TP28_0.5	Apr 29, 2021		Soil	S21-Ap57909	X	
27	TP28_0.5FC01	Apr 29, 2021		Building Materials	S21-Ap57910		X

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Sydney Laboratory - NATA Site # 18217						X	X
Brisbane Laboratory - NATA Site # 20794							
Perth Laboratory - NATA Site # 23736							
Mayfield Laboratory - NATA Site # 25079							
External Laboratory							
28	TP26_0.5	Apr 29, 2021		Soil	S21-Ap57911	X	
29	TP25_0.3	Apr 29, 2021		Soil	S21-Ap57912	X	
30	TP25_0.3FC01	Apr 29, 2021		Building Materials	S21-Ap57913		X
31	TP24_0.3FC01	Apr 29, 2021		Building Materials	S21-Ap57914		X
Test Counts						22	9

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 blue colour, indicates data provided by customer, that may have an impact on the results.
5. 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 Sample Receipt Advice.

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: weight for weight basis	grams per kilogram
Filter loading:	fibres/100 graticule areas
Reported Concentration:	fibres/mL
Flowrate:	L/min

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to “non-bonded / friable”.
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	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.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Laxman Dias	Senior Analyst-Asbestos (NSW)

Authorised by:

Chamath JHM Annakkage	Senior Analyst-Asbestos (NSW)

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.

TRINITAS GROUP

Chain of Custody					
Client Name		Trinitas Group Pty Ltd			
Client Address		Level 3, 24 Hunter St, Parramatta NSW 2150			
Project Name		**Little Bay Beach**			
Project Manager Name		Denny Bolatti			
Project Manager Contact Number		0412827006			
Lab Results Email Distribution		labreports@trinitasgroup.com.au			
Consultant Name		Jeffrey Yu			
Sample Analysis Turn Around Time (TAT)		Standard 5 day			
Relinquished By:		**Received by Name:**	**Received Date:**	**Received by Time:**	**Received by Signature:**
Jeffrey Yu	Jeffrey Yu	Grace Tucker	30/4	2:15	

791711

TRINITAS GROUP

Sample Information					
ITEM		**SAMPLE ID and MATERIAL**	**DATE**	**TOTAL CONTAINERS**	**ANALYSIS REQUIRED**
1		TP08_0.5FC01, Sand with shells, boulders, tiles, glasses. Rock platform from 0.5m.	30/04/2021	1	Asbestos in Soil Analysis NEPM
2		TP08_0.5, Fill under sand with shells, glass, tiles, bricks. ACM fragments. Rock platform from 0.5m.	30/04/2021	1	Asbestos in Soil Analysis NEPM
3		TP09_0.5, Sand and boulders, Sediment around boulders.	30/04/2021	1	Asbestos in Soil Analysis NEPM
4		TP09_1.5, Fill with abundant glasses, brick, tiles and plastic.	30/04/2021	1	Asbestos in Soil Analysis NEPM
5		TP06_0.3, Silty sand and boulders.	30/04/2021	1	Asbestos in Soil Analysis NEPM
6		TP07_0.1FC01, Sand with shells and ACM fragments.	30/04/2021	1	Asbestos

791711

AI Chain of Custody

TRINITAS GROUP

Sample Information					
ITEM		**SAMPLE ID and MATERIAL**	**DATE**	**TOTAL CONTAINERS**	**ANALYSIS REQUIRED**
7		TP07_0.3, Sand with shells. Rock or boulders from 0.3m.	30/04/2021	1	Asbestos in Soil Analysis NEPM
8		TP01_0.2,mFill with bricks, clay and tiles, glasses. No access.	30/04/2021	1	Asbestos in Soil Analysis NEPM
9		TP06_0.1, Sand. Rock platform from 0.1m.	30/04/2021	1	Asbestos in Soil Analysis NEPM
			TOTAL	9	

7911711

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Sample Receipt Advice

Company name:	Trinitas Group Pty Ltd
Contact name:	- RESULTS/SRAs
Project name:	LITTLE BAY BEACH
Project ID:	Not provided
Turnaround time:	5 Day
Date/Time received	Apr 30, 2021 2:15 PM
Eurofins reference	791711

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.
X	Split sample sent to requested external lab.
X	Some samples have been subcontracted.
N/A	Custody Seals intact (if used).

Notes

TP06_0.3 not received, analysis cancelled. TP02_0.3 received extra and placed for analysis, please confirm.

Contact

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

Elvis Dsouza on phone : or by email: ElvisDsouza@eurofins.com

Results will be delivered electronically via email to - RESULTS/SRAs - labreports@trinitasgroup.com.au.

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Project Name: LITTLE BAY BEACH

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Fax: 02 8016 0875

Received: Apr 30, 2021 2:15 PM
Due: May 7, 2021
Priority: 5 Day
Contact Name: - RESULTS/SRAs

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	CANCELLED
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory - NATA Site # 25079								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	TP08_0.5FC01	Apr 30, 2021		Building Materials	S21-Ap57950		X	
2	TP08_0.5	Apr 30, 2021		Soil	S21-Ap57951	X		
3	TP09_0.5	Apr 30, 2021		Soil	S21-Ap57952	X		
4	TP09_1.5	Apr 30, 2021		Soil	S21-Ap57953	X		
5	TP06_0.3	Apr 30, 2021		Soil	S21-Ap57954			X
6	TP07_0.1FC01	Apr 30, 2021		Building Materials	S21-Ap57955		X	
7	TP07_0.3	Apr 30, 2021		Soil	S21-Ap57956	X		
8	TP01_0.2	Apr 30, 2021		Soil	S21-Ap57957	X		

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Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory - NATA Site # 25079								
External Laboratory								
9	TP06_0.1	Apr 30, 2021		Soil	S21-Ap57958	X		
10	TP02_0.3	Apr 30, 2021		Soil	S21-Ap58045	X		
Test Counts						7	2	1

Certificate of Analysis

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 and proficiency testing scheme providers reports.

Trinitas Group Pty Ltd
Level 3, 24 Hunter Street
Parramatta
NSW 2150

Attention:	- RESULTS/SRAs
Report	791711-AID
Project Name	LITTLE BAY BEACH
Received Date	Apr 30, 2021
Date Reported	May 05, 2021

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 LITTLE BAY BEACH
Project ID
Date Sampled Apr 30, 2021
Report 791711-AID

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
TP08_0.5FC01	21-Ap57950	Apr 30, 2021	Approximate Sample 1g / 17x13x2mm Sample consisted of: Brown fibre cement material	Chrysotile asbestos detected.
TP08_0.5	21-Ap57951	Apr 30, 2021	Approximate Sample 717g Sample consisted of: Brown fine-grained sandy soil, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP09_0.5	21-Ap57952	Apr 30, 2021	Approximate Sample 712g Sample consisted of: Light-brown fine-grained sandy soil, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP09_1.5	21-Ap57953	Apr 30, 2021	Approximate Sample 792g Sample consisted of: Brown fine-grained sandy soil, brick, coal, corroded metal, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP07_0.1FC01	21-Ap57955	Apr 30, 2021	Approximate Sample 3g / 52x26x1mm Sample consisted of: Brown fibre cement material	Chrysotile asbestos detected.
TP07_0.3	21-Ap57956	Apr 30, 2021	Approximate Sample 761g Sample consisted of: Light-brown fine-grained sandy soil, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP01_0.2	21-Ap57957	Apr 30, 2021	Approximate Sample 523g Sample consisted of: Brown fine-grained sandy soil, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.
TP06_0.1	21-Ap57958	Apr 30, 2021	Approximate Sample 805g Sample consisted of: Light-brown fine-grained sandy soil, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.

NATA Accredited
Accreditation Number 1261
Site Number 18217

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NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection and proficiency testing scheme providers reports.

Client Sample ID	Eurofins Sample No.	Date Sampled	Sample Description	Result
TP02_0.3	21-Ap58045	Apr 30, 2021	Approximate Sample 710g Sample consisted of: Brown fine-grained sandy soil, rocks and organic debris	No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. 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	Apr 30, 2021	Indefinite
Asbestos - LTM-ASB-8020	Sydney	Apr 30, 2021	Indefinite

eurofins | Environment Testing

ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name: Trinitas Group Pty Ltd
Address: Level 3, 24 Hunter Street
Parramatta
NSW 2150

Project Name: LITTLE BAY BEACH

Order No.:
Report #: 791711
Phone: 02 8810 4445
Fax: 02 8016 0875

Received: Apr 30, 2021 2:15 PM
Due: May 5, 2021
Priority: 3 Day
Contact Name: - RESULTS/SRAs

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	CANCELLED
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory - NATA Site # 25079								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	TP08_0.5FC01	Apr 30, 2021		Building Materials	S21-Ap57950		X	
2	TP08_0.5	Apr 30, 2021		Soil	S21-Ap57951	X		
3	TP09_0.5	Apr 30, 2021		Soil	S21-Ap57952	X		
4	TP09_1.5	Apr 30, 2021		Soil	S21-Ap57953	X		
5	TP06_0.3	Apr 30, 2021		Soil	S21-Ap57954			X
6	TP07_0.1FC01	Apr 30, 2021		Building Materials	S21-Ap57955		X	
7	TP07_0.3	Apr 30, 2021		Soil	S21-Ap57956	X		
8	TP01_0.2	Apr 30, 2021		Soil	S21-Ap57957	X		

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ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
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Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
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Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

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NATA # 1261
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Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Trinitas Group Pty Ltd	**Order No.:**	
Address:	Level 3, 24 Hunter Street Parramatta NSW 2150	**Report #:**	791711
		Phone:	02 8810 4445
		Fax:	02 8016 0875
Project Name:	LITTLE BAY BEACH		

Received:	Apr 30, 2021 2:15 PM
Due:	May 5, 2021
Priority:	3 Day
Contact Name:	- RESULTS/SRAs

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Asbestos - WA guidelines	Asbestos Absence /Presence	CANCELLED
Melbourne Laboratory - NATA Site # 1254 & 14271								
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory - NATA Site # 25079								
External Laboratory								
9	TP06_0.1	Apr 30, 2021		Soil	S21-Ap57958	X		
10	TP02_0.3	Apr 30, 2021		Soil	S21-Ap58045	X		
Test Counts						7	2	1

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 blue colour, indicates data provided by customer, that may have an impact on the results.
5. 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 Sample Receipt Advice.

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: weight for weight basis	grams per kilogram
Filter loading:	fibres/100 graticule areas
Reported Concentration:	fibres/mL
Flowrate:	L/min

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to “non-bonded / friable”.
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	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.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Laxman Dias	Senior Analyst-Asbestos (NSW)

Authorised by:

Chamath JHM Annakkage	Senior Analyst-Asbestos (NSW)

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.

Appendix K Air Monitoring, Clearance and Laboratory Analysis Results

Asbestos Daily Air Monitoring Report

26 April 2021

Randwick City Council
30 Frances Street
Randwick NSW 2031

Attention: Joe Santangelo
joe.santangelo@randwick.nsw.gov.au

RE: Asbestos Daily Air Monitoring Report

Dear Joe Santangelo

Please find below daily Asbestos air monitoring report for:

Location:	Little Bay Beach

All works have been completed in accordance with relevant state WHS Legislation and approved Codes of Practices.

See following pages for results.

Regards,

Jeffrey Yu

Jeffrey Yu
Senior Occupational Hygienist
Licensed Asbestos Assessor #001366
26/04/2021

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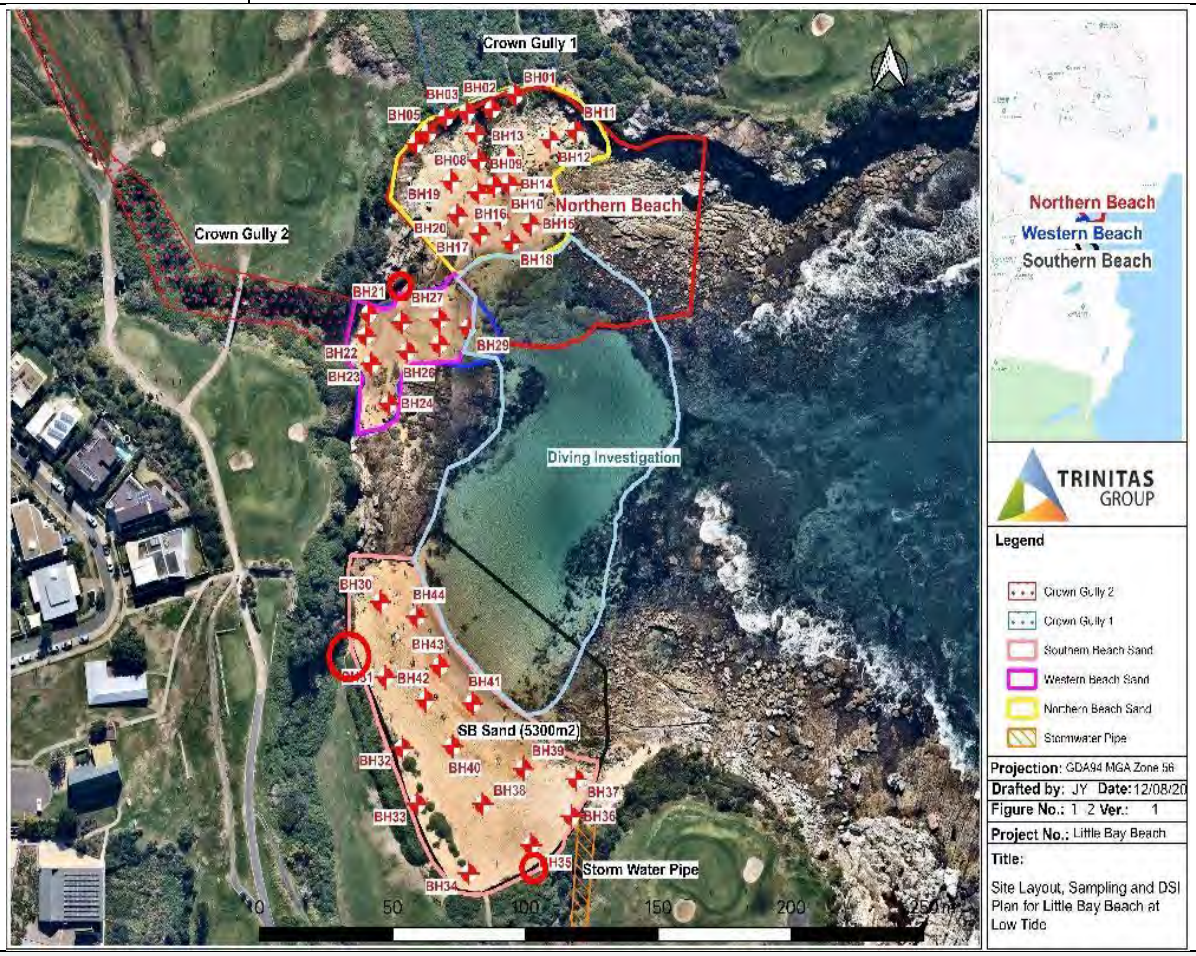
Asbestos Daily Air Monitoring Report

Requested by:	
Client Contact Name	Joe Santangelo
Client Contact Number	0436839760
Client Contact Email	joe.santangelo@randwick.nsw.gov.au
Site:	
Address	2 Coast Hospital Rd, Little Bay NSW 2036
Local Government Area	Randwick City Council
Site Boundary	
Air Monitoring Locations	



Air Monitoring Details:	
Date of Field Work:	26/04/2021
Start Time:	07:00
Consultant:	Jeffrey Yu Licensed Asbestos Assessor #001366
Sampling Type:	Asbestos
Temperature	25°C
Wind Speed	20km/h
Scope of Work:	Air monitoring

Asbestos Daily Air Monitoring Report

Methodology:

Asbestos fibre static air monitoring and analysis was conducted in accordance with Guidance Note on the Membrane Filter Method for the Estimation of Airborne Asbestos Fibres (NOHSC:3003: April 2005) and in-house procedures of NATA accredited laboratory for the estimation of airborne fibres. The sample collection was performed using SKC portable sampling pumps fitted with sampling cassettes containing 25 mm membrane filters that were flow tested at the commencement and completion of sampling.

Exposure Standard

The Australian exposure standard for asbestos fibers is 0.1 fibres/ml of air and the action limit for asbestos fibres is 0.01 fibres/ml as per the NSW WHS Regulations 2017.

Sample Location / Person Name	AM Type	Sample ID	Average Flow Rate (L/Min)	Time On	Total Sampling Time (Min)	Total Volume (L)	Results
Southern beach - middle	Co	CX630209	2.0	09:11	314	628.00	<0.01 f/ml
Southern beach - rock area	Co	CX630468	2.0	09:14	313	626.00	<0.01 f/ml
Middle Beach	Co	CX630327	2.0	09:21	309	618.00	<0.01 f/ml
Blank	Co	CX630885					<0.01 f/ml

AM Type Legend

B= Background **Co**= Control **Cl** = Clearance **BL**= Field Black **Pe**= Personal

Comments/Recommendations:

All air monitoring results were below the exposure standard for asbestos fibers during removal works <0.01 f/ml

NATA accredited laboratory results are provided within **Appendix 2**.

Disclaimer:

The results within this report relate only to the sampling locations specified and their analysis. This report shall not be reproduced, except in full.

Prepared By	Approved By
Jeffrey Yu **Jeffrey Yu** *Senior Occupational Hygienist* Licensed Asbestos Assessor #001366 26/04/2021	**Denny Bolatti** Managing Director Licensed Asbestos Assessor LAA001132 11/05/2021

Appendix 1: Air Monitoring Locations

Location: Southern beach - middle
Result: <0.01 f/ml
Image Id: 210426-091028

Location: Southern beach - rock area
Result: <0.01 f/ml
Image Id: 210426-091345

Location: Middle Beach
Result: <0.01 f/ml
Image Id: 210426-092040

Location: Blank
Result: <0.01 f/ml
Image Id: 210426-092859

How to Contact Us

Mail Trinitas Group
PO Box 1376 Parramatta NSW 2124
Email admin@trinitasgroup.com.au
Address Level 3 Hunter Street, Parramatta NSW 2150
Website www.trinitasgroup.com.au
Telephone 1800 4 TRINITAS
Facsimile 02 8016 0875

Trinitas Group Pty Ltd
ABN 12 161 759 708

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Appendix 2: Laboratory Analysis Results

Certificate of Analysis

Trinitas Group Pty Ltd
Level 3, 24 Hunter Street
Parramatta
NSW 2150

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 and proficiency testing scheme providers reports.

Attention:	- RESULTS/SRAs
Report	790191-AFA
Project Name	LITTLE BAY BEACH
Received Date	Apr 26, 2021
Date Reported	Apr 27, 2021

METHODOLOGY:

Asbestos Counting	Conducted in accordance with the National Occupational Health & Safety Commission - Guidance Note on The Membrane Filter Method For Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:3003(2005)] and in-house Method LTM-ASB-8010.

Project Name LITTLE BAY BEACH
Project ID
Date Sampled Apr 26, 2021
Report 790191-AFA

Eurofins Sample No.	Client Sample ID	Location	Fibres/100 fields
21-Ap44831	CX630209	SOUTHERN BEACH - MIDDLE	0/100
21-Ap44832	CX630327	MIDDLE BEACH	0/100
21-Ap44833	CX630468	SOUTHERN BEACH - ROCK AREA	0/100
21-Ap44834	CX630885	BLANK	0/100

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-8010	Sydney	Apr 26, 2021	Indefinite

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ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Trinitas Group Pty Ltd	**Order No.:**	
Address:	Level 3, 24 Hunter Street Parramatta NSW 2150	**Report #:**	790191
		Phone:	02 8810 4445
		Fax:	02 8016 0875
Project Name:	LITTLE BAY BEACH		

Received:	Apr 26, 2021 5:50 PM
Due:	Apr 27, 2021
Priority:	1 Day
Contact Name:	- RESULTS/SRAs

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Asbestos (amount of fibres in air)
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217						X
Brisbane Laboratory - NATA Site # 20794						
Perth Laboratory - NATA Site # 23736						
Mayfield Laboratory - NATA Site # 25079						
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	CX630209	Apr 26, 2021	9:11AM	Air	S21-Ap44831	X
2	CX630327	Apr 26, 2021	9:21AM	Air	S21-Ap44832	X
3	CX630468	Apr 26, 2021	9:14AM	Air	S21-Ap44833	X
4	CX630885	Apr 26, 2021		Air	S21-Ap44834	X
Test Counts						4

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 blue colour, indicates data provided by customer, that may have an impact on the results.
5. 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 Sample Receipt Advice.

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: weight for weight basis	grams per kilogram
Filter loading:	fibres/100 graticule areas
Reported Concentration:	fibres/mL
Flowrate:	L/min

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to “non-bonded / friable”.
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	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.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Kang Kang Wang	Senior Analyst-Asbestos (NSW)

Authorised by:

Laxman Dias	Senior Analyst-Asbestos (NSW)

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.

Asbestos Daily Air Monitoring Report

27 April 2021

Randwick City Council
30 Frances Street
Randwick NSW 2031

Attention: Joe Santangelo
joe.santangelo@randwick.nsw.gov.au

RE: Asbestos Daily Air Monitoring Report

Dear Joe Santangelo

Please find below daily Asbestos air monitoring report for:

Location:	Little Bay Beach

All works have been completed in accordance with relevant state WHS Legislation and approved Codes of Practices.

See following pages for results.

Regards,

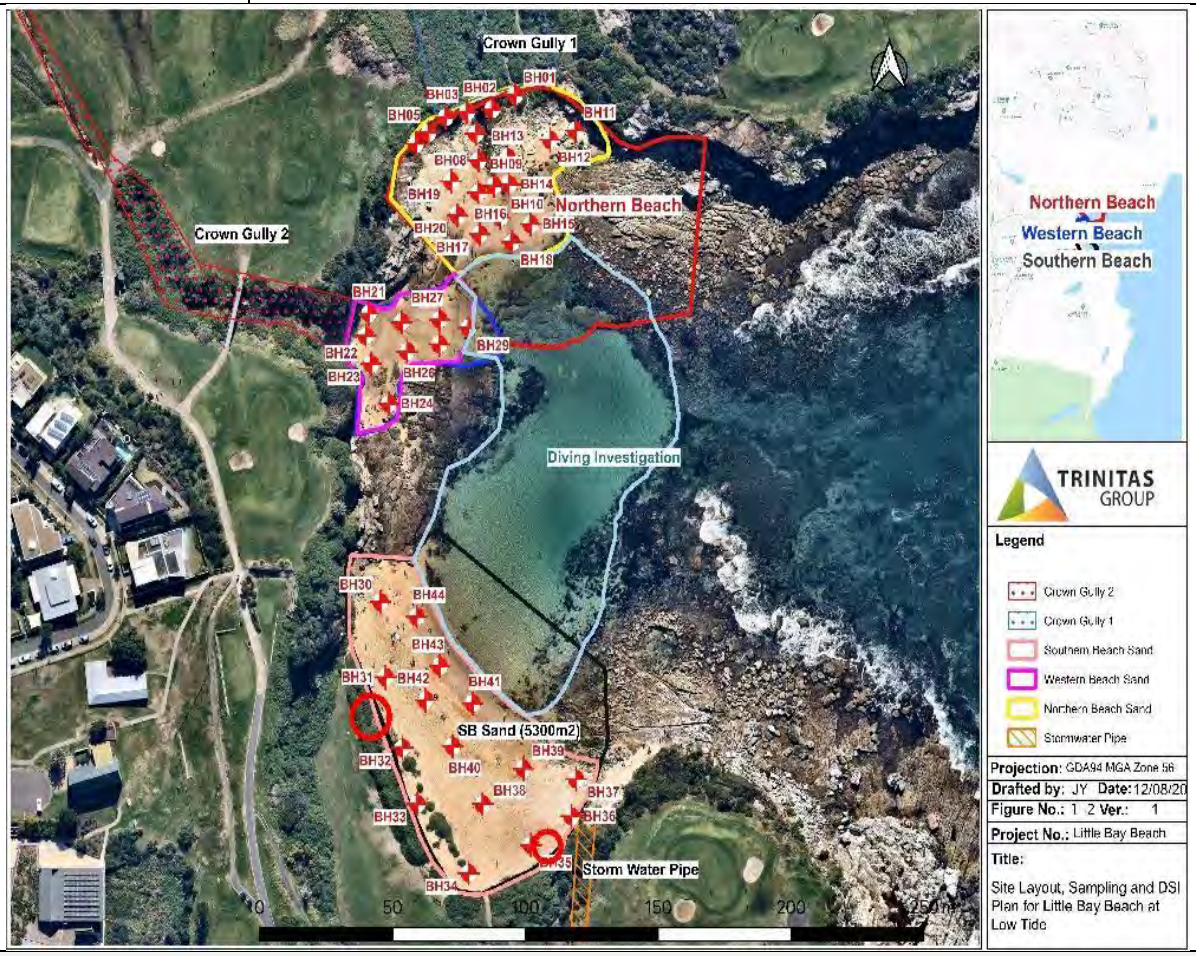
Jeffrey Yu

Jeffrey Yu
Senior Occupational Hygienist
Licensed Asbestos Assessor #001366
27/04/2021

.

Asbestos Daily Air Monitoring Report

Requested by:	
Client Contact Name	Joe Santangelo
Client Contact Number	0436839760
Client Contact Email	joe.santangelo@randwick.nsw.gov.au
Site:	
Address	2 Coast Hospital Rd, Little Bay NSW 2036
Local Government Area	Randwick City Council
Site Boundary	
Air Monitoring Locations	



Air Monitoring Details:	
Date of Field Work:	27/04/2021
Start Time:	07:52
Consultant:	Jeffrey Yu Licensed Asbestos Assessor #001366
Sampling Type:	Asbestos
Temperature	20°C
Wind Speed	20km/h
Scope of Work:	Air monitoring

Methodology:

Asbestos fibre static air monitoring and analysis was conducted in accordance with Guidance Note on the Membrane Filter Method for the Estimation of Airborne Asbestos Fibres (NOHSC:3003: April 2005) and in-house procedures of NATA accredited laboratory for the estimation of airborne fibres. The sample collection was performed using SKC portable sampling pumps fitted with sampling cassettes containing 25 mm membrane filters that were flow tested at the commencement and completion of sampling.

Exposure Standard

The Australian exposure standard for asbestos fibers is 0.1 fibres/ml of air and the action limit for asbestos fibres is 0.01 fibres/ml as per the NSW WHS Regulations 2017.

Sample Location / Person Name	AM Type	Sample ID	Average Flow Rate (L/Min)	Time On	Total Sampling Time (Min)	Total Volume (L)	Results
Southern beach - middle	Co	CX630189	2.0	07:54	396	792.00	<0.01 f/ml
Southern beach - rock area	Co	CX630481	2.0	07:56	393	786.00	<0.01 f/ml
Blank	Co	CX630386					<0.01 f/ml

AM Type Legend

B= Background **Co**= Control **Cl** = Clearance **BL**= Field Black **Pe**= Personal

Comments/Recommendations:

All air monitoring results were below the exposure standard for asbestos fibers during removal works <0.01 f/ml

NATA accredited laboratory results are provided within **Appendix 2**.

Disclaimer:

The results within this report relate only to the sampling locations specified and their analysis. This report shall not be reproduced, except in full.

Prepared By	Approved By
Jeffrey Yu **Jeffrey Yu** *Senior Occupational Hygienist* Licensed Asbestos Assessor #001366 27/04/2021	**Denny Bolatti** Managing Director Licensed Asbestos Assessor LAA001132 11/05/2021

Appendix 1: Air Monitoring Locations

Location: Southern beach - middle
Result: <0.01 f/ml
Image Id: 210427-075359

Location: Southern beach - rock area
Result: <0.01 f/ml
Image Id: 210427-075635

Location: Blank
Result: <0.01 f/ml
Image Id: 210427-143237

How to Contact Us

Mail Trinitas Group
PO Box 1376 Parramatta NSW 2124
Email admin@trinitasgroup.com.au
Address Level 3 Hunter Street, Parramatta NSW 2150
Website www.trinitasgroup.com.au
Telephone 1800 4 TRINITAS
Facsimile 02 8016 0875

Trinitas Group Pty Ltd
ABN 12 161 759 708

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Appendix 2: Laboratory Analysis Results

Certificate of Analysis

Trinitas Group Pty Ltd
Level 3, 24 Hunter Street
Parramatta
NSW 2150

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 and proficiency testing scheme providers reports.

Attention:	- RESULTS/SRAs
Report	790513-AFA
Project Name	LITTLE BAY BEACH
Received Date	Apr 27, 2021
Date Reported	Apr 28, 2021

METHODOLOGY:

Asbestos Counting	Conducted in accordance with the National Occupational Health & Safety Commission - Guidance Note on The Membrane Filter Method For Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:3003(2005)] and in-house Method LTM-ASB-8010.

Project Name LITTLE BAY BEACH
Project ID
Date Sampled Apr 27, 2021
Report 790513-AFA

Eurofins Sample No.	Client Sample ID	Location	Fibres/100 fields
21-Ap47991	CX630189	SOUTHERN BEACH - MIDDLE	0/100
21-Ap47992	CX630386	BLANK	0/100
21-Ap47993	CX630481	SOUTHERN BEACH - ROCK AREA	0/100

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-8010	Sydney	Apr 27, 2021	Indefinite

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ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

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6 Monterey Road
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NATA # 1261
Site # 1254 & 14271

Sydney
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NATA # 1261 Site # 18217

Brisbane
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Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Trinitas Group Pty Ltd	**Order No.:**	
Address:	Level 3, 24 Hunter Street Parramatta NSW 2150	**Report #:**	790513
		Phone:	02 8810 4445
		Fax:	02 8016 0875
Project Name:	LITTLE BAY BEACH		

Received:	Apr 27, 2021 4:54 PM
Due:	Apr 28, 2021
Priority:	1 Day
Contact Name:	- RESULTS/SRAs

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Asbestos (amount of fibres in air)
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217						X
Brisbane Laboratory - NATA Site # 20794						
Perth Laboratory - NATA Site # 23736						
Mayfield Laboratory - NATA Site # 25079						
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	CX630189	Apr 27, 2021	7:54AM	Animal tissue	S21-Ap47991	X
2	CX630386	Apr 27, 2021		Animal tissue	S21-Ap47992	X
3	CX630481	Apr 27, 2021	7:56AM	Animal tissue	S21-Ap47993	X
Test Counts						3

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 blue colour, indicates data provided by customer, that may have an impact on the results.
5. 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 Sample Receipt Advice.

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: weight for weight basis	grams per kilogram
Filter loading:	fibres/100 graticule areas
Reported Concentration:	fibres/mL
Flowrate:	L/min

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to “non-bonded / friable”.
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	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.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Kang Kang Wang	Senior Analyst-Asbestos (NSW)

Authorised by:

Sayeed Abu	Senior Analyst-Asbestos (NSW)

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.

Asbestos Daily Air Monitoring Report

28 April 2021

Randwick City Council
30 Frances Street
Randwick NSW 2031

Attention: Joe Santangelo
joe.santangelo@randwick.nsw.gov.au

RE: Asbestos Daily Air Monitoring Report

Dear Joe Santangelo

Please find below daily Asbestos air monitoring report for:

Location:	Little Bay Beach

All works have been completed in accordance with relevant state WHS Legislation and approved Codes of Practices.

See following pages for results.

Regards,

Kieran Mackowski
Occupational Hygienist
BSc Environmental Earth Science
28/04/2021

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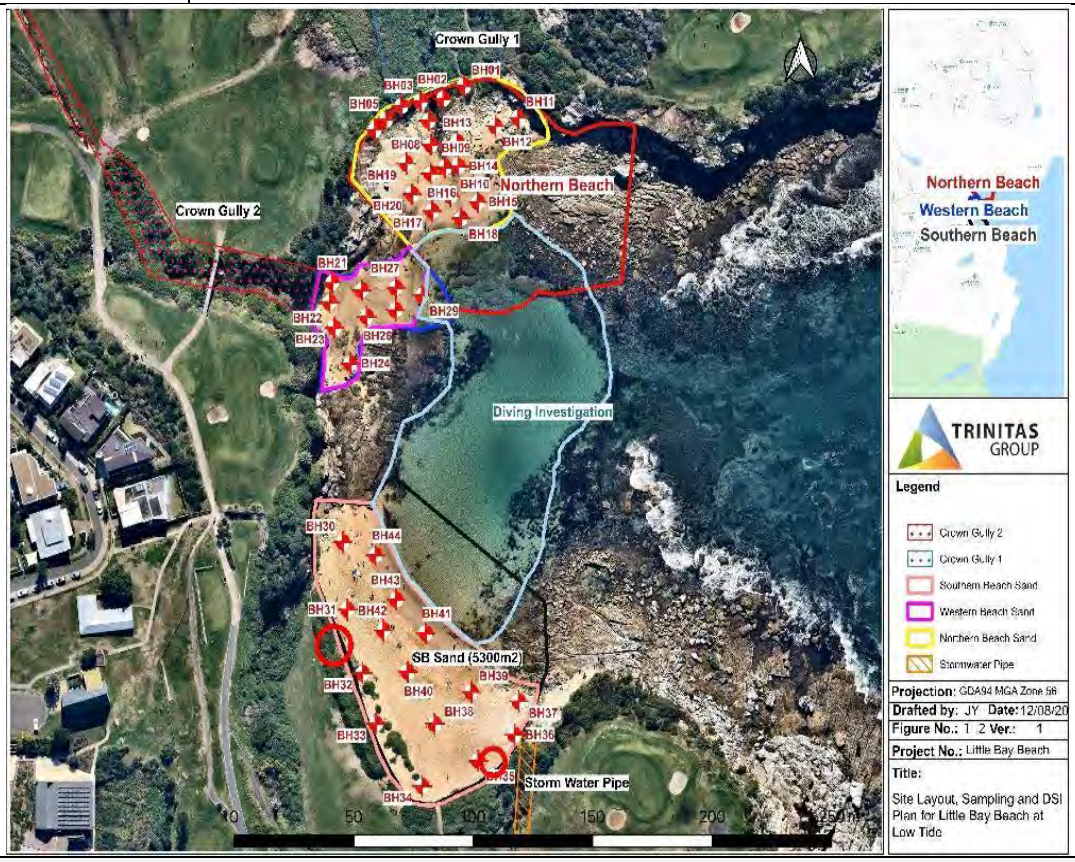
Asbestos Daily Air Monitoring Report

Requested by:	
Client Contact Name	Joe Santangelo
Client Contact Number	0436839760
Client Contact Email	joe.santangelo@randwick.nsw.gov.au
Site:	
Address	2 Coast Hospital Rd, Little Bay NSW 2036
Local Government Area	Randwick City Council
Site Boundary	
Air Monitoring Locations	



Air Monitoring Details:	
Date of Field Work:	28/04/2021
Start Time:	07:00
Consultant:	Kieran Mackowski BSc Environmental Earth Science
Sampling Type:	Asbestos
Temperature	14°C
Wind Speed	10km/h
Scope of Work:	Background Air Monitoring during Site Assessment

Methodology:

Asbestos fibre static air monitoring and analysis was conducted in accordance with Guidance Note on the Membrane Filter Method for the Estimation of Airborne Asbestos Fibres (NOHSC:3003: April 2005) and

in-house procedures of NATA accredited laboratory for the estimation of airborne fibres. The sample collection was performed using SKC portable sampling pumps fitted with sampling cassettes containing 25 mm membrane filters that were flow tested at the commencement and completion of sampling.

Exposure Standard

The Australian exposure standard for asbestos fibers is 0.1 fibres/ml of air and the action limit for asbestos fibres is 0.01 fibres/ml as per the NSW WHS Regulations 2017.

Sample Location / Person Name	AM Type	Sample ID	Average Flow Rate (L/Min)	Time On	Total Sampling Time (Min)	Total Volume (L)	Results
Southern beach - middle	B	CX630889	2	07:29	416	832.00	<0.01 f/ml
Field blank	B	CX630917					0 fibres / 100 fields
Southern beach - south	B	CX630494	2	07:29	420	840.00	<0.01 f/ml
Northern beach, western boundary shared with golf course	B	CX630858	2.0	07:35	415	830.00	<0.01 f/ml

AM Type Legend

B= Background **Co**= Control **Cl** = Clearance **BL**= Field Black **Pe**= Personal

Comments/Recommendations:

All air monitoring results were below the exposure standard for asbestos fibers during removal works <0.01 f/ml

NATA accredited laboratory results are provided within **Appendix 2**.

Disclaimer:

The results within this report relate only to the sampling locations specified and their analysis. This report shall not be reproduced, except in full.

Prepared By	Approved By
Kieran Mackowski *Occupational Hygienist* BSc Environmental Earth Science 28/04/2021	**Denny Bolatti** Managing Director Licensed Asbestos Assessor LAA001132 11/05/2021

Appendix 1: Air Monitoring Locations

Location: Southern beach - middle
Result: <0.01 f/ml
Image Id: 210428-072848

Location: Field blank
Result: 0 fibres / 100 fields
Image Id: 210428-073038

Location: Southern beach - south
Result: <0.01 f/ml
Image Id: 210428-073409

Location: Northern beach, western boundary shared with golf course
Result: <0.01 f/ml
Image Id: 210428-110125

How to Contact Us

Mail Trinitas Group
PO Box 1376 Parramatta NSW 2124
Email admin@trinitasgroup.com.au
Address Level 3 Hunter Street, Parramatta NSW 2150
Website www.trinitasgroup.com.au
Telephone 1800 4 TRINITAS
Facsimile 02 8016 0875

Trinitas Group Pty Ltd
ABN 12 161 759 708

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Appendix 2: Laboratory Analysis Results

Certificate of Analysis

Trinitas Group Pty Ltd
Level 3, 24 Hunter Street
Parramatta
NSW 2150

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 and proficiency testing scheme providers reports.

Attention:	- RESULTS/SRAs
Report	790835-AFA
Project Name	LITTLE BAY BEACH
Received Date	Apr 28, 2021
Date Reported	Apr 29, 2021

METHODOLOGY:

Asbestos Counting	Conducted in accordance with the National Occupational Health & Safety Commission - Guidance Note on The Membrane Filter Method For Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:3003(2005)] and in-house Method LTM-ASB-8010.

Project Name LITTLE BAY BEACH
Project ID
Date Sampled Apr 28, 2021
Report 790835-AFA

Eurofins Sample No.	Client Sample ID	Location	Fibres/100 fields
21-Ap50464	CX630494	SOUTHERN BEACH - SOUTH	0/100
21-Ap50465	CX630858	NORTHERN BEACH, WESTERN BOUNDARY SHARED WITH GOLF COURSE	0/100
21-Ap50466	CX630889	SOUTHERN BEACH - MIDDLE	0/100
21-Ap50467	CX630917	BLANK	0/100

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-8010	Sydney	Apr 28, 2021	Indefinite

eurofins | Environment Testing

ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Trinitas Group Pty Ltd	**Order No.:**	
Address:	Level 3, 24 Hunter Street Parramatta NSW 2150	**Report #:**	790835
		Phone:	02 8810 4445
		Fax:	02 8016 0875
Project Name:	LITTLE BAY BEACH		

Received:	Apr 28, 2021 5:22 PM
Due:	Apr 29, 2021
Priority:	1 Day
Contact Name:	- RESULTS/SRAs

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Asbestos (amount of fibres in air)
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217						X
Brisbane Laboratory - NATA Site # 20794						
Perth Laboratory - NATA Site # 23736						
Mayfield Laboratory - NATA Site # 25079						
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	CX630494	Apr 28, 2021	7:29AM	Air	S21-Ap50464	X
2	CX630858	Apr 28, 2021	7:35AM	Air	S21-Ap50465	X
3	CX630889	Apr 28, 2021	7:29AM	Air	S21-Ap50466	X
4	CX630917	Apr 28, 2021	7:30AM	Air	S21-Ap50467	X
Test Counts						4

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 blue colour, indicates data provided by customer, that may have an impact on the results.
5. 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 Sample Receipt Advice.

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: weight for weight basis	grams per kilogram
Filter loading:	fibres/100 graticule areas
Reported Concentration:	fibres/mL
Flowrate:	L/min

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to “non-bonded / friable”.
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	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.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Kang Kang Wang	Senior Analyst-Asbestos (NSW)

Authorised by:

Laxman Dias	Senior Analyst-Asbestos (NSW)

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.

Asbestos Daily Air Monitoring Report

29 April 2021

Randwick City Council
30 Frances Street
Randwick NSW 2031

Attention: Joe Santangelo
joe.santangelo@randwick.nsw.gov.au

RE: Asbestos Daily Air Monitoring Report

Dear Joe Santangelo

Please find below daily Asbestos air monitoring report for:

Location:	Little Bay Beach

All works have been completed in accordance with relevant state WHS Legislation and approved Codes of Practices.

See following pages for results.

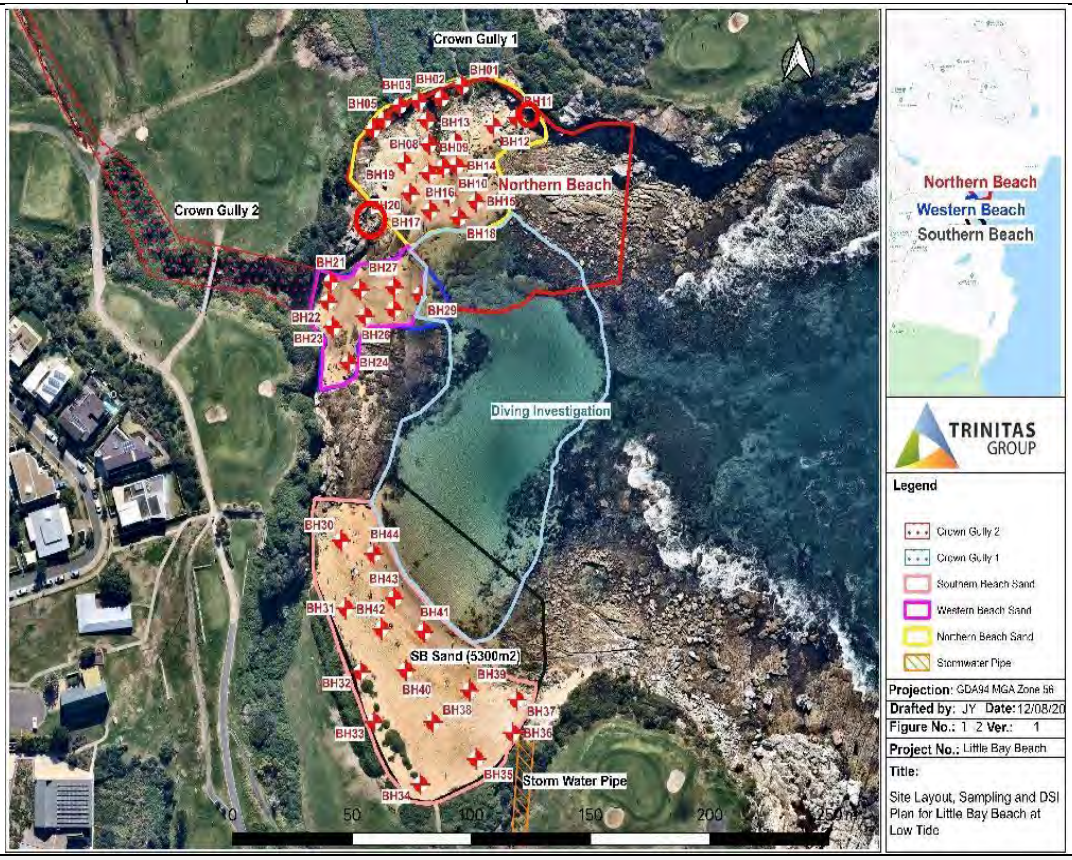
Regards,

Kieran Mackowski
Occupational Hygienist
BSc Environmental Earth Science
29/04/2021

.

Asbestos Daily Air Monitoring Report

Requested by:	
Client Contact Name	Joe Santangelo
Client Contact Number	0436839760
Client Contact Email	joe.santangelo@randwick.nsw.gov.au
Site:	
Address	2 Coast Hospital Rd, Little Bay NSW 2036
Local Government Area	Randwick City Council
Site Boundary	
Air Monitoring Locations	



Air Monitoring Details:	
Date of Field Work:	29/04/2021
Start Time:	07:00
Consultant:	Kieran Mackowski BSc Environmental Earth Science
Sampling Type:	Asbestos
Temperature	20°C
Wind Speed	15km/h
Scope of Work:	Air monitoring

Methodology:

Asbestos fibre static air monitoring and analysis was conducted in accordance with Guidance Note on the Membrane Filter Method for the Estimation of Airborne Asbestos Fibres (NOHSC:3003: April 2005) and

in-house procedures of NATA accredited laboratory for the estimation of airborne fibres. The sample collection was performed using SKC portable sampling pumps fitted with sampling cassettes containing 25 mm membrane filters that were flow tested at the commencement and completion of sampling.

Exposure Standard

The Australian exposure standard for asbestos fibers is 0.1 fibres/ml of air and the action limit for asbestos fibres is 0.01 fibres/ml as per the NSW WHS Regulations 2017.

Sample Location / Person Name	AM Type	Sample ID	Average Flow Rate (L/Min)	Time On	Total Sampling Time (Min)	Total Volume (L)	Results
Northern beach, access boundary shared with golf course	B	CX630311	2.0	09:30	360	720.00	<0.01 f/ml
Northern beach, eastern end of beach on site boundary fence	Co	CX630873	2.0	09:35	350	700.00	<0.01 f/ml
Field blank	Co	CX630408					0 fibres / 100 fields

AM Type Legend

B= Background **Co**= Control **Cl** = Clearance **BL**= Field Black **Pe**= Personal

Comments/Recommendations:

All air monitoring results were below the exposure standard for asbestos fibers during removal works <0.01 f/ml

NATA accredited laboratory results are provided within **Appendix 2**.

Disclaimer:

The results within this report relate only to the sampling locations specified and their analysis. This report shall not be reproduced, except in full.

Prepared By	Approved By
Kieran Mackowski *Occupational Hygienist* BSc Environmental Earth Science 29/04/2021	**Denny Bolatti** Managing Director Licensed Asbestos Assessor LAA001132 11/05/2021

Appendix 1: Air Monitoring Locations

Location: Northern beach, access boundary shared with golf course

Result: <0.01 f/ml

Image Id: 210429-093547

Location: Northern beach, eastern end of beach on site boundary fence

Result: <0.01 f/ml

Image Id: 210429-093939

Location: Field blank

Result: 0 fibres / 100 fields

Image Id: 210429-094124

How to Contact Us

Mail Trinitas Group
PO Box 1376 Parramatta NSW 2124
Email admin@trinitasgroup.com.au
Address Level 3 Hunter Street, Parramatta NSW 2150
Website www.trinitasgroup.com.au
Telephone 1800 4 TRINITAS
Facsimile 02 8016 0875

Trinitas Group Pty Ltd
ABN 12 161 759 708

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Appendix 2: Laboratory Analysis Results

Certificate of Analysis

Trinitas Group Pty Ltd
Level 3, 24 Hunter Street
Parramatta
NSW 2150

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 and proficiency testing scheme providers reports.

Attention:	- RESULTS/SRAs
Report	791725-AFA
Project Name	LITTLE BAY BEACH
Received Date	Apr 30, 2021
Date Reported	May 04, 2021

METHODOLOGY:

Asbestos Counting	Conducted in accordance with the National Occupational Health & Safety Commission - Guidance Note on The Membrane Filter Method For Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:3003(2005)] and in-house Method LTM-ASB-8010.

Project Name LITTLE BAY BEACH
Project ID
Date Sampled Apr 29, 2021
Report 791725-AFA

Eurofins Sample No.	Client Sample ID	Location	Fibres/100 fields
21-Ap58091	CX630311	WESTERN SECTION AT NORTHERN BEACH	0/100
21-Ap58092	CX630873	BLANK	0/100
21-Ap58093	CX630408	UPPER NORTHERN BEACH	0/100

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-8010	Sydney	Apr 30, 2021	Indefinite

eurofins | Environment Testing

ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Trinitas Group Pty Ltd	**Order No.:**	
Address:	Level 3, 24 Hunter Street Parramatta NSW 2150	**Report #:**	791725
		Phone:	02 8810 4445
		Fax:	02 8016 0875
Project Name:	LITTLE BAY BEACH		

Received:	Apr 30, 2021 2:15 PM
Due:	May 4, 2021
Priority:	5 Day
Contact Name:	- RESULTS/SRAs

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Asbestos (amount of fibres in air)
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217						X
Brisbane Laboratory - NATA Site # 20794						
Perth Laboratory - NATA Site # 23736						
Mayfield Laboratory - NATA Site # 25079						
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	CX630311	Apr 29, 2021		Air	S21-Ap58091	X
2	CX630873	Apr 29, 2021		Air	S21-Ap58092	X
3	CX630408	Apr 29, 2021		Air	S21-Ap58093	X
Test Counts						3

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 blue colour, indicates data provided by customer, that may have an impact on the results.
5. 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 Sample Receipt Advice.

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: weight for weight basis	grams per kilogram
Filter loading:	fibres/100 graticule areas
Reported Concentration:	fibres/mL
Flowrate:	L/min

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to “non-bonded / friable”.
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	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.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Md Mominul Haque	Senior Analyst-Asbestos (NSW)

Authorised by:

Sayeed Abu	Senior Analyst-Asbestos (NSW)

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.

Asbestos Daily Air Monitoring Report

30 April 2021

Randwick City Council
30 Frances Street
Randwick NSW 2031

Attention: Joe Santangelo
joe.santangelo@randwick.nsw.gov.au

RE: Asbestos Daily Air Monitoring Report

Dear Joe Santangelo

Please find below daily Asbestos air monitoring report for:

Location:	Little Bay Beach

All works have been completed in accordance with relevant state WHS Legislation and approved Codes of Practices.

See following pages for results.

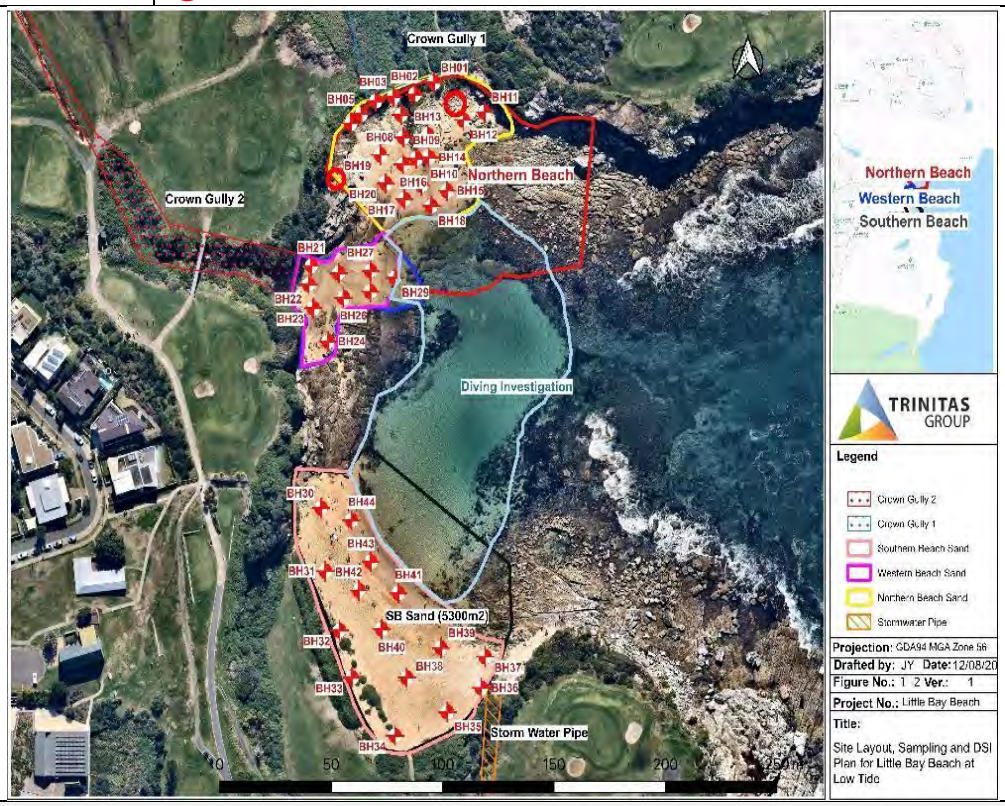
Regards,

Kieran Mackowski
Occupational Hygienist
BSc Environmental Earth Science
04/05/2021

.

Asbestos Daily Air Monitoring Report

Requested by:	
Client Contact Name	Joe Santangelo
Client Contact Number	0436839760
Client Contact Email	joe.santangelo@randwick.nsw.gov.au
Site:	
Address	2 Coast Hospital Rd, Little Bay NSW 2036
Local Government Area	Randwick City Council
Site Boundary	
Air Monitoring Locations	



Air Monitoring Details:	
Date of Field Work:	30/04/2021
Start Time:	07:00
Consultant:	Kieran Mackowski BSc Environmental Earth Science
Sampling Type:	Asbestos
Temperature	20°C
Wind Speed	15km/h
Scope of Work:	Air monitoring

Methodology:

Asbestos fibre static air monitoring and analysis was conducted in accordance with Guidance Note on the Membrane Filter Method for the Estimation of Airborne Asbestos Fibres (NOHSC:3003: April 2005) and in-house procedures of NATA accredited laboratory for the estimation of airborne fibres. The sample

collection was performed using SKC portable sampling pumps fitted with sampling cassettes containing 25 mm membrane filters that were flow tested at the commencement and completion of sampling.

Exposure Standard

The Australian exposure standard for asbestos fibers is 0.1 fibres/ml of air and the action limit for asbestos fibres is 0.01 fibres/ml as per the NSW WHS Regulations 2017.

Sample Location / Person Name	AM Type	Sample ID	Average Flow Rate (L/Min)	Time On	Total Sampling Time (Min)	Total Volume (L)	Results
Upper Northern beach	Co	CX630930	2.0	07:30	410	820.00	<0.01 f/ml
Western Section at Northern beach	Co	CX630185	2.0	06:33	469	938.00	<0.01 f/ml
Field blank	Co	CX630895					<0.01 f/ml

AM Type Legend

B= Background **Co**= Control **Cl** = Clearance **BL**= Field Black **Pe**= Personal

Comments/Recommendations:

All air monitoring results were below the exposure standard for asbestos fibers during removal works <0.01 f/ml

NATA accredited laboratory results are provided within **Appendix 2**.

Disclaimer:

The results within this report relate only to the sampling locations specified and their analysis. This report shall not be reproduced, except in full.

Prepared By	Approved By
Kieran Mackowski *Occupational Hygienist* BSc Environmental Earth Science 04/05/2021	**Denny Bolatti** Managing Director Licensed Asbestos Assessor LAA001132 11/05/2021

Appendix 1: Air Monitoring Locations

Location: Upper Northern beach
Result: <0.01 f/ml
Image Id: 210430-073456

Location: Western Section at Northern beach
Result: <0.01 f/ml
Image Id: 210430-073705

Location: Field blank
Result: <0.01 f/ml
Image Id: 210430-073831

How to Contact Us

Mail Trinitas Group
PO Box 1376 Parramatta NSW 2124
Email admin@trinitasgroup.com.au
Address Level 3 Hunter Street, Parramatta NSW 2150
Website www.trinitasgroup.com.au
Telephone 1800 4 TRINITAS
Facsimile 02 8016 0875

Trinitas Group Pty Ltd
ABN 12 161 759 708

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Appendix 2: Laboratory Analysis Results

Certificate of Analysis

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 and proficiency testing scheme providers reports.

Trinitas Group Pty Ltd
Level 3, 24 Hunter Street
Parramatta
NSW 2150

Attention:	Denny Bolatti
Report	791912-AFA
Project Name	LITTLE BAY BEACH
Received Date	May 03, 2021
Date Reported	May 04, 2021

METHODOLOGY:

Asbestos Counting	Conducted in accordance with the National Occupational Health & Safety Commission - Guidance Note on The Membrane Filter Method For Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC:3003(2005)] and in-house Method LTM-ASB-8010.

Project Name LITTLE BAY BEACH
Project ID
Date Sampled Apr 30, 2021
Report 791912-AFA

Eurofins Sample No.	Client Sample ID	Location	Fibres/100 fields
21-My01615	CX630185 - WESTERN SECTION AT NORTHERN BEACH	WESTERN SECTION AT NORTHERN BEACH	4.5/100
21-My01616	CX630895 - FIELD BLANK	BLANK	0/100
21-My01617	CX630930 - UPPER NORTHERN BEACH	UPPER NORTHERN BEACH	0/100

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-8010	Sydney	May 03, 2021	Indefinite

eurofins | Environment Testing

ABN: 50 005 085 521 web: www.eurofins.com.au email: EnviroSales@eurofins.com

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
16 Mars Road
Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

Brisbane
1/21 Smallwood Place
Murarrie QLD 4172
Phone : +61 7 3902 4600
NATA # 1261 Site # 20794

Perth
46-48 Banksia Road
Welshpool WA 6106
Phone : +61 8 9251 9600
NATA # 1261
Site # 23736

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448
NATA # 1261 Site # 25079

New Zealand

Auckland
35 O'Rorke Road
Penrose, Auckland 1061
Phone : +64 9 526 45 51
IANZ # 1327

Christchurch
43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Company Name:	Trinitas Group Pty Ltd	**Order No.:**	
Address:	Level 3, 24 Hunter Street Parramatta NSW 2150	**Report #:**	791912
		Phone:	02 8810 4445
		Fax:	02 8016 0875
Project Name:	LITTLE BAY BEACH		

Received:	May 3, 2021 12:57 PM
Due:	May 4, 2021
Priority:	1 Day
Contact Name:	Denny Bolatti

Eurofins Analytical Services Manager : Elvis Dsouza

Sample Detail						Asbestos (amount of fibres in air)
Melbourne Laboratory - NATA Site # 1254 & 14271						
Sydney Laboratory - NATA Site # 18217						X
Brisbane Laboratory - NATA Site # 20794						
Perth Laboratory - NATA Site # 23736						
Mayfield Laboratory - NATA Site # 25079						
External Laboratory						
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**	
1	CX630185 - WESTERN SECTION AT NORTHERN BEACH	Apr 30, 2021		Air	S21-My01615	X
2	CX630895 - FIELD BLANK	Apr 30, 2021		Air	S21-My01616	X
3	CX630930 - UPPER NORTHERN BEACH	Apr 30, 2021		Air	S21-My01617	X
Test Counts						3

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 blue colour, indicates data provided by customer, that may have an impact on the results.
5. 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 Sample Receipt Advice.

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: weight for weight basis	grams per kilogram
Filter loading:	fibres/100 graticule areas
Reported Concentration:	fibres/mL
Flowrate:	L/min

Terms

Dry	Sample is dried by heating prior to analysis
LOR	Limit of Reporting
COC	Chain of Custody
SRA	Sample Receipt Advice
ISO	International Standards Organisation
AS	Australian Standards
WA DOH	Reference document for the NEPM. Government of Western Australia, Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (2009), including supporting document Recommended Procedures for Laboratory Analysis of Asbestos in Soil (2011)
NEPM	National Environment Protection (Assessment of Site Contamination) Measure, 2013 (as amended)
ACM	Asbestos Containing Materials. Asbestos contained within a non-asbestos matrix, typically presented in bonded and/or sound condition. For the purposes of the NEPM, ACM is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
AF	Asbestos Fines. Asbestos containing materials, including friable, weathered and bonded materials, able to pass a 7mm x 7mm sieve. Considered under the NEPM as equivalent to “non-bonded / friable”.
FA	Fibrous Asbestos. Asbestos containing materials in a friable and/or severely weathered condition. For the purposes of the NEPM, FA is generally restricted to those materials that do not pass a 7mm x 7mm sieve.
Friable	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.
Trace Analysis	Analytical procedure used to detect the presence of respirable fibres in the matrix.

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Asbestos Counter/Identifier:

Md Mominul Haque	Senior Analyst-Asbestos (NSW)

Authorised by:

Sayeed Abu	Senior Analyst-Asbestos (NSW)

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.

Asbestos in Soil Clearance Inspection

26 April 2021

Randwick City Council
30 Frances Street
Randwick NSW 2031

Attention: Joe Santangelo
joe.santangelo@randwick.nsw.gov.au

RE: Asbestos in Soil Clearance Inspection

Dear Joe Santangelo

Please find below Asbestos in Soil Clearance Inspection results for the following site:

Site:	Little Bay Beach

All works have been completed in accordance with applicable WHS Legislation, Approved Codes of Practice and Australian Standards

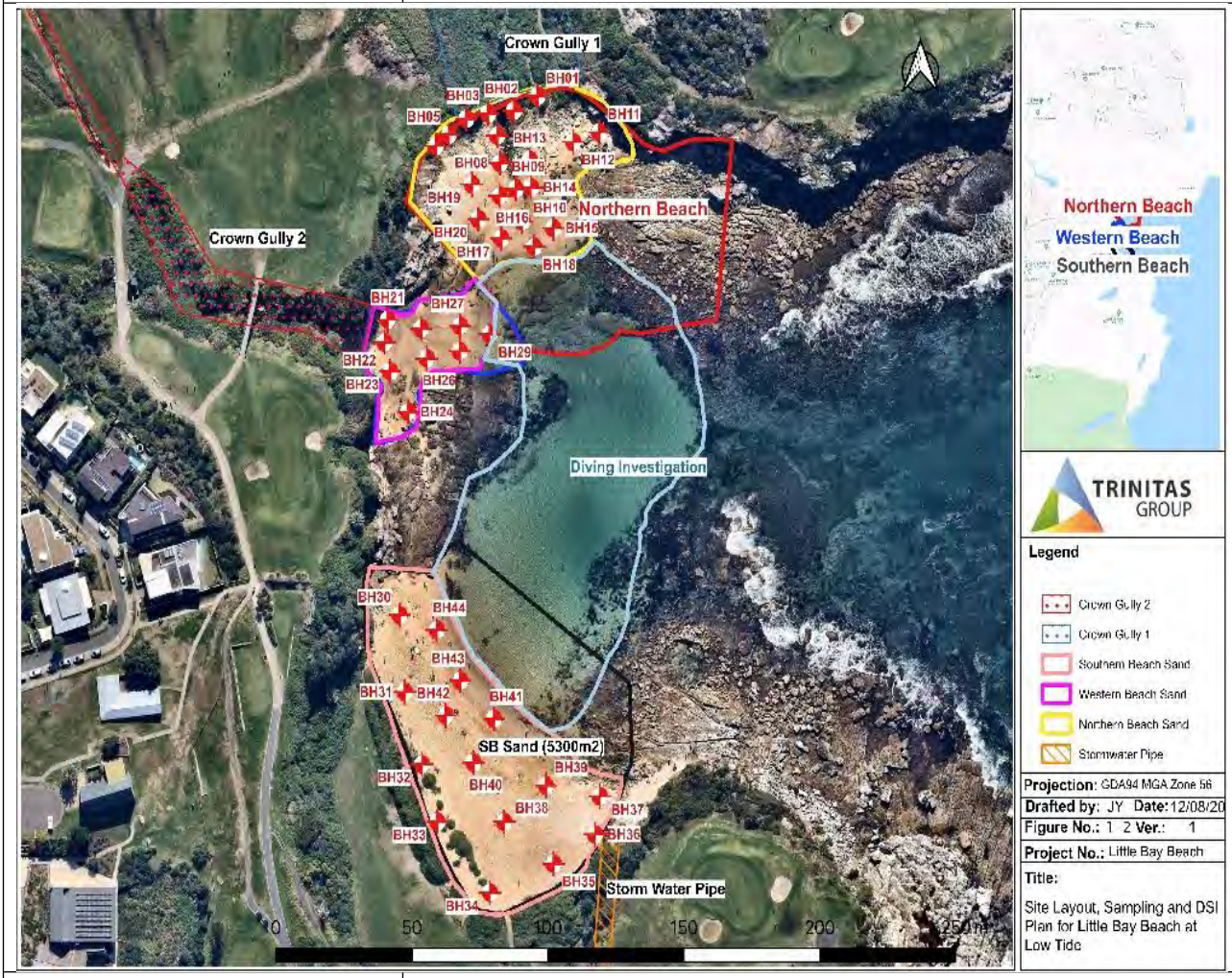
Regards,

Jeffrey Yu

Jeffrey Yu
Senior Occupational Hygienist
Licensed Asbestos Assessor #001366

Asbestos in Soil Clearance Inspection

Requested by:	
Name	Joe Santangelo
Contact	0436839760
Email	joe.santangelo@randwick.nsw.gov.au
Site Details:	
Address	2 Coast Hospital Rd, Little Bay NSW 2036
Local Government Area	Randwick City Council



Clearance Area	
Clearance Type:	
Clearance Type	Asbestos in Soil
Application Legislation	2011 WHS Act 2017 WHS Regulations Code of Practice, How to Manage and Control Asbestos in the Workplace 2019 Code of Practice, How to Safely Remove Asbestos 2019 Guidance Note On The Membrane Filter Method For Estimating Airborne Asbestos Fibres 2nd Edition [Nohsc:3003(2005)]

	National Environment Protection Measure Schedule B2__Site Characterisation 2011
Scope of Remediation Work:	
Location of Remediation Work	Southern beach
Material	ACM fragments
Bonded / Friable	Non-Friable
Scope of Remediation	Emu picking
Date of Remediation work	26/04/2021
Documents Reviewed	
Remediation Contractor	
License Number	
Contact Number	
Clearance Inspection:	
Time	14:30
Date	26/04/2021
Consultant	Jeffrey Yu Licensed Asbestos Assessor #001366
Result/s	The inspection found NO VISIBLE ASBESTOS remaining in areas outlined in the removal scope. Visually, all identified asbestos-containing materials had been removed from the identified areas. The removal area and immediate surrounds have been cleaned to a practically achievable standard with no visible asbestos residue.
Notes	
Enclosure Smoke Test:	
Date	N/A
Location	N/A
Results	N/A
Air Monitoring:	
Date – Type – Result	26/04/2021 - Control - All results < 0.01 f/ml
Sampling:	
Date – Type – Result	N/A
Photos:	
Prior to Remediation	See Appendix 1
Post Remediation	See Appendix 2

Disclaimer

The results within this report relate only to the sampling locations specified and their analysis. This report shall not be reproduced, except in full.

Prepared By	**Approved By**
Jeffrey Yu **Jeffrey Yu** *Senior Occupational Hygienist* Licensed Asbestos Assessor #001366 26/04/2021	 **Denny Bolatti** Managing Director Licensed Asbestos Assessor LAA001132

Appendix 1 – Photos Prior to Remediation

Notes: TP44

Notes: TP43

Notes: TP41

Notes: TP39

Appendix 2 – Photos Post Remediation

Notes: TP42

Notes: TP44

Notes: TP43

Notes: TP41

Notes: TP39

Appendix 3 - Clearance Certificate

Dear Joe Santangelo,

Pursuant to Clause 473 NSW Work Health and Safety Regulation 2017, Trinitas Group was engaged as an Senior Occupational Hygienist to conduct a Clearance Inspection as required

The evidence to form a determination as to whether the Asbestos in Soil remediation area is safe for normal use included the verification methods as outlined within clause 473 (3) of the NSW Work Health and Safety Regulation 2017.

I, Jeffrey Yu, a Senior Occupational Hygienist of Trinitas Group Pty Ltd affirms that I undertook the Clearance Inspection. I am satisfied that the remediation area and area immediately surrounding it, are free from visual contamination.

Pursuant to clause 474 (5) of the NSW Work Health and Safety Regulation 2017, I state that, I, Jeffrey Yu, Senior Occupational Hygienist, found no visible residue from remediation works in the area, or in the vicinity of the area, where the work was carried out.

Based on the verification methods required by the NSW Work Health and Safety Regulation 2017 Clause 473 the remediation area does not pose a risk to health and safety from exposure to Asbestos in Soil during normal use.

Upon receipt of this Clearance Certificate, the remediation area may be re-occupied.

Regards,

Jeffrey Yu

Jeffrey Yu
Senior Occupational Hygienist
Licensed Asbestos Assessor #001366

How to Contact Us

Mail	Trinitas Group
	PO Box 1376 Parramatta NSW 2124
Email	admin@trinitasgroup.com.au
Address	Level 3 Hunter Street, Parramatta NSW 2150
Website	www.trinitasgroup.com.au
Telephone	1800 4 TRINITAS
Facsimile	02 8016 0875

Trinitas Group Pty Ltd
ABN 12 161 759 708

Asbestos in Soil Clearance Inspection

27 April 2021

Randwick City Council
30 Frances Street
Randwick NSW 2031

Attention: Joe Santangelo
joe.santangelo@randwick.nsw.gov.au

RE: Asbestos in Soil Clearance Inspection

Dear Joe Santangelo

Please find below Asbestos in Soil Clearance Inspection results for the following site:

Site:	Little Bay Beach

All works have been completed in accordance with applicable WHS Legislation, Approved Codes of Practice and Australian Standards

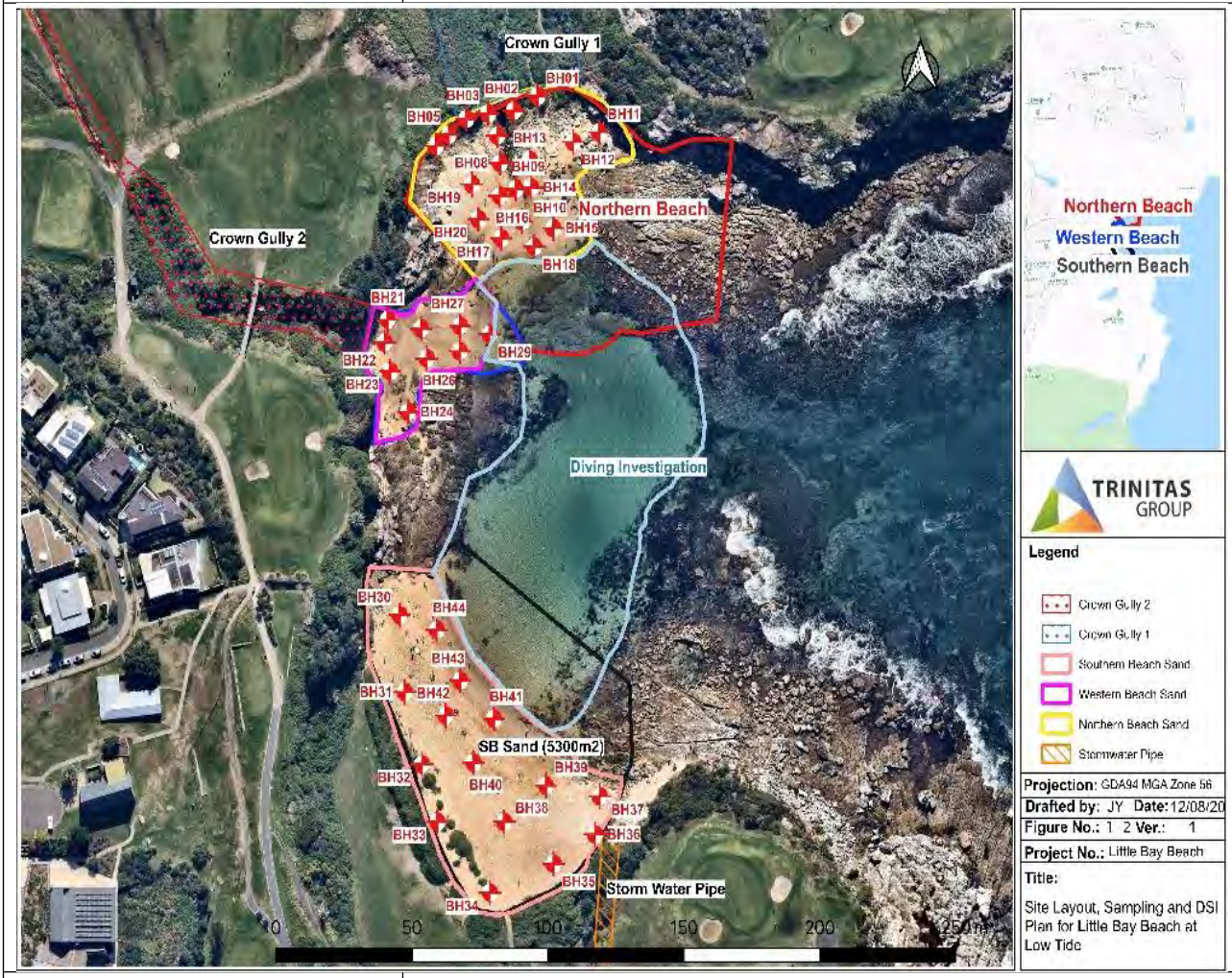
Regards,

Jeffrey Yu

Jeffrey Yu
Senior Occupational Hygienist
Licensed Asbestos Assessor #001366

Asbestos in Soil Clearance Inspection

Requested by:	
Name	Joe Santangelo
Contact	0436839760
Email	joe.santangelo@randwick.nsw.gov.au
Site Details:	
Address	2 Coast Hospital Rd, Little Bay NSW 2036
Local Government Area	Randwick City Council



Clearance Area	
Clearance Type:	
Clearance Type	Asbestos in Soil
Application Legislation	2011 WHS Act 2017 WHS Regulations Code of Practice, How to Manage and Control Asbestos in the Workplace 2019 Code of Practice, How to Safely Remove Asbestos 2019 Guidance Note On The Membrane Filter Method For Estimating Airborne Asbestos Fibres 2nd Edition [Nohsc:3003(2005)]

	National Environment Protection Measure Schedule B2__Site Characterisation 2011
Scope of Remediation Work:	
Location of Remediation Work	Southern beach
Material	ACM fragments
Bonded / Friable	Non-Friable
Scope of Remediation	Emu picking
Date of Remediation work	27/04/2021
Documents Reviewed	
Remediation Contractor	
License Number	
Contact Number	
Clearance Inspection:	
Time	14:30
Date	27/04/2021
Consultant	Jeffrey Yu Licensed Asbestos Assessor #001366
Result/s	The inspection found NO VISIBLE ASBESTOS remaining in areas outlined in the removal scope. Visually, all identified asbestos-containing materials had been removed from the identified areas. The removal area and immediate surrounds have been cleaned to a practically achievable standard with no visible asbestos residue.
Notes	
Enclosure Smoke Test:	
Date	N/A
Location	N/A
Results	N/A
Air Monitoring:	
Date – Type – Result	27/04/2021 - - All results < 0.01 f/ml 27/04/2021 - Control - All results < 0.01 f/ml
Sampling:	
Date – Type – Result	N/A
Photos:	
Prior to Remediation	See Appendix 1
Post Remediation	See Appendix 2
Disclaimer	
The results within this report relate only to the sampling locations specified and their analysis. This report shall not be reproduced, except in full.	

Prepared By	**Approved By**
Jeffrey Yu **Jeffrey Yu** *Senior Occupational Hygienist* Licensed Asbestos Assessor #001366	**Denny Bolatti** Managing Director Licensed Asbestos Assessor LAA001132

30/04/2021	

Appendix 1 – Photos Prior to Remediation

Notes: Southern beach

Appendix 2 – Photos Post Remediation

Notes: Southern beach

Notes: Southern beach

Notes: Southern beach

Notes: Southern beach

Appendix 3 - Clearance Certificate

Dear Joe Santangelo,

Pursuant to Clause 473 NSW Work Health and Safety Regulation 2017, Trinitas Group was engaged as an Senior Occupational Hygienist to conduct a Clearance Inspection as required

The evidence to form a determination as to whether the Asbestos in Soil remediation area is safe for normal use included the verification methods as outlined within clause 473 (3) of the NSW Work Health and Safety Regulation 2017.

I, Jeffrey Yu, a Senior Occupational Hygienist of Trinitas Group Pty Ltd affirms that I undertook the Clearance Inspection. I am satisfied that the remediation area and area immediately surrounding it, are free from visual contamination.

Pursuant to clause 474 (5) of the NSW Work Health and Safety Regulation 2017, I state that, I, Jeffrey Yu, Senior Occupational Hygienist, found no visible residue from remediation works in the area, or in the vicinity of the area, where the work was carried out.

Based on the verification methods required by the NSW Work Health and Safety Regulation 2017 Clause 473 the remediation area does not pose a risk to health and safety from exposure to Asbestos in Soil during normal use.

Upon receipt of this Clearance Certificate, the remediation area may be re-occupied.

Regards,

Jeffrey Yu

Jeffrey Yu
Senior Occupational Hygienist
Licensed Asbestos Assessor #001366

How to Contact Us

Mail	Trinitas Group
	PO Box 1376 Parramatta NSW 2124
Email	admin@trinitasgroup.com.au
Address	Level 3 Hunter Street, Parramatta NSW 2150
Website	www.trinitasgroup.com.au
Telephone	1800 4 TRINITAS
Facsimile	02 8016 0875

Trinitas Group Pty Ltd
ABN 12 161 759 708

Asbestos Containing Material Clearance Inspection

28 April 2021

Randwick City Council
30 Frances Street
Randwick NSW 2031

Attention: Joe Santangelo
joe.santangelo@randwick.nsw.gov.au

RE: Asbestos Containing Material Clearance Inspection

Dear Joe Santangelo

Please find below Asbestos Containing Material Clearance Inspection results for the following site:

Site:	Little Bay Beach

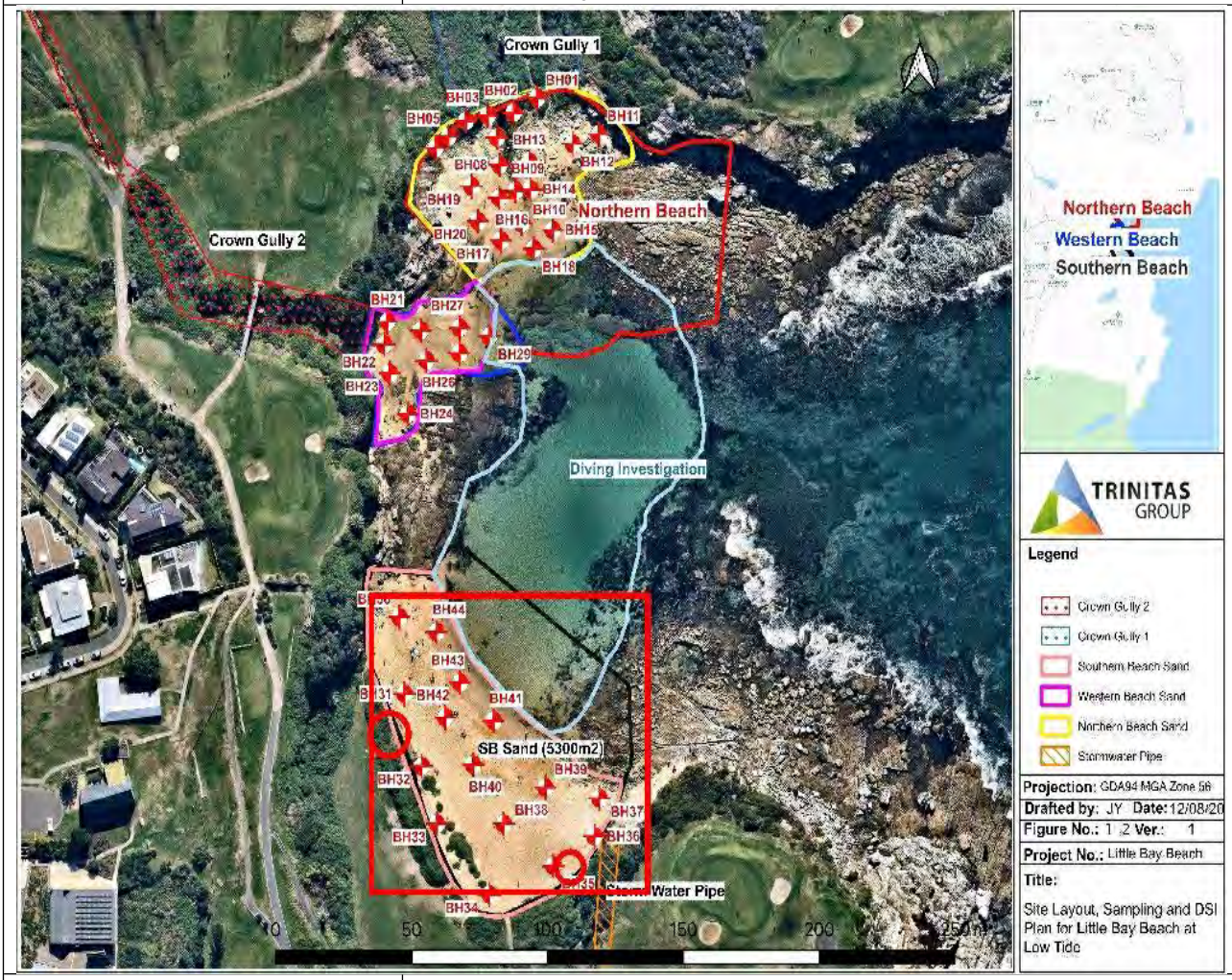
All works have been completed in accordance with applicable WHS Legislation, Approved Codes of Practice and Australian Standards

Regards,

Kieran Mackowski
Occupational Hygienist
BSc Environmental Earth Science

Asbestos Containing Material Clearance Inspection

Requested by:	
Name	Joe Santangelo
Contact	0436839760
Email	joe.santangelo@randwick.nsw.gov.au
Site Details:	
Address	2 Coast Hospital Rd, Little Bay NSW 2036
Local Government Area	Randwick City Council



Clearance Area	
Clearance Type:	
Clearance Type	Asbestos Containing Material
Application Legislation	2011 WHS Act 2017 WHS Regulations Code of Practice, How to Manage and Control Asbestos in the Workplace 2019 Code of Practice, How to Safely Remove Asbestos 2019 Guidance Note On The Membrane Filter Method For Estimating Airborne Asbestos Fibres 2nd Edition [Nohsc:3003(2005)]
Scope of Remediation Work:	

Location of Remediation Work	Little Bay Beach, Southern beach, TP36 and TP37
Material	Suspected ACM within sand
Bonded / Friable	Non-Friable
Scope of Remediation	Remediation of test pit with visual inspection of surface
Date of Remediation work	28/04/2021
Documents Reviewed	Nil
Remediation Contractor	
License Number	
Contact Number	
Clearance Inspection:	
Time	09:15
Date	28/04/2021
Consultant	Kieran Mackowski BSc Environmental Earth Science
Result/s	The inspection found NO VISIBLE ASBESTOS remaining in areas outlined in the removal scope. Visually, all identified asbestos-containing materials had been removed from the identified areas. The removal area and immediate surrounds have been cleaned to a practically achievable standard with no visible asbestos residue.
Notes	
Enclosure Smoke Test:	
Date	N/A
Location	N/A
Results	N/A
Air Monitoring:	
Date – Type – Result	28/04/2021 - Control - All results < 0.01 f/ml 28/04/2021 - - All results < 0.01 f/ml
Sampling:	
Date – Type – Result	N/A
Photos:	
Prior to Remediation	See Appendix 1
Post Remediation	See Appendix 2

Disclaimer

The results within this report relate only to the sampling locations specified and their analysis. This report shall not be reproduced, except in full.

Prepared By	Approved By
Kieran Mackowski *Occupational Hygienist* BSc Environmental Earth Science 30/04/2021	**Denny Bolatti** Managing Director Licensed Asbestos Assessor LAA001132

Appendix 1 – Photos Prior to Remediation

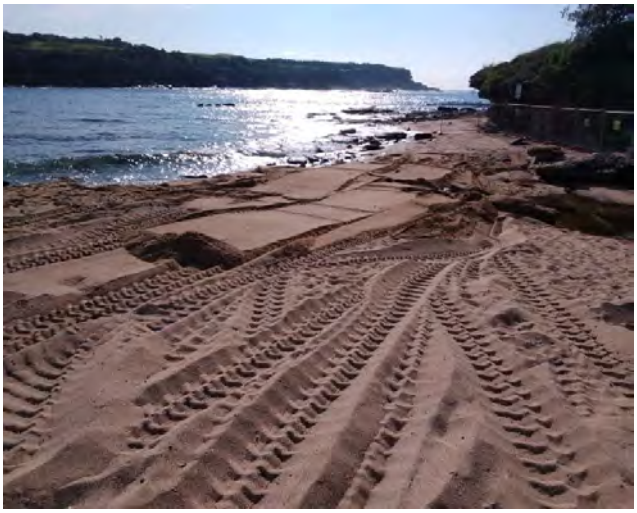
Notes: Southern beach

Notes: Southern beach

Notes: Northern beach

Notes: Northern beach

Appendix 2 – Photos Post Remediation



Notes: Southern beach

Notes: Southern beach

Notes: Northern beach

Notes: Northern beach

Appendix 3 - Clearance Certificate

Dear Joe Santangelo,

Pursuant to Clause 473 NSW Work Health and Safety Regulation 2017, Trinitas Group was engaged as an Occupational Hygienist to conduct a Clearance Inspection as required

The evidence to form a determination as to whether the Asbestos Containing Material remediation area is safe for normal use included the verification methods as outlined within clause 473 (3) of the NSW Work Health and Safety Regulation 2017.

I, Kieran Mackowski, a Occupational Hygienist of Trinitas Group Pty Ltd affirms that I undertook the Clearance Inspection. I am satisfied that the remediation area and area immediately surrounding it, are free from visual contamination.

Pursuant to clause 474 (5) of the NSW Work Health and Safety Regulation 2017, I state that, I, Kieran Mackowski, Occupational Hygienist, found no visible residue from remediation works in the area, or in the vicinity of the area, where the work was carried out.

Based on the verification methods required by the NSW Work Health and Safety Regulation 2017 Clause 473 the remediation area does not pose a risk to health and safety from exposure to Asbestos Containing Material during normal use.

Upon receipt of this Clearance Certificate, the remediation area may be re-occupied.

Regards,

Kieran Mackowski
Occupational Hygienist
BSc Environmental Earth Science

How to Contact Us

Mail	Trinitas Group
	PO Box 1376 Parramatta NSW 2124
Email	admin@trinitasgroup.com.au
Address	Level 3 Hunter Street, Parramatta NSW 2150
Website	www.trinitasgroup.com.au
Telephone	1800 4 TRINITAS
Facsimile	02 8016 0875

Trinitas Group Pty Ltd
ABN 12 161 759 708

Asbestos in Soil Clearance Inspection

30 April 2021

Randwick City Council
30 Frances Street
Randwick NSW 2031

Attention: Joe Santangelo
joe.santangelo@randwick.nsw.gov.au

RE: Asbestos in Soil Clearance Inspection

Dear Joe Santangelo

Please find below Asbestos in Soil Clearance Inspection results for the following site:

Site:	Little Bay Beach

All works have been completed in accordance with applicable WHS Legislation, Approved Codes of Practice and Australian Standards

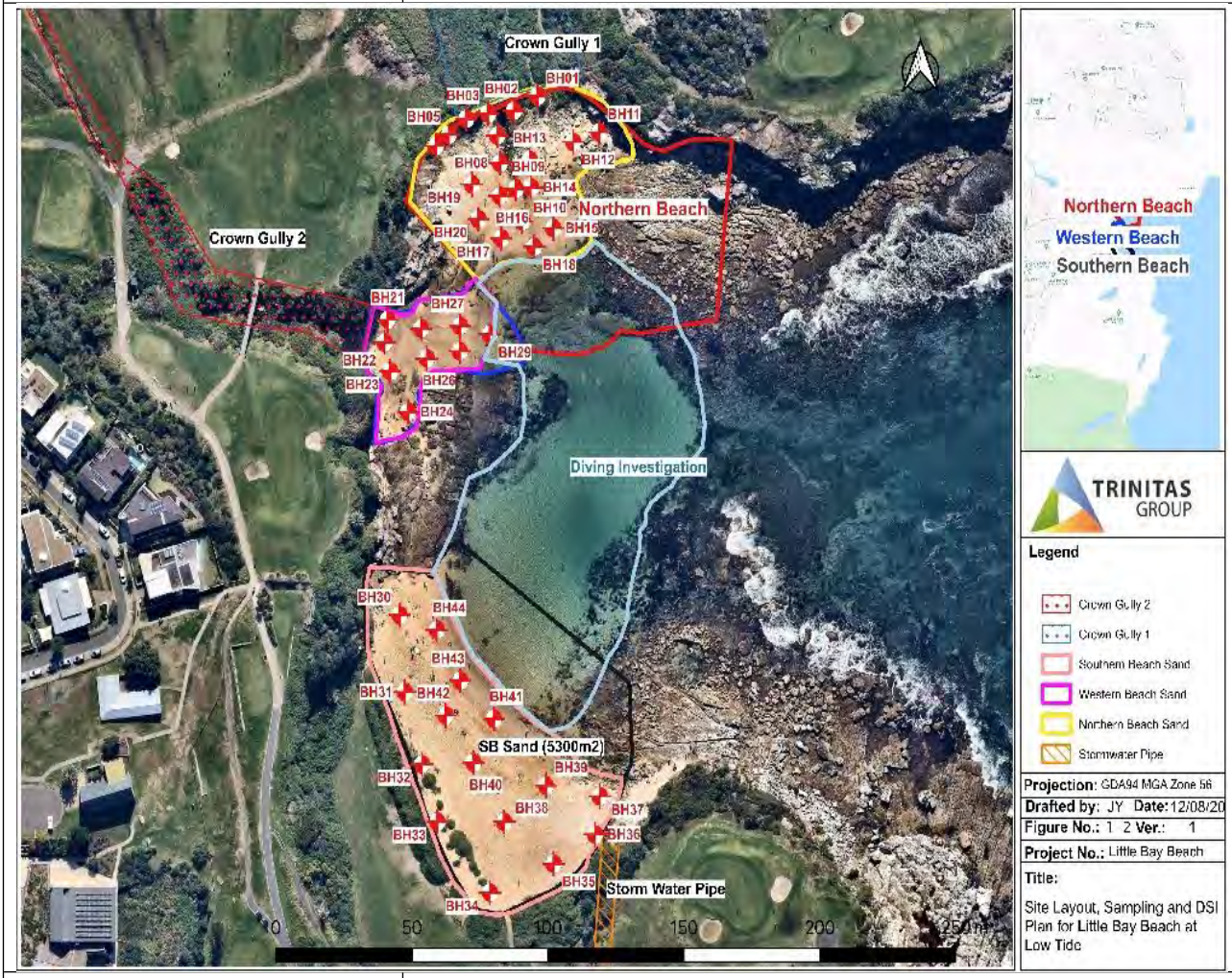
Regards,

Jeffrey Yu

Jeffrey Yu
Senior Occupational Hygienist
Licensed Asbestos Assessor #001366

Asbestos in Soil Clearance Inspection

Requested by:	
Name	Joe Santangelo
Contact	0436839760
Email	joe.santangelo@randwick.nsw.gov.au
Site Details:	
Address	2 Coast Hospital Rd, Little Bay NSW 2036
Local Government Area	Randwick City Council



Clearance Area	
Clearance Type:	
Clearance Type	Asbestos in Soil
Application Legislation	2011 WHS Act 2017 WHS Regulations Code of Practice, How to Manage and Control Asbestos in the Workplace 2019 Code of Practice, How to Safely Remove Asbestos 2019 Guidance Note On The Membrane Filter Method For Estimating Airborne Asbestos Fibres 2nd Edition [Nohsc:3003(2005)]

	National Environment Protection Measure Schedule B2__Site Characterisation 2011
Scope of Remediation Work:	
Location of Remediation Work	Three beaches
Material	ACM fragments on surfaces
Bonded / Friable	Non-Friable
Scope of Remediation	Emu picking
Date of Remediation work	30/04/2021
Documents Reviewed	
Remediation Contractor	
License Number	LAA001366
Contact Number	
Clearance Inspection:	
Time	10:35
Date	30/04/2021
Consultant	Jeffrey Yu Licensed Asbestos Assessor #001366
Result/s	The inspection found NO VISIBLE ASBESTOS remaining in areas outlined in the removal scope. Visually, all identified asbestos-containing materials had been removed from the identified areas. The removal area and immediate surrounds have been cleaned to a practically achievable standard with no visible asbestos residue.
Notes	12 ACM fragments collected from intertidal areas
Enclosure Smoke Test:	
Date	N/A
Location	N/A
Results	N/A
Air Monitoring:	
Date – Type – Result	30/04/2021 - Control - All results < 0.01 f/ml
Sampling:	
Date – Type – Result	N/A
Photos:	
Prior to Remediation	See Appendix 1
Post Remediation	See Appendix 2

Disclaimer

The results within this report relate only to the sampling locations specified and their analysis. This report shall not be reproduced, except in full.

Prepared By	**Approved By**
Jeffrey Yu **Jeffrey Yu** *Senior Occupational Hygienist* Licensed Asbestos Assessor #001366 04/05/2021	 **Denny Bolatti** Managing Director Licensed Asbestos Assessor LAA001132

Appendix 1 – Photos Prior to Remediation

Notes: Middle Beach revisited, overnight after DSI excavation

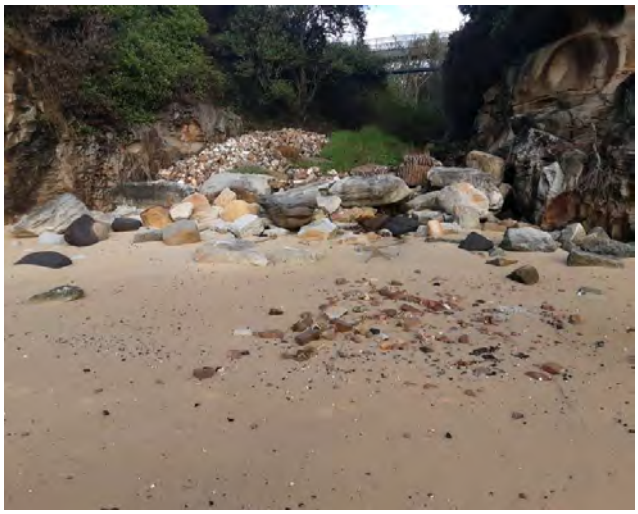
Notes: Southern beach

Appendix 2 – Photos Post Remediation

Notes: Western beach

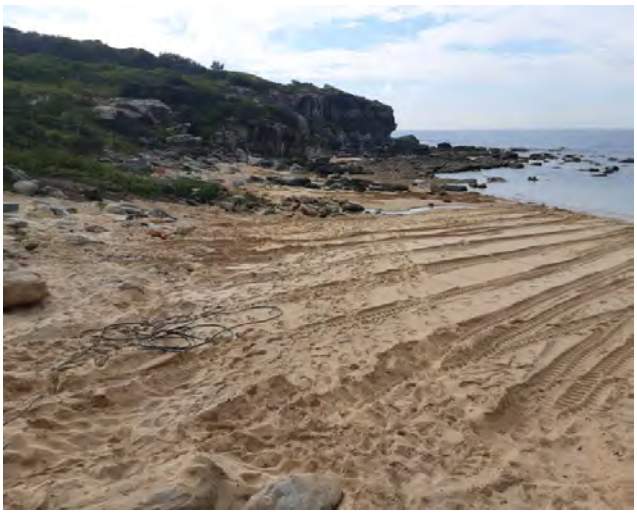
Notes: Western beach

Notes: Western beach



Notes: Western beach overnight after test pit digging

	
Notes: Western beach	**Notes:** Western beach
	
Notes: Western beach	**Notes:** Western beach with bricks, tiles, glasses

 **Notes:** Northern beach	 **Notes:** Northern beach
 **Notes:** Northern beach	 **Notes:** Southern beach

Notes: 12 ACM fragments collected

Appendix 3 - Clearance Certificate

Dear Joe Santangelo,

Pursuant to Clause 473 NSW Work Health and Safety Regulation 2017, Trinitas Group was engaged as an Senior Occupational Hygienist to conduct a Clearance Inspection as required

The evidence to form a determination as to whether the Asbestos in Soil remediation area is safe for normal use included the verification methods as outlined within clause 473 (3) of the NSW Work Health and Safety Regulation 2017.

I, Jeffrey Yu, a Senior Occupational Hygienist of Trinitas Group Pty Ltd affirms that I undertook the Clearance Inspection. I am satisfied that the remediation area and area immediately surrounding it, are free from visual contamination.

Pursuant to clause 474 (5) of the NSW Work Health and Safety Regulation 2017, I state that, I, Jeffrey Yu, Senior Occupational Hygienist, found no visible residue from remediation works in the area, or in the vicinity of the area, where the work was carried out.

Based on the verification methods required by the NSW Work Health and Safety Regulation 2017 Clause 473 the remediation area does not pose a risk to health and safety from exposure to Asbestos in Soil during normal use.

Upon receipt of this Clearance Certificate, the remediation area may be re-occupied.

Regards,

Jeffrey Yu

Jeffrey Yu
Senior Occupational Hygienist
Licensed Asbestos Assessor #001366

How to Contact Us

Mail	Trinitas Group
	PO Box 1376 Parramatta NSW 2124
Email	admin@trinitasgroup.com.au
Address	Level 3 Hunter Street, Parramatta NSW 2150
Website	www.trinitasgroup.com.au
Telephone	1800 4 TRINITAS
Facsimile	02 8016 0875

Trinitas Group Pty Ltd
ABN 12 161 759 708

Appendix L Certificate 10.7

Randwick City Council
a sense of community

Randwick City Council
30 Frances Street
Randwick NSW 2031
ABN: 77 362 844 121

Phone 1300 722 542
Fax (02) 9319 1510
council@randwick.nsw.gov.au
www.randwick.nsw.gov.au
Find us on:

PLANNING CERTIFICATE

ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

Randwick City Council
C/- EVAN BUNTORO
192-220 Storey St
MAROUBRA NSW 2035

Description of land:	LOT 97 DP 270427
Address:	4R Coast Hospital Road, LITTLE BAY NSW 2036
Date of Certificate:	9 August 2021
Certificate No:	58935
Receipt No:	
Amount:	$203.00
Reference:	LBAYBEACH-10.7-1

This planning certificate should be read in conjunction with the Randwick City Council Local Environmental Plan 2012. This is available on the NSW Legislation website at https://www.legislation.nsw.gov.au/#/view/EPI/2013/36

The land to which this planning certificate relates, being the lot or one of the lots described in the application made for this certificate, is shown in the Council's record as being situated at the "Address" stated above. The legal "description of land" (by lot(s) and DP/SP numbers) is obtained from NSW Land Registry Services. It is the responsibility of the applicant to enquire and confirm with NSW Land Registry Services the accuracy of the lot(s) and DP/SP numbers pertaining to the land for which application is made for the certificate.

There is more information about some property conditions than is included on this property certificate.

If this case, after the condition text, there is a URL and a square bar code or 'QR code' which provides the address of a page on the Randwick City Council website.
You will need internet access and either:

1. Download a QR code scanner app to your phone and scan the QR code
or
2. Type the URL into your internet browser

INFORMATION PROVIDED UNDER SECTION 10.7 (2)

In accordance with the requirements of section 10.7 of the Environmental Planning and Assessment Act 1979 (as amended), the following prescribed matters relate to the land as at the date of this certificate. The information provided in reference to the prescribed matters has been obtained from Council's records and/or from other authorities/government department. Council provides the information in good faith but disclaims all liability for any omission or inaccuracy. Specific inquiry should be made where doubt exists as to the accuracy of the information so provided.

1 Names of relevant planning instruments and DCPs

(1) The name of each environmental planning instrument that applies to the carrying out of development on the land.

Randwick Local Environmental Plan (LEP) 2012, and relevant State Environmental Planning Policies (SEPPs) apply to the land.

- SEPP No. 19 - Bushland in Urban Areas
- SEPP No. 21 - Caravan Parks
- SEPP No. 33 - Hazardous and Offensive Development
- SEPP No. 55 - Remediation of Land
- SEPP No. 64 - Advertising and Signage
- SEPP No. 65 - Design Quality of Residential Flat Development
- SEPP No. 70 - Affordable Housing
- SEPP - (Affordable Rental Housing) 2009
- SEPP - BASIX (Building Sustainability Index) 2004
- SEPP - (Coastal Management) 2018
- SEPP - (Concurrence) 2018
- SEPP - (Educational Establishments and Child Care Facilities) 2017
- SEPP - (Exempt and Complying Development Codes) 2008
- SEPP - (Housing for Seniors or People with a Disability) 2004
- SEPP - (Infrastructure) 2007
- SEPP - (Mining, Petroleum Production and Extractive Industries) 2007
- SEPP - (Miscellaneous Consent Provisions) 2007
- SEPP - (State and Regional Development) 2011
- SEPP - (State Significant Precincts) 2005
- SEPP - (Three Ports) 2013
- SEPP - (Vegetation in Non-Rural Areas) 2017

Note: Any questions regarding State Environmental Planning Policies and Regional Environmental Plans should also be directed to the Department of Planning & Infrastructure (02) 9228 6111 or www.planning.nsw.gov.au.

Local Environmental Plan (LEP) Gazetted 15 February 2013

- Randwick LEP 2012 (Amendment No1) - Gazetted 21 November 2014
  Applies to part of Royal Randwick Racecourse (identified as "Area A" on the LEP Additional Permitted Uses Map). Permits additional uses of hotel or motel accommodation, serviced apartments and function centres with development consent.

- Randwick LEP 2012 (Amendment No2) - Gazetted 2 April 2015
  Applies to land at Young Street Randwick – Inglis Newmarket Site (shown as Area 1 on the LEP Key Sites Map). Amendment to planning controls, including zoning, height of buildings, heritage items and heritage area, FSR (subject to new Clause 6.16) and inclusion of the site as a Key Site.

- Randwick LEP 2012 (Amendment No3) - Gazetted 15 July 2016
  Amends Schedule 1 to include 'childcare centre' as an additional permitted use (with development consent) at 270 Malabar Road, Maroubra (Lot 3821, DP 752015).

- Randwick LEP 2012 (Amendment No4) - Gazetted 25 January 2018
  Applies to part of the land at 1T Romani Way, MATRAVILLE (Lot 1 DP 107189). Amendment to planning controls, including zoning, height of buildings and FSR.

- Randwick LEP 2012 (Amendment No5) - Gazetted 17 August 2018
  Applies to subdivision of dual occupancies (attached) in the Zone R2 Low Density Residential for which development consent was granted before 6 July 2018. Permits development consent to be granted for the Torrens Title or Strata subdivision of a dual occupancy if the development meets certain standards specified in State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

- Randwick LEP 2012 (Amendment No 6) – Gazetted 22 February 2019
  Applies to the following land in Coogee, 38 Dudley Street (Lot 17 DP 6489), 40 Dudley Street (Lot 18 DP 6489), 42 Dudley Street (Lot 19 DP 6489), 44 Dudley Street (Lot 20 DP 6489 & Lot 1 DP 952229), 46 Dudley Street (Lot 2 in DP 952229) and 122 Mount Street (Lot 22 DP 6489) by incorporating these properties into the Dudley Street Heritage Conservation Area. Further, 38 Dudley Street (Lot 17 DP 6489), 42 Dudley Street (Lot 19 DP 6489), 44 Dudley Street (Lot 20 DP 6489 & Lot 1 DP 952229) and 122 Mount Street (Lot 22 DP 6489) have been listed as local heritage items in Schedule 5 the Randwick LEP 2012.

- Randwick LEP 2012 (Amendment No 7) – Gazetted 10 July 2020
  Applies to the following land in Coogee, 39 Dudley Street (Lot B DP 301192), 41 Dudley Street (Lot C DP 301192) and 148 Brook Street (Lot B DP 305284) which have now been listed as Local Heritage Items in Schedule 5 the Randwick LEP 2012.

- Randwick LEP 2012 (Amendment No. 8) - Gazetted 14 August 2020
  Applies to all land located within the Kensington and Kingsford town centres. Amendment to planning controls to include maximum height of buildings, FSR, Non-residential FSR, active street frontages, affordable housing inclusionary zoning, a Community Infrastructure Contribution, design excellence and architectural competition requirements and inclusion of the following land in the B2 Local Centre zone: 7 Addison Street KENSINGTON NSW 2033 (SP 11800), 157 Todman Avenue KENSINGTON NSW 2033 (SP 45348), 16,18 & 20 Barker Street, KENSINGTON NSW 2033 (Lot 1 DP 950767, Lot 1 DP 954209 & SP 65941), 582-584 Anzac Parade KINGSFORD NSW 2032 (Lot 1 DP 516025), 586-592 Anzac Parade KINGSFORD NSW 2033 (Lot 1 DP 942606, Pt Lot 1 DP 949009), 63 Harbourne Road, KINGSFORD NSW 2032 (SP 39850) and 12,14,16 & 18 Rainbow Street KINGSFORD NSW 2032 (Lot 13 DP 6134, SP 45197, Lot 15 DP 6134 & Lot 16 DP 6134).

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(2) The name of each proposed environmental planning instrument that will apply to the carrying out of development on the land and that is or has been the subject of community consultation or on public exhibition under the Act (unless the Secretary has notified the council that the making of the proposed instrument has been deferred indefinitely or has not been approved).

- draft Environment State Environmental Planning Policy (SEPP)

- draft Design and Place State Environmental Planning Policy (SEPP)

- On the 15th of May 2019, Council received a Gateway Determination from the Department of Planning, Industry and Environment with conditions to progress a Planning Proposal to amend Schedule 5 of the Randwick Local Environmental Plan 2012 (RLEP) which relates to Environmental Heritage. Part of the proposal seeks to create a new Heritage Conservation Area (HCA) known as 'Edgecumbe Estate' incorporating properties at 142A to 152 Brook Street, COOGEE, 37 to 41 Dudley Street, COOGEE and 5 Edgecumbe Avenue, COOGEE. The proposal was publicly exhibited from Tuesday 28 May to 25 June 2019 and the proposal is now subject to due process.

(3) The name of each development control plan that applies to the carrying out of development on the land.

- Randwick DCP adopted by Council on the 28 May 2013 and came into effect on the 14th of June 2013

  Provides detailed planning controls and guidance for development applications

- Amendment to Randwick DCP 2013 Newmarket Green, Randwick (E5)

  Site-specific DCP controls to supplement Randwick LEP 2012 (Amendment No 2)

- Amendment to Randwick DCP 2013, Public Notification (A3)

  Section A3 of the DCP was repealed on the 15 January 2020. The Randwick City Council Community Participation Plan now guides notification requirements previously outlined in Section A3.

- Amendment to Randwick DCP 2013, Kensington and Kingsford Town Centres (E6)

  Section E6 of the DCP provides Centre based and site specific DCP controls for land in the Kensington and Kingsford Town Centres .

(4) In this clause, proposed environmental planning instrument includes a planning proposal for a LEP or a draft environmental planning instrument.

2 Zoning and land use under relevant LEPs

For each environmental planning instrument or proposed instrument referred to in clause 1 (other than a SEPP or proposed SEPP) that includes the land in any zone (however described)

(a) The identity of the zone, whether by reference to a name (such as "Residential Zone" or "Heritage Area") or by reference to a number (such as "Zone No 2 (a)")

(b) The purposes for which the instrument provides that development may be carried out within the zone without the need for development consent

(c) The purposes for which the instrument provides that development may not be carried out within the zone except with development consent

(d) The purposes for which the instrument provides that development is prohibited within the zone

Zone RE1 (Public Recreation) in Randwick LEP 2012.

1. Objectives of zone

- To enable land to be used for public open space or recreational purposes.
- To provide a range of recreational settings and activities and compatible land uses.
- To protect and enhance the natural environment for recreational purposes.
- To protect, manage and restore areas with high biodiversity, ecological and aesthetic values, including buffer areas and habitat corridors.

2. Permitted without consent

Environmental facilities; Environmental protection works; Flood mitigation works; Roads

3. Permitted with consent

Animal boarding or training establishments; Aquaculture; Boat launching ramps; Boat sheds; Building identification signs; Business identification signs; Car parks; Centre-based child care facilities; Community facilities; Heliports; Horticulture; Information and education facilities; Jetties; Kiosks; Markets; Passenger transport facilities; Plant nurseries; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Respite day care centres; Restaurants or cafes; Water recreation structures

4. Prohibited

Any development not specified in item 2 or 3.

(e) Whether any development standards applying to the land fix minimum land dimensions for the erection of a dwelling - house on the land, and if so, the minimum land dimensions so fixed

The land IS NOT subject to any development standards that fix minimum land dimensions for the erection of a dwelling house.

(f) Whether the land includes or comprises critical habitat

The land DOES NOT include or comprise a critical habitat area under the Threatened Species Conservation Act 1995.

(g) Whether the land is in a conservation area (however described)

The land IS located in a heritage conservation area under the Randwick LEP 2012.

(h) Whether an item of environmental heritage (however described) is situated on the land.

The land IS NOT listed as a heritage item under the Randwick LEP 2012.

The land IS listed on the State Heritage Register under the Heritage Act 1977.

2A Zoning and land use under State Environmental Planning Policy (Sydney Region Growth Centres) 2006

To the extent that the land is within any zone (however described) under:

(a) Part 3 of the State Environmental Planning Policy (Sydney Region Growth Centres) 2006 (the 2006 SEPP), or

(b) a Precinct Plan (within the meaning of the 2006 SEPP), or

(c) a proposed Precinct Plan that is or has been the subject of community consultation or on public exhibition under the Act,

the particulars referred to in clause 2 (a)–(h) in relation to that land (with a reference to "the instrument" in any of those paragraphs being read as a reference to Part 3 of the 2006 SEPP, or the Precinct Plan or proposed Precinct Plan, as the case requires).

The land IS NOT within any zone (however described) under this planning policy.

3 Complying Development

(1) The extent to which the land is land on which complying development may be carried out under each of the codes for complying development because of the provisions of clauses 1.17.A (1) (c) to (e), (2), (3) and (4), 1.18(1)(c3) and 1.19 of State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

(2) extent to which complying development may not be carried out on that land because of the provisions of clauses 1.17A (1) (c) to (e), (2), (3) and (4), 1.18(1)(c3) and 1.19 of that Policy and the reasons why it may not be carried out under those clauses.

(3) If the council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land, a statement that a restriction applies to the land, but it may not apply to all of the land, and that council does not have sufficient information to ascertain the extent to which complying development may or may not be carried out on the land.

Housing Code

Complying development under the Housing Code MAY NOT be carried out on the land. The land is:

- The land IS listed on the State Heritage Register under the Heritage Act 1977.
- Land IS within a heritage conservation area, unless the development is a detached outbuilding, detached development (other than a detached studio) or swimming pool.

Low Rise Housing Diversity Code

Complying development under the Low Rise Housing Diversity Code MAY NOT be carried out on the land. The land is:

- The land IS listed on the State Heritage Register under the Heritage Act 1977.
- Land IS within a heritage conservation area, unless the development is a detached outbuilding, detached development (other than a detached studio) or swimming pool.

Rural Housing Code

Complying development under the Rural Housing Code MAY NOT be carried out on the land. The land is:

- The land IS listed on the State Heritage Register under the Heritage Act 1977.
- Land IS within a heritage conservation area, unless the development is a detached outbuilding, detached development (other than a detached studio) or swimming pool.

Housing Alterations Code

Complying development under the Housing Alterations Code MAY NOT be carried out on the land. The land is:

- The land IS listed on the State Heritage Register under the Heritage Act 1977.

General Development Code

Complying development under the General Development Code MAY NOT be carried out on the land. The land is:

- The land IS listed on the State Heritage Register under the Heritage Act 1977.

Commercial and Industrial Alteration Code

Complying development under the Commercial and Industrial Alterations Code MAY NOT be carried out on the land. The land is:

- The land IS listed on the State Heritage Register under the Heritage Act 1977.

Commercial and Industrial (New Buildings and Additions) Code

Complying development under the Commercial and Industrial (New Buildings and Additions) Code MAY NOT be carried out on the land. The land is:

- The land IS listed on the State Heritage Register under the Heritage Act 1977.
- Land IS within a heritage conservation area.

Container Recycling Facilities Code

Complying development under the Container Recycling Facilities Code MAY NOT be carried out on the land. The land is:

- The land IS listed on the State Heritage Register under the Heritage Act 1977.

Subdivisions Code

Complying development under the Subdivisions Code MAY NOT be carried out on the land. The land is:

- The land IS listed on the State Heritage Register under the Heritage Act 1977.

Demolition Code

Complying development under the Demolition Code MAY NOT be carried out on the land. The land is:

- The land IS listed on the State Heritage Register under the Heritage Act 1977.

Fire Safety Code

Complying development under the Fire Safety Code MAY NOT be carried out on the land. The land is:

- The land IS listed on the State Heritage Register under the Heritage Act 1977.

A copy of the Codes SEPP is available at www.planning.nsw.gov.au. For further information please call the Department of Planning, Industry and Environment Information Centre on Free call 1300 305 695.

Note: To be complying development, the development must meet the General requirements set out in clause 1.18 of the Codes SEPP. Development must also meet all development standards set out in the relevant code.

4 Coastal protection

Whether or not the land is affected by the operation of section 38 or 39 of The Coastal Protection Act 1979, but only to the extent that the council has been so notified by the Department of Services,Technology and Administration.

Council HAS NOT been notified by the Department that the land is affected by the operation of section 38 or 39 of the Coastal Protection Act 1979.

4A Certain information relating to beaches and coasts

(1) Whether an order has been made under Part 4D of the Coastal Protection Act 1979 in relation to emergency coastal protection works (within the meaning of that Act) on the land (or on public land adjacent to that land), except where the council is satisfied that such an order has been fully complied with.

An order HAS NOT been made under Part 4D of the *Coastal Protection Act 1979* in relation to emergency coastal protection works (within the meaning of that Act) on the land (or on public land adjacent to that land).

(2) (a) Whether the council has been notified under section 55X of the Coastal Protection Act 1979 that emergency coastal protection works (within the meaning of that Act) have been placed on the land (or on public land adjacent to that land), and

The council HAS NOT been notified under section 55X of the *Coastal Protection Act 1979* that emergency coastal protection works have been placed on the land (within the meaning of that Act) on the land (or on public land adjacent to that land).

(b) if works have been so placed – whether the council is satisfied that the works have been removed and the land restored in accordance with that Act.

Not applicable.

(3) (Repealed)

4B Annual charges under Local Government Act 1993 for coastal protection services that relate to existing coastal protection works

Whether the owner (or any previous owner) of the land has consented in writing to the land being subject to annual charges under section 496B of the Local Government Act 1993 for coastal protection services that relate to existing coastal protection works (within the meaning of section 553B of that Act).

Not applicable.

5 Mine subsidence

Whether or not the land is proclaimed to be a mine subsidence district within the meaning of section 15 of the Mine Subsidence Compensation Act 1961.

The land IS NOT proclaimed to be a mine subsidence district within the meaning of section 15 of the Mine Subsidence Compensation Act 1961.

6 Road widening and road realignment

Whether or not the land is affected by any road widening or road realignment under:

(a) Division 2 of Part 3 of the Roads Act 1993, or

The land IS NOT affected by any road widening or road realignment under Division 2 of Part 3 of the Roads Act 1993.

(b) Any environmental planning instrument, or

The land IS NOT affected by any road widening or road realignment under the provisions of Randwick LEP 2012.

(c) Any resolution of the council.

The land IS NOT affected by any resolution of the Council for any road widening or road realignment.

7 Council and other public authority policies on hazard risk restrictions

Whether or not the land is affected by a policy:

(a) adopted by the council

The land IS affected by a policy adopted by the Council as follows:

Contaminated Land Policy. This policy does not specifically identify the subject land (or any other land) as contaminated. The policy does, however, apply to all land in the City of Randwick. The policy requires Council to consider the possibility of land contamination and its implications for any proposed or permissible future uses of the land, including all rezoning, subdivision and development applications. This policy will restrict development of land:

(1) Which is affected by contamination; or
(2) Which has been used for certain purposes; or
(3) In respect of which there is not sufficient information about contamination; or
(4) Which is proposed to be used for certain purposes; or
(5) In other circumstances contained in the policy.

Excluding Councils Contaminated Land Policy, the subject land IS NOT affected by any other council policy relating to hazard risk restrictions.

(b) adopted by any other public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the council, that restricts the development of the land because of the likelihood of land slip, bushfire, tidal inundation, subsidence, acid sulphate soils or any other risk (other than flooding).

The land IS NOT affected by a policy adopted by any other public authority and notified to the council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the council that restricts the development of the land because of the likelihood of land slip, bushfire, (other than flooding), tidal inundation, subsidence, acid sulphate soils or any other risk.

7A Flood related development controls information

(1) If the land or part of the land is within the flood planning area and subject to flood related development controls.

Yes.

(2) If the land or part of the land is between the flood planning area and the probable maximum flood and subject to flood related development controls.

Yes.

(3) In this clause—
flood planning area has the same meaning as in the Floodplain Development Manual.

Floodplain Development Manual means the *Floodplain Development Manual* (ISBN 0 7347 5476 0) published by the NSW Government in April 2005.

probable maximum flood has the same meaning as in the Floodplain Development Manual.

8 Land reserved for acquisition

Whether or not any environmental planning instrument or proposed environmental planning instrument referred to in clause 1 makes provision in relation to the acquisition of the land by a public authority, as referred to in section 27 of the Act.

The land IS NOT affected by any environmental planning instrument or proposed environmental planning instrument referred to in clause 1 that makes provision in relation to the acquisition of the land by a public authority, as referred to in Section 27 of the Act.

9 Contributions plans

The name of each contributions plan applying to the land.

Randwick City Council Section 7.12 (previously Section 94A) Development Contributions Plan (effective 21 April 2015).

9A Biodiversity certified land

If the land is biodiversity certified land under Part 8 of the Biodiversity Conservation Act 2016, a statement to that effect.

The land IS NOT biodiversity certified land.

Note. Biodiversity certified land includes land certified under Part 7AA of the Threatened Species Conservation Act 1995 that is taken to be certified under Part 8 of the Biodiversity Conservation Act 2016. (within the meaning of Part 7AA of the Threatened Species Conservation Act 1995).

10 Biodiversity stewardship sites

If the land is a biodiversity stewardship site under a biodiversity stewardship agreement under Part 5 of the Biodiversity Conservation Act 2016, a statement to that effect (but only if the council has been notified of the existence of the agreement by the Chief Executive of the Office of Environment and Heritage).

Council HAS NOT been notified that the land is a biodiversity stewardship site by the Chief Executive of the Office of Environment and Heritage.

Note. Biodiversity stewardship agreements include biobanking agreements under Part 7A of the Threatened Species Conservation Act 1995 that are taken to be biodiversity stewardship agreements under Part 5 of the Biodiversity Conservation Act 2016.

10A Native vegetation clearing set asides

If the land contains a set aside area under section 60ZC of the Local Land Services Act 2013, a statement to that effect (but only if the council has been notified of the existence of the set aside area by Local Land Services or it is registered in the public register under that section).

The land DOES NOT contain a set aside area under section 60ZC of the Local Land Services Act 2013.

11 Bush fire prone land

If any of the land is bush fire prone land (as defined in the Act), a statement that all or, as the case may be, some of the land is bush fire prone land.

If none of the land is bush fire prone land, a statement to that effect.

The land IS NOT bush fire prone land (as defined in the act).

12 Property vegetation plans

If the land is land to which a property vegetation plan approved under Part 4 of the Native Vegetation Act 2003 (and that continues in force) applies, a statement to that effect (but only if the council has been notified of the existence of the plan by the person or body that approved the plan under that Act).

Council HAS NOT been notified of any property vegetation plan under the Native Vegetation Act 2003 applying to the land.

13 Orders under Trees (Disputes Between Neighbours) Act 2006

Whether an order has been made under Trees (Disputes Between Neighbours) Act 2006 to carry out work in relation to a tree on the land (but only if the council has been notified of the order).

The land IS NOT land to which an order under Trees (Disputes Between Neighbours) Act 2006 applies.

14 Directions under Part 3A

If there is a direction by the Minister in force under section 75P (2) (c1) of the Act that a provision of an environmental planning instrument prohibiting or restricting the carrying out of a project or a stage of a project on the land under Part 4 of the Act does not have effect, a statement to that effect identifying the provision that does not have effect.

There IS NOT a direction by the Minister under section 75P (2) (c1) of the Act that a provision of an environmental planning instrument does not have effect.

15 Site compatibility certificates and conditions for seniors housing

If the land is land to which State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004 applies:

(a) a statement of whether there is a current site compatibility certificate (seniors housing), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:
(i) the period for which the certificate is current, and
(ii) that a copy may be obtained from the head office of the Department, and

(b) a statement setting out any terms of a kind referred to in clause 18 (2) of that Policy that have been imposed as a condition of consent to a development application granted after 11 October 2007 in respect of the land.

The land IS NOT subject of a current site compatibility certificate (of which the Council is aware) that has been issued under the State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004.

16 Site compatibility certificates for infrastructure

A statement of whether there is a valid site compatibility certificate (of which the council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007 in respect of proposed development on the land and, if there is a certificate, the statement is to include:
(a) the period for which the certificate is valid, and
(b) that a copy may be obtained from the head office of the Department of Planning.

The land IS NOT subject to a valid site compatibility certificate (of which the Council is aware), issued under clause 19 of State Environmental Planning Policy (Infrastructure) 2007.

17 Site compatibility certificates and conditions for affordable rental housing

(1) A statement of whether there is a current site compatibility certificate (affordable rental housing), of which the council is aware, in respect of proposed development on the land and, if there is a certificate, the statement is to include:
(a) the period for which the certificate is current, and
(b) that a copy may be obtained from the head office of the Department of Planning.
(2) A statement setting out any terms of a kind referred to in clause 17 (1) or 38 (1) of State Environmental Planning Policy (Affordable Rental Housing) 2009 that have been imposed as a condition of consent to a development application in respect of the land.

The land IS NOT subject to a current site compatibility certificate (of which the council is aware) for affordable rental housing.

18 Paper subdivision information

(1) The name of any development plan adopted by a relevant authority that applies to the land or that is proposed to be subject to a consent ballot.
(2) The date of any subdivision order that applies to the land.
(3) Words and expressions used in this clause have the same meaning as they have in Part 16C of this Regulation.

The land IS NOT land to which a development plan or subdivision order applies.

19 Site verification certificates

A statement of whether there is a current site verification certificate, of which the council is aware, in respect of the land and, if there is a certificate, the statement is to include:

(a) the matter certified by the certificate, and

Note. A site verification certificate sets out the Secretary's opinion as to whether the land concerned is or is not biophysical strategic agricultural land or critical industry cluster land—see Division 3 of Part 4AA of *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*.

(b) the date on which the certificate ceases to be current (if any), and

(c) that a copy may be obtained from the head office of the Department of Planning and Environment.

The land IS NOT subject to a current site verification certificate (of which the council is aware), in relation to State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007.

20 Loose-fill asbestos insulation

If the land includes any residential premises (within the meaning of Division 1A of Part 8 of the Home Building Act 1989) that are listed on the register that is required to be maintained under that Division, a statement to that effect.

The land DOES NOT include any residential premises (within the meaning of Division 1A of Part 8 of the Home Building Act 1989) that are listed on the register that is required to be maintained under that Division.

21 Affected building notices and building product rectification orders

(1) A statement of whether there is any affected building notice of which the council is aware that is in force in respect of the land

(2) A statement of:

(a) *whether there is any building product rectification order of which the council is aware that is in force in respect of the land and has not been fully complied with, and*

(b) *whether any notice of intention to make a building product rectification order of which the council is aware has been given in respect of the land and is outstanding.*

(3) In this clause:

Affected building notice has the same meaning as in Part 4 of the Building Products (Safety) Act 2017.

Building product rectification order has the same meaning as in the Building Products (Safety) Act 2017.

The land IS NOT affected by any notice or order within the meaning of the Building Products (Safety) Act 2017.

Contaminated Land Management Act 1997

Note. The following matters are prescribed by section 59 (2) of the Contaminated Land Management Act 1997 as additional matters to be specified in a planning certificate:

(a) that the land to which the certificate relates is significantly contaminated land within the meaning of that Act—if the land (or part of the land) is significantly contaminated land at the date when the certificate is issued,

The land IS NOT significantly contaminated land within the meaning of the Contaminated Land Management Act 1997.

(b) that the land to which the certificate relates is subject to a management order within the meaning of that Act—if it is subject to such an order at the date when the certificate is issued,

The land IS NOT subject to a management order within the meaning of the Contaminated Land Management Act 1997.

(c) that the land to which the certificate relates is the subject of an approved voluntary management proposal within the meaning of that Act—if it is the subject of such an approved proposal at the date when the certificate is issued,

The land IS NOT the subject of an approved voluntary management proposal within the meaning of the Contaminated Land Management Act 1997.

(d) that the land to which the certificate relates is subject to an ongoing maintenance order within the meaning of that Act—if it is subject to such an order at the date when the certificate is issued,

The land IS NOT the subject to an ongoing maintenance order within the meaning of the Contaminated Land Management Act 1997.

(e) that the land to which the certificate relates is the subject of a site audit statement within the meaning of that Act—if a copy of such a statement has been provided at any time to the local authority issuing the certificate,

Council HAS received a copy of a site audit statement, within the meaning of the Contaminated Land Management Act 1997, for this land.

Note. Section 26 of the Nation Building and Jobs Plan (State Infrastructure Delivery) Act 2009 provides that a planning certificate must include advice about any exemption under section 23 or authorisation under section 24 of that Act if the council is provided with a copy of the exemption or authorisation by the Co-ordinator General under that Act.

INFORMATION PROVIDED UNDER SECTION 10.7(5)

NOTE:
Council has no obligation to provide any advice in this planning certificate in response to a request made under s.10.7 (5) of the Act.

If Council does include advice in this planning certificate in response to a s.10.7 (5) request then, as far as practicable on the information available to Council, the advice shall be current as at 12:noon two(2) working days prior to the date of issue of this planning certificate.

Council draws your attention to the fact that if there is an omission or absence of reference in any advice given in this planning certificate, that is or may be relevant to the subject land, that shall not imply that the land is not affected by any matter not mentioned or referred to in this planning certificate.

Council draws your attention to s.10.7(6) of the Act which provides that Council shall not incur any liability in respect of any advice provided in good faith pursuant to s.10.7(5) of the Act.

Additional Relevant Matters

At the date of this certificate, the following relevant matters affecting the land are provided in good faith in accordance with the requirements of Section 10.7(5) of the Environmental Planning and Assessment Act 1979.

Council resolutions to prepare draft Local Environmental Plans

Name of proposed environmental planning instrument that includes a planning proposal for LEP or a draft environmental planning instrument.

- On the 1st of June 2021, Council resolved to endorse a draft Planning Proposal and place on exhibition the Local Strategic Planning Statement (LSPS) and a draft Housing Strategy (HS) for the Randwick City Council Local Government Area. Further to this, it was resolved to commence preparation of a planning proposal which gives effect to the planning priorities and actions outlined in Councils LSPS and HS including the recommendation of rezoning requests. For further information, please see the link provided below:

  http://www.randwick.nsw.gov.au/planning-and-building/planning/vision-2040-shaping-randwicks-future

Note: Draft Local Environmental Plans that have yet to be placed on Community Consultation under the Environmental Planning and Assessment Act, 1979.

Terrestrial Biodiversity

The land IS NOT identified and mapped as `Biodiversity' in Randwick LEP 2012.

Foreshore Scenic Protection Areas

The land IS NOT identified and mapped within a Foreshore Scenic Protection Area in Randwick LEP 2012.

Foreshore Area (Foreshore Building Line)

The land IS NOT identified and mapped as "Foreshore Area" within the Randwick LEP 2012 Foreshore Building Line Map.

Licences Under The Water Act 1912

The Property IS NOT within the ground water extraction embargo area or the water shortage zone declared under the Water Act 1912.

Aircraft Noise (ANEF)

This property IS NOT affected by aircraft noise levels as measured by the Australian Noise Exposure Forecast (ANEF) identified by Sydney Airport Corporation Limited (SACL), endorsed by Air Services Australia (ASA).

Flood Studies

Council IS in possession of a flood study that covers the catchment in which this property is located. The flood study is available for inspection at the Council if required.

For more information please see:

www.randwick.nsw.gov.au/149-Flooding

Residential Parking Schemes

No resident parking permits will be issued for new development or for significant alterations and additions to residential flat buildings that have been determined under Randwick Local Environmental Plan 2012 and Randwick Development Control Plan 2013.

Stella Agagiotis
Manager Strategic Planning
1300 722 542

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