



Central Coast Council

ORDINARY COUNCIL MEETING

ENCLOSURES

Tuesday, 29 January, 2019

Central Coast Council
Enclosures to the
Ordinary Meeting
to be held in the Council Chamber,
2 Hely Street, Wyong
on Tuesday, 29 January 2019,
Commencing at 6.30pm

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Planning Reports

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- Attachment 1:** Deferred Item 5.12 10 December 2018 Management Activities at Wamberal and Terrigal Beaches D1343186840



Item No: 2.5
Title: DA/288/2018 - Proposed Short Term Rental Accommodation at 18 Soldiers Point Drive, Norah Head
Department: Environment and Planning

29 October 2018 Ordinary Council Meeting

Trim Reference: DA/288/2018 - D13266479

Author: Jenny Tattam, Town Planner
Manager: Emily Goodworth, Section Manager, Development Assessment
Executive: Scott Cox, Director, Environment and Planning

Summary

An application has been received for proposed Short Term Rental Accommodation. The application has been examined having regard to the matters for consideration detailed in section 4.15 of the *Environmental Planning and Assessment Act 1979* and other statutory requirements with the issues requiring attention and consideration being addressed in the report.

Applicant	Michelle Thomas
Owner	Michelle Thomas
Application No	DA/288/2018
Description of Land	Lot 3 Section 3 DP 758779, 18 Soldiers Point Drive, North Head
Proposed Development	Short Term Rental Accommodation
Site Area	701.9m ²
Zoning	R2 Low Density Residential
Existing Use	Dwelling
Employment Generation	Yes
Estimated Value	N/A

Recommendation

- 1** *That Council grant consent subject to the conditions detailed in the schedule attached to the report and having regard to the matters for consideration detailed in Section 4.15 of the Environmental Planning and Assessment Act 1979 and other relevant issues.*
- 2** *That Council advise those who made written submissions of its decision.*

Precis:

Proposed Development	Additional use of an existing dwelling for short term rental accommodation.
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Permissibility and Zoning	The site is zoned R2 Low Density Residential under the provisions of <i>Wyong Local Environmental Plan 2013</i> (WLEP 2013). Clause 7.18 of the WLEP 2013 permits short term rental accommodation in the zone.
Relevant Legislation	<ul style="list-style-type: none"> • <i>Environmental Planning & Assessment Act 1979 – section 4.15</i> • <i>State Environmental Planning Policy (Coastal Management) 2018</i> • <i>State Environmental Planning Policy 71-Coastal Protection</i> • <i>Wyong Local Environmental Plan 2013</i>
Current Use	Dwelling and swimming pool
Integrated Development	No
Submissions	A total of five written objections and one petition with 230 signatures also in objection.
Councillor Representation	The application was requested to be determined by Council by Councillors Best and Pilon.

Variations to relevant Planning Instruments/Plans/Policies

There are no variations proposed to any environmental planning instruments, Wyong Development Control plan or any other policy.

The Site

The subject site is commonly known as 18 Soldiers Point Drive, Norah Head (the site) and legally described as Lot 3 Section 3 DP 758779. The site is located on the eastern side of Soldiers Point Drive. It has a frontage of approximately 16.8 metres and an overall site area of 701.9m². Vehicle access is provided via an existing driveway from Soldiers Point Drive.

The site has a rectangular shape and the land rises steeply from the road at the front, is relatively level across the centre and then falls gently towards the rear boundary.

The property has been developed with a two storey residential dwelling and swimming pool. The dwelling includes five bedrooms, three bathrooms, a double garage, open plan kitchen/dining/living area on the upper level with adjoining deck, and rumpus room with adjoining terrace on the ground floor. The swimming pool is located behind the dwelling in the backyard, adjacent to the rumpus room and terrace. There is a small adjoining section of turf and landscaping located around the periphery of the site, inside the side and rear boundaries.

The site is identified as bushfire prone land on Council's bushfire maps.

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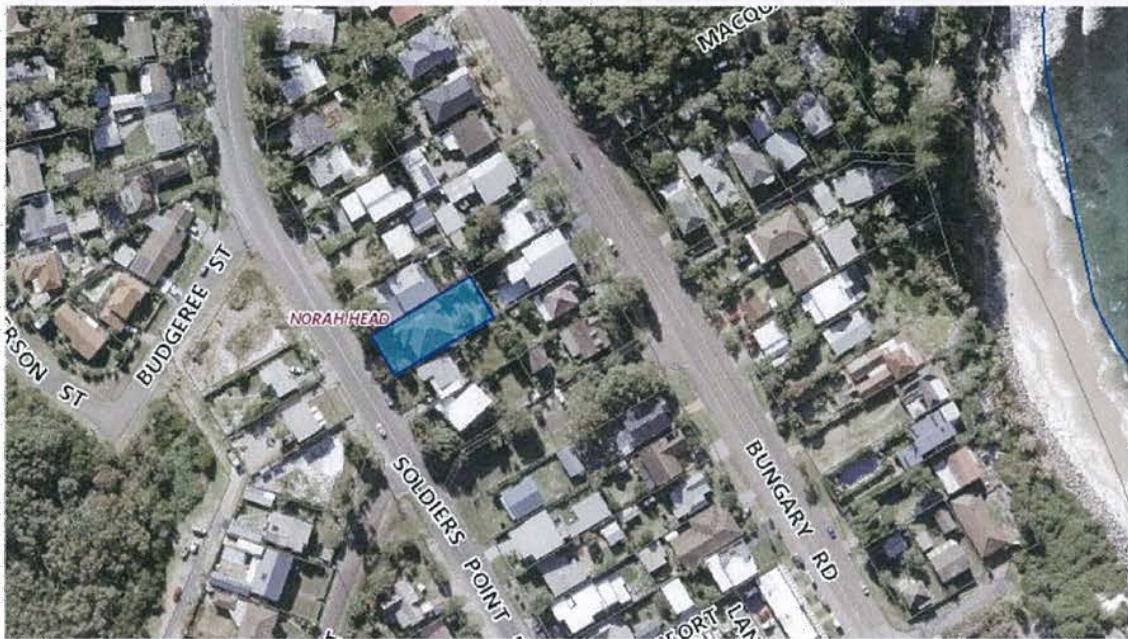


Figure 1: Aerial photo of the site and surrounds



Figure 2: Closer aerial photo of the site and surrounds

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Figure 3: View of subject dwelling from Soldiers Point Drive



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Figure 4: View of swimming and rear balcony/terrace areas



Figure 5: Screening vegetation inside the rear boundary of the site



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Figure 6: View taken from the upper deck looking south

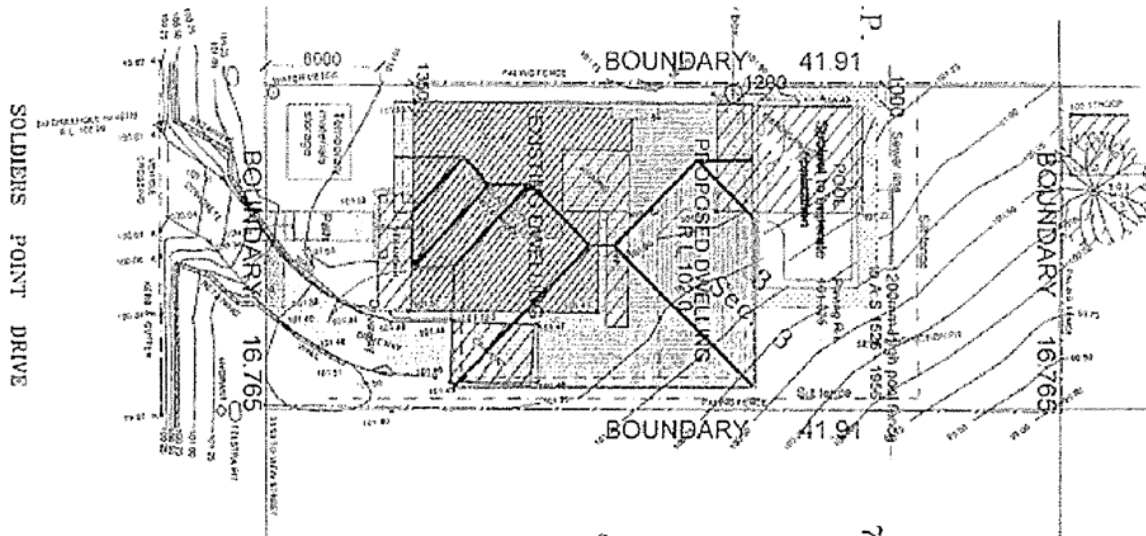


Figure 7: Site plan of the existing dwelling

Surrounding Development

The site is located in an established residential area and is directly adjoined by residential dwellings to the north, south and east. Dwellings are also located to the west on the other side of Soldiers Point Drive.

Until recently the dwelling adjoining the rear boundary of the site, which is located at No. 53 Bungary Road, had been providing short term rental accommodation.

Cabbage Tree Bay is located approximately 200 metres to the west.

The Proposed Development

Approval is sought for an additional use of the dwelling for the purposes of short term rental accommodation.

The existing dwelling is the primary place of residence for the owner and the purpose of the application is to enable the landowner to reside in the dwelling when they wish, and then rent the dwelling house for short term periods at other times – predominantly (but not limited to) holiday periods.

Specifically the proposal includes the following:

- Short term rental accommodation for a maximum of 10 guests;

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- Onsite parking within the driveway for a maximum of five vehicles (the double garage is locked off and used for storage by the landowner);
- Short term bookings are arranged through Airbnb;
- The owner of the property is also the Manager of the short term rental accommodation;
- A Management Plan, Terms and Conditions and House Rules have been developed for the short term rental use.

History

- Development consent (DA/3872/2002) for a 'dwelling, swimming pool and demolition of existing structure' was issued on 13 March 2003.
- In December 2017 the owner of the site commenced use of the property for short term rental accommodation on an ad-hoc basis.
- February 2018:
 - Council received correspondence from nearby landowners stating that they were concerned about the negative impacts of short term rental accommodation on their neighbourhood (mainly noise), with specific mention of 18 Soldiers Point Drive (the site) and another property in Norah Head. Council investigated the matter and confirmed that the use of both properties for short term rental accommodation was consistent with Schedule 2 of the Wyong Local Environmental Plan 2013 (WLEP 2013), and requested the landowners implement management controls to address noise concerns.
 - The owner of the site advised Council in writing that management controls had been implemented e.g. House Rules Notices regarding consideration of the amenity of adjoining neighbours including use of the pool and notification to guests that noise disturbance to neighbours after 10pm could result in their bond being withheld.
 - Additional complaints received. Council advised the use was no longer consistent with the criteria provided by Schedule 2 of WLEP 2013 and therefore was no longer exempt development.
- On 21 March 2018 a development application (the subject application) was lodged with Council to seek consent for the use of the existing dwelling for the purposes of short term rental accommodation.

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s. 4.15 (1)(d) of the EP&A Act: Submissions

Public consultation

The development application was exhibited for 14 days from 12 to 27 April 2018, in accordance with Chapter 1.2 Notification of Development Proposals of Wyong Development Control Plan 2013 (WDCP).

A total of four objections and a petition (also in objection) containing 230 signatures were received during the notification period. After the close of the notification period one further objection was received.

A summary of the issues raised in the submissions is detailed below:

The property is zoned R2 Low Density Residential therefore the site should be used for residential purposes.

Comment

Under the provisions of Wyong Local Environmental Plan 2013 (WLEP 2013) short term rental accommodation is permissible in the R2 Low Density Residential zone.

The proposal fails to comply with the objective of the zone which seeks 'to provide for the housing needs of the community'.

Comment

The application proposes to use the existing dwelling for the purposes of both a dwelling and short term rental accommodation. The dwelling will continue to be the primary place of residence for the owner of the site and use of the property for short term rental accommodation will take place on an ad-hoc basis primarily in the holidays. The proposed use of the dwelling for short term rental accommodation will continue to maintain the residential amenity and will not change the low density character of the area and this can be achieved by the recommended conditions of consent and the plan of management prepared by the operator.

The proposal fails to comply with the coastal provisions of the WLEP 2013 which include 'to protect, enhance, maintain and restore coastal environments'.

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Comment

The objector is referring to previous clause 5.5 (development within the coastal zone) of the WLEP 2013 which was repealed when State Environmental Planning Policy (SEPP) (Coastal Management) 2018 commenced on 3 April 2018. The application is subject to an assessment under former SEPP 71 –Coastal Protection having regard for the savings and transitional provisions contained within clause 21(1) of SEPP (Coastal Management) 2018. The proposed development has been assessed against the matters for consideration outlined under clause 8 and Part 4 of SEPP 71 and found to be satisfactory. A compliance table is provided in Attachment 1.

Short term rental accommodation would de-value nearby properties because day and night noise would detract potential buyers and renters in the area.

Comment

There is no evidence to support this claim. However, impacts on neighbourhood amenity have been considered as part of the assessment of the application. It is acknowledged that short term rental accommodation has the potential to adversely impact neighbourhood amenity if it is not managed appropriately, or if there are siting or design issues that would make management ineffective. In this instance, it is considered that impacts upon adjoining properties can be appropriately managed. These two factors are discussed below under the zone objectives section of this report.

There are no consistent requirements or regulations for short stay accommodation so the application should be refused until such time that there is.

Comment

On 5 June 2018, the NSW government announced that there will be a new regulatory framework to govern the short term holiday letting industry. The framework will include new planning laws, an industry Code of Conduct and new provisions for strata scheme by-laws. However the new framework has not yet been implemented and until this time, applications for short term rental accommodation need to be assessed in accordance with the relevant legislation.

Under WLEP 2013 short term rental accommodation can be considered in any zone where it is associated with a dwelling that has a maximum of six bedrooms. Under clause 3.1 and Schedule 2, short term rental accommodation may be carried out as exempt development where certain criteria are met. If an application falls outside the criteria then a development application is required to be lodged and assessed.

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Council cannot refuse an application based on limited planning controls relating to the land use. However, it must have regard for the relevant planning legislation which relates to the proposed development including the requirements of WLEP 2013 and the matters for consideration contained in Section 4.15 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Approval would set an undesirable precedent. The proposal will 'incite an explosion of short stay rentals' and 'destroy the residential structure of the community'.

Comment

Approval of the subject dwelling for short stay accommodation would not necessarily result in an increase in the lodgment of development applications for short term rental accommodation.

Even if Council were to receive an influx of applications requesting approval for short term rental accommodation, each application would need to be considered on their own merit and circumstances. The application is not proposing a variation to any planning instrument or development control and it is considered that the matters for consideration under s. 4.15 of the EP&A Act can be satisfied.

The proposal fails to comply with the objective of the zone which seeks 'to maintain and enhance the residential amenity and character of the surrounding area'. Specifically the amenity impacts relate to:

- *The use has already been operating and has resulted in numerous impacts on the residential amenity of neighbours.*
- *Noise – complaints have previously been lodged with Council, police and federal and state members, the guests are in holiday mode which means there is constant use of the swimming pool, partying and groups on the balconies and little or no regard for adjoining neighbours.*
- *Anti-social behaviour – e.g. swearing.*
- *Privacy impacts – neighbours in their own backyards are under observation by strangers, lack of sufficient screening.*
- *Traffic and parking issues – guests reversing out of the driveway will cause accidents, not enough parking for guests, cars parked across driveways and blocking lines of sight, guests park on the street and residents are unable to use the street for their own parking.*
- *Waste management – there is not sufficient garbage storage which may result in garbage being dumped elsewhere, garbage has been found in nearby streets and garbage has been thrown into neighbour's yards.*

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- *Safety and security issues – overlooking concerns, and one submitter commented that a police report had been lodged which outlines the criminal damage to their property caused by guests.*
- *Lack of onsite management/supervision of guests – there is a constant turnover of unsupervised and unregulated guests, there are no control measures in place and it has been left to us neighbours to manage guest's behaviour.*

Applicant's response to submissions

The applicant argues that the objectors have not provided any information to substantiate their claims. Prior to commencing the short term rental accommodation, the applicant provided adjoining landowners with her contact phone number in the event any issues arose with guests who were staying at the premises.

The owner states that she has only ever been contacted by neighbours on two occasions – once in December in regard to a complaint about noisy guests partying in the pool at 11pm and the other regarding vandalism of an adjoining property. On both occasions the owner has advised they took immediate action and investigated the complaints with the guests.

Comment

Of the five objections that were received four were from landowners in the vicinity of the site. However it is noted that no landowners directly adjoining the site lodged an objection to the proposed short term rental accommodation. It is also noted that apart from one incident, the issues referred to by the objectors are general in nature, with no specific information (dates, times) provided. In one of the objections it did state that on 22 April 2018 the objector was woken at around 1am by loud noise at the site, and the police were contacted. The police were contacted by the assessing officer and have confirmed that they were contacted on that night, and that at the time they attended the site there was no evidence of noise originating from the site.

Petition

In regard to the petition Council contacted 10 signatories at random. Of the 10 surveyed three people stated they were aware of amenity impacts arising from short term rental accommodation, but not from the subject dwelling. One person reported no specific issues or concerns, four people were concerned about the concept of short term rental accommodation in their neighbourhood and two people had no recollection of signing the petition.

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Submissions from Public Authorities

The site is identified as bushfire prone land and under the *Rural Fires Act 1979* and the proposal is classified as a special fire protection purpose. The application was referred to the NSW Rural Fire Service who granted a Bushfire Safety Authority on 3 September 2018 which has been included as a condition of consent.

Internal Consultation

No internal consultation was required.

Ecologically Sustainable Principles

The proposal has been assessed having regard to ecologically sustainable development principles and is considered to be consistent with the principles.

The proposed development is considered to incorporate satisfactory stormwater, drainage and erosion control and the retention of vegetation where possible and is unlikely to have any significant adverse impacts on the environment and will not decrease environmental quality for future generations. The proposal does not result in the disturbance of any endangered flora or fauna habitats and is unlikely to significantly affect fluvial environments.

Climate Change

The potential impacts of climate change on the proposed development have been considered by Council as part of its assessment of the application.

This assessment has included consideration of such matters as potential rise in sea level; potential for more intense and/or frequent extreme weather conditions including storm events, bushfires, drought, flood and coastal erosion; as well as how the proposed development may cope / combat / withstand these potential impacts.

Assessment

Having regard for the matters for consideration detailed in Section 4.15 of the *Environmental Planning and Assessment Act 1979* and other statutory requirements, Council's policies and Section 10.7 Certificate details, the assessment has identified the following key issues, which are elaborated upon for Council's information. Any tables relating to plans or policies are provided as an attachment.

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**Section 4.15 (1)(a)(i) of the EP&A Act: Provisions of Relevant Instruments/ Plans/
Policies**

Wyong Local Environmental Plan 2013

Zoning & Permissibility

The site is zoned R2 Low Density Residential under the provisions of WLEP 2013. Development for the purposes of short term rental accommodation is permissible by virtue of the provisions of clause 7.18 of WLEP 2013.

The relevant definitions under WLEP 2013 which are applicable to the proposal are:

dwelling means a room or suite of rooms occupied or used or so constructed or adapted as to be capable of being occupied or used as a separate domicile.

short-term rental accommodation means a dwelling that is commercially available for rent as short-term accommodation on a temporary basis, but does not include bed and breakfast accommodation.

Under clause 7.18 of the WLEP 2013, Council may grant development consent for short term accommodation in any zone where it is associated with a dwelling containing a maximum of six bedrooms. Clause 7.18 reads as follows:

7.18 Short-term rental accommodation

1. *The objective of this clause is to permit development for the temporary use of dwellings containing up to 6 bedrooms as short-term rental accommodation.*
2. *Despite any other provision of this Plan, development consent may be granted for the use of a dwelling containing up to 6 bedrooms as short-term rental accommodation.*

The proposal includes the use of a five bedroom dwelling for short-term rental accommodation which is therefore consistent with the above clause.

Under clause 2.3 the consent authority must have regard to the objectives for development in a zone when determining a development application. The objectives of the R2 Low Density Residential zone are as follows:

- *To provide for the housing needs of the community within a low density residential environment.*
- *To enable other land uses that provide facilities or services to meet the day to day needs of residents.*

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- *To maintain and enhance the residential amenity and character of the surrounding area.*
- *To provide a residential character commensurate with a low density residential environment.*

The application proposes to use the existing dwelling for the purposes of short term rental accommodation. The dwelling will continue to be the primary place of residence for the owner of the site and in this way it will continue to provide for the housing needs of a community member. In addition there is no new built development proposed and no change to the existing low density residential character of the area.

A key consideration with respect to the occupation of dwellings for short term rental accommodation is ensuring the use does not adversely impact on the residential amenity currently enjoyed by residents in surrounding properties. In consideration of this issue, two key elements arise:

- whether the proposal is sufficiently managed to address amenity concerns; and
- whether there are any design or siting issues that will make management ineffective.

To address the concerns raised by objectors the applicant has provided a management plan that details how nuisance issues such as noise will be addressed. The management plan is summarised as follows:

- The manager (owner of the site) will have the following obligations:
 - Vetting of guests through the booking process – this includes checking reviews, checking the ages of guests and confirming that there will be no hens/bucks gatherings or parties. If guests don't satisfy the criteria the booking is declined;
 - Checking guests in and ensuring they are aware of the terms and conditions and house rules;
 - Outlining the consequences of not complying with the terms and conditions and house rules;
 - Checking on the house to ensure that guest numbers are not excessive and that guests are behaving appropriately; and
 - Responding to complaints in a timely manner and taking effective action to remediate the problem.
- Providing a set of terms and conditions of stay which include the following requirements:
 - A security deposit of \$1000 is taken and returned within seven days of the date of the departure provided the terms and conditions are met;

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- The number of guests do not exceed the number approved by Council and guests may invite no more than four visitors provided they do not stay overnight;
 - Guests are to comply with the House Rules; respect the residential amenity and security of the property and neighbours; refrain from antisocial behaviour; and comply with the manager's instructions;
 - Disrupting noise may result in termination of stay, loss of paid rent and loss of security deposit; and
 - The House Rules form part of the terms and conditions.
- The House Rules include the following requirements:
 - Visitor numbers not to exceed four;
 - No functions or parties;
 - Guests are to park on the property only and no sleeping in caravans or trailers;
 - Use of the swimming pool is prohibited between 10pm and 7am;
 - Amplified external music turned off at 10pm and guests to move inside after 11.30pm and keep noise to a reasonable level.
- The terms and conditions are to be signed by the guests before a booking is accepted.

The management plan represents an appropriate and comprehensive approach to management of the use and, if implemented satisfactorily, is considered sufficient to address impacts on amenity. To further reduce the possibility of impacts on adjoining properties two conditions are recommended:

- the number of guests is reduced from 10 to eight; and
- the approval is limited to a period of 12 months.

Following satisfactory performance, and in the absence of any substantiated complaints over the 12 month approval period, Council may extend the development consent and review the guest numbers. Given the historical concerns, a time limited approval will provide the necessary evidence as to whether the site can be adequately managed and whether it can continue to operate after this period.

In regard to siting and design and to minimise the potential for any overlooking or privacy impacts, it has been recommended that a condition of consent be imposed which requires the installation of a privacy screen along the southern side of the upper deck. This will prevent any overlooking onto the adjoining dwellings.

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Additionally, it is also recommended that to remove the possibility of any impacts on the existing on-street parking arrangement, parking for the occupants of the short term rental accommodation should be provided within the boundaries of the site. The applicant has provided a dimensioned plan to demonstrate that five vehicles can be accommodated in front of the dwelling and on the driveway.

Clause 3.1 Exempt Development

Clause 3.1 and Schedule 2 of WLEP 2013 permit short term rental accommodation as exempt development where certain criteria are met. Where a proposal does not meet the criteria, development consent is required for the use.

The criteria includes that *'there must not have been more than two written complaints to the Council concerning the activities taking place on the property from the occupiers of separate dwellings located within 40m of the subject dwelling within the preceding 12 months'*.

In February 2018 Council wrote to the landowner and advised that Council had received more than two formal complaints in relation to the use of the dwelling for short-term rental accommodation and therefore the use was no longer considered to be exempt development as prescribed by Schedule 2 of the WLEP 2013. As a result the applicant has lodged a development application for the short term rental accommodation use of the dwelling.

Clause 7.9 Essential Services

The proposed development currently has adequate arrangements for servicing in place and does not require any additional servicing for the additional use.

State Environmental Planning Policies (SEPP)

The following SEPP's are relevant to the proposed development:

State Environmental Planning Policy (Coastal Management) 2018

Clause 21(1) (savings and transitional provisions provisions) of this SEPP provides that:

The former planning provisions continue to apply (and this Policy does not apply) to a development application lodged, but not finally determined, immediately before the commencement of this Policy in relation to land to which this Policy applies.

The SEPP commenced on 3 April 2018 and the subject development application was lodged prior to this date on 21 March 2018. Accordingly the provisions of this SEPP do not apply and the application is required to be assessed against the requirements of SEPP 71 Coastal Protection.

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State Environment Planning Policy No. 71 - Coastal Protection

State Environmental Planning Policy No 71 – Coastal Protection applies to the land. The site is located within the coastal protection zone. In accordance with clause 7, the proposal has been assessed within the context of the matters for consideration outlined under clause 8 and found to be satisfactory (as outlined in Attachment 1).

s. 4.15(1)(a)(iii) of the EP&A Act: Provisions of any development control plan

There are no specific chapters of Wyong Development Control Plan 2013 which relate to the proposed development.

s. 4.15 (1)(b) of the EP&A Act: Likely impacts of the development:

a) Built Environment

It is considered that the proposed measures to manage the use of the dwelling house for short term rental accommodation will result in minimal impact on the existing built environment.

b) Access and Transport

The public submissions have raised concern about guests reversing out of the driveway of the site. However, as the use relates to a dwelling, it is the standard arrangement for dwellings that vehicles may reverse onto a public road. To remove any potential impact upon the street a recommended condition of consent requires that on-site parking is provided for visitors on the existing driveway.

c) Context and Setting

It is generally recognised that short term rental accommodation is more appropriately located in areas of high tourism amenity and in close proximity to key tourism attractions such as the beach. The site is located within a coastal settlement and in close proximity to amenities and services. In addition the proposal is consistent with the existing character of the area as there is a mix of short term rental accommodation and residential dwellings. One of the main considerations is whether the proposal will impact on the amenity of adjoining residents. It is considered that with the appropriate management measures in place the proposed use of the dwelling for short term rental accommodation will have minimal impact on the amenity of the adjoining properties.

The proposed conditions of consent allow for measures and parameters to be in place to control the use of the dwelling for short term rental accommodation and limit the approval for a period of 12 months to ensure the proposed use is managed in an appropriate manner. Where substantiated complaints are received further approval may not be forthcoming.

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d) Natural Environment

The proposal does not result in any impacts on the natural environment.

s. 4.15(1)(c) of the EP&A Act: Suitability of the site for development

The site is occupied by an existing dwelling and under the provisions of the WLEP 2013 short term rental accommodation can be considered where it is associated with a dwelling. The site is adjoined by residential dwellings which are occupied by permanent residents. Objectors have raised concern that the site is not suitable for the development because the short term rental accommodation use has resulted in adverse impacts on their residential amenity.

It is considered that the site is suitable for the proposed use if potential impacts are managed so as not to cause nuisance, and any siting/design issues are addressed. The applicant has provided a management plan, terms and conditions and house rules which details how the use will be managed, all of which have been included as conditions of consent. In addition it is recommended that privacy screening is installed to prevent any overlooking from the upper balcony, that parking is provided for occupants of the short term rental accommodation within the boundaries of the site and that conditions are added to restrict the number of occupants and the approval period.

It is considered that these measures and parameters should be sufficient to manage the short term rental accommodation use so as not to cause impacts on adjoining properties. However in the event that substantiated complaints are received over the approval period, further approval may not be granted.

s. 4.15(1)(e) of the EP&A Act: The Public Interest

Short term rental accommodation has the potential to generate impacts on the community if not adequately managed. These impacts could be from noise, overlooking, anti-social behavior, lack of adequate waste management, traffic and parking issues and safety/security concerns. As previously discussed, if implemented and managed satisfactorily, the proposed management plan is considered sufficient to alleviate any impacts on amenity.

The proposed development will provide additional tourism opportunities in the locality which is considered to be in the public interest as visitors contribute to the local economy by supporting local businesses such as restaurants/cafes, shops and support businesses, and has the potential to result in an increase in local employment.

Short term rental accommodation is currently regulated by local government and in the absence of any specific planning policies that address short term rental accommodation the proposal complies with the requirements of the WLEP 2013.

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Other Matters for Consideration

Contributions

Section 7.11 or s. 7.12 contributions do not apply to the development, nor do any water and sewer contributions apply.

Gosford Development Control Plan 2014 - Chapter 3.14 Short Term Rental Accommodation of Dwellings

Wyong Development Control Plan 2013 does not include any specific provisions in regard to short term rental accommodation however, Gosford Development Control Plan 2014 includes Chapter 3.14 Short Term Rental Accommodation of Dwellings. This Chapter provides guidelines for the assessment of applications as well as recommended conditions of consent.

Whilst not directly applicable to the subject site, the provisions of this chapter have been considered and used as a guide in the assessment of the current application. The proposed development is consistent with the requirements set out within Chapter 3.14.

Conclusion

Short term rental accommodation is a component of the short stay accommodation sector in New South Wales and an important aspect of the overall mix of tourism accommodation, particularly in popular tourist destinations in coastal areas like Norah Head.

Until now the use has operated as 'exempt' development. It relied upon an informal management arrangement and lack of regulatory control. The applicant has provided a management plan that details how the use will be managed, and conditions of consent are recommended to ensure that the use of the site for the purposes of short term rental accommodation is adequately managed so as to ensure there is minimal impact on the amenity of the surrounding area. The application is recommended for approval subject to the conditions of consent.

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Reasons for the decision

- The land use is permitted with consent in the R2 Low Density Residential zone under clause 7.18 of the WLEP 2013.
- The issues raised by objectors have been considered. It is considered that the applicant has provided sufficient information to demonstrate that the use will be managed to ensure there is minimal impact on the amenity of the surrounding area.
- Design and siting issues have been addressed through a requirement for privacy screening along the southern side of the upper deck.
- Conditions of consent provide regulatory control to ensure that the site will be managed effectively and a time limited consent has been recommended to allow a review of the operation of the use of the dwelling after 12 months of operation.
- The proposal has been considered against the objectives of the R2 Low Density Residential zone and has been found to be satisfactory.
- The site is considered to be suitable for the proposal. It is located within a coastal settlement and in close proximity to amenities and services. Furthermore the proposal is consistent with the existing character of the locality which includes a mix of residential and short term rental accommodation.
- The proposal will contribute to the mix of tourism accommodation provided in Norah Head.
- The Rural Fire Service has supported the application by issuing General Terms of approval on 3 September 2018.

Attachments

1	Draft Conditions of Consent	D13194505
2	SEPP 71 Compliance Table	D13340073
3	Plan of Management	D13333436
4	Development Plans	D13345214

Date: 3 April 2018
Responsible Officer: Jenny Tattam
Location: 18 Soldiers Point Dr, NORAH HEAD NSW 2263
 Lot 3 Sec 3 DP 758779
Owner: Mrs M L Thomas
Applicant: BuildPlan Consultants Pty Ltd
Date Of Application: 21 March 2018
Application No: DA/288/2018
Proposed Development: Short term rental accommodation to be used within the existing dwelling
Land Area: 701.90
Existing Use: Dwelling

1. PARAMETERS OF THIS CONSENT

- 1.1. Implement the development substantially in accordance with the plans and supporting documents listed below as submitted by the applicant and to which is affixed a Council stamp "Development Consent" unless modified by any following condition.

Architectural Plans by: Design by Kath Ifield

Drawing	Description	Issue	Date
A01	Site Plan & Ground Floor Plan	A	Dec 2002
A02	First Floor Plan, East Elevation & Section	A	Dec 2002
2	West, South & North Elevations	A	Dec 2002

Supporting Documentation

Document	Title	Date
1	Plan of Management	Sept 2018

- 1.2. Comply with the General Terms of Approval from the Authorities as listed below and attached as a schedule of this consent.

Government Agency / Department / Authority	Description	Ref No	Date
Rural Fire Service	Bushfire Safety Authority	D18/6842	3 /09/2018

- 1.3. This Consent is for a 12 month period only and accordingly, must cease at the expiration of 12 months at the date of commencement of the approved activity. Council must be informed in writing of the date of commencement of the use, otherwise it will be determined the approved use was commenced at the determination date of this consent. Any extension of the approved use beyond 12 months will require the prior submission and approval of an application under Section 4.55 of the *Environmental Planning and Assessment Act 1979*. In considering any application for the extension of this consent, Council will have regard for the relevant matters under the *Environmental Planning and Assessment Act 1979* including any submissions received during the period.
- 1.4. This approval does not affect the entitlement to use the dwelling for permanent residential purposes.

2. PRIOR TO ISSUE OF ANY CONSTRUCTION CERTIFICATE

No Conditions

3. PRIOR TO COMMENCEMENT OF ANY WORKS

No Conditions

4. DURING WORKS

No Conditions

5. PRIOR TO COMMENCEMENT OF SHORT TERM RENTAL ACCOMMODATION USE

- 5.1. Privacy screening shall be installed along the southern side of the upper deck. Screening shall be permanently fixed, to a minimum of 1.6m high above finished floor level, at least 75% obscure and made of durable material to restrict overlooking into properties adjoining the southern boundary.
- 5.2. The 24 hour contact details of the Manager and the Owner of the Short Term Rental Accommodation shall be located on the site so as to be visible from the nearest street frontage. A sign limited to a maximum of 0.2 square metres and not exceeding 1.5 metres in height from ground level shall be erected at the property frontage and within the property.

8. ONGOING

- 8.1. The Short Term Rental Accommodation shall not be occupied by more than eight guests at any one time.

- 8.2. The 'House Rules' shall be provided to all guests and displayed within a prominent position within the dwelling.
- 8.3. The Emergency/Evacuation Plan shall be displayed in a conspicuous location within the dwelling.
- 8.4. Amplified music shall not be played outside of the Short Term Rental Accommodation between the hours of 10pm and 10am.
- 8.5. The swimming pool shall not be used by guests or visitors of the Short Term Rental Accommodation between the hours of 10pm and 8am.
- 8.6. All guest vehicles associated with the Short Term Rental Accommodation shall be parked within the boundaries of the site.
- 8.7. All requirements of the Plan of Management shall be implemented for the life of the development for Short Term Rental Accommodation.

Attachment 1: SEPP 71 – Coastal Protection – Clause 8 compliance table

Matters for Consideration	Compliance Y/N/NA
a. <i>the aims of this Policy set out in clause 2</i>	The proposal complies with the aims of this Policy.
b. <i>existing public access to and along the coastal foreshore for pedestrians or persons with a disability should be retained and, where possible, public access to and along the coastal foreshore for pedestrians or persons with a disability should be improved,</i>	N/A. The subject site does not adjoin the foreshore.
c. <i>opportunities to provide new public access to and along the coastal foreshore for pedestrians or persons with a disability,</i>	N/A. The subject land does not adjoin the foreshore.
d. <i>the suitability of development given its type, location and design and its relationship with the surrounding area,</i>	The proposal is considered suitable to the location.
e. <i>any detrimental impact that development may have on the amenity of the coastal foreshore, including any significant overshadowing of the coastal foreshore and any significant loss of views from a public place to the coastal foreshore,</i>	N/A. The subject land does not adjoin the foreshore.
f. <i>the scenic qualities of the New South Wales coast, and means to protect and improve these qualities,</i>	The scenic quality is not being affected.
g. <i>measures to conserve animals (within the meaning of the Threatened Species Conservation Act 1995) and plants (within the meaning of that Act), and their habitats,</i>	The subject land contains very little vegetation, none of which has been identified as being endangered ecological communities.
h. <i>measures to conserve fish (within the meaning of Part 7A of the Fisheries Management Act 1994) and marine vegetation (within the meaning of that Part), and their habitats</i>	N/A. The subject land does not adjoin the foreshore.

<i>i. existing wildlife corridors and the impact of development on these corridors,</i>	The subject site is not part of nor adjoins existing wildlife corridors.
<i>j. the likely impact of coastal processes and coastal hazards on development and any likely impacts of development on coastal processes and coastal hazards,</i>	N/A. The subject land does not adjoin the foreshore.
<i>k. measures to reduce the potential for conflict between land-based and water-based coastal activities,</i>	N/A. The subject land does not adjoin the foreshore.
<i>l. measures to protect the cultural places, values, customs, beliefs and traditional knowledge of Aboriginals,</i>	The subject site has not been identified as containing any Aboriginal relics or a place of significance.
<i>m. likely impacts of development on the water quality of coastal waterbodies,</i>	N/A. The subject land does not adjoin the foreshore.
<i>n. the conservation and preservation of items of heritage, archaeological or historic significance,</i>	The subject site has not been identified as containing any items of heritage, archaeological or historic significance.
<i>o. only in cases in which a council prepares a draft local environmental plan that applies to land to which this Policy applies, the means to encourage compact towns and cities,</i>	N/A

PLAN OF MANAGEMENT

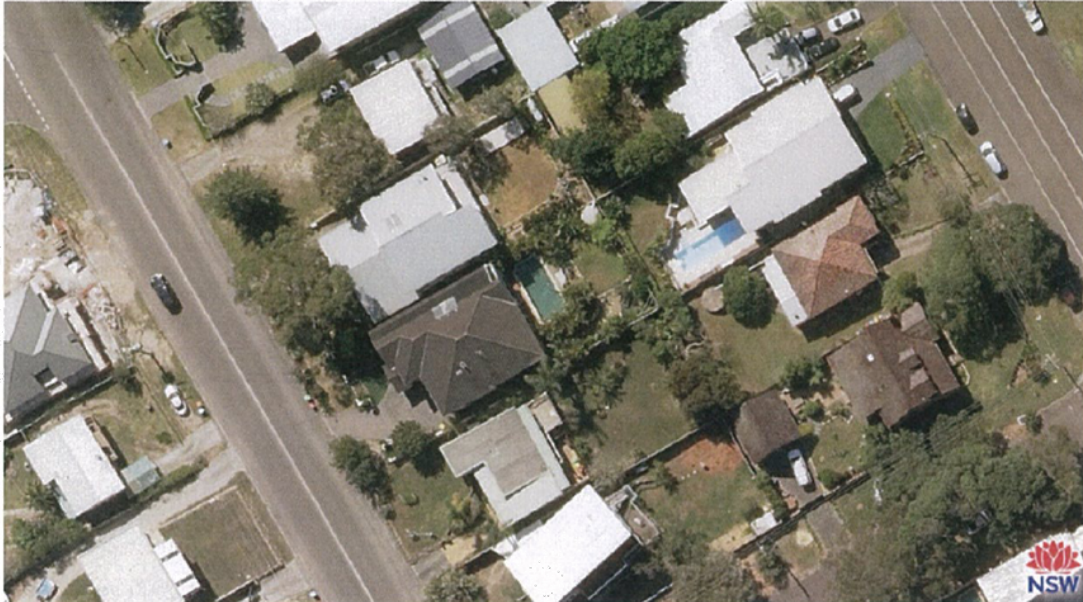
**18 Soldiers Point Drive
NORAH HEAD**

September 2018

Michelle Thomas
18 Soldiers Point Drive
Norah Head
Mobile : 0405 447 338
Email: michellet@travelmanagers.com.au

1. The Location

- (i) 18 Soldiers Point Drive, Norah Head.

**2. Purpose of Plan of Management (PoM)**

- (i) The purpose of this Plan is to control various aspects of the operation of the Short-term Accommodation at 18 Soldiers Point Drive.
- (ii) That practices and procedures are in place to minimise any potential adverse impact on the amenity and neighbourhood.
- (iii) That the conditions of the development consent that applies to the land and premises are complied with, managed and conformed to.
- (iv) To manage the noise from the operation of the premises and patrons of the premises does not unduly or adversely impact on adjoining properties or the amenity of the neighbourhood.
- (v) To establish and promote acceptable standards of behaviour for guests and visitors to minimise any adverse social or environmental impacts.
- (vi) To assist the owners/managers to meet the needs of all stakeholders including guests, neighbours, local communities, local councils and government authorities.

3. Manager Obligations

- (i) The owner/manager will ensure that property complies with this PoM and all guest are made aware of the Terms and Conditions and House Rules.
- (ii) Owner/manager, means the person or entity that has signed this PoM.
- (iii) The owner/manager will evaluate all guest bookings, including previous house reviews, checking ages and confirming the guest booking has read and understood the Terms and Conditions. If the guest fails to satisfy the evaluation booking will be declined.
- (iv) The owner/managers will outline to all guests (and visitors) the consequences of not complying with any Terms and Conditions and House Rules.
- (v) Owner/manager will provide information to neighbouring properties or the relevant authority who to contact in the event of a contravention of the Terms and Conditions and

House Rules. This includes the provision of a telephone number to contact in this event.

- (vi) Owner/managers will act with integrity, professionalism, courtesy and consideration when dealing with guests, neighbours, and other community stakeholders.
- (vii) The property offered, will be offered in a clean, safe and habitable state of repair; and comply with relevant planning, building and fire safety and health regulations.
- (viii) Owner/managers will arrange for the removal of all garbage left by guests.
- (ix) Manage guest and property issues promptly.
- (x) During the period of occupancy the manager will:
 - Check guests in and draw their attention to the Terms and Conditions and House Rules and provide a copy and introduction pack with information about the house and area.
 - Drive by the property in the evening and at random times to ensure guest numbers confirm to the information provided in the booking form and that there is no evidence of anti-social behavior.
 - Act promptly in the event any anti-social activity is observed.
 - Respond promptly to any complaints in accordance with the complaint handling procedures, refer Section 6.
 - Check guests out, at which time the house and grounds will be inspected and any issues drawn to the attention of the guests.

We believe the above measures, coupled with stringent vetting of prospective guests and clearly stated booking Terms and Conditions and House Rules, which must be signed by the guests before their booking is accepted, will eliminate the: problem people at the start of the booking process and result in a harmonious relationship with the surrounding neighbours.

4. Patron Behaviour and Amenity of Neighbourhood

- (i) The property is located in a residential area in Norah Head surrounded by other residential premises. Care and attention will be taken to ensuring that the operation (including clients and visitors) of the Short-term accommodation do not cause any undue adverse impacts on neighbouring premises.
- (ii) The owner/Manager will provide a copy of the Terms and Conditions and the House Rules to all guests upon booking, including guest signature confirming they have read and accepted the Terms and Conditions and the House Rules.
- (iii) The House Rules, will be supplied in prominent locations within the property for occupants and visitor attention.
- (iv) If disturbances and amenity issues arise, the owner/manager will immediately commence complaint handling procedures outlined in Section 6 of this PoM.
- (v) The owner/manager will take all reasonable steps to ensure that the behaviour of occupants of the premises does not detrimentally affect the amenity of the neighbourhood.
- (vi) The owner/manager will ensure occupants at the premises do not engage in anti- social behaviour on the premises.

5. Complaint handling

- (i) The owner/manager will take immediate steps upon receipt of a complaint, to notify guests and address the complaint and if necessary be present at the property within 30 minutes of receipt of the complaint.
- (ii) The owner/manager will maintain an 'Incident Register' of all complaints.
- (iii) The Incident Register will also include a log setting out how disputes or complaints are

managed and dealt with, related communication and actions taken. The log will be maintained and a record of the following particulars of all complaint:

- a) Date and time received;
 - b) Name and designation (e.g. Guest, neighbour, council, police etc) of complainant(s);
 - c) contact details of complainant;
 - d) Nature of complaint;
 - e) Action taken (by whom and when); and
 - f) Outcome and/or further action required (e.g. community consultation, meet with council, meet with local police, review management systems or issue resolved.)
 - g) Complaints procedures and management records will be maintained.
- (iv) Owner/manager will deal with any complaints received in a sympathetic manner and fully address any reasonable concerns of persons in the area or other third parties without the involvement of the Council or the New South Police Force.
 - (v) Where reasonable, owner/manager will meet with any complainants and endeavour to fully address all reasonable concerns.
 - (vi) The Incidents Register and Complaints Procedures are to be maintained at all times and made available to Council immediately upon request.

8. Waste Management

- (i) The owner/manager will undertake waste management practices in accordance with Council policy.
- (ii) The manager will monitor the amount of waste generated and provide sufficient bin capacity
- (iii) The owner/manager will ensure signage in visible and maintained outlining that recyclables are separated from non-recyclable waste, pending collection.
- (iv) All waste will be regularly removed including recyclables and non- recyclable waste from the premises by the manager and placed for kerbside collection.
- (v) No waste or recycle bin will be on the kerbside for more than 24hours.
- (vi) The manager shall clean the wheelie bins regularly to ensure minimal odour.

9. Management Plan to be kept at premises

- (i) A copy of this Plan of Management is to be kept at the premises and made available to a Police Officer, or Council Compliance officer on request.

10. Monitoring the Plan of Management

- (i) This Plan of Management will be reviewed, amended and updated if found necessary and appropriate.

Owner/Manager Declaration

This Plan of Management is to be signed by the owner/manager.

DECLARATION BY PROPOSED OWNER AND/OR MANAGER.

Michelle Thomas.

Michelle Thomas

Owner/Manager Name (Printed

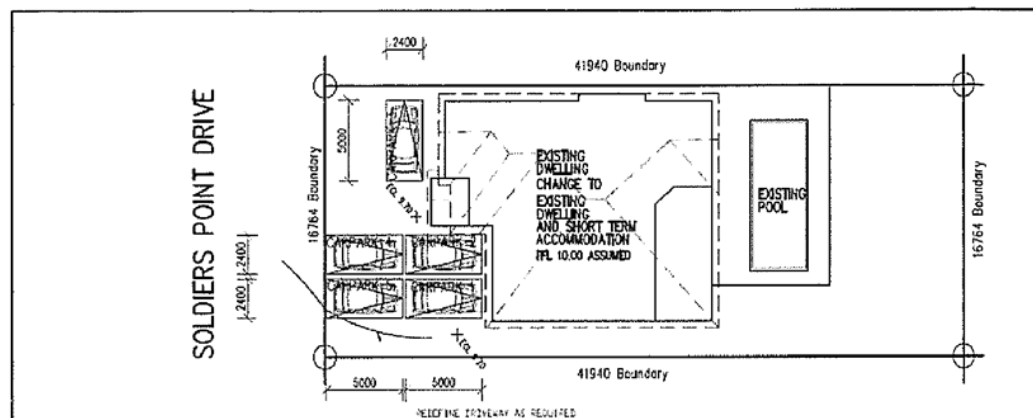
13 September 2018

Date

**TERMS AND CONDITIONS
18 SOLDIERS POINT DRIVE, NORAH HEAD**

NO HENS AND/OR BUCKS PARTIES

1. A security deposit of \$1000 is required and will be returned within seven (7) days of the date of departure provided the terms and conditions and house rules are all met.
2. All guests and visitors are expected to behave in a manner which is conducive to the safety, comfort and convenience of others within the property and all surrounding properties and in accordance with the Terms and Conditions and House Rules at all times.
3. Emergency Contact - In the event of an emergency relating to the Property, please telephone Michelle Thomas on 0405 447 338
4. Disturbance of neighbour's – our immediate neighbour's have office contact details, and excessive noise is prohibited and may result in termination of rental and loss of bond. Our neighbour's are reasonable people who have the right to a peaceful night's sleep at all times. They will call me direct if they are disturbed by nuisance noise or offensive behaviour. Guests and visitors must not engage in anti-social behaviour and must minimise their impact upon the residential amenity of neighbours and local community.
5. The property is let for only the number of persons specified and agreed in email correspondence and to the maximum number of guests approved by Council. These particular individuals are referred to as guests. All visitors must be declared at all times and failure to declare visitors may result in additional person for each night of your stay and may cause forfeiture of your bond.
6. A maximum of four (4) visitors are only permitted on the premises provided they do not stay overnight. It is the responsibility of all guest to ensure all visitors are made aware of the house rules and made to comply. Failure to comply may result in termination of rental and non-return of your bond.
7. The property is not a "party house" and any such activities are strictly prohibited. Any gathering, celebration or entertainment permitted at the property must not conflict with residential amenity of the surrounding area and must comply with all other terms and conditions.
8. The Pool and Outside entertainment area need to be left clean with all rubbish removed and the BBQ cleaned. An extra charge will be incurred if extra cleaning required. The swimming pool and outside entertainment area must not be used between the hours of 10.00pm and 7.00am. No glassware is permitted in the pool.
9. Amplified external music must be turned off at 10.00pm and all guests must move inside after 11.30pm.
10. Access and Parking – A maximum number of five (5) vehicles are permitted onsite and parking space(s) are identified below. All guests must park onsite. If on-street parking is required for visitors parking it must comply with parking regulations and be only in front of 18 Soldiers Point Drive. No guest trailers or caravans are permitted on site.



11. Guests must dispose of all garbage and recycling in accordance with the usual practice within the allocated bins.
12. Information on complaints. Guests are obliged to report any problems or incidents promptly; and any complaints and/or disputes will proceed through a resolution procedure undertaken in accordance with the property Plan of Management. A copy can be made available on request.
13. Security - Whenever you are absent from the Property, close all windows and doors to maintain security and prevent rain and water damage.
14. It is a requirement that you leave the property in a clean condition, similar to that in which it was found. Your rental includes a general clean. Excess charges of \$300 for additional cleaning will apply if you leave a mess. You are responsible for the cost of stain removal for walls, carpets and upholstery, such as beer, wine, food, muddy feet, extreme sand or excess cleaning required for the kitchen.
15. ALL kitchen items must be put back where they belong, please make sure the dishwasher is unloaded and no dirty dishes left behind on your departure day. Please also make sure that ALL items you have washed up or taken out of the dishwasher are put away CLEAN or a surcharge of \$200- will be incurred. Please DO NOT rearrange kitchen items.
16. All damages, breakages, theft and losses are the guests' responsibility during their stay and if noted on inspection by our cleaners will be charged against your bond.
17. This is a NO-SMOKING residence. Smoking is not permitted anywhere indoors. A surcharge of \$350.00 for smoke removal will be charged if smoke is detected. If you wish to smoke, please do so outside in the designated area. Please be a courteous smoker if you must smoke outside only and ensure the wind does not blow it inside. DO NOT leave cigarette butts, dirty ashtrays or put butts in the gardens or planters or within the residence under any circumstances. A surcharge of \$150.00 will be incurred.
18. Pets are not allowed on the premises unless the property management/owners have agreed expressly.
19. The owner/manager will ensure signage in visible and maintained outlining that recyclables are separated from non-recyclable waste, pending collection.

20. The owners do not accept or take any responsibility for your guests' personal property. Please ensure you have taken out appropriate insurance coverage as required. Items left behind by guests can be sent to the primary guest's address provided on this guest registration form. A handling fee of \$50 plus costs for shipping will be deposited from the credit card provided on this guest registration form.
21. Check out time is strictly enforced. Late check outs may be negotiated in advance where applicable. Breaches of this condition will result in an automatic cost of \$60 per hour or part thereof being charged to the registered primary guest credit card.
22. Any loss of keys or remote controls have to be reported to the management as soon as possible. A surcharge of \$300.00 will be incurred.
23. The primary guest acknowledges having read and understood these terms and conditions and acknowledges receipt of a copy of the terms and conditions and by execution of the Guest Registration form agrees to be bound by them and be responsible for compliance with the terms and conditions by other occupants of premises.
24. A breach of the Terms and Conditions or House Rules includes, any extra unapproved visitors or guests on the premises at any time; noisy, offensive and/or unruly behaviour; damage to or destruction of property; improper or unseemly conduct; any act or omission which, in the opinion of the owner/manager, adversely affects or brings discredit upon the owner, adjoining neighbour or other guests.
25. The consequence of not complying with the Terms and Conditions can result in termination of occupancy, loss of the security deposit and extra charges. The house rules form part of the Terms and Conditions.

Guest Declaration

This declaration is to be signed to acknowledge the Terms and Conditions and House Rules have been read and understood.

Guest Name (Printed)

Signature

Date

**HOUSE RULES
18 SOLDIERS POINT DRIVE, NORAH HEAD**

NO HENS / BUCKS WEEKENDS

1. Guests and visitors must comply with all House Rules and instructions from the manager.
2. Guests must notify the manager of any disputes or complaints from neighbours as soon as practicable
3. All guests and visitors are expected to behave in a manner which is conducive to the safety, comfort and convenience of others within the property and all surrounding properties.
4. Disturbance of neighbour's – our immediate neighbour's have office contact details, and excessive noise is prohibited and may result in termination of rental and loss of bond.
5. The property is let for only the number of persons specified and agreed in email correspondence to a maximum of 8 people (2 adults per bedroom).
6. A maximum of four (4) visitors are permitted on the premises provided they do not stay overnight.
7. The property is not a "party house" and any such activities are prohibited. Any gathering, celebration or entertainment permitted at the property must not conflict with residential amenity and must comply with all House Rules.
8. There is off street parking for five (5) vehicles. Parking for guests is not permitted on the street.
9. Guests must not create noise which is offensive to neighbours, especially between 10.00pm and 8.00am and during arrival and departure at any time during the occupancy.
10. This is a NO-SMOKING residence. Smoking is not permitted anywhere indoors.
11. Pets are not allowed on the premises unless the property management/owners have agreed expressly.
12. Guests must dispose of all garbage and recycling in accordance with the usual practice within the allocated bins.
13. Security - Whenever you are absent from the Property, close all windows and doors to maintain security and prevent rain and water damage.
14. Emergency Contact - In the event of an emergency relating to the property, please telephone Michelle Thomas on 0405 447 338
15. The Pool and Outside entertainment area must not be used between the hours of 10.00pm and 7.00am. **No glassware** is permitted in the pool.
16. Amplified external music must be turned off at 10.00pm and all guests must move inside after 11.30pm.

17. The owners do not accept or take any responsibility for your guests' personal property.
18. When any guest enters the property, they shall be deemed to have agreed to be bound by the TERMS AND CONDITIONS and agree to compliance.
19. Check out time is enforced. Late check outs may be negotiated in advance where applicable. Breaches of this condition will result in an automatic cost of \$60 per hour or part there of being charged to the registered primary guest credit card.
20. Any loss of keys or remote controls have to be reported to the management as soon as possible. A surcharge of \$300.00 will be incurred.
21. Compliance – breach of the house rules is breach of the terms and conditions of occupancy. Management have the right to evict any occupants and withhold the security deposit should the house rules not be complied with.

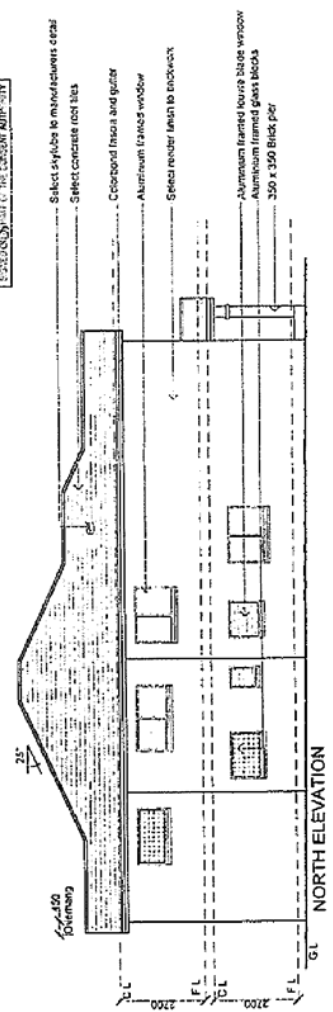
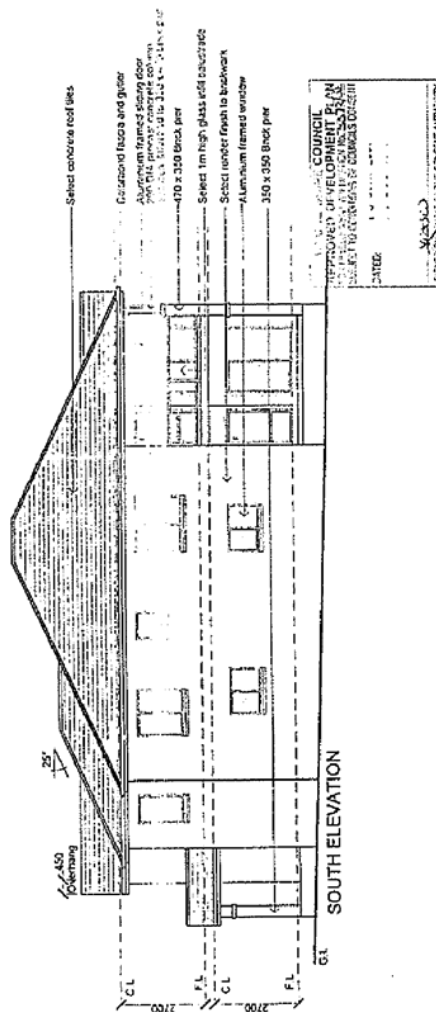
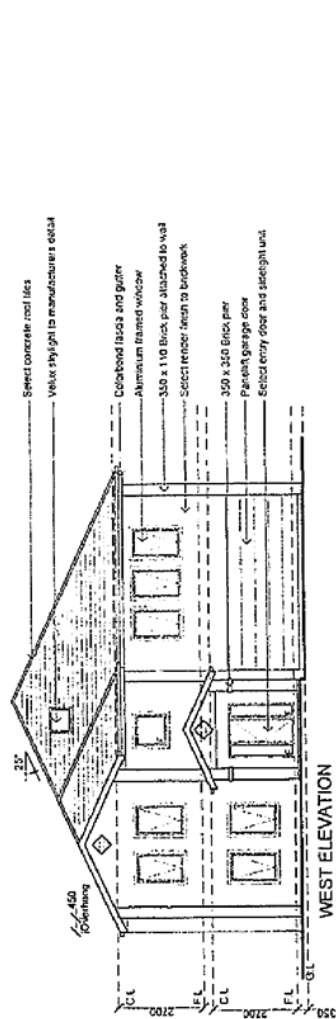
Incident Register – 18 Soldiers Point Drive

Incident	Date

Complaint Management Procedures – 18 Soldiers Point Drive

Date and time received	
Name and designation of complainant (e.g. Guest, neighbour, council, police)	
Nature of complaint	
Action taken (by whom and when)	
Outcome and/or further action required	(e.g. community consultation, meet with council, meet with local police, review management systems or issue resolved.)
Date and time received	
Name and designation of complainant (e.g. Guest, neighbour, council, police)	
Nature of complaint	
Action taken (by whom and when)	
Outcome and/or further action required	(e.g. community consultation, meet with council, meet with local police, review management systems or issue resolved.)
Date and time received	
Name and designation of complainant (e.g. Guest, neighbour, council, police)	
Nature of complaint	
Action taken (by whom and when)	
Outcome and/or further action required	(e.g. community consultation, meet with council, meet with local police, review management systems or issue resolved.)
Date and time received	
Name and designation of complainant (e.g. Guest, neighbour, council, police)	
Nature of complaint	
Action taken (by whom and when)	
Outcome and/or further action required	(e.g. community consultation, meet with council, meet with local police, review management systems or issue resolved.)

DESIGN by Kath Ifield 15 Thelma Street Rydalmere NSW 2108 Ph: 9834 4852		PROJECT THOMAS RECREATION LOT 3 DP 758074 No 18 SOLIDERS POINT ROAD NORTH MEAD NSW	SCALE 1:100 DATE DECEMBER 2002	DRAWING ELEVATIONS JOB No.: 2002 - 35 DRAWING No.: A 03 ISSUE A
ISSUE DATE AMENDMENT				





Item No: 5.12
Title: Management Activities at Wamberal and Terrigal Beaches
Department: Assets, Infrastructure and Business

10 December 2018 Ordinary Council Meeting

Trim Reference: F2018/00020-05 - D13316622

Author: Ben Fullagar, Section Manager, Coastal Protection

Manager: Peter Ham, Unit Manager, Waterways and Coastal Protection

Executive: Scott Cox, Director, Environment and Planning

Summary

The purpose of this report is to provide an update on the activities being undertaken to manage the presence of asbestos containing material (ACM) located on the public areas of Terrigal Beach and Wamberal Beach. This report also recommends that Council commence work on a preliminary investigation and concept design for the Wamberal Terminal Protection seawall.

Recommendation

- 1 That Council receive and note the report on Management Activities at Wamberal and Terrigal Beaches.**
- 2 That Council note the funding offer provided by the NSW Government for the Wamberal Terminal Protection and Sand Nourishment preliminary investigations and concept design.**
- 3 That Council request the CEO to commence the Wamberal Terminal Protection and Sand Nourishment preliminary investigations and concept design.**

Background

Management of Asbestos Containing Materials

The erosion which occurred during the June 2016 storm exposed a number of waste materials including suspected asbestos containing materials (ACM), car bodies, concrete tanks and building rubble on both private property and public land at Wamberal Beach. Council staff undertook removal of all material from the beach seaward of the erosion scarp immediately following the event.

On Friday, 13 April 2018, the NSW Environment Protection Authority (EPA) was advised by the media that fragments of asbestos had been found on Wamberal Beach. On Friday, 13 April 2018 the EPA referred the matter to Council for investigation and action.

5.12 Management Activities at Wamberal and Terrigal Beaches (contd)

Building materials including suspected ACM have since been identified at Terrigal Beach which has been included in Council's monitoring program. Since April 2018, Council staff have conducted regular inspections along the Terrigal and Wamberal Beaches to identify any items that could potentially be ACM. Any material suspected of being ACM, found by Council staff, or members of the public, is removed by trained Council staff and the material is disposed of to landfill in accordance with legislative requirements. Note that this is presently limited to ACM found on the beach and does not include ACM that is contained within the soil profile or on adjoining private properties. Removing material that is embedded in the soil profile may present a greater risk than leaving it there.

Council staff have installed orange parawebb fencing in front of a number of properties along Wamberal Beach where potential ACM contamination has been identified. The fencing is at least two metres off the toe of the erosion escarpment. In a number of locations the encroachment of private development, including fill material containing potential ACM contamination, extends onto the public beach. Council staff members generally do not remove suspected ACM material from the area within the orange parawebb fence due to the material being embedded in the fill material or located on an unstable embankment.

Council has engaged a qualified Environmental Consultant to inspect the Wamberal and Terrigal Beach area and provide advice to Council on the risk to public health, and recommendations for future management. The scope of work includes:

- A site inspection of the Wamberal and Terrigal Beach area (undertaken 4 May 2018).
- A review of historical aerial photographs and other available information.
- Laboratory testing of a sample of fragments of 'fibro' found, to determine if they contain asbestos.
- A Site Inspection Report summarising the findings of the above tasks.
- Preparation of a Risk Management Plan to advise Council on the level of risk to the public and recommended management actions for Council.
- Preparation of a Community Fact Sheet outlining the potential risks and how to best manage the identified risk. This was distributed to beachfront residents in Terrigal and Wamberal on 17 May 2018.

The Site Inspection Report and Risk Management Plan (see Attachment 1) contained a number of recommendations to address the level of risk and data gaps identified by the consultant. These recommendations are outlined at Table 2 of the Risk Management Plan and are summarised below with their status. In summary the report concluded that the risk to human health from the potential ACM was considered low due to the non-friable nature of the ACM material and the risk of exposure under normal conditions is considered negligible.

5.12 Management Activities at Wamberal and Terrigal Beaches (contd)

Background Asbestos Air Monitoring (AAM) and test pitting was undertaken by the environmental consultant during September and October 2018. The sampling did not detect any asbestos fibres in the air or beach sand. This confirmed the initial low risk assessment to human health made in the Risk Management Plan. A copy of the results of the investigation report is at Attachment 2.

Management Actions

The following management actions are being undertaken by Council staff:

- Issue media release regarding matters relating to suspected ACM on public areas of beach at Wamberal and Terrigal (completed in late July 2018).
- Complete a survey of mean high water mark and overlay GPS coordinates of collection locations to determine who is responsible for management of the land that the material is being collected from (completed on 15 August 2018).
- Following collation of data, arrange a meeting with representatives from DPI Lands to discuss mutual obligations and a partnered approach to managing these issues on the public land. (Meeting was held on 7 September 2018).
- A comprehensive briefing was provided to Councillors on the 17 September 2018
- Engage external supplier to undertake Asbestos Air Monitoring (AAM) (completed).
- Engage external supplier to excavate test pits and undertake sampling of beach sand for presence/absence of asbestos fibres. (completed).
- Investigate appropriate signage to be installed prior to commencement of patrolled beach season commencing Friday 29 September 2018 (completed).
- Update Risk Management Plan with results from Asbestos Air Monitoring (AAM) and test pits (Preliminary investigation report completed and copy at Attachment 2).

Investigation and Design of Wamberal Terminal Protection Seawall and Sand Nourishment

Under the NSW State Government's Coastal and Estuary Grants Program, Council has been offered up to \$207,500 on a 50:50 contribution basis from Council, providing a total of \$415,000 for preliminary investigations and concept design for a Terminal Protection seawall at Wamberal. This will allow Council to work with the NSW Office of Environment and Heritage and other stakeholders on the following actions in the Gosford Coastal Zone Management Plan:

- TW11 – Terminal protection – Council to action review, design and funding of terminal protection structure for Wamberal (Responsibility: Council/OEH/local landholders),

5.12 Management Activities at Wamberal and Terrigal Beaches (contd)

- TW14 – Investigate sources of sand and feasibility of beach nourishment for Wamberal Beach (Responsibility: Council/OEH),
- TW15 – Beach nourishment coupled with a terminal revetment to increase buffer against storm erosion (Responsibility: Council/OEH),

The preliminary investigation and concept design for a terminal protection seawall and the sand nourishment will involve:

- Preliminary investigations and concept design for a Terminal Protection Structure including Beach Nourishment Strategy:
 - Land Survey and Geotechnical investigation
 - Geotechnical Investigation and Occupational Hygiene Analysis,
 - Concept Design report and options assessment for terminal protection structure and beach nourishment options (including structural and coastal engineering)
 - Community Consultation and Workshops
 - Environmental and Coastal Impact Assessment
- Completion of Cost Benefit and Distribution Analysis:
 - Update construction and maintenance cost estimates using QS
 - Update existing draft CBA and benefits distribution analysis
 - Produce Draft Funding Model and Delivery Model in consultation with property owners and NSW Government
 - Finalise Funding and Delivery Model

The scope of this work is broad and ultimately will depend on the gap between currently available information and any unexpected details arising from further investigations. There are a number of issues such as land ownership that may also take some unknown length of time to resolve, prior to any decision by Council to proceed to final design.

The current project schedule for preliminary activities provides for the finalisation of recommendations to be presented to Council for consideration by June 2020.

In order for this project to proceed to final design and construction, there are a range of decisions for Council to make, such as:

5.12 Management Activities at Wamberal and Terrigal Beaches (contd)

- Agreement from Council regarding the actual delivery method and role of Council – either private or Council, and then whether Council will auspice the construction of a seawall.
- Agreement for an appropriate funding formula to allocate both capital costs and maintenance/renewal costs between beneficiaries.
- Agreement from other probable beneficiaries such as the NSW State Government and property owners to the funding formula
- Agreement from Council (or others) in terms of land ownership relative to the proposed location of a protection wall.
- Agreement from third parties such as the NSW Crown Lands should the seawall not be able to be constructed fully on private or Council land.
- Agreement from Council on the financing of a seawall – how are the initial funds to be raised, should Council agree to proceed to construction?
- Establishment of a Council policy for the process of funding, financing and construction of the seawall on private lands.

Financial Impact

Council has had to fund additional inspections and arrange for reports to be prepared by consultants. The cost to date has been estimated at approximately \$90,000. These activities have been able to be funded due to savings in operational areas. The 50% Council contribution to the preliminary investigation and concept design of the Wamberal Terminal Protection and Sand Nourishment project is included in the 2018/19 budget.

Link to Community Strategic Plan

Theme 3: Green

Goal F: Cherished and protected natural beauty

G-F1: Protect our rich environmental heritage by conserving beaches, waterways, bushland, wildlife corridors and inland areas, and the diversity of local native species.

Attachments

- | | | |
|---|---|-----------|
| 1 | Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan | D13372578 |
| 2 | PRM - Preliminary Asbestos Assessment, Terrigal and Wamberal Beach - 22.10.18 - P033823.015 | D13338203 |



22 October 2018

Central Coast Council

P.O Box 20
Wyong, NSW 2259

Attention: Martin Ball

Preliminary Asbestos Assessment – Terrigal and Wamberal Beach

1. Introduction

Progressive Risk Management (PRM) was engaged by Central Coast Council (Council) to undertake a preliminary asbestos assessment at Terrigal and Wamberal Beaches, located on the NSW Central Coast (referred to as 'the site').

The areas assessed include:

- Wamberal beach: between the Wamberal Surf Life Saving Club (SLSC) in the north, and Terrigal Lagoon in the south.
- Terrigal beach: between the Terrigal SLSC in the north, and the rock pool in the south (adjacent Ash Street).

Figure 1 provides the regional site location and **Figure 2** provides the assessment areas.

2. Background

Suspected asbestos containing material (ACM), generally in the form of bonded cement fragments has been identified by staff members of Council and the general public at various locations across the site. The suspected ACM has been generally identified deposited at the high-tide mark at the site.

The source/s of the suspected ACM contamination identified at Wamberal beach is unclear. However, suspected ACM identified at Wamberal Beach is thought to be associated with a number of significant storm events over the last 50 years which have disturbed improvised shore protection structures (containing waste/fill including ACM), and in some instances, entire houses (suspected to contain ACM) which have been washed into the ocean.

The source/s of the suspected ACM contamination identified at Terrigal Beach is also unclear. However, anecdotal evidence suggests it may be associated with the historical construction and backfilling of a former timber sea wall at Terrigal Beach. It is understood that the former sea wall is located beneath the sand at the southern end of Terrigal Beach, in the area assessed.

3. Objective

The objective of the preliminary assessment was to investigate the upper 1.0 m of beach strata for the presence of significant anthropogenic material, including ACM, which may be contributing to suspected ACM fragments regularly identified at the high tide mark at various locations across the site.



4. Scope of Works

The scope of works of the preliminary assessment included:

- Preparation of all relevant safety documentation for the works including Safe Work Method Statement (SWMS).
- A site walkover/visual observation of the site to identify indicators of potential contamination, such as suspected ACM.
- Excavation of 75 test pits inclusive of; a visual assessment, logging and sample collection (where deemed necessary).
- Background asbestos air monitoring (AAM) at the site inclusive of NATA-accredited laboratory analysis of the air monitoring samples.
- NATA-accredited laboratory analysis of selected beach sand samples for asbestos.
- Preparation of a letter report inclusive of photographic log.

5. Methodology

Test pitting:

A herringbone investigation pattern with approximately 40 metre spacing was adopted for the test pit locations. A total of 75 observational test pits were excavated to a target depth of approximately 1 m across the site. A total of 67 test pits were excavated at Wamberal beach and 8 at Terrigal Beach.

Test pits were excavated using a 5-tonne excavator to the target depth. At each test pit location, the beach surface was inspected for any anthropological inclusions, including suspected ACM. As the test pits were excavated, each bucket of sand was dispersed evenly along the ground in chronological order to be inspected for the presence of ACM fragments.

All locations were surveyed using a Trimble – R1 Handheld GNSS Receiver and latitudes and longitudes were recorded (WGS84).

All investigation locations are shown in **Figures 2, 3 and 4 (Areas 1-7)**.

Soil Sample Collection and Laboratory Analysis:

At selected test pit locations, a 500ml sample of beach sand was collected for laboratory analysis for asbestos. Samples were collected via hand using fresh nitrile gloves and placed directly into zip-lock bags labelled with a unique sample ID. All samples were transported to a NATA-accredited analytical laboratory (Envirolab Services Pty Ltd) under chain of custody (COC) conditions for analysis.

A total of 29 soil samples were analysed for asbestos. Standard sampling procedures for contaminated site investigations were adhered to at all times.

Background Asbestos Air Monitoring (AAM):

Air monitors were placed at various locations around the site to measure the background concentrations for potential asbestos fibres in ambient air. Background AAM was conducted in accordance with the NOHSC:3003(2005) with samples then analysed by an external NATA-accredited laboratory, Envirolab Services Pty Ltd.

A total of five AAM events were undertaken at Wamberal Beach between 27 August and 26 September 2018. The AAM at Wamberal Beach consisted of 6 air monitors placed on the beach front and along public access pathways.

A total of five AAM events were undertaken at Terrigal Beach between 27 August and 4 October 2018. The AAM at Wamberal Beach consisted of 4 air monitors placed along public walkways and on Terrigal Beach.

Additional AAM was completed during the intrusive excavation works on Wamberal and Terrigal Beach, with an air monitor placed on the western side of the fenced off work zone.



6. Assessment Criteria

Asbestos in soils:

National Environment Protection Council (1999, Revised 2013) National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 – *Schedule B1 Guideline on Investigation levels for Soil and Groundwater* (NEPC, 2013) provides health-based screening levels for different forms of asbestos contamination in soil.

To apply these screening levels, significant investigations, excavation and sample volumes are required to assess the volume of asbestos relative to soil. In consideration of the scope and objectives of the investigation, PRM adopted a high level criterion to assess the presence / absence of asbestos in soil samples and whether additional investigations are required to assess the risk to site users.

The high level criteria adopted by PRM was 'no asbestos in any form observed on the site surface at test pit locations or present in analytical results'.

Air monitoring criteria:

WA Department of Health (DOH) *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia* (May 2009) recommend an exposure trigger level of 0.01 fibres per millilitre (f/ml) asbestos air quality limit to protect the public, which is the limit of detection using the membrane filter method.

PRM adopted this criterion in relation to measuring the background levels for potential asbestos fibres in ambient air.

7. Results

The following sections summarise the results of the preliminary assessment. The photographic log presented in **Appendix A** documents key stages of the test pitting works. Laboratory analytical results are summarised in **Table 1** and provided in laboratory reports in **Appendix B**.

Visual Inspection:

The results of the visual assessment found that the subsurface conditions within the observational test pits consisted of beige beach sand. Suspected ACM was not observed at the ground surface of the test pit locations or during the excavation to the target depth.

Anthropogenic inclusions were observed at the following locations:

- TP49: concrete fragments were observed at 1.0 mbgl.
- TP55: concrete and rock boulders were observed at 1.0 mbgl.
- TP69: the staircase extending from Terrigal Boulevard was reached at 1.0 mbgl.

Soil Laboratory Results

Asbestos was not detected at the laboratory reporting limit in the soil samples analysed. All NATA accredited analysis certificates are attached in **Appendix B**.

Table 1: Summary of analytical results

Test pit ID	Depth (mbgl):	Location:	Sample Description:	Analytical Results:
OP06	0.1-0.2	Wamberal Beach	Beige sand, no inclusions	No asbestos detected
OP09	0.1-0.2	Wamberal Beach	Beige sand, no inclusions	No asbestos detected
OP12	0.1-0.2	Wamberal Beach	Beige sand, no inclusions	No asbestos detected
OP16	0.1-0.2	Wamberal Beach	Beige sand, no inclusions	No asbestos detected
OP20	0.1-0.2	Wamberal Beach	Beige sand, no inclusions	No asbestos detected
OP23	0.1-0.2	Wamberal Beach	Beige sand, no inclusions	No asbestos detected



Table 1: Summary of analytical results

Test pit ID	Depth (mbgl):	Location:	Sample Description:	Analytical Results:
OP27	0.1-0.2	Wamberal Beach	Beige sand, no inclusions	No asbestos detected
OP29	0.1-0.2	Wamberal Beach	Beige sand, no inclusions	No asbestos detected
OP31	0.1-0.2	Wamberal Beach	Beige sand, no inclusions	No asbestos detected
OP34	0.1-0.2	Wamberal Beach	Beige sand, no inclusions	No asbestos detected
OP37	0.1-0.2	Wamberal Beach	Beige sand, no inclusions	No asbestos detected
OP40	0.1-0.2	Wamberal Beach	Beige sand, no inclusions	No asbestos detected
OP42	0.1-0.2	Wamberal Beach	Beige sand, no inclusions	No asbestos detected
OP44	0.1-0.2	Wamberal Beach	Beige sand, no inclusions	No asbestos detected
OP47	0.1-0.2	Wamberal Beach	Beige sand, no inclusions	No asbestos detected
OP49	0.1-0.2	Wamberal Beach	Beige sand, concrete slab at 1.0 mbgl	No asbestos detected
OP52	0.1-0.2	Wamberal Beach	Beige sand, no inclusions	No asbestos detected
OP55	0.1-0.2	Wamberal Beach	Beige sand, rock / concrete at 1.0 mbgl	No asbestos detected
OP57	0.1-0.2	Wamberal Beach	Beige sand, no inclusions	No asbestos detected
OP62	0.1-0.2	Wamberal Beach	Beige sand, no inclusions	No asbestos detected
OP65	0.1-0.2	Wamberal Beach	Beige sand, no inclusions	No asbestos detected
OP69	0.1-0.2	Terrigal Beach	Beige sand, concrete stairs at 1.0 mbgl	No asbestos detected
OP70	0.1-0.2	Terrigal Beach	Beige sand, no inclusions	No asbestos detected
OP71	0.1-0.2	Terrigal Beach	Beige sand, no inclusions	No asbestos detected
OP72	0.1-0.2	Terrigal Beach	Beige sand, no inclusions	No asbestos detected
OP73	0.1-0.2	Terrigal Beach	Beige sand, no inclusions	No asbestos detected
OP74	0.1-0.2	Terrigal Beach	Beige sand, no inclusions	No asbestos detected
OP75	0.1-0.2	Terrigal Beach	Beige sand, no inclusions	No asbestos detected
OP76	0.1-0.2	Terrigal Beach	Beige sand, no inclusions	No asbestos detected

Air monitoring Results:

All results were below the detection limit of 0.01 fibre/mL of air, the lowest detectable limit for the method used.

Air monitoring reports included in **Appendix C**.



8. Conclusions

Field observations and the data collected during the preliminary investigation supports the following conclusions:

- Suspected ACM was not visually observed on the surface in the vicinity of any of the test pits excavated as part of the investigation.
- Suspected ACM was not visually observed within the upper 1.0m of beach strata in any of the test pits excavated as part of the investigation.
- Laboratory analytical results indicate asbestos was not detected at the laboratory limit of reporting.
- Background AAM results were below the detection limit of 0.01 fibre/ml.

The results of the preliminary investigation indicate that the source of suspected ACM identified at the site is unlikely to be associated with gross ACM contamination being present within the beach strata of Terrigal and Wamberal beaches.

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Limitations


This report is confidential and has been prepared by Progressive Risk Management Pty Ltd (PRM) for Central Coast Council (the client). This report may only be used and relied upon by the client and must not be copied to, used by or relied upon by any person other than the client. This report is limited to the observations made by PRM during the Contamination Assessment, and was limited to the assessment of contamination in soils only, as detailed in the *Scope of Works and Methodology*.

All results, conclusions and recommendations presented should be reviewed by a competent person before being used for any other purpose. PRM accepts no liability for use of, interpretation of or reliance upon this report by any person or body other than the client. Third parties must make their own independent inquiries.

This report should not be altered amended or abbreviated, issued in part or issued incomplete without prior checking and approval by PRM. PRM accepts no liability that may arise from the alteration, amendment, abbreviation or part-issue or incomplete issue of this report. To the maximum extent permitted by law, all implied warranties and conditions in relation to the services provided by PRM and this report are expressly excluded (save as agreed otherwise with the client).

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

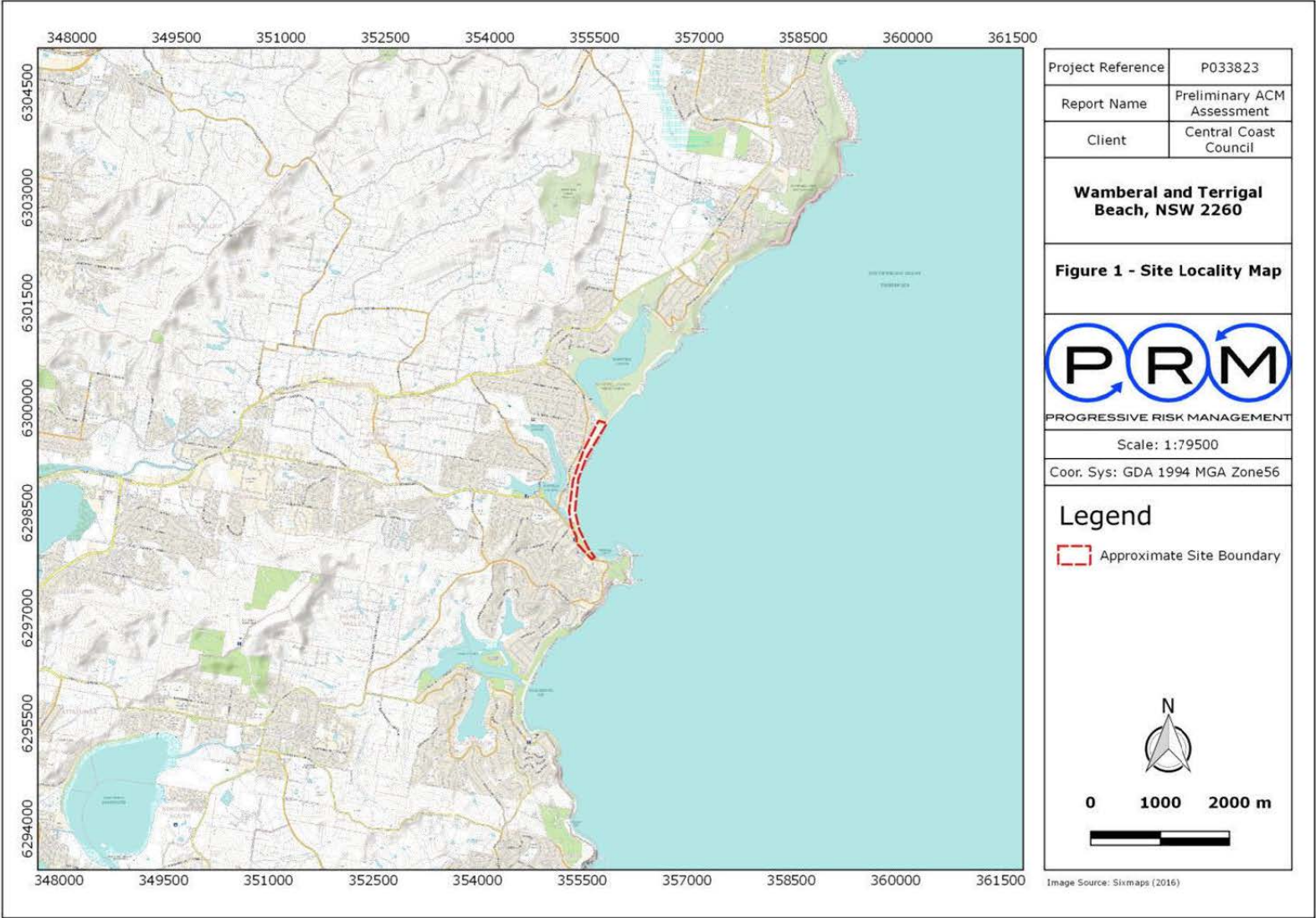
Document Control

Project Details and Report Review:					
Project Details					
Project Name:		Preliminary Asbestos Assessment			
Site Address:		Terrigal / Wamberal Beach, NSW 2260			
Client Name:		Central Coast Council			
Project Reference:		P033823.015			
Report Version					
Report Version:		Rev0: Draft			
Current Version Review					
Prepared by:		Technical Review by:		Authorised for Issue by:	
					
Name:	Sarah Dale	Name:	Jonathan Coffey	Name:	Nick Passlow
Position:	Consultant	Position:	Principal Consultant	Position:	Director
Date:	12/10/2018	Date:	17/10/2018	Date:	18/10/2018

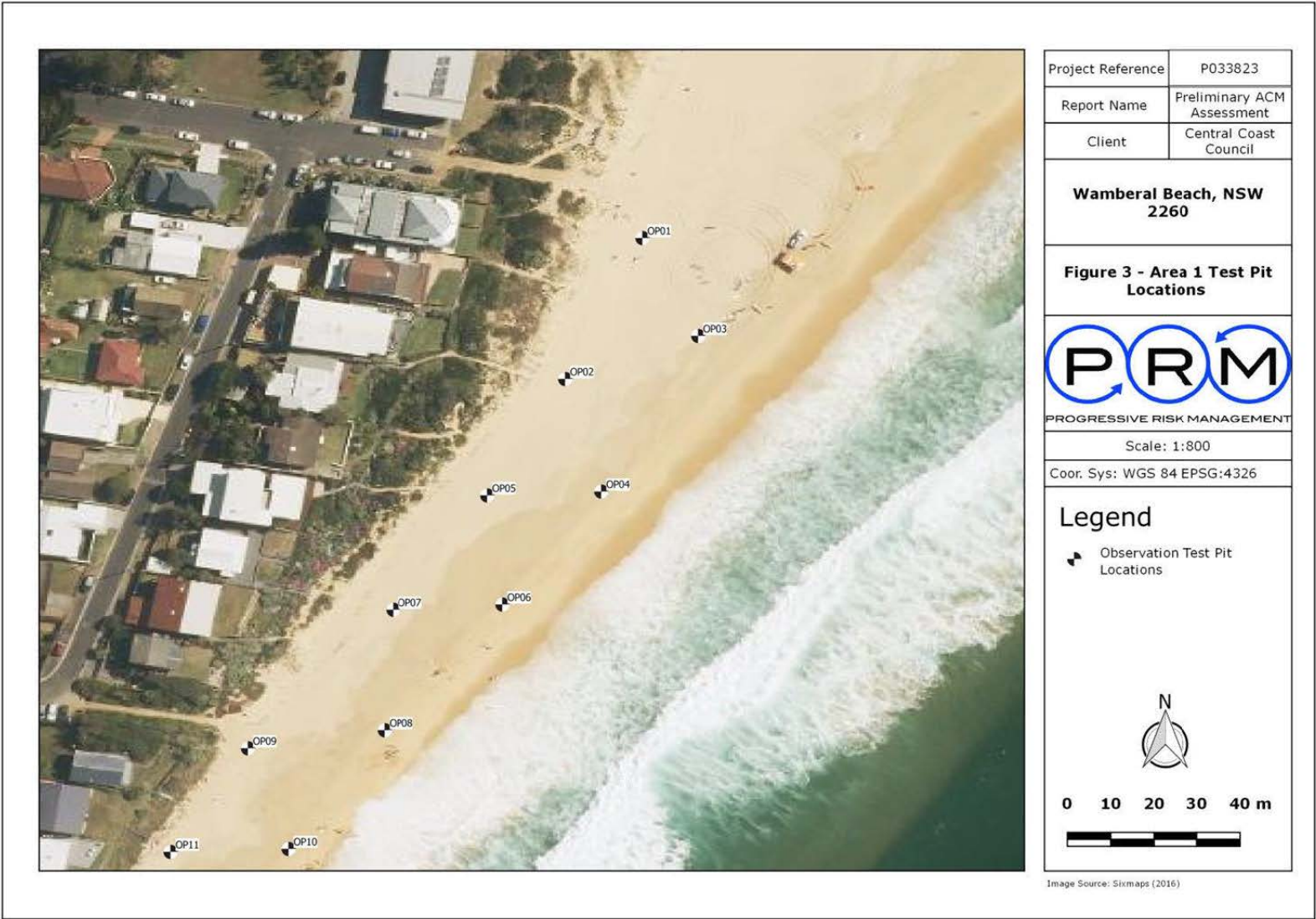


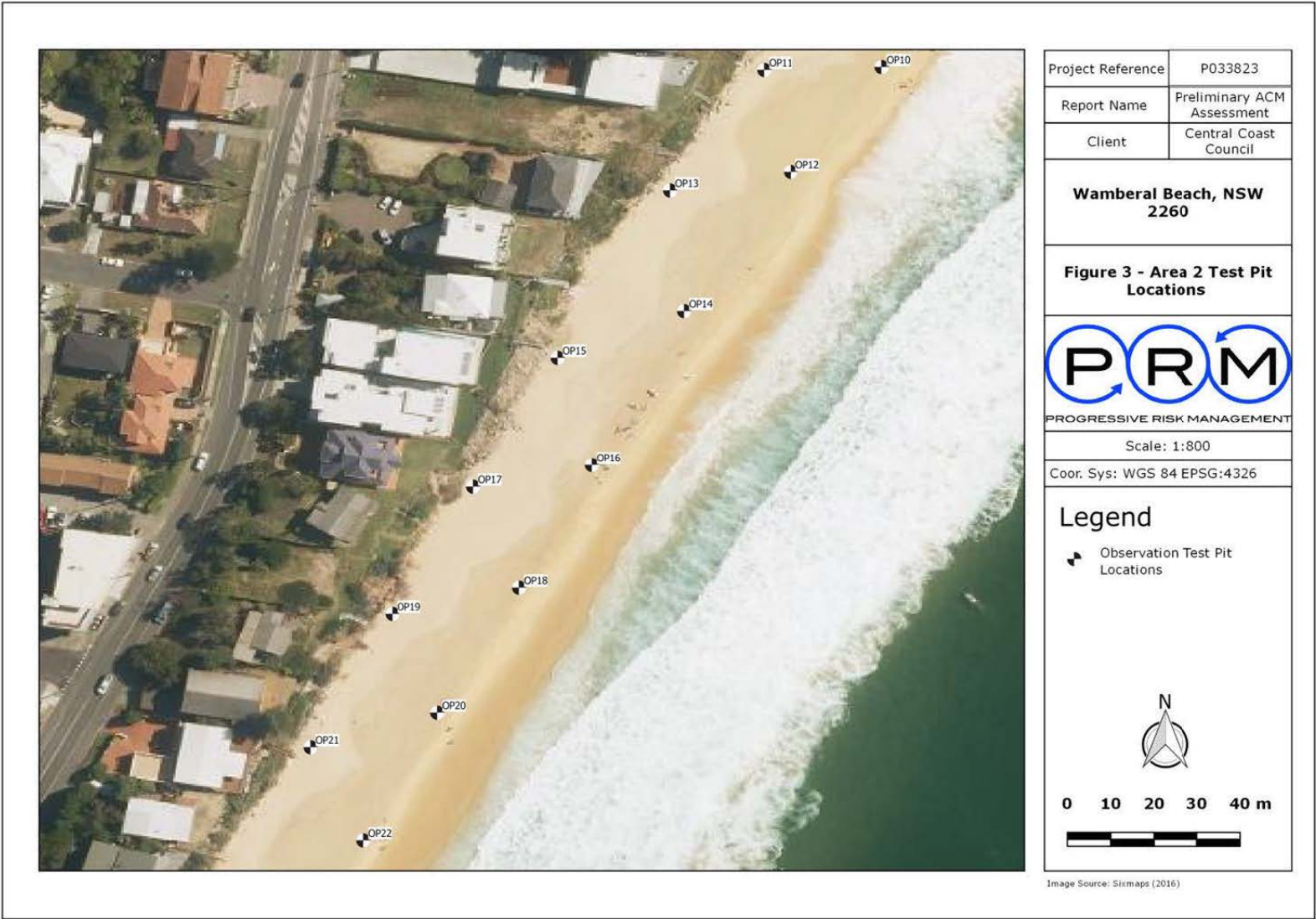
Figures

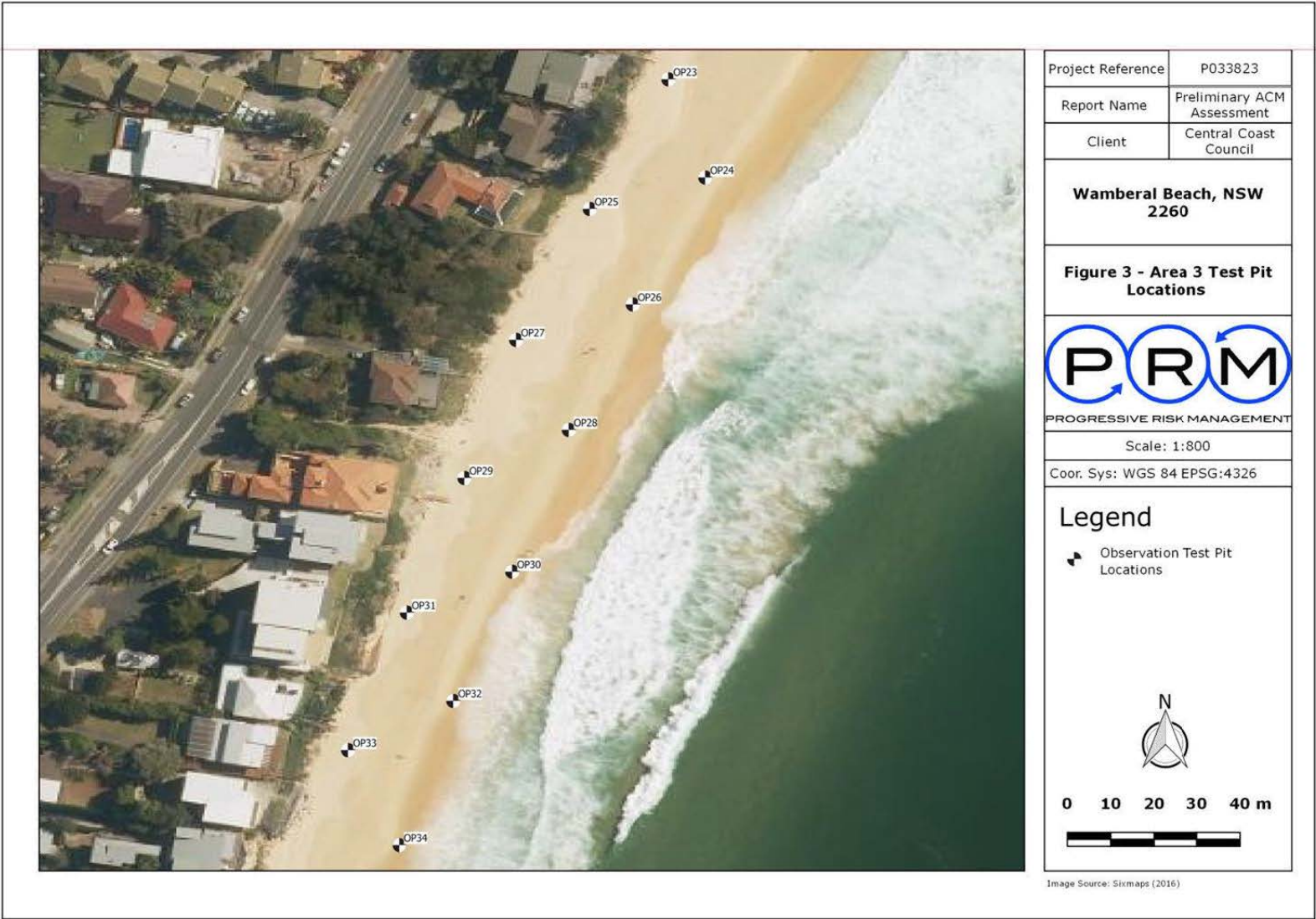
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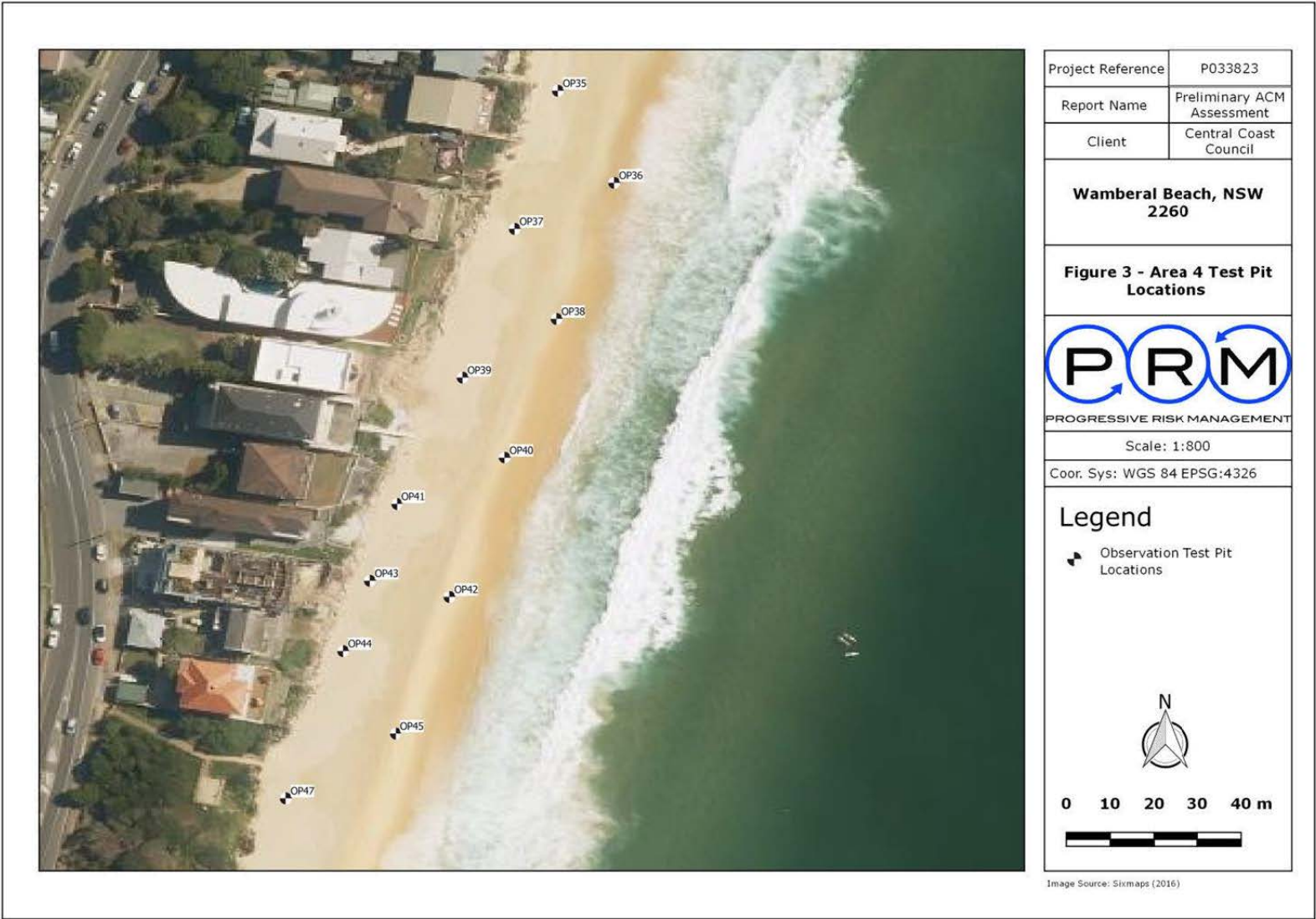


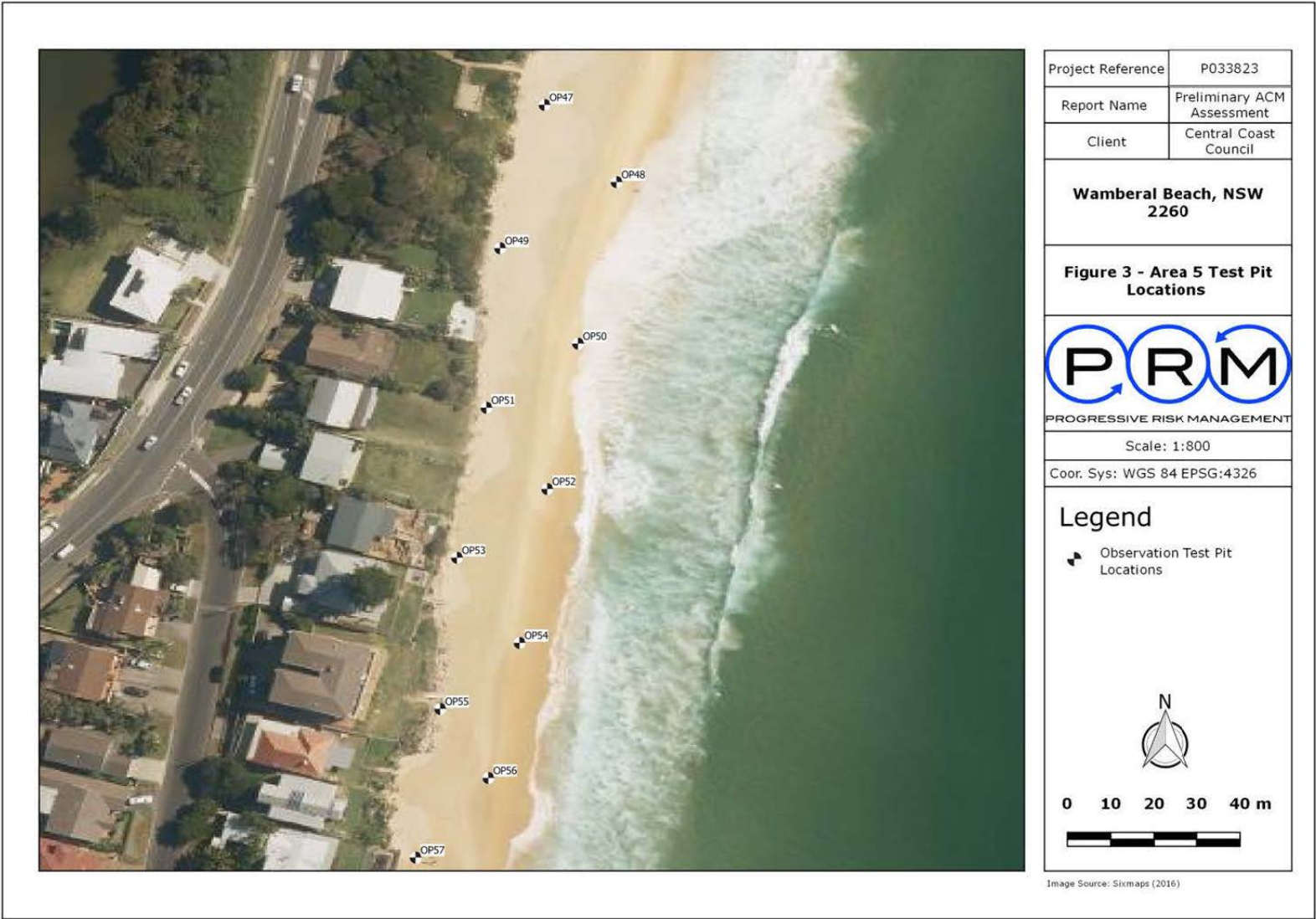


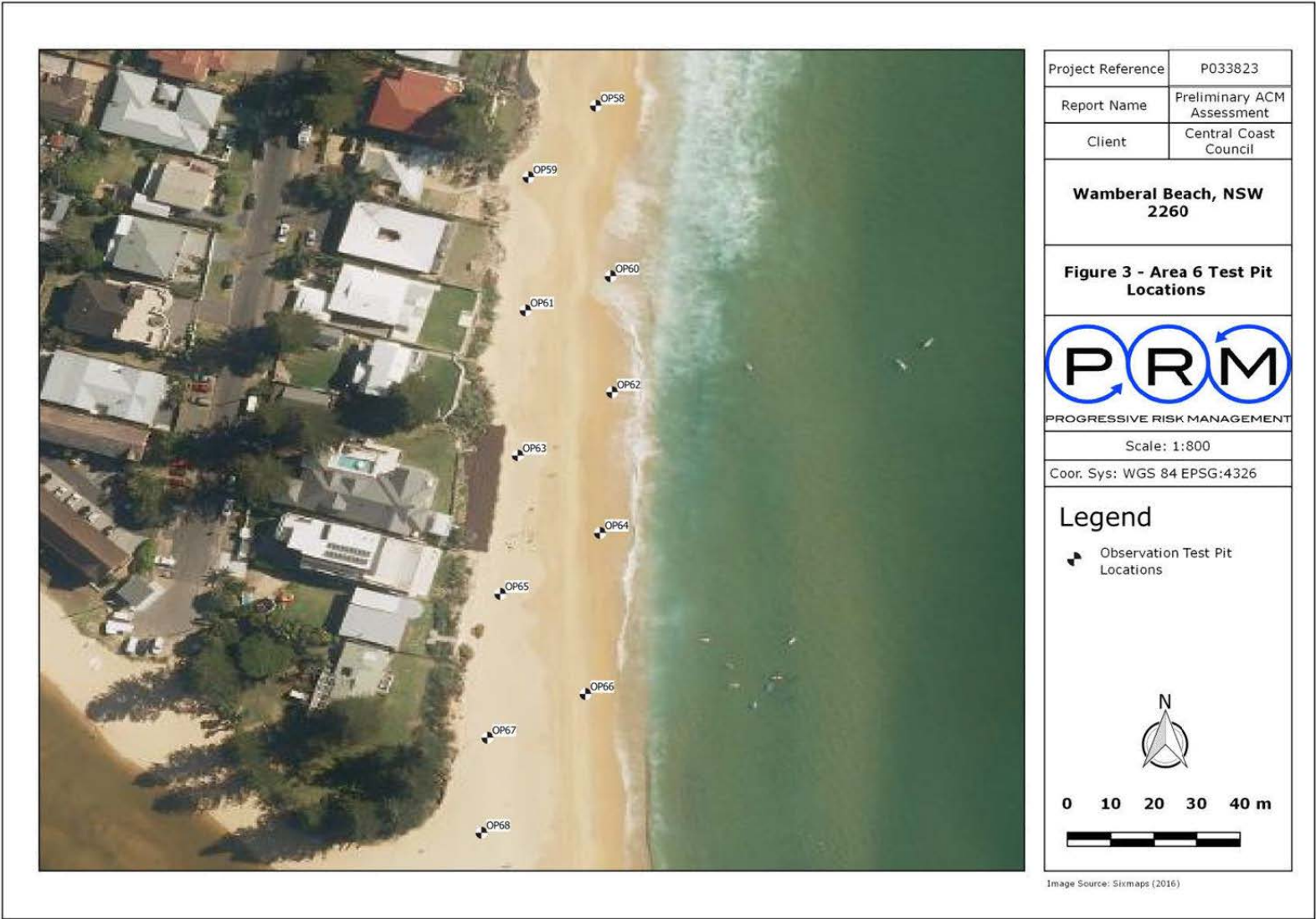


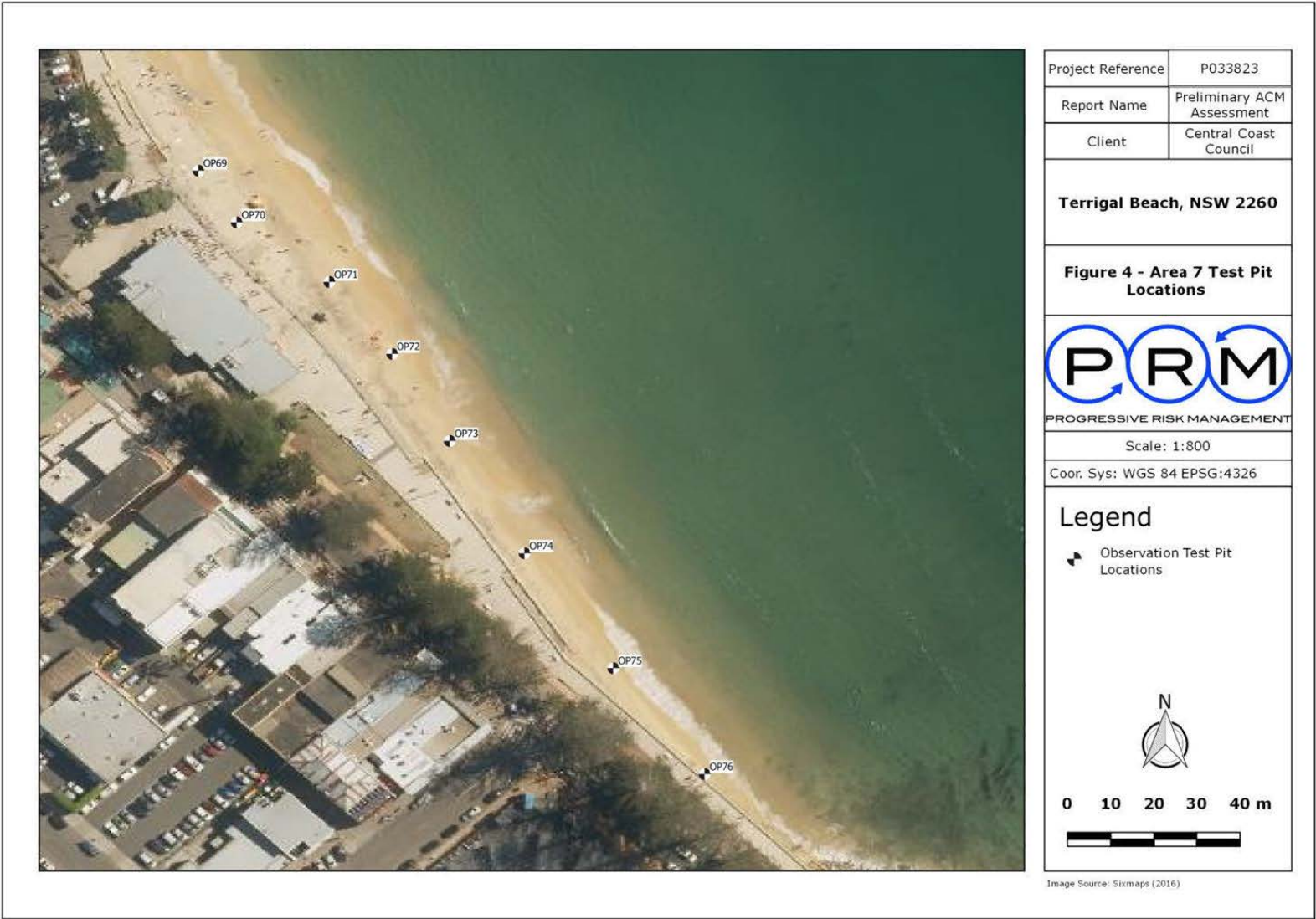














Appendix A

Photolog







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Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan






Photolog - Wamber Beach 28/08/2018	
Report Name:	Preliminary ACM Assessment
Project Ref:	P033823.015 / C0171
Site Details:	Wamberal Beach - Wamberal Beach, Wamberal NSW 2260

 Photo 1: image of 01-01	 Photo 2: image of 01-02
 Photo 3: image of 01-03	 Photo 4: image of 01-04
 Photo 5: image of 01-05 (distance observation photo)	 Photo 6: image of 01-06









Photolog - Wamber Beach 28/08/2018	
Report Name:	Preliminary ACM Assessment
Project Ref:	P033823.015 / C0171
Site Details:	Wamberal Beach - Wamberal Beach, Wamberal NSW 2260

 Photo 001 - image of 01/20	 Photo 002 - image of 01/20
 Photo 003 - image of 01/20	 Photo 004 - image of 01/20







Photolog - Wamber Beach 29/08/2018	
Report Name:	Preliminary ACM Assessment
Project Ref:	P033823.015 / C0171
Site Details:	Wamberal Beach - Wamberal Beach, Wamberal NSW 2260

 Photo of image of 01/30	 Photo of image of 01/30
 Photo of image of 01/30	 Photo of image of 01/30
 Photo of image of 01/30	 Photo of image of 01/30



Photolog - Wamber Beach 29/08/2018	
Report Name:	Preliminary ACM Assessment
Project Ref:	P033823.015 / C0171
Site Details:	Wamberal Beach - Wamberal Beach, Wamberal NSW 2260

	
Photo 1 - image of 0172	Photo 2 - image of 0173
	
Photo 3 - image of 0174	Photo 4 - image of 0175

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



Photolog - Wamber Beach 25/09/2018	
Report Name:	Preliminary ACM Assessment
Project Ref:	P033823.015 / C0171
Site Details:	Wamberal Beach - Wamberal Beach, Wamberal NSW 2260



Photo 1. image of 01/17



Photo 2. image of 01/17



Photo 3. image of 01/17



Photo 4. image of 01/17



Photo 5. image of 01/17



Photo 6. image of 01/17



Photolog - Wamber Beach 25/09/2018	
Report Name:	Preliminary ACM Assessment
Project Ref:	P033823.015 / C0171
Site Details:	Wamberal Beach - Wamberal Beach, Wamberal NSW 2260



Photo 1. image of 01.02



Photo 2. image of 01.02



Photo 3. image of 01.02



Photo 4. image of 01.02



Photo 5. image of 01.02



Photo 6. image of 01.02



Photolog - Wamber Beach 25/09/2018	
Report Name:	Preliminary ACM Assessment
Project Ref:	P033823.015 / C0171
Site Details:	Wamberal Beach - Wamberal Beach, Wamberal NSW 2260



Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



Photolog - Terrigal Beach 26/09/2018	
Report Name:	Preliminary ACM Assessment
Project Ref:	P033823.015 / C0171
Site Details:	Terrigal Beach - Terrigal Beach, Terrigal NSW 2260





 Photo 1: image of 01/02	 Photo 2: image of 01/03
 Photo 3: image of 01/04	 Photo 4: image of 01/05
 Photo 5: image of 01/06	 Photo 6: image of 01/07

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



Photolog - Terrigal Beach 26/09/2018	
Report Name:	Preliminary ACM Assessment
Project Ref:	P033823.015 / C0171
Site Details:	Terrigal Beach - Terrigal Beach, Terrigal NSW 2260

	
Photo 1: Image of G173	Photo 2: Image of G174
	
Photo 3: Image of G175	Photo 4: Image of G176
End of Photolog	



Appendix B

NATA Accredited Laboratory Results

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Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



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

CERTIFICATE OF ANALYSIS 199892**Client Details**

Client	Progressive Risk Management Pty Ltd
Attention	Jonathan Coffey
Address	79 Darley Rd, Manly, NSW, 2095

Sample Details

Your Reference	PO33823 CCC Wamberal
Number of Samples	14 soil
Date samples received	04/09/2018
Date completed instructions received	04/09/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	10/09/2018
Date of Issue	10/09/2018
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Asbestos Approved By

Analysed by Asbestos Approved Identifier: Matt Tang
 Authorised by Asbestos Approved Signatory: Matt Tang

Results Approved By

Matthew Tang, Asbestos Analyst

Authorised By

Jacinta Hurst, Laboratory Manager

Envirolab Reference: 199892
 Revision No: R00



Page | 1 of 7

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: PO33823 CCC Wamberal

Asbestos ID - soils NEPM - ASB-001						
Our Reference		199892-1	199892-2	199892-3	199892-4	199892-5
Your Reference	UNITS	OP06	OP09	OP12	OP16	OP20
Depth		0.3-0.4	0.3-0.4	0.1-0.2	0.1-0.2	0.1-0.2
Type of sample		soil	soil	soil	soil	soil
Date analysed	-	06/09/2018	06/09/2018	06/09/2018	06/09/2018	06/09/2018
Sample mass tested	g	1,211.18	1,019.45	1,174.32	1,166.62	1,202.24
Sample Description	-	Beige sandy soil	Beige sandy soil	Beige sandy soil	Beige sandy soil	Beige sandy soil
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos ^{#1}	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	-	-	-	-	-
FA and AF Estimation*	g	-	-	-	-	-
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation ^{#2}	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: PO33823 CCC Wamberal

Asbestos ID - soils NEPM - ASB-001						
Our Reference		199892-6	199892-7	199892-8	199892-9	199892-10
Your Reference	UNITS	OP23	OP27	OP29	OP31	OP34
Depth		0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Type of sample		soil	soil	soil	soil	soil
Date analysed	-	06/09/2018	06/09/2018	06/09/2018	06/09/2018	06/09/2018
Sample mass tested	g	1,185.91	1,102.38	943.23	1,206.74	1,079.06
Sample Description	-	Beige sandy soil	Beige sandy soil	Beige sandy soil	Beige sandy soil	Beige sandy soil
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos ^{#1}	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	-	-	-	-	-
FA and AF Estimation*	g	-	-	-	-	-
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation ^{#2}	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: PO33823 CCC Wamberal

Asbestos ID - soils NEPM - ASB-001					
Our Reference		199892-11	199892-12	199892-13	199892-14
Your Reference	UNITS	OP37	OP40	OP42	OP44
Depth		0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Type of sample		soil	soil	soil	soil
Date analysed	-	06/09/2018	06/09/2018	06/09/2018	06/09/2018
Sample mass tested	g	1,073.15	1,096.73	948.9	1,089.9
Sample Description	-	Beige sandy soil	Beige sandy soil	Beige sandy soil	Beige sandy soil
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos ^{#1}	g/kg	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	—	—	—	—
FA and AF Estimation*	g	—	—	—	—
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation* ^{#2}	%(w/w)	<0.001	<0.001	<0.001	<0.001

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: PO33823 CCC Wamberal

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
ASB-001	<p>Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004.</p> <p>Results reported denoted with * are outside our scope of NATA accreditation.</p> <p>NOTE #1 Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF)</p> <p>NOTE #2 The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres.</p> <p>Estimation = Estimated asbestos weight</p> <p>Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.</p>

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

Report Comments

Asbestos-ID in soil: NEPM

This report is consistent with the reporting recommendations in the National Environment
Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013.

This is reported outside our scope of NATA accreditation.

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



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

CERTIFICATE OF ANALYSIS 201859**Client Details**

Client	Progressive Risk Management Pty Ltd
Attention	Jonathan Coffey, Sarah Dale, Geoff Fletcher
Address	14/76 Reserve Road, ARTARMON, NSW, 2064

Sample Details

Your Reference	P033823 CCC Wamberal Beach
Number of Samples	7 Soil
Date samples received	28/09/2018
Date completed instructions received	28/09/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	08/10/2018
Date of Issue	08/10/2018
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Asbestos Approved By

Analysed by Asbestos Approved Identifier: Aida Marner
 Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By

Lucy Zhu, Asbestos Analyst

Authorised By

Jacinta Hurst, Laboratory Manager

Envirolab Reference: 201859
 Revision No: R00



Page | 1 of 6

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823 CCC Wamberal Beach

Asbestos ID - soils NEPM - ASB-001						
Our Reference		201859-1	201859-2	201859-3	201859-4	201859-5
Your Reference	UNITS	OP47	OP49	OP52	OP55	OP57
Depth		0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		25/09/2018	25/09/2018	25/09/2018	25/09/2018	25/09/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018
Sample mass tested	g	1,230.73	908.95	1,157.97	1,100.76	1,139.65
Sample Description	-	Beige sandy soil	Beige sandy soil	Beige sandy soil	Beige sandy soil	Beige sandy soil
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos#1	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	-	-	-	-	-
FA and AF Estimation*	g	-	-	-	-	-
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823 CCC Wamberal Beach

Asbestos ID - soils NEPM - ASB-001			
Our Reference		201859-6	201859-7
Your Reference	UNITS	OP62	OP65
Depth		0.1-0.2	0.1-0.2
Date Sampled		25/09/2018	25/09/2018
Type of sample		Soil	Soil
Date analysed	-	08/10/2018	08/10/2018
Sample mass tested	g	1,258.61	1,375.07
Sample Description	-	Beige sandy soil	Beige sandy soil
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected
Total Asbestos ^{#1}	g/kg	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	—	—
FA and AF Estimation*	g	—	—
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823 CCC Wamberal Beach

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
ASB-001	<p>Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004.</p> <p>Results reported denoted with * are outside our scope of NATA accreditation.</p> <p>NOTE #1 Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF)</p> <p>NOTE #2 The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres.</p> <p>Estimation = Estimated asbestos weight</p> <p>Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.</p>

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

Report Comments

Asbestos-ID in soil: NEPM

This report is consistent with the reporting recommendations in the National Environment
Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013.

This is reported outside our scope of NATA accreditation.

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



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

CERTIFICATE OF ANALYSIS 201860**Client Details**

Client	Progressive Risk Management Pty Ltd
Attention	Jonathan Coffey, Sarah Dale, Geoff Fletcher
Address	14/76 Reserve Road, ARTARMON, NSW, 2064

Sample Details

Your Reference	P033823 CCC Terrigal Beach
Number of Samples	8 Soil
Date samples received	28/09/2018
Date completed instructions received	28/09/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	08/10/2018
Date of Issue	08/10/2018
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Asbestos Approved By

Analysed by Asbestos Approved Identifier: Panika Wongchanda
 Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By

Lucy Zhu, Asbestos Analyst

Authorised By

Jacinta Hurst, Laboratory Manager

Envirolab Reference: 201860
 Revision No: R00



Page | 1 of 6

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823 CCC Terrigal Beach

Asbestos ID - soils NEPM - ASB-001						
Our Reference		201860-1	201860-2	201860-3	201860-4	201860-5
Your Reference	UNITS	OP69	OP70	OP71	OP72	OP73
Depth		0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		26/09/2018	26/09/2018	26/09/2018	26/09/2018	26/09/2018
Type of sample		Soil	Soil	Soil	Soil	Soil
Date analysed	-	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018
Sample mass tested	g	1,156.32	1,045.82	1,276	1,330.99	1,034.99
Sample Description	-	Beige sandy soil	Beige sandy soil	Beige sandy soil	Beige sandy soil	Beige sandy soil
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos ^{#1}	g/kg	<0.1	<0.1	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	-	-	-	-	-
FA and AF Estimation*	g	-	-	-	-	-
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001	<0.001	<0.001

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823 CCC Terrigal Beach

Asbestos ID - soils NEPM - ASB-001				
Our Reference		201860-6	201860-7	201860-8
Your Reference	UNITS	OP74	OP75	OP76
Depth		0.1-0.2	0.1-0.2	0.1-0.2
Date Sampled		26/09/2018	26/09/2018	26/09/2018
Type of sample		Soil	Soil	Soil
Date analysed	-	08/10/2018	08/10/2018	08/10/2018
Sample mass tested	g	1,105.4	1,185.54	1,224.81
Sample Description	-	Beige sandy soil	Beige sandy soil	Beige sandy soil
Asbestos ID in soil (AS4964) >0.1g/kg	-	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected	No asbestos detected at reporting limit of 0.1g/kg Organic fibres detected
Trace Analysis	-	No asbestos detected	No asbestos detected	No asbestos detected
Total Asbestos ^{#1}	g/kg	<0.1	<0.1	<0.1
Asbestos ID in soil <0.1g/kg*	-	No visible asbestos detected	No visible asbestos detected	No visible asbestos detected
ACM >7mm Estimation*	g	—	—	—
FA and AF Estimation*	g	—	—	—
ACM >7mm Estimation*	%(w/w)	<0.01	<0.01	<0.01
FA and AF Estimation*#2	%(w/w)	<0.001	<0.001	<0.001

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823 CCC Terrigal Beach

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.
ASB-001	<p>Asbestos ID - Identification of asbestos in soil samples using Polarised Light Microscopy and Dispersion Staining Techniques. Minimum 500mL soil sample was analysed as recommended by "National Environment Protection (Assessment of site contamination) Measure, Schedule B1 and "The Guidelines from the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia - May 2009" with a reporting limit of 0.1g/kg (0.01% w/w) as per Australian Standard AS4964-2004.</p> <p>Results reported denoted with * are outside our scope of NATA accreditation.</p> <p>NOTE #1 Total Asbestos g/kg was analysed and reported as per Australian Standard AS4964 (This is the sum of ACM >7mm, <7mm and FA/AF)</p> <p>NOTE #2 The screening level of 0.001% w/w asbestos in soil for FA and AF only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres.</p> <p>Estimation = Estimated asbestos weight</p> <p>Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.</p>

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

Report Comments

Asbestos-ID in soil: NEPM

This report is consistent with the reporting recommendations in the National Environment
Protection (Assessment of Site Contamination) Measure, Schedule B1, May 2013.

This is reported outside our scope of NATA accreditation.



Appendix C

Background Air Monitoring Reports

Confidential - Legal and Professional Privilege

Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064



Background Asbestos Air Monitoring	
Date:	Monday, 3 September 2018
Client Name:	Central Coast Council
Client Address:	P.O. Box 21, Gosford NSW 2250
Project Reference:	P033823.004
Client Code:	C0171

Introduction:

Introduction:	Progressive Risk Management (PRM) was engaged to conduct background asbestos fibre air monitoring at the site. This report provides details of the air monitoring conducted as well as the laboratory analysis results.
Scope of Works:	The following scope of works was undertaken: <ul style="list-style-type: none"> • Conduct background asbestos fibre air monitoring at the site. • NATA-accredited laboratory analysis of the air monitoring samples. It should be noted that this Air Monitoring Report is not a clearance certificate and in no way states that an area is suitable for reoccupation.

Site Details:

Site Name:	Wamberal Beach
Site Address:	Ocean View Drive, Wamberal Beach NSW 2260
Date of Monitoring:	27-29 August 2018
Purpose of Monitoring:	Background Asbestos fibre Air Monitoring
Inspector:	Sarah Dale: Consultant
Figure:	Refer to Figure 1 appended to this report, for sampling locations.

Legislation and Methodology:

Legislation:	This air monitoring was undertaken in general accordance with the following: <ul style="list-style-type: none"> • Safe Work Australia <i>Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition</i> [NOHSC:3003(2005)].
Methodology:	Asbestos fibre air monitoring: Field-based, analytical and reporting elements of this asbestos fibre air monitoring was conducted in general accordance with NOHSC:3003(2005) as follows: <ul style="list-style-type: none"> • Background asbestos fibre air monitoring: Monitors are placed at various locations around the assessment area. Air monitoring is conducted to measure the background concentrations for potential asbestos contamination in ambient air. • Analysis: The air monitoring samples were then analysed by an external NATA accredited laboratory, Envirolab Services Pty Ltd.

Summary of Results:

Based upon the results of this asbestos fibre air monitoring detailed within this report, all results were below the detection limit of 0.01 fibre/mL of air, the lowest detectable limit for the method used.
Refer to the following page for Detailed Results information and the appended NATA-accredited analysis results. Filter ID DE300575 void due to pump battery fault/failure. Filter ID DG096273 void due to pump fallen onto ground.

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064



Detailed Results:									
Project Ref: P033823.004					Client Reference: C0171				
Location	Date	Pump ID	Filter ID	Start Time	Finish Time	Sample Time (min)	Volume Sampled	Fibres / 100 Fields	Results (fibres/mL)
Beach front of Wamberal Beach SLSC	27/08/18	PRM54	DE300607	07:24	13:40	376	489	0.0	<0.01
Public access pathway off Surfers Road	27/08/18	PRM73	DE300592	07:34	13:44	370	481	0.0	<0.01
Beach front of property 95	27/08/18	PRM74	DE300578	07:41	13:46	365	475	0.0	<0.01
Public access pathway adjacent property 67	27/08/18	PRM52	DE300593	07:51	13:52	361	469	0.0	<0.01
Public access pathway adjacent property 27	27/08/18	PRM40	DE300575	07:59	13:58	359	467	VOID	VOID
Beach front of property 1	27/08/18	PRM62	DE300568	08:06	14:02	356	463	0.0	<0.01
Blank	27/08/18	-	DE300595	-	-	-	-	0.0	-
Beach front of Wamberal Beach SLSC	28/08/18	PRM48	DG096267	08:25	15:08	403	524	0.0	<0.01
Public access pathway off Surfers Road	28/08/18	PRM64	DG096263	08:31	15:05	394	512	0.0	<0.01
Beach front of property 95	28/08/18	PRM74	DG096276	08:37	15:02	385	501	0.0	<0.01
Public access pathway adjacent property 67	28/08/18	PRM73	DG096275	08:43	14:58	375	488	0.0	<0.01
Public access pathway adjacent property 27	28/08/18	PRM62	DG096273	08:46	15:20	394	512	VOID	VOID
Beach front of property 1	28/08/18	PRM32	DG096260	08:51	15:24	393	511	0.0	<0.01
Blank	28/08/18	-	DG096277	-	-	-	-	0.0	-
Beach front of Wamberal Beach SLSC	29/08/18	PRM63	DG096287	07:08	13:18	370	481	0.0	<0.01
Public access pathway off Surfers Road	29/08/18	PRM73	DG096259	07:12	13:22	370	481	0.0	<0.01
Beach front of property 95	29/08/18	PRM62	DG096286	07:14	13:24	370	481	0.0	<0.01
Public access pathway adjacent property 67	29/08/18	PRM59	DG096274	07:22	13:28	366	476	0.0	<0.01
Public access pathway adjacent property 27	29/08/18	PRM56	DE300586	07:25	13:32	367	477	0.0	<0.01
Beach front of property 1	29/08/18	PRM52	DG096269	07:29	13:36	367	477	0.0	<0.01
Blank	29/08/18	-	DG096264	-	-	-	-	0.0	-

NATA accredited laboratory analysis report is attached to the rear of this report.

Limitations:

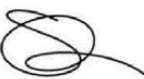

This Air Monitoring Report has been prepared by Progressive Risk Management Pty Ltd (PRM) for the client listed above, based upon a specific request made by the client for background asbestos fibre air monitoring to be undertaken at the site. This Air Monitoring Report:

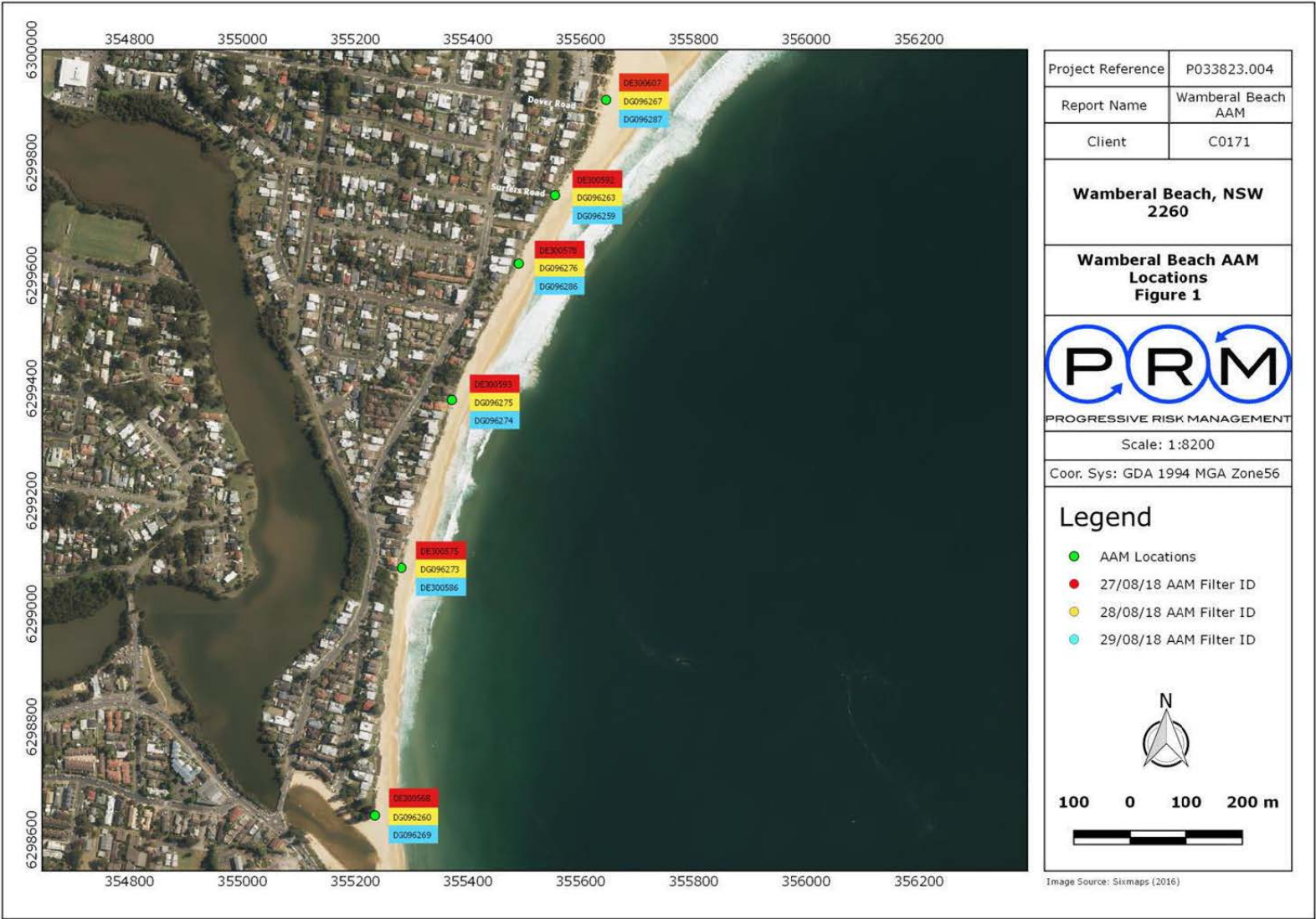
- May only be used for the purpose of the background asbestos fibre air monitoring performed on the specified date on the specific site outlined in the Site Details section. Dates or areas not listed are not applicable to this Air Monitoring Report.
- Must not be copied to, used by, altered, amended or abbreviated, issued in part or issued incomplete without the prior written consent of PRM.
- In no way comments on any asbestos removal works and in no way certifies an area suitable for reoccupation.
- To the maximum extent permitted by law, all implied warranties and conditions in relation to the services provided by PRM and the air monitoring letter are excluded unless they are expressly stated to apply in this letter.
- The data and advice provided herein relates only to the project and structures described in the Air Monitoring Report and must be reviewed by a competent professional before being used for any other purpose. PRM accepts no responsibility for other use of the data.

Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064



If you have further questions please do not hesitate to contact the undersigned.

Report Review:		
	Report Prepared by:	Report Reviewed by:
Signature:		
Name:	Sarah Dale	Nick Passlow
Position:	Consultant	Managing Director
NSW SafeWork LAA Number:	-	-
Phone:	0420-692-68	0404-485-980
Email:	sarah.dale@progressiverm.com.au	nick.passlow@progressiverm.com.au
Progressive Risk Management		



Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



Photolog	
Report:	Asbestos Fibre Air Monitoring Report 27/08/2018
Site:	Wamberal Beach - Ocean View Drive, Wamberal Beach NSW 2260
Reference:	P033823.004

 <p>Photo 1: Image of PRM54 Beach front of Wamberal Beach SLSC.</p>	 <p>Photo 2: Image of PRM73 Public access pathway off Surfers Road.</p>
 <p>Photo 3: Image of PRM74, Beach front of property 95.</p>	 <p>Photo 4: Image of PRM52, Public access pathway adjacent property 67.</p>
 <p>Photo 5: Image of PRM40, Public access pathway adjacent property 27.</p>	 <p>Photo 6: Image of PRM62, Beach front of property 1.</p>
End of Photolog	

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



Photolog	
Report:	Asbestos Fibre Air Monitoring Report 28/08/2018
Site:	Wamberal Beach - Ocean View Drive, Wamberal Beach NSW 2260
Reference:	P033823.004



Photo 1: Image of PRM48 Beach front of Wamberal Beach SLSC



Photo 2: Image of PRM64 Public access pathway off Surfers Road



Photo 3: Image of PRM74, Beach front of property 95



Photo 4: Image of PRM73, Public access pathway adjacent property 67



Photo 5: Image of PRM62, Public access pathway adjacent property 27



Photo 6: Image of PRM32, Beach front of property 1

End of Photolog

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



Photolog	
Report:	Asbestos Fibre Air Monitoring Report 29/08/2018
Site:	Wamberal Beach - Ocean View Drive, Wamberal Beach NSW 2260
Reference:	P033823.004

 <p>Photo 1: Image of PRM63, Beach front of Wamberal Beach SLSC.</p>	 <p>Photo 2: Image of PRM73, Public access pathway off Surfers Road.</p>
 <p>Photo 3: Image of PRM62, Beach front of property 95.</p>	 <p>Photo 4: Image of PRM59, Public access pathway adjacent property 67.</p>
 <p>Photo 5: Image of PRM55, Public access pathway adjacent property 27.</p>	 <p>Photo 6: Image of PRM62, Beach front of property 1.</p>

End of Photolog	
-----------------	--

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



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

CERTIFICATE OF ANALYSIS 199624**Client Details**

Client	Progressive Risk Management Pty Ltd
Attention	Sarah Dale
Address	79 Darley Rd, Manly, NSW, 2095

Sample Details

Your Reference	P033823.004, Wamberal Beach AAM
Number of Samples	6 Filter
Date samples received	30/08/2018
Date completed instructions received	30/08/2018
Sampler Name	S Dale
Date Sampled	27/08/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	31/08/2018
Date of Issue	30/08/2018
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Asbestos Approved By

Analysed by Approved Counter: Lucy Zhu
Analysed by Asbestos Count Approved Signatory: Lucy Zhu
Results Approved By
Lucy Zhu, Asbestos Analyst

Authorised By

Jacinta Hurst, Laboratory Manager

Envirolab Reference: 199624
Revision No: R00



Page | 1 of 4

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.004, Wamberal Beach AAM

Fibre Counting + Concentration						
Our Reference		199624-1	199624-2	199624-3	199624-4	199624-5
Your Reference	UNITS	Beach front of Wamberal Beach SLSC	Public access pathway off Surfers Rd	Beachfront of property 95	Public access pathway adj property 67	Beachfront of property 1
Cassette No.		DE300607	DE300592	DE300578	DE300593	DE300568
Pump ID		PRM54	PRM73	PRM74	PRM52	PRM62
Type of sample		Filter	Filter	Filter	Filter	Filter
Date analysed	-	30/08/2018	30/08/2018	30/08/2018	30/08/2018	30/08/2018
Fibres	-	0.0	0.0	0.0	0.0	0.0
Fields	-	100	100	100	100	100
Effective Filter Area	mm ²	381.65	381.65	381.65	381.65	381.65
Graticule Diameter	µm	100	100	100	100	100
Volume Sampled	Litres	489	481	474	469	463
Total Sample Time	Min	376	370	365	361	356
Fibre Concentration	Fibres/mL	<0.01	<0.01	<0.01	<0.01	<0.01

Fibre Counting + Concentration		
Our Reference		199624-6
Your Reference	UNITS	Blank
Cassette No.		DE300595
Pump ID		-
Type of sample		Filter
Date analysed	-	30/08/2018
Fibres	-	0.0
Fields	-	100
Effective Filter Area	mm ²	381.65
Graticule Diameter	µm	100
Volume Sampled	Litres	-
Total Sample Time	Min	0
Fibre Concentration	Fibres/mL	-

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.004, Wamberal Beach AAM

Method ID	Methodology Summary
ASB-002	<p>Estimation of Airborne Asbestos Fibres by the Membrane Filter Method. Filters examined in accordance with NOHSC:3003 (April 2005) Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres and Envirolab in-house method ASB-002.</p> <p>The microscope constant for Carl Zeiss Axio Lab.A1 (Sydney Laboratory) calculated using 25mm filter is 48593.</p> <p>The microscope constant for Olympus BX41 (Perth Laboratory) calculated using 25mm filter is 46981.</p> <p>These constants are to be used to calculate fibres/mL concentration for asbestos fibre air monitoring filters.</p> <p>If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005)</p>
Disclaimer	Please note that sampling strategies are outside the control of the laboratory and are therefore not covered under NATA accreditation.

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.004, Wamberal Beach AAM

Report Comments

Volume Measurement data for fibre samples was supplied by "client", the "client" has been trained by the Envirolab Group and hence the concentration data is covered by the Envirolab Group's NATA Accreditation. Therefore the facility is responsible for the data reported.

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



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

CERTIFICATE OF ANALYSIS 199627**Client Details**

Client	Progressive Risk Management Pty Ltd
Attention	Sarah Dale
Address	79 Darley Rd, Manly, NSW, 2095

Sample Details

Your Reference	P033823.004, Wamberal Beach AAM
Number of Samples	6 Filters
Date samples received	30/08/2018
Date completed instructions received	30/08/2018
Sampler Name	S Dale
Date Sampled	28/08/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	31/08/2018
Date of Issue	04/09/2018
Reissue Details	This report replaces R02 created on 04/09/2018 due to: Registration amended (client request)
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Asbestos Approved By

Analysed by Approved Counter: Lucy Zhu
 Analysed by Asbestos Count Approved Signatory: Lucy Zhu

Results Approved By

Lucy Zhu, Asbestos Analyst

Authorised By

Jacinta Hurst, Laboratory Manager

Envirolab Reference: 199627
 Revision No: R03



Page | 1 of 4

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.004, Wamberal Beach AAM

Fibre Counting + Concentration						
Our Reference		199627-1	199627-2	199627-3	199627-4	199627-6
Your Reference	UNITS	Beach front of Wamberal Beach SLSC	Public access pathway off Surfers Rd	Beachfront of property 95	Public access pathway adj property 67	Beachfront of property 1
Cassette No.		DG096267	DG096263	DG096276	DG096275	DG096260
Pump ID		PRM48	PRM64	PRM74	PRM73	PRM32
Type of sample		Filter	Filter	Filter	Filter	Filter
Date analysed	-	30/08/2018	30/08/2018	30/08/2018	30/08/2018	30/08/2018
Fibres	-	0.0	0.0	0.0	0.0	0.0
Fields	-	100	100	100	100	100
Effective Filter Area	mm ²	381.65	381.65	381.65	381.65	381.65
Graticule Diameter	µm	100	100	100	100	100
Volume Sampled	Litres	524	512	500	488	511
Total Sample Time	Min	403	394	385	375	393
Fibre Concentration	Fibres/mL	<0.01	<0.01	<0.01	<0.01	<0.01

Fibre Counting + Concentration		
Our Reference		199627-7
Your Reference	UNITS	Blank
Cassette No.		DG096277
Pump ID		-
Type of sample		Filter
Date analysed	-	30/08/2018
Fibres	-	0.0
Fields	-	100
Effective Filter Area	mm ²	381.65
Graticule Diameter	µm	100
Volume Sampled	Litres	-
Total Sample Time	Min	0
Fibre Concentration	Fibres/mL	-

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.004, Wamberal Beach AAM

Method ID	Methodology Summary
ASB-002	<p>Estimation of Airborne Asbestos Fibres by the Membrane Filter Method. Filters examined in accordance with NOHSC:3003 (April 2005) Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres and Envirolab in-house method ASB-002.</p> <p>The microscope constant for Carl Zeiss Axio Lab.A1 (Sydney Laboratory) calculated using 25mm filter is 48593.</p> <p>The microscope constant for Olympus BX41 (Perth Laboratory) calculated using 25mm filter is 46981.</p> <p>These constants are to be used to calculate fibres/mL concentration for asbestos fibre air monitoring filters.</p> <p>If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005)</p>
Disclaimer	Please note that sampling strategies are outside the control of the laboratory and are therefore not covered under NATA accreditation.

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.004, Wamberal Beach AAM

Report Comments

Volume Measurement data for fibre samples was supplied by "client", the "client" has been trained by the Envirolab Group and hence the concentration data is covered by the Envirolab Group's NATA Accreditation. Therefore the facility is responsible for the data reported.

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



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

CERTIFICATE OF ANALYSIS 199621**Client Details**

Client	Progressive Risk Management Pty Ltd
Attention	Sarah Dale
Address	79 Darley Rd, Manly, NSW, 2095

Sample Details

Your Reference	P033823.004, Wamberal Beach AAM
Number of Samples	7 Filter
Date samples received	30/08/2018
Date completed instructions received	30/08/2018
Sampler Name	S Dale
Date Sampled	29/08/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	31/08/2018
Date of Issue	31/08/2018
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Asbestos Approved By

Analysed by Approved Counter: Matt Tang
 Analysed by Asbestos Count Approved Signatory: Lucy Zhu
Results Approved By
 Lucy Zhu, Asbestos Analyst

Authorised By

Jacinta Hurst, Laboratory Manager

Envirolab Reference: 199621
 Revision No: R00



Page | 1 of 4

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.004, Wamberal Beach AAM

Fibre Counting + Concentration						
Our Reference		199621-1	199621-2	199621-3	199621-4	199621-5
Your Reference	UNITS	Beach front of Wamberal Beach SLSC	Public access pathway off Surfers Rd	Beachfront of property 95	Public access pathway adj property 67	Public access pathway adj property 27
Cassette No.		DG096287	DG096259	DG096286	DG096274	DE300586
Pump ID		PRM63	PRM73	PRM62	PRM59	PRM56
Type of sample		Filter	Filter	Filter	Filter	Filter
Date analysed	-	31/08/2018	31/08/2018	31/08/2018	31/08/2018	31/08/2018
Fibres	-	0.0	0.0	0.0	0.0	0.0
Fields	-	100	100	100	100	100
Effective Filter Area	mm ²	381.65	381.65	381.65	381.65	381.65
Graticule Diameter	µm	100	100	100	100	100
Volume Sampled	Litres	481	481	481	476	477
Total Sample Time	Min	370	370	370	366	367
Fibre Concentration	Fibres/mL	<0.01	<0.01	<0.01	<0.01	<0.01

Fibre Counting + Concentration			
Our Reference		199621-6	199621-7
Your Reference	UNITS	Beachfront of property 1	Blank
Cassette No.		DG096269	DG096264
Pump ID		PRM52	-
Type of sample		Filter	Filter
Date analysed	-	31/08/2018	31/08/2018
Fibres	-	0.0	0.0
Fields	-	100	100
Effective Filter Area	mm ²	381.65	381.65
Graticule Diameter	µm	100	100
Volume Sampled	Litres	477	-
Total Sample Time	Min	367	0
Fibre Concentration	Fibres/mL	<0.01	-

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.004, Wamberal Beach AAM

Method ID	Methodology Summary
ASB-002	<p>Estimation of Airborne Asbestos Fibres by the Membrane Filter Method. Filters examined in accordance with NOHSC:3003 (April 2005) Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres and Envirolab in-house method ASB-002.</p> <p>The microscope constant for Carl Zeiss Axio Lab.A1 (Sydney Laboratory) calculated using 25mm filter is 48593.</p> <p>The microscope constant for Olympus BX41 (Perth Laboratory) calculated using 25mm filter is 46981.</p> <p>These constants are to be used to calculate fibres/mL concentration for asbestos fibre air monitoring filters.</p> <p>If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005)</p>
Disclaimer	<p>Please note that sampling strategies are outside the control of the laboratory and are therefore not covered under NATA accreditation.</p>

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.004, Wamberal Beach AAM

Report Comments

Volume Measurement data for fibre samples was supplied by "client", the "client" has been trained by the Envirolab Group and hence the concentration data is covered by the Envirolab Group's NATA Accreditation. Therefore the facility is responsible for the data reported.

Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064



Background Asbestos Air Monitoring	
Date:	Tuesday, 4 September 2018
Client Name:	Central Coast Council
Client Address:	P.O. Box 21, Gosford NSW 2250
Project Reference:	P033823.005
Client Code:	C0171
Introduction:	
Introduction:	Progressive Risk Management (PRM) was engaged to conduct background asbestos fibre air monitoring at the site. This report provides details of the air monitoring conducted as well as the laboratory analysis results.
Scope of Works:	The following scope of works was undertaken: <ul style="list-style-type: none"> • Conduct background asbestos fibre air monitoring at the site. • NATA-accredited laboratory analysis of the air monitoring samples. It should be noted that this Air Monitoring Report is not a clearance certificate and in no way states that an area is suitable for reoccupation.
Site Details:	
Site Name:	Terrigal Beach
Site Address:	Terrigal Esplanade, Terrigal Beach NSW 2260
Date of Monitoring:	27-29 August 2018
Site Description:	Terrigal Beach SLSC carpark to the rockpool on the eastern end of the esplanade.
Purpose of Monitoring:	To determine the extent of airborne asbestos contamination, if present.
Inspector:	Sarah Dale: Consultant
Figure(s):	Refer to Figure 1 appended to this report, for sampling locations.
Legislation and Methodology:	
Legislation:	This air monitoring was undertaken in general accordance with the following: <ul style="list-style-type: none"> • Safe Work Australia <i>Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition</i> [NOHSC:3003(2005)].
Methodology:	Asbestos fibre air monitoring: Field-based, analytical and reporting elements of this asbestos fibre air monitoring was conducted in general accordance with NOHSC:3003(2005) as follows: <ul style="list-style-type: none"> • Background asbestos fibre air monitoring: Monitors are placed at various locations around the assessment area. Air monitoring is conducted to measure the background concentrations for potential asbestos contamination in ambient air. • Analysis: The air monitoring samples were then analysed by an external NATA accredited laboratory, Envirolab Services Pty Ltd.
Summary of Results:	
Based upon the results of this asbestos fibre air monitoring detailed within this report, all results were below the detection limit of 0.01 fibre/mL of air, the lowest detectable limit for the method used. Refer to the following page for Detailed Results information and the appended NATA-accredited analysis results.	

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064



Detailed Results:									
Project Ref: P033823.005				Client Reference: C0171					
Location	Date	Pump ID	Filter ID	Start Time	Finish Time	Sample Time (min)	Volume Sampled	Fibres / 100 Fields	Results (fibres/mL)
Terrigal Beach carpark on signage post	27/08/18	PRM63	DE300590	08:20	14:12	352	458	0.0	<0.01
SE of Terrigal SLSC on the esplanade walkway on signage post	27/08/18	PRM32	DE300550	08:24	14:14	350	455	0.0	<0.01
Opposite Kurrawyba Aveune on the esplanade walkway on signage post	27/08/18	PRM59	DE300591	08:29	14:16	347	451	0.0	<0.01
Opposite Ash Street on the esplanade walkway on fence	27/08/18	PRM56	DE300582	08:32	14:18	346	450	0.0	<0.01
Blank	27/08/18	-	DE300583	-	-	-	-	0.0	-
Terrigal Beach carpark on signage post	28/08/18	PRM63	DG096262	08:50	15:32	402	523	0.0	<0.01
Beach front of the Terrigal SLSC on signage post	28/08/18	PRM56	DG096271	08:45	15:34	409	532	0.0	<0.01
Opposite Kurrawyba Aveune on the esplanade walkway on signage post	28/08/18	PRM59	DG096265	08:40	15:36	416	541	0.0	<0.01
Opposite Ash Street on the esplanade walkway on fence	28/08/18	PRM52	DG096261	08:35	15:38	423	550	0.0	<0.01
Blank	28/08/18	-	DG096266	-	-	-	-	0.0	-
Terrigal Beach carpark on signage post	29/08/18	PRM48	DG096280	07:18	13:45	387	503	0.0	<0.01
Beach front of the Terrigal SLSC on signage post	29/08/18	PRM74	DG096284	07:22	13:48	386	502	0.0	<0.01
Opposite Kurrawyba Aveune on the esplanade walkway on signage post	29/08/18	PRM32	DG096281	07:28	13:51	383	498	0.0	<0.01
Opposite Ash Street on the esplanade walkway on fence	29/08/18	PRM71	DG096278	07:32	13:54	382	497	0.0	<0.01
Blank	29/08/18	-	DE300596	-	-	-	-	0.0	-

NATA accredited laboratory analysis report is attached to the rear of this report.

Limitations:

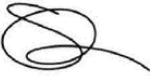

This Air Monitoring Report has been prepared by Progressive Risk Management Pty Ltd (PRM) for the client listed above, based upon a specific request made by the client for background asbestos fibre air monitoring to be undertaken at the site. This Air Monitoring Report:

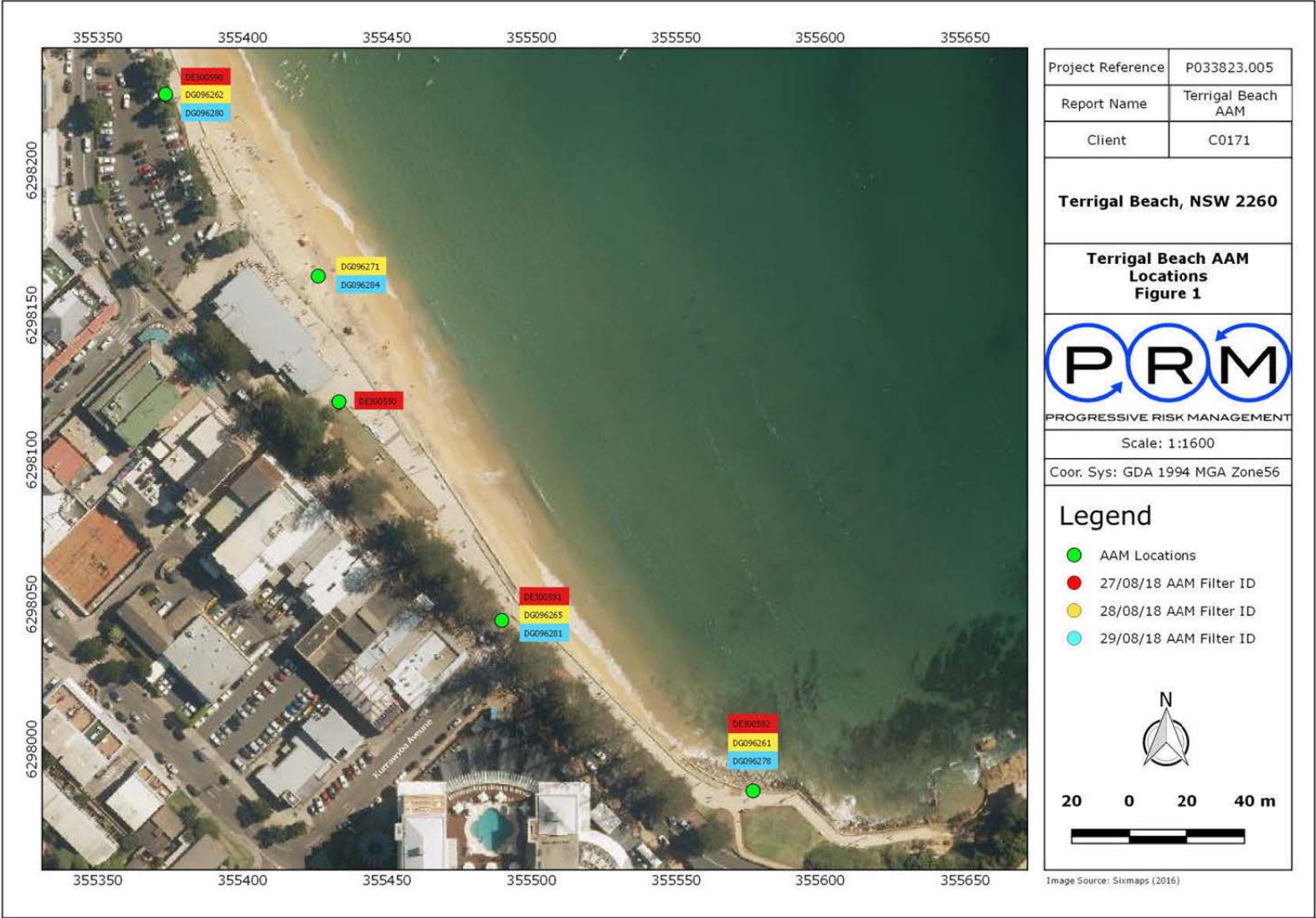
- May only be used for the purpose of the background asbestos fibre air monitoring performed on the specified date on the specific site outlined in the Site Details section. Dates or areas not listed are not applicable to this Air Monitoring Report.
- Must not be copied to, used by, altered, amended or abbreviated, issued in part or issued incomplete without the prior written consent of PRM.
- In no way comments on any asbestos removal works and in no way certifies an area suitable for reoccupation.
- To the maximum extent permitted by law, all implied warranties and conditions in relation to the services provided by PRM and the air monitoring letter are excluded unless they are expressly stated to apply in this letter.
- The data and advice provided herein relates only to the project and structures described in the Air Monitoring Report and must be reviewed by a competent professional before being used for any other purpose. PRM accepts no responsibility for other use of the data.

Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064



If you have further questions please do not hesitate to contact the undersigned.

Report Review:		
	Report Prepared by:	Report Reviewed by:
Signature:		
Name:	Sarah Dale	Nick Passlow
Position:	Consultant	Managing Director
NSW SafeWork LAA Number:	-	-
Phone:	0420-692-68	0404-485-980
Email:	sarah.dale@progressiverm.com.au	nick.passlow@progressiverm.com.au
Progressive Risk Management		



Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



Photolog	
Report:	Asbestos Fibre Air Monitoring Report 27/08/2018
Site:	Terrigal Beach - Terrigal Esplanade, Terrigal Beach NSW 2260
Reference:	P033823.005




Photo 1: Image of PRM63, Terrigal Beach carpark on signage post.




Photo 2: Image of PRM32, SE of Terrigal SLSC on the esplanade walkway on signage post.




Photo 3: Image of PRM59, Opposite Kurrawyba Avenue on the esplanade walkway on signage post.




Photo 4: Image of PRM56, Opposite Ash Street on the esplanade walkway on fence.

End of Photolog

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



Photolog	
Report:	Asbestos Fibre Air Monitoring Report 28/08/2018
Site:	Terrigal Beach - Terrigal Esplanade, Terrigal Beach NSW 2260
Reference:	P033823.005

<p>Photo 1: Image of PRM63, Terrigal Beach carpark on signage post</p>	<p>Photo 2: Image of PRM56, Beach front of the Terrigal SLSC on signage post</p>
<p>Photo 3: Image of PRM59, Opposite Kurrawybe Avenue on the esplanade walkway on signage post</p>	<p>Photo 4: Image of PRM52, Opposite Ash Street on the esplanade walkway on fence</p>

End of Photolog

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



Photolog	
Report:	Asbestos Fibre Air Monitoring Report 29/08/2018
Site:	Terrigal Beach - Terrigal Esplanade, Terrigal Beach NSW 2260
Reference:	P033823.005

Photo 1: Terrigal Beach carpark on signage post	Photo 2: Beach front of the Terrigal SLSC on signage post
Photo 3: Opposite Kurrabyba Avenue on the esplanade walkway on signage post	Photo 4: Opposite Ash Street on the esplanade walkway on fence

End of Photolog

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



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

CERTIFICATE OF ANALYSIS 199616**Client Details**

Client	Progressive Risk Management Pty Ltd
Attention	Sarah Dale
Address	79 Darley Rd, Manly, NSW, 2095

Sample Details

Your Reference	P033823.005, Terrigal Beach AAM
Number of Samples	5 Filter
Date samples received	30/08/2018
Date completed instructions received	30/08/2018
Sampler Name	S Dale
Date Sampled	27/08/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	31/08/2018
Date of Issue	31/08/2018
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Asbestos Approved By

Analysed by Approved Counter: Matt Tang
 Analysed by Asbestos Count Approved Signatory: Lucy Zhu

Results Approved By

Lucy Zhu, Asbestos Analyst

Authorised By

Jacinta Hurst, Laboratory Manager

Envirolab Reference: 199616
 Revision No: R00



Page | 1 of 4

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.005, Terrigal Beach AAM

Fibre Counting + Concentration						
Our Reference		199616-1	199616-2	199616-3	199616-4	199616-5
Your Reference	UNITS	Terrigal Beach car park	SE of Terrigal SLSC on the esplanade walkway	Opp. Kurrawyba Ave on the esplanade walkway	Opp. Ash St on the esplanade walkway on fence	Blank
Cassette No.		DE300590	DE300550	DE300591	DE300582	DE300583
Pump ID		PRM63	PRM32	PRM59	PRM56	-
Type of sample		Filter	Filter	Filter	Filter	Filter
Date analysed	-	31/08/2018	31/08/2018	31/08/2018	31/08/2018	31/08/2018
Fibres	-	0.0	0.0	0.0	0.0	0.0
Fields	-	100	100	100	100	100
Effective Filter Area	mm ²	381.65	381.65	381.65	381.65	[NA]
Graticule Diameter	µm	100	100	100	100	[NA]
Volume Sampled	Litres	458	455	451	450	[NA]
Total Sample Time	Min	352	350	347	346	[NA]
Fibre Concentration	Fibres/mL	<0.01	<0.01	<0.01	<0.01	[NA]

Attachment 1 **Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan**
Client Reference: P033823.005, Terrigal Beach AAM

Method ID	Methodology Summary
ASB-002	<p>Estimation of Airborne Asbestos Fibres by the Membrane Filter Method. Filters examined in accordance with NOHSC:3003 (April 2005) Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres and Envirolab in-house method ASB-002.</p> <p>The microscope constant for Carl Zeiss Axio Lab.A1 (Sydney Laboratory) calculated using 25mm filter is 48593.</p> <p>The microscope constant for Olympus BX41 (Perth Laboratory) calculated using 25mm filter is 46981.</p> <p>These constants are to be used to calculate fibres/mL concentration for asbestos fibre air monitoring filters.</p> <p>If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005)</p>
Disclaimer	Please note that sampling strategies are outside the control of the laboratory and are therefore not covered under NATA accreditation.

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.005, Terrigal Beach AAM

Report Comments

Volume Measurement data for fibre samples was supplied by "client", the "client" has been trained by the Envirolab Group and hence the concentration data is covered by the Envirolab Group's NATA Accreditation. Therefore the facility is responsible for the data reported.

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



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

CERTIFICATE OF ANALYSIS 199620**Client Details**

Client	Progressive Risk Management Pty Ltd
Attention	Sarah Dale
Address	79 Darley Rd, Manly, NSW, 2095

Sample Details

Your Reference	P033823.005, Terrigal Beach AAM
Number of Samples	5 Filter
Date samples received	30/08/2018
Date completed instructions received	30/08/2018
Sampler Name	S Dale
Date Sampled	28/08/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
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Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	31/08/2018
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NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Asbestos Approved By

Analysed by Approved Counter: Matt Tang
 Analysed by Asbestos Count Approved Signatory: Lucy Zhu

Results Approved By

Lucy Zhu, Asbestos Analyst

Authorised By

Jacinta Hurst, Laboratory Manager

Envirolab Reference: 199620
 Revision No: R00



Page | 1 of 4

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.005, Terrigal Beach AAM

Fibre Counting + Concentration						
Our Reference		199620-1	199620-2	199620-3	199620-4	199620-5
Your Reference	UNITS	Terrigal Beach car park on signage post DG096262	Beachfront of the Terrigal SLSC on signage post DG096271	Opp. Kurrawyba Ave on the esplanade DG096265	Opp. Ash St on the esplanade walkway on DG096261	Blank
Cassette No.						DG096266
Pump ID		PRM63	PRM56	PRM59	PRM52	-
Type of sample		Filter	Filter	Filter	Filter	Filter
Date analysed	-	31/08/2018	31/08/2018	31/08/2018	31/08/2018	31/08/2018
Fibres	-	0.0	0.0	0.0	0.0	0.0
Fields	-	100	100	100	100	100
Effective Filter Area	mm ²	381.65	381.65	381.65	381.65	[NA]
Graticule Diameter	µm	100	100	100	100	[NA]
Volume Sampled	Litres	523	532	541	550	[NA]
Total Sample Time	Min	402	409	416	423	[NA]
Fibre Concentration	Fibres/mL	<0.01	<0.01	<0.01	<0.01	[NA]

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.005, Terrigal Beach AAM

Method ID	Methodology Summary
ASB-002	<p>Estimation of Airborne Asbestos Fibres by the Membrane Filter Method. Filters examined in accordance with NOHSC:3003 (April 2005) Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres and Envirolab in-house method ASB-002.</p> <p>The microscope constant for Carl Zeiss Axio Lab.A1 (Sydney Laboratory) calculated using 25mm filter is 48593.</p> <p>The microscope constant for Olympus BX41 (Perth Laboratory) calculated using 25mm filter is 46981.</p> <p>These constants are to be used to calculate fibres/mL concentration for asbestos fibre air monitoring filters.</p> <p>If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005)</p>
Disclaimer	Please note that sampling strategies are outside the control of the laboratory and are therefore not covered under NATA accreditation.

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.005, Terrigal Beach AAM

Report Comments

Volume Measurement data for fibre samples was supplied by "client", the "client" has been trained by the Envirolab Group and hence the concentration data is covered by the Envirolab Group's NATA Accreditation. Therefore the facility is responsible for the data reported.

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



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

CERTIFICATE OF ANALYSIS 199623**Client Details**

Client	Progressive Risk Management Pty Ltd
Attention	Sarah Dale
Address	79 Darley Rd, Manly, NSW, 2095

Sample Details

Your Reference	P033823.005, Terrigal Beach AAM
Number of Samples	5 Filter
Date samples received	30/08/2018
Date completed instructions received	30/08/2018
Sampler Name	S Dale
Date Sampled	29/08/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	31/08/2018
Date of Issue	31/08/2018
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Asbestos Approved By

Analysed by Approved Counter: Matt Tang
 Analysed by Asbestos Count Approved Signatory: Lucy Zhu

Results Approved By

Lucy Zhu, Asbestos Analyst

Authorised By

Jacinta Hurst, Laboratory Manager

Envirolab Reference: 199623
 Revision No: R00



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Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.005, Terrigal Beach AAM

Fibre Counting + Concentration						
Our Reference		199623-1	199623-2	199623-3	199623-4	199623-5
Your Reference	UNITS	Terrigal Beach car park on signage post DG096280	Beachfront of the Terrigal SLSC on signage post DG096284	Opp. Kurrawyba Ave on the esplanade DG096281	Opp. Ash St on the esplanade walkway on DG096278	Blank
Cassette No.						DE300597
Pump ID		PRM48	PRM74	PRM32	PRM71	-
Type of sample		Filter	Filter	Filter	Filter	Filter
Date analysed	-	31/08/2018	31/08/2018	31/08/2018	31/08/2018	31/08/2018
Fibres	-	0.0	0.0	0.0	0.0	0.0
Fields	-	100	100	100	100	100
Effective Filter Area	mm ²	381.65	381.65	381.65	381.65	381.65
Graticule Diameter	µm	100	100	100	100	100
Volume Sampled	Litres	503	502	498	497	-
Total Sample Time	Min	387	386	383	382	0
Fibre Concentration	Fibres/mL	<0.01	<0.01	<0.01	<0.01	-

Attachment 1 **Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan**
Client Reference: P033823.005, Terrigal Beach AAM

Method ID	Methodology Summary
ASB-002	<p>Estimation of Airborne Asbestos Fibres by the Membrane Filter Method. Filters examined in accordance with NOHSC:3003 (April 2005) Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres and Envirolab in-house method ASB-002.</p> <p>The microscope constant for Carl Zeiss Axio Lab.A1 (Sydney Laboratory) calculated using 25mm filter is 48593.</p> <p>The microscope constant for Olympus BX41 (Perth Laboratory) calculated using 25mm filter is 46981.</p> <p>These constants are to be used to calculate fibres/mL concentration for asbestos fibre air monitoring filters.</p> <p>If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005)</p>
Disclaimer	Please note that sampling strategies are outside the control of the laboratory and are therefore not covered under NATA accreditation.

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.005, Terrigal Beach AAM

Report Comments

Volume Measurement data for fibre samples was supplied by "client", the "client" has been trained by the Envirolab Group and hence the concentration data is covered by the Envirolab Group's NATA Accreditation. Therefore the facility is responsible for the data reported.

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064



Control Asbestos Air Monitoring	
Date:	Tuesday, 4 September 2018
Client Name:	Central Coast Council
Client Address:	P.O. Box 21, Gosford NSW 2250
Project Reference:	P033823.006
Client Code:	C0171

Introduction:

Introduction:	Progressive Risk Management (PRM) conducted asbestos fibre air monitoring during the assessment of asbestos containing materials (ACM) at the site. This report provides details of the air monitoring conducted as well as the laboratory analysis results.
Scope of Works:	The following scope of works was undertaken: <ul style="list-style-type: none"> • Conduct asbestos fibre air monitoring during the ACM assessment works. • NATA-accredited laboratory analysis of the air monitoring samples.

Site Details:

Site Name:	Wamberal Beach
Site Address:	Ocean View Drive, Wamberal Beach NSW 2260
Date of Monitoring:	Tuesday, 28 August 2018
Site Description:	Wamberal Beach from the SLSC to the lagoon.
Removal works:	In situ test pitting.
Inspector:	Sarah Dale: Consultant
Figure(s):	Refer to Figure 1 appended to this report, for sampling locations.

Legislation and Methodology:

Legislation:	This air monitoring was undertaken in general accordance with the following: <ul style="list-style-type: none"> • Safe Work Australia <i>Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition</i> [NOHSC:3003(2005)].
Methodology:	Asbestos fibre air monitoring: Field-based, analytical and reporting elements of this asbestos fibre air monitoring was conducted in general accordance with NOHSC:3003(2005) as follows: <ul style="list-style-type: none"> • Asbestos fibre air monitoring: Monitors are placed at various locations around the asbestos assessment area during works. Air monitoring is conducted to measure the background concentrations for potential asbestos contamination during the asbestos assessment works. • Analysis: The air monitoring samples were then analysed by an external NATA accredited laboratory, Envirolab Services Pty Ltd.

Summary of Results:

Based upon the results of this asbestos fibre air monitoring detailed within this report, all results were below the detection limit of 0.01 fibre/mL of air, the lowest detectable limit for the method used.
Refer to the following page for Detailed Results information and the appended NATA-accredited analysis results.

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064



Detailed Results:									
Project Ref: P033823.006					Client Reference: C0171				
Location	Date	Pump ID	Filter ID	Start Time	Finish Time	Sample Time (min)	Volume Sampled	Fibres / 100 Fields	Results (fibres/mL)
Exclusion zone fence	28/08/18	PRM71	DG096270	10:00	14:56	296	385	0.0	<0.01
Inside excavator near door	28/08/18	PRM06	DG096282	10:05	14:55	290	377	0.0	<0.01
Blank	28/08/18	-	DG096279	-	-	-	-	0.0	-



NATA accredited laboratory analysis report is attached to the rear of this report.

Limitations:

This Air Monitoring Report has been prepared by PRM for the client listed above, based upon a specific request made by the client for air monitoring to be undertaken during asbestos assessment works. This Air Monitoring Report:

- May only be used for the purpose of the asbestos assessment works performed on the specified date and in the specific areas outlined in the Site Details section. Dates or areas not listed are not applicable to this Air Monitoring Report.
- Must not be copied to, used by, altered, amended or abbreviated, issued in part or issued incomplete without the prior written consent of PRM.
- In no way comments on any clearance, decontamination or encapsulation following the asbestos removal works and in no way certifies the removal works area suitable for reoccupation.
- To the maximum extent permitted by law, all implied warranties and conditions in relation to the services provided by PRM and the air monitoring letter are excluded unless they are expressly stated to apply in this letter.
- The data and advice provided herein relates only to the project described in the Air Monitoring Report and must be reviewed by a competent professional before being used for any other purpose. PRM accepts no responsibility for other use of the data.

If you have further questions please do not hesitate to contact the undersigned.

Report Review:		
	Report Prepared by:	Report Reviewed by:
Signature:		
Name:	Sarah Dale	Nick Passlow
Position:	Consultant	Managing Director
NSW SafeWork LAA Number:	-	-
Phone:	0420-692-608	0404-485-980
Email:	sarah.dale@progressiverm.com.au	nick.passlow@progressiverm.com.au
Progressive Risk Management Pty Ltd		



Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



Photolog

Report: Asbestos Fibre Air Monitoring Report

Site: Wamberal Beach - Ocean View Drive, Wamberal Beach NSW 2260

Reference: P033823.006



Photo 1: Image of PRM71 on exclusion zone fence



Photo 2: Image of work area and PRM71 location



Photo 3: Image of PRM05 inside excavator



Photo 4: Image of PRM05 inside excavator

End of Photolog

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



Envirolab Services Pty Ltd
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CERTIFICATE OF ANALYSIS 199615**Client Details**

Client	Progressive Risk Management Pty Ltd
Attention	Jonathan Coffey
Address	79 Darley Rd, Manly, NSW, 2095

Sample Details

Your Reference	P033823.006, Terrigal/ Wamberal Beach Control AAM
Number of Samples	3 Filter
Date samples received	30/08/2018
Date completed instructions received	30/08/2018
Sampler Name	S Dale
Date Sampled	28/08/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	31/08/2018
Date of Issue	31/08/2018
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Asbestos Approved By

Analysed by Approved Counter: Matt Tang
 Analysed by Asbestos Count Approved Signatory: Lucy Zhu
Results Approved By
 Lucy Zhu, Asbestos Analyst

Authorised By

Jacinta Hurst, Laboratory Manager

Envirolab Reference: 199615
 Revision No: R00



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Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.006, Terrigal/ Wamberal Beach Control AAM

Fibre Counting + Concentration				
Our Reference		199615-1	199615-2	199615-3
Your Reference	UNITS	Exclusion zone fence	Inside excavator near door	Blank
Cassette No.		DG096270	DG096282	DG096279
Pump ID		PRM71	PRM06	-
Type of sample		Filter	Filter	Filter
Date analysed	-	31/08/2018	31/08/2018	31/08/2018
Fibres	-	0.0	0.0	0.0
Fields	-	100	100	100
Effective Filter Area	mm ²	381.65	381.65	[NA]
Graticule Diameter	µm	100	100	[NA]
Volume Sampled	Litres	385	377	[NA]
Total Sample Time	Min	296	290	[NA]
Fibre Concentration	Fibres/mL	<0.01	<0.01	[NA]

Attachment 1 **Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan**
Client Reference: P033823.006, Terrigal/ Wamberal Beach Control AAM

Method ID	Methodology Summary
ASB-002	<p>Estimation of Airborne Asbestos Fibres by the Membrane Filter Method. Filters examined in accordance with NOHSC:3003 (April 2005) Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres and Envirolab in-house method ASB-002.</p> <p>The microscope constant for Carl Zeiss Axio Lab.A1 (Sydney Laboratory) calculated using 25mm filter is 48593.</p> <p>The microscope constant for Olympus BX41 (Perth Laboratory) calculated using 25mm filter is 46981.</p> <p>These constants are to be used to calculate fibres/mL concentration for asbestos fibre air monitoring filters.</p> <p>If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005)</p>
Disclaimer	Please note that sampling strategies are outside the control of the laboratory and are therefore not covered under NATA accreditation.

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.006, Terrigal/ Wamberal Beach Control AAM

Report Comments

Volume Measurement data for fibre samples was supplied by "client", the "client" has been trained by the Envirolab Group and hence the concentration data is covered by the Envirolab Group's NATA Accreditation. Therefore the facility is responsible for the data reported.

**Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064**



Control Asbestos Air Monitoring	
Date:	Wednesday, 5 September 2018
Client Name:	Central Coast Council
Client Address:	P.O. Box 21, Gosford NSW 2250
Project Reference:	P033823.007
Client Code:	C0171
Introduction:	
Introduction:	Progressive Risk Management (PRM) conducted control asbestos fibre air monitoring during the assessment of asbestos containing materials (ACM) at the site. This report provides details of the air monitoring conducted as well as the laboratory analysis results.
Scope of Works:	<p>The following scope of works was undertaken:</p> <ul style="list-style-type: none"> • Conduct control asbestos fibre air monitoring during the ACM assessment works. • NATA-accredited laboratory analysis of the air monitoring samples. <p>It should be noted that this Air Monitoring Report is not a clearance certificate, and in no way states that the asbestos removal area is suitable for reoccupation.</p>
Site Details:	
Site Name:	Wamberal Beach
Site Address:	Ocean View Drive, Wamberal Beach NSW 2260
Date of Monitoring:	Wednesday, 29 August 2018
Site Description:	Wamberal Beach. SLSC to the lagoon.
Assessment works:	Insitu test pitting.
Inspector:	Sarah Dale: Consultant
Figure(s):	Refer to Figure 1 appended to this report, for sampling locations.
Legislation and Methodology:	
Legislation:	<p>This air monitoring was undertaken in general accordance with the following:</p> <ul style="list-style-type: none"> • Safe Work Australia <i>Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition</i> [NOHSC:3003(2005)].
Methodology:	<p>Asbestos fibre air monitoring:</p> <p>Field-based, analytical and reporting elements of this asbestos fibre air monitoring was conducted in general accordance with NOHSC:3003(2005) as follows:</p> <ul style="list-style-type: none"> • Monitors are placed at various locations around the asbestos assessment work area during works. Air monitoring is conducted to measure the background concentrations for potential asbestos contamination during the asbestos assessment works to confirm the control measures implemented were satisfactory. • Analysis: The air monitoring samples were then analysed by an external NATA accredited laboratory, Envirolab Services Pty Ltd.
Summary of Results:	
<p>Based upon the results of this asbestos fibre air monitoring detailed within this report, all results were below the detection limit of 0.01 fibre/mL of air, the lowest detectable limit for the method used.</p> <p>Refer to the following page for Detailed Results information and the appended NATA-accredited analysis results.</p>	

Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064



Detailed Results:									
Project Reference: P033823.007				Client Reference: C0171					
Location	Date	Pump ID	Filter ID	Start Time	Finish Time	Sample Time (min)	Volume Sampled	Fibres / 100 Fields	Results (fibres/mL)
Exclusion zone fence	29/08/18	PRM64	DE300596	08:40	12:10	210	273	0.0	<0.01
Inside excavator near seat	29/08/18	PRM06	DG096283	08:38	11:45	187	243	0.0	<0.01
Blank	29/08/18	-	DG096285	-	-	-	-	0.0	-



NATA accredited laboratory analysis report is attached to the rear of this report.

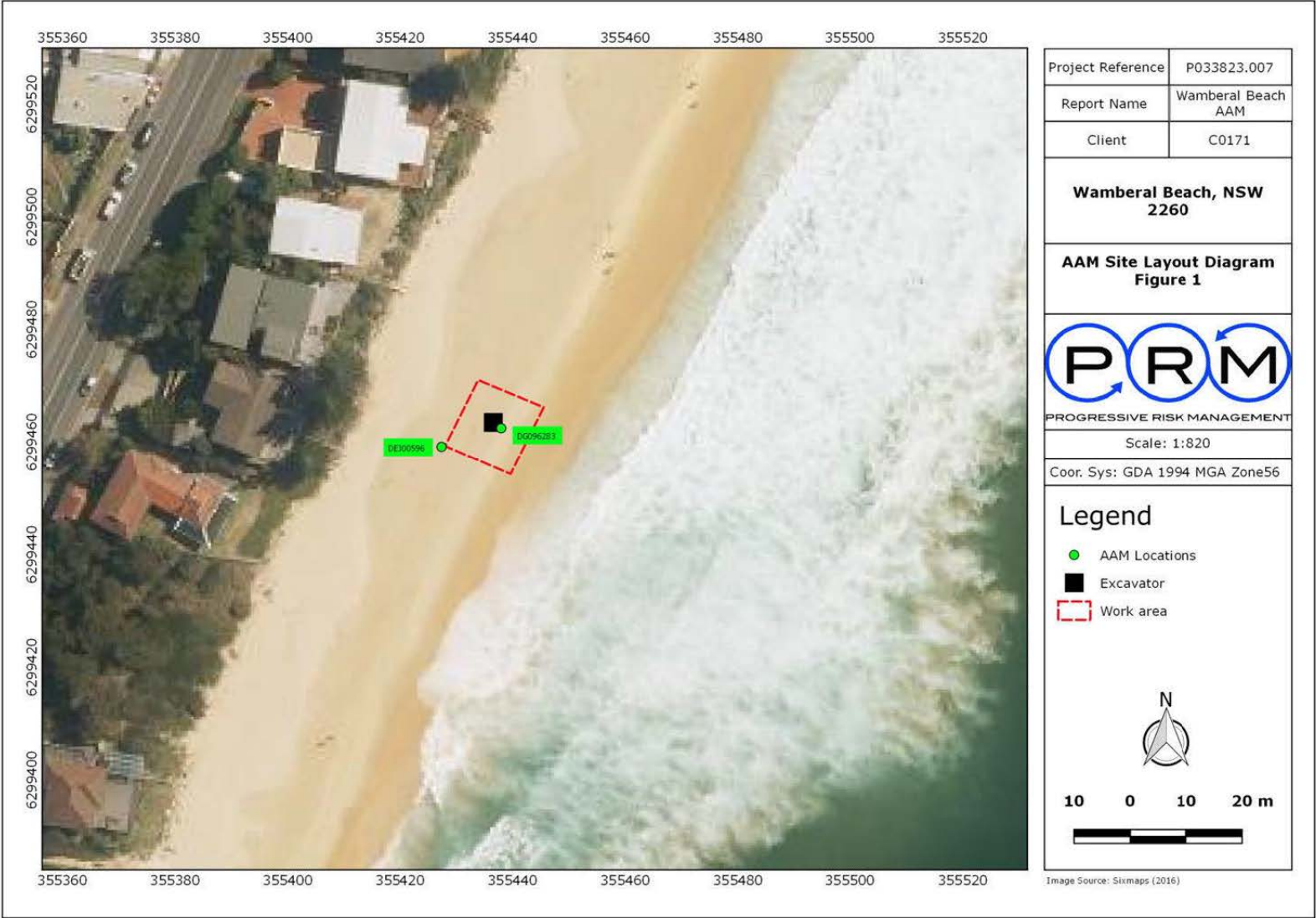
Limitations:

This Air Monitoring Report has been prepared by Progressive Risk Management Pty Ltd (PRM) for the client listed above, based upon a specific request made by the client for air monitoring to be undertaken during asbestos assessment works. This Air Monitoring Report:

- May only be used for the purpose of the asbestos assessment works performed on the specified date and in the specific areas outlined in the Site Details section. Dates or areas not listed are not applicable to this Air Monitoring Report.
- Does not relate to remaining ACMs not associated to the removal works (to which this air monitoring letter applies), which may be present within the site.
- Must not be copied to, used by, altered, amended or abbreviated, issued in part or issued incomplete without the prior written consent of PRM.
- In no way comments on any clearance, decontamination or encapsulation following the asbestos removal works and in no way certifies the removal works area suitable for reoccupation.
- To the maximum extent permitted by law, all implied warranties and conditions in relation to the services provided by PRM and the air monitoring letter are excluded unless they are expressly stated to apply in this letter.
- The data and advice provided herein relates only to the project and structures described in the Air Monitoring Report and must be reviewed by a competent professional before being used for any other purpose. PRM accepts no responsibility for other use of the data.

If you have further questions please do not hesitate to contact the undersigned.

Report Review:		
	Report Prepared by:	Report Reviewed by:
Signature:		
Name:	Sarah Dale	Nick Passlow
Position:	Consultant	Managing Director
NSW SafeWork LAA Number:	-	-
Phone:	0420-692-608	0404-485-980
Email:	sarah.dale@progressiverm.com.au	nick.passlow@progressiverm.com.au
Progressive Risk Management Pty Ltd		



Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



Photolog

Report: Asbestos Fibre Air Monitoring Report

Site: Wamberal Beach - Ocean View Drive, Wamberal Beach NSW 2260

Reference: P033823.007



Photo 1: Image of PRM54 on exclusion zone fence



Photo 2: Image of work area and PRM54 location



Photo 3: Image of PRM05 inside excavator



Photo 4: Image of PRM06 location

End of Photolog

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



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 www.envirolab.com.au

CERTIFICATE OF ANALYSIS 199618**Client Details**

Client	Progressive Risk Management Pty Ltd
Attention	Sarah Dale
Address	79 Darley Rd, Manly, NSW, 2095

Sample Details

Your Reference	P033823.007, Terrigal/ Wamberal Beach Control AAM
Number of Samples	3 Filter
Date samples received	30/08/2018
Date completed instructions received	30/08/2018
Sampler Name	S Dale
Date Sampled	29/08/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	31/08/2018
Date of Issue	31/08/2018
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Asbestos Approved By

Analysed by Approved Counter: Matt Tang
 Analysed by Asbestos Count Approved Signatory: Lucy Zhu
Results Approved By
 Lucy Zhu, Asbestos Analyst

Authorised By

Jacinta Hurst, Laboratory Manager

Envirolab Reference: 199618
 Revision No: R00



Page | 1 of 4

Attachment 1 **Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan**
 Client Reference: P033823.007, Terrigal/ Wamberal Beach Control AAM

Fibre Counting + Concentration				
Our Reference		199618-1	199618-2	199618-3
Your Reference	UNITS	Exclusion zone fence	Inside excavator near seat	Blank
Cassette No.		DE300596	DE096283	DG096285
Pump ID		PRM64	PRM06	-
Type of sample		Filter	Filter	Filter
Date analysed	-	31/08/2018	31/08/2018	31/08/2018
Fibres	-	0.0	0.0	0.0
Fields	-	100	100	100
Effective Filter Area	mm ²	381.65	381.65	[NA]
Graticule Diameter	µm	100	100	[NA]
Volume Sampled	Litres	273	243	[NA]
Total Sample Time	Min	210	187	[NA]
Fibre Concentration	Fibres/mL	<0.01	<0.01	[NA]

Attachment 1 Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan
Client Reference: P033823.007, Terrigal/ Wamberal Beach Control AAM

Method ID	Methodology Summary
ASB-002	<p>Estimation of Airborne Asbestos Fibres by the Membrane Filter Method. Filters examined in accordance with NOHSC:3003 (April 2005) Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres and Envirolab in-house method ASB-002.</p> <p>The microscope constant for Carl Zeiss Axio Lab.A1 (Sydney Laboratory) calculated using 25mm filter is 48593.</p> <p>The microscope constant for Olympus BX41 (Perth Laboratory) calculated using 25mm filter is 46981.</p> <p>These constants are to be used to calculate fibres/mL concentration for asbestos fibre air monitoring filters.</p> <p>If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005)</p>
Disclaimer	<p>Please note that sampling strategies are outside the control of the laboratory and are therefore not covered under NATA accreditation.</p>

Attachment 1 **Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan**
Client Reference: P033823.007, Terrigal/ Wamberal Beach Control AAM

Report Comments

Volume Measurement data for fibre samples was supplied by "client", the "client" has been trained by the Envirolab Group and hence the concentration data is covered by the Envirolab Group's NATA Accreditation. Therefore the facility is responsible for the data reported.

Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064



Background Asbestos Air Monitoring			
Date:	Thursday, 4 October 2018		
Client Name:	Central Coast Council		
Client Address:	P.O. Box 21, Gosford NSW 2250		
Project Reference:	P033823.008	Client Code:	C0171

Site Details:	
Site Name:	Wamberal Beach
Site Address:	Ocean View Drive, Wamberal Beach NSW 2260
Date of Monitoring:	Tuesday, 25 September 2018
Purpose of Monitoring:	To determine the extent of background airborne asbestos contamination, if present.
Inspector:	Sarah Dale: Consultant
Figure(s):	Refer to Figure 1 appended to this report, for site location and sampling locations.
Introduction:	Progressive Risk Management (PRM) was engaged to conduct background asbestos fibre air monitoring at the site. This report provides details of the air monitoring conducted as well as the laboratory analysis results.
Scope of Works:	<p>The following scope of works was undertaken:</p> <ul style="list-style-type: none"> • Conduct background asbestos fibre air monitoring at the site. • NATA-accredited laboratory analysis of the air monitoring samples. <p>It should be noted that this Air Monitoring Report is not a clearance certificate and in no way states that an area is suitable for reoccupation.</p>

Legislation and Methodology:	
Legislation:	<p>This air monitoring was undertaken in general accordance with the following:</p> <ul style="list-style-type: none"> • Safe Work Australia <i>Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition</i> [NOHSC:3003(2005)].
Methodology:	<p>Asbestos fibre air monitoring: Field-based, analytical and reporting elements of this asbestos fibre air monitoring was conducted in general accordance with NOHSC:3003(2005) as follows:</p> <ul style="list-style-type: none"> • Background asbestos fibre air monitoring: Monitors are placed at various locations around the assessment area. Air monitoring is conducted to measure the background concentrations for potential asbestos contamination in ambient air. • Analysis: The air monitoring samples were then analysed by an external NATA accredited laboratory, Envirolab Services Pty Ltd.

Summary of Results:	
<p>Based upon the results of this asbestos fibre air monitoring detailed within this report, all results were below the detection limit of 0.01 fibre/mL of air, the lowest detectable limit for the method used.</p> <p>Refer to the following page for Detailed Results information and the appended NATA-accredited analysis results.</p>	

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064



Detailed Results:									
Project Ref: P033823.008					Client Reference: C0171				
Location	Date	Pump ID	Filter ID	Start Time	Finish Time	Sample Time (min)	Volume Sampled	Fibres / 100 Fields	Results (fibres/mL)
Beach front of Wamberal Beach SLSC	25/09/18	PRM37	DG096294	08:36	13:56	320	448	0.0	<0.01
Public access pathway off Surfers Road	25/09/18	PRM73	DG096301	08:40	13:54	314	440	0.0	<0.01
Beach front of property 95	25/09/18	PRM48	DG096288	08:44	13:51	307	430	0.0	<0.01
Public access pathway adjacent property 67	25/09/18	PRM33	DG096289	08:29	13:50	321	449	0.0	<0.01
Public access pathway adjacent property 27	25/09/18	PRM71	DG096300	08:22	13:48	326	456	0.0	<0.01
Beach front of property 1	25/09/18	PRM63	DG096296	08:12	13:44	332	465	0.0	<0.01
Blank	25/09/18	-	DG096292	-	-	-	-	0.0	-

NATA accredited laboratory analysis report is attached to the rear of this report.

Limitations:

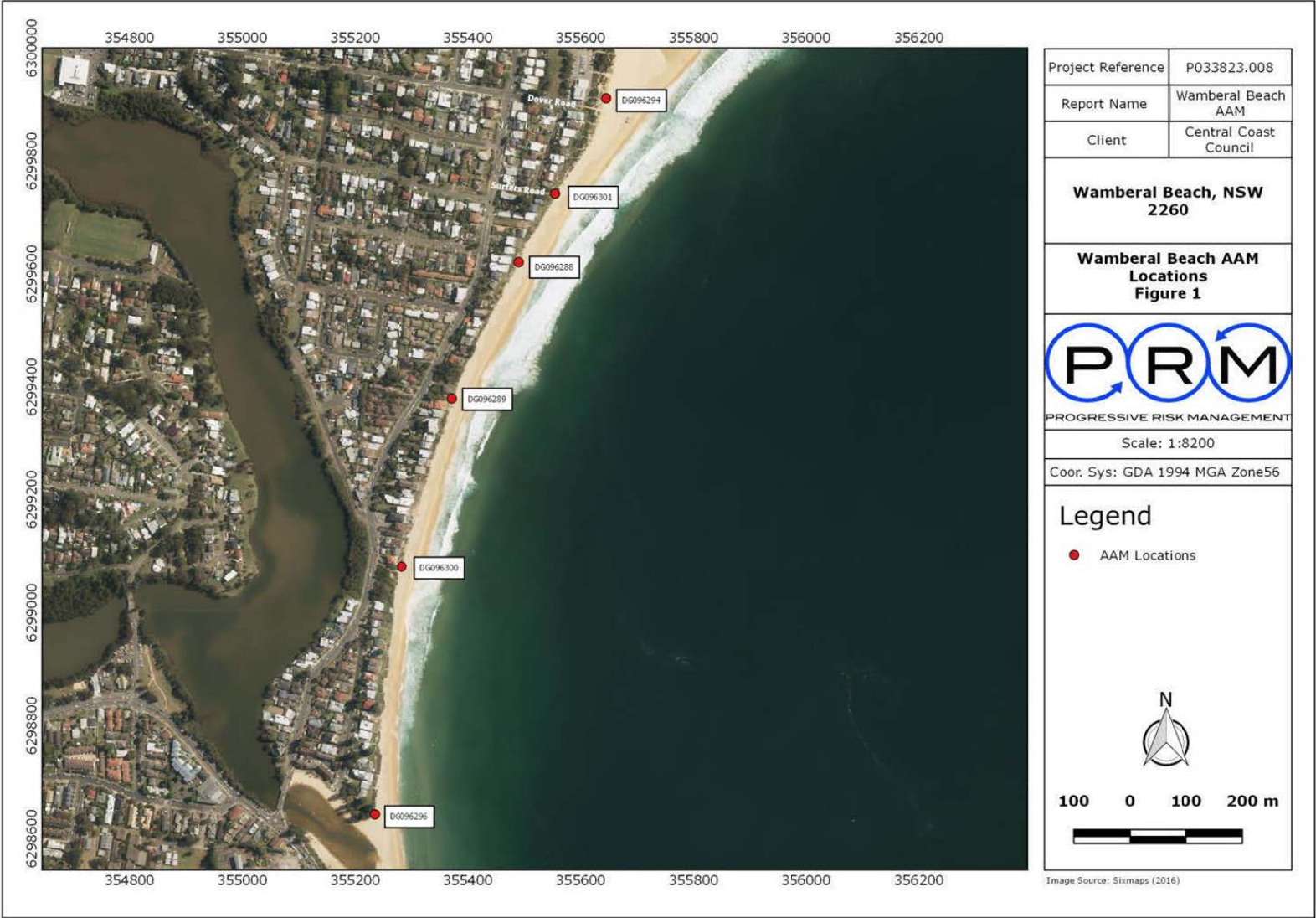
This Air Monitoring Report has been prepared by Progressive Risk Management Pty Ltd (PRM) for the client listed above, based upon a specific request made by the client for background asbestos fibre air monitoring to be undertaken at the site. This Air Monitoring Report:

- May only be used for the purpose of the background asbestos fibre air monitoring performed on the specified date on the specific site outlined in the Site Details section. Dates or areas not listed are not applicable to this Air Monitoring Report.
- Must not be copied to, used by, altered, amended or abbreviated, issued in part or issued incomplete without the prior written consent of PRM.
- In no way comments on any asbestos removal works and in no way certifies an area suitable for reoccupation.
- To the maximum extent permitted by law, all implied warranties and conditions in relation to the services provided by PRM and the air monitoring letter are excluded unless they are expressly stated to apply in this letter.
- The data and advice provided herein relates only to the project and structures described in the Air Monitoring Report and must be reviewed by a competent professional before being used for any other purpose. PRM accepts no responsibility for other use of the data.

If you have further questions please do not hesitate to contact the undersigned.

Report Review:		
	Report Prepared by:	Report Reviewed by:
Signature:		
Name:	Sarah Dale	Nick Passlow
Position:	Consultant	Director
NSW SafeWork LAA Number:	-	-
Phone:	0420-692-608	0404-485-980
Email:	sarah.dale@progressiverm.com.au	nick.passlow@progressiverm.com.au
Progressive Risk Management		

Progressive Risk Management Pty Ltd



Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



Photolog	
Report:	Asbestos Fibre Air Monitoring Report
Site:	Wamberal Beach - Ocean View Drive, Wamberal Beach NSW 2260
Reference:	P033823.008




Photo 1: Image of PRM37




Photo 2: Image of PRM73




Photo 3: Image of PRM48




Photo 4: Image of PRM33




Photo 5: Image of PRM71




Photo 6: Image of PRM53

End of Photolog

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



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

CERTIFICATE OF ANALYSIS 201855**Client Details**

Client	Progressive Risk Management Pty Ltd
Attention	Jonathan Coffey
Address	14/76 Reserve Road, ARTARMON, NSW, 2064

Sample Details

Your Reference	P033823.008, Wamberal Beach AAM
Number of Samples	6 Filters
Date samples received	28/09/2018
Date completed instructions received	28/09/2018
Sampler Name	S Dale
Date Sampled	25/09/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	02/10/2018
Date of Issue	02/10/2018
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Asbestos Approved By

Analysed by Approved Counter: Aida Marner
 Analysed by Asbestos Count Approved Signatory: Matt Tang
Results Approved By
 Matthew Tang, Asbestos Analyst

Authorised By

Jacinta Hurst, Laboratory Manager

Envirolab Reference: 201855
 Revision No: R00



Page | 1 of 4

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.008, Wamberal Beach AAM

Fibre Counting + Concentration						
Our Reference		201855-1	201855-2	201855-3	201855-4	201855-5
Your Reference	UNITS	Beach front of Wamberal Beach SLSC	Public access pathway off Surfers Rd	Beachfront of property 95	Public access pathway adj property 67	Public access pathway adj property 27
Cassette No.		DG096294	DG096301	DG096288	DG096289	DG096300
Pump ID		PRM37	PRM73	PRM48	PRM33	PRM71
Type of sample		Filter	Filter	Filter	Filter	Filter
Date analysed	-	02/10/2018	02/10/2018	02/10/2018	02/10/2018	02/10/2018
Fibres	-	0.0	0.0	0.0	0.0	0.0
Fields	-	100	100	100	100	100
Effective Filter Area	mm ²	381.65	381.65	381.65	381.65	381.65
Graticule Diameter	µm	100	100	100	100	100
Volume Sampled	Litres	448	440	430	449	456
Total Sample Time	Min	320	314	307	321	326
Fibre Concentration	Fibres/mL	<0.01	<0.01	<0.01	<0.01	<0.01

Fibre Counting + Concentration			
Our Reference		201855-6	201855-7
Your Reference	UNITS	Beachfront of property 1	Blank
Cassette No.		DG096296	DG096292
Pump ID		PRM63	-
Type of sample		Filter	Filter
Date analysed	-	02/10/2018	02/10/2018
Fibres	-	0.0	0.0
Fields	-	100	100
Effective Filter Area	mm ²	381.65	[NA]
Graticule Diameter	µm	100	[NA]
Volume Sampled	Litres	465	[NA]
Total Sample Time	Min	332	[NA]
Fibre Concentration	Fibres/mL	<0.01	[NA]

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.008, Wamberal Beach AAM

Method ID	Methodology Summary
ASB-002	<p>Estimation of Airborne Asbestos Fibres by the Membrane Filter Method. Filters examined in accordance with NOHSC:3003 (April 2005) Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres and Envirolab in-house method ASB-002.</p> <p>The microscope constant for Carl Zeiss Axio Lab.A1 (Sydney Laboratory) calculated using 25mm filter is 48593.</p> <p>The microscope constant for Olympus BX41 (Perth Laboratory) calculated using 25mm filter is 46981.</p> <p>These constants are to be used to calculate fibres/mL concentration for asbestos fibre air monitoring filters.</p> <p>If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005)</p>
Disclaimer	Please note that sampling strategies are outside the control of the laboratory and are therefore not covered under NATA accreditation.

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.008, Wamberal Beach AAM

Report Comments

Volume Measurement data for fibre samples was supplied by "client", the "client" has been trained by the Envirolab Group and hence the concentration data is covered by the Envirolab Group's NATA Accreditation. Therefore the facility is responsible for the data reported.

Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064



Background Asbestos Air Monitoring			
Date:	Thursday, 4 October 2018		
Client Name:	Central Coast Council		
Client Address:	P.O. Box 21, Gosford NSW 2250		
Project Reference:	P033823.009	Client Code:	C0171

Site Details:	
Site Name:	Terrigal Beach
Site Address:	Terrigal Esplanade, Terrigal Beach NSW 2260
Date of Monitoring:	Tuesday, 25 September 2018
Purpose of Monitoring:	To determine the extent of background airborne asbestos contamination, if present.
Inspector:	Geoff Fletcher: Senior Consultant
Figure(s):	Refer to Figure 1 appended to this report, for site location and sampling locations.
Introduction:	Progressive Risk Management (PRM) was engaged to conduct background asbestos fibre air monitoring at the site. This report provides details of the air monitoring conducted as well as the laboratory analysis results.
Scope of Works:	<p>The following scope of works was undertaken:</p> <ul style="list-style-type: none"> • Conduct background asbestos fibre air monitoring at the site. • NATA-accredited laboratory analysis of the air monitoring samples. <p>It should be noted that this Air Monitoring Report is not a clearance certificate and in no way states that an area is suitable for reoccupation.</p>

Legislation and Methodology:	
Legislation:	<p>This air monitoring was undertaken in general accordance with the following:</p> <ul style="list-style-type: none"> • Safe Work Australia <i>Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition</i> [NOHSC:3003(2005)].
Methodology:	<p>Asbestos fibre air monitoring: Field-based, analytical and reporting elements of this asbestos fibre air monitoring was conducted in general accordance with NOHSC:3003(2005) as follows:</p> <ul style="list-style-type: none"> • Background asbestos fibre air monitoring: Monitors are placed at various locations around the assessment area. Air monitoring is conducted to measure the background concentrations for potential asbestos contamination in ambient air. • Analysis: The air monitoring samples were then analysed by an external NATA accredited laboratory, Envirolab Services Pty Ltd.

Summary of Results:	
<p>Based upon the results of this asbestos fibre air monitoring detailed within this report, all results were below the detection limit of 0.01 fibre/mL of air, the lowest detectable limit for the method used.</p> <p>Refer to the following page for Detailed Results information and the appended NATA-accredited analysis results.</p>	

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064



Detailed Results:									
Project Ref: P033823.009					Client Reference: C0171				
Location	Date	Pump ID	Filter ID	Start Time	Finish Time	Sample Time (min)	Volume Sampled	Fibres / 100 Fields	Results (fibres/mL)
Terrigal Beach carpark on signage post	25/09/18	PRM25	DG096290	08:48	14:15	327	458	0.0	<0.01
SE of Terrigal SLSC on the esplanade walkway on signage post	25/09/18	PRM10	DG096291	10:33	14:17	224	314	0.0	<0.01
Opposite Kurrabyba Avenue on the esplanade walkway on signage post	25/09/18	PRM04	DG096293	08:33	14:20	347	486	0.0	<0.01
Opposite Ash Street on the esplanade walkway on signage post	25/09/18	PRM68	DG096302	08:28	14:22	354	496	0.0	<0.01
Blank	25/09/18	-	DG096303	-	-	-	-	0.0	-
NATA accredited laboratory analysis report is attached to the rear of this report.									

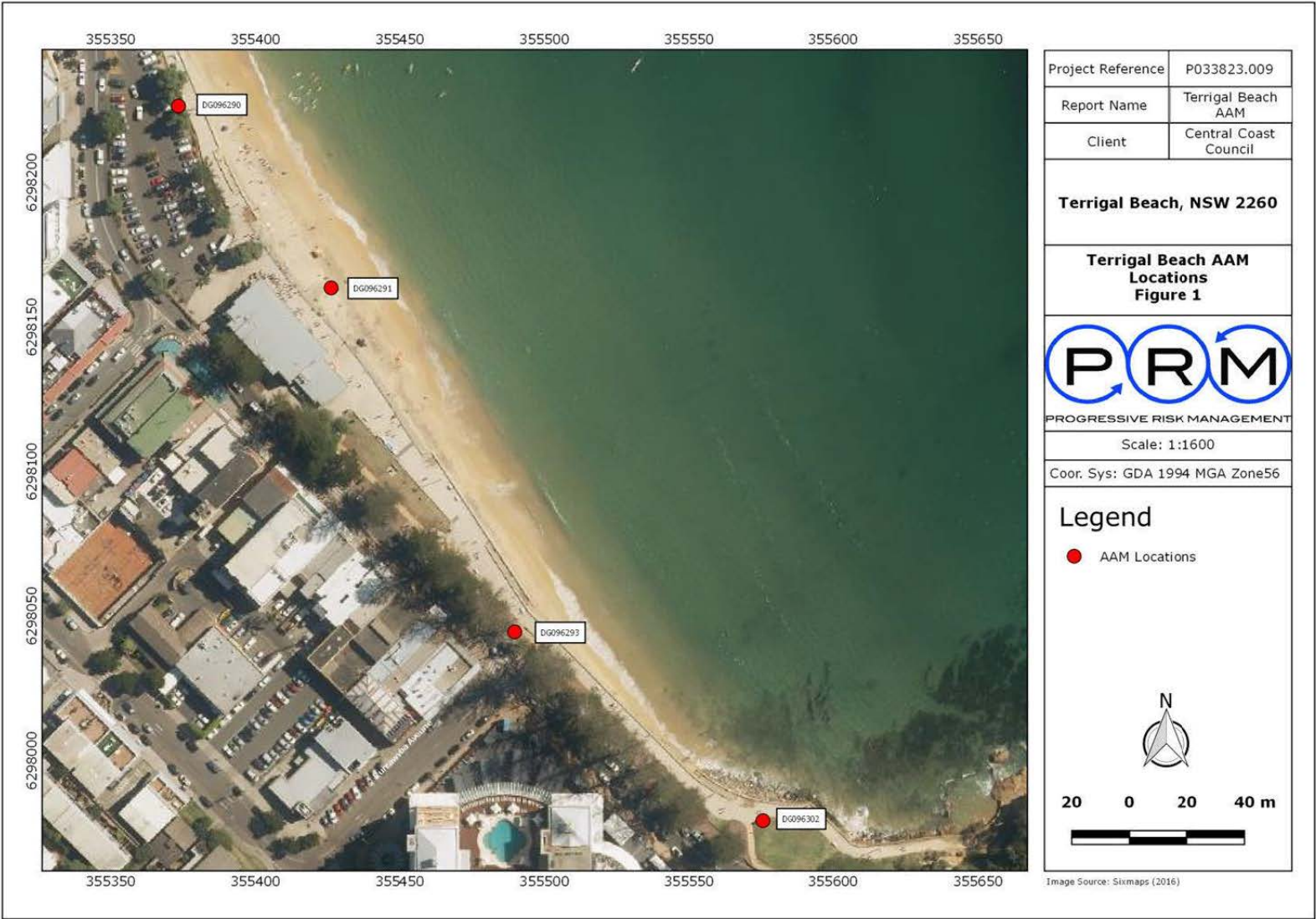
Limitations:

This Air Monitoring Report has been prepared by Progressive Risk Management Pty Ltd (PRM) for the client listed above, based upon a specific request made by the client for background asbestos fibre air monitoring to be undertaken at the site. This Air Monitoring Report:

- May only be used for the purpose of the background asbestos fibre air monitoring performed on the specified date on the specific site outlined in the Site Details section. Dates or areas not listed are not applicable to this Air Monitoring Report.
- Must not be copied to, used by, altered, amended or abbreviated, issued in part or issued incomplete without the prior written consent of PRM.
- In no way comments on any asbestos removal works and in no way certifies an area suitable for reoccupation.
- To the maximum extent permitted by law, all implied warranties and conditions in relation to the services provided by PRM and the air monitoring letter are excluded unless they are expressly stated to apply in this letter.
- The data and advice provided herein relates only to the project and structures described in the Air Monitoring Report and must be reviewed by a competent professional before being used for any other purpose. PRM accepts no responsibility for other use of the data.

If you have further questions please do not hesitate to contact the undersigned.

Report Review:		
	Report Prepared by:	Report Reviewed by:
Signature:		
Name:	Sarah Dale	Nick Passlow
Position:	Consultant	Director
NSW SafeWork LAA Number:	-	-
Phone:	0420-692-608	0404-485-980
Email:	sarah.dale@progressiverm.com.au	nick.passlow@progressiverm.com.au
Progressive Risk Management		



Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



Photolog	
Report:	Asbestos Fibre Air Monitoring Report
Site:	Terrigal Beach - Terrigal Esplanade, Terrigal Beach NSW 2260
Reference:	P033823.009

 <p>Photo 1: Image of PRM25</p>	 <p>Photo 2: Image of PRM10</p>
 <p>Photo 3: Image of PRM04</p>	 <p>Photo 4: Image of PRM58</p>

End of Photolog	
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Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



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

CERTIFICATE OF ANALYSIS 201858**Client Details**

Client	Progressive Risk Management Pty Ltd
Attention	Jonathan Coffey
Address	14/76 Reserve Road, ARTARMON, NSW, 2064

Sample Details

Your Reference	P033823.009, Terrigal Beach AAM
Number of Samples	5 Filter
Date samples received	28/09/2018
Date completed instructions received	28/09/2018
Sampler Name	S Dale, G Fletcher
Date Sampled	25/09/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	02/10/2018
Date of Issue	02/10/2018
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Asbestos Approved By

Analysed by Approved Counter: Panika Wongchanda
 Analysed by Asbestos Count Approved Signatory: Matt Tang

Results Approved By

Matthew Tang, Asbestos Analyst

Authorised By

Jacinta Hurst, Laboratory Manager

Envirolab Reference: 201858
 Revision No: R00



Page | 1 of 4

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.009, Terrigal Beach AAM

Fibre Counting + Concentration						
Our Reference		201858-1	201858-2	201858-3	201858-4	201858-5
Your Reference	UNITS	Terrigal Beach Carpark	SE of Terrigal SLSC on the esplanade walkway	Opp. Kurrawyba Ave on the esplanade walkway	Opp. Ash St on the esplanade walkway	Blank
Cassette No.		DG096290	DG096291	DG096293	DG096302	DG096303
Pump ID		PRM25	PRM10	PRM04	PRM68	-
Type of sample		Filter	Filter	Filter	Filter	Filter
Date analysed	-	02/10/2018	02/10/2018	02/10/2018	02/10/2018	02/10/2018
Fibres	-	0.0	0.0	0.0	0.0	0.0
Fields	-	100	100	100	100	100
Effective Filter Area	mm ²	381.65	381.65	381.65	381.65	[NA]
Graticule Diameter	µm	100	100	100	100	[NA]
Volume Sampled	Litres	458	314	486	496	[NA]
Total Sample Time	Min	327	224	347	354	[NA]
Fibre Concentration	Fibres/mL	<0.01	<0.01	<0.01	<0.01	[NA]

Attachment 1 **Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan**
Client Reference: P033823.009, Terrigal Beach AAM

Method ID	Methodology Summary
ASB-002	<p>Estimation of Airborne Asbestos Fibres by the Membrane Filter Method. Filters examined in accordance with NOHSC:3003 (April 2005) Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres and Envirolab in-house method ASB-002.</p> <p>The microscope constant for Carl Zeiss Axio Lab.A1 (Sydney Laboratory) calculated using 25mm filter is 48593.</p> <p>The microscope constant for Olympus BX41 (Perth Laboratory) calculated using 25mm filter is 46981.</p> <p>These constants are to be used to calculate fibres/mL concentration for asbestos fibre air monitoring filters.</p> <p>If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005)</p>
Disclaimer	Please note that sampling strategies are outside the control of the laboratory and are therefore not covered under NATA accreditation.

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.009, Terrigal Beach AAM

Report Comments

Volume Measurement data for fibre samples was supplied by "client", the "client" has been trained by the Envirolab Group and hence the concentration data is covered by the Envirolab Group's NATA Accreditation. Therefore the facility is responsible for the data reported.

Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064



Background Asbestos Air Monitoring	
Date:	Thursday, 4 October 2018
Client Name:	Central Coast Council
Client Address:	P.O. Box 21, Gosford NSW 2250
Project Reference:	P033823.010
Client Code:	C0171

Site Details:	
Site Name:	Wamberal Beach
Site Address:	Ocean View Drive, Wamberal Beach NSW 2260
Date of Monitoring:	Tuesday, 25 September 2018
Purpose of Monitoring:	To determine the extent of background airborne asbestos contamination, if present.
Inspector:	Sarah Dale: Consultant
Figure(s):	Refer to Figure 1 appended to this report, for site location and sampling locations.
Introduction:	Progressive Risk Management (PRM) was engaged to conduct background asbestos fibre air monitoring at the site. This report provides details of the air monitoring conducted as well as the laboratory analysis results.
Scope of Works:	<p>The following scope of works was undertaken:</p> <ul style="list-style-type: none"> • Conduct background asbestos fibre air monitoring at the site. • NATA-accredited laboratory analysis of the air monitoring samples. <p>It should be noted that this Air Monitoring Report is not a clearance certificate and in no way states that an area is suitable for reoccupation.</p>

Legislation and Methodology:	
Legislation:	<p>This air monitoring was undertaken in general accordance with the following:</p> <ul style="list-style-type: none"> • Safe Work Australia <i>Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition</i> [NOHSC:3003(2005)].
Methodology:	<p>Asbestos fibre air monitoring: Field-based, analytical and reporting elements of this asbestos fibre air monitoring was conducted in general accordance with NOHSC:3003(2005) as follows:</p> <ul style="list-style-type: none"> • Background asbestos fibre air monitoring: Monitors are placed at various locations around the assessment area. Air monitoring is conducted to measure the background concentrations for potential asbestos contamination in ambient air. • Analysis: The air monitoring samples were then analysed by an external NATA accredited laboratory, Envirolab Services Pty Ltd.

Summary of Results:	
<p>Based upon the results of this asbestos fibre air monitoring detailed within this report, all results were below the detection limit of 0.01 fibre/mL of air, the lowest detectable limit for the method used.</p> <p>Refer to the following page for Detailed Results information and the appended NATA-accredited analysis results.</p>	

Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064



Detailed Results:									
Project Ref: P033823.010					Client Reference: C0171				
Location	Date	Pump ID	Filter ID	Start Time	Finish Time	Sample Time (min)	Volume Sampled	Fibres / 100 Fields	Results (fibres/mL)
Exclusion Zone Fence	25/09/18	PRM06	DG096298	10:30	13:55	205	410	0.0	<0.01
Blank	25/09/18	-	DG096297	-	-	-	-	0.0	-

NATA accredited laboratory analysis report is attached to the rear of this report.

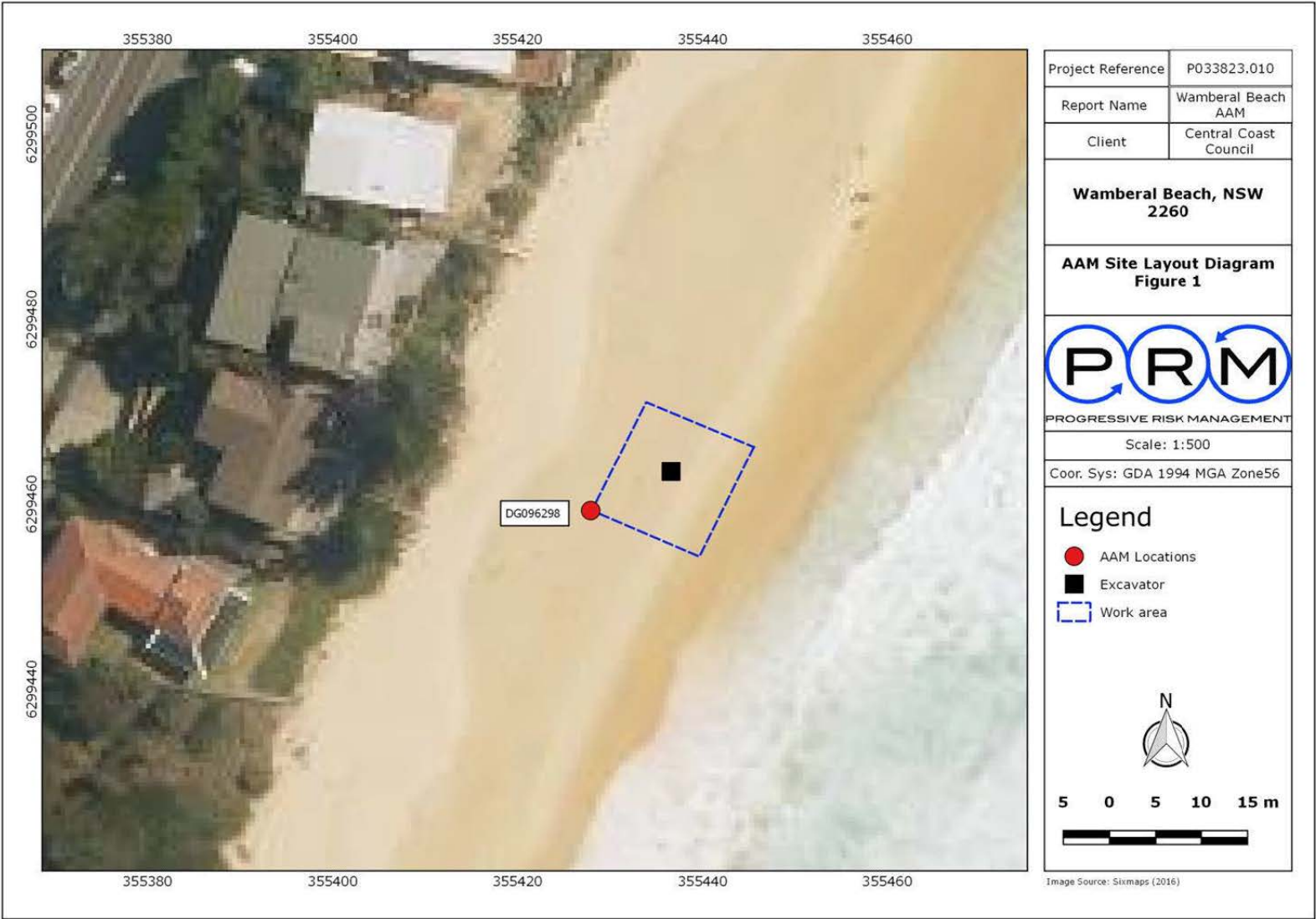
Limitations:

This Air Monitoring Report has been prepared by Progressive Risk Management Pty Ltd (PRM) for the client listed above, based upon a specific request made by the client for background asbestos fibre air monitoring to be undertaken at the site. This Air Monitoring Report:

- May only be used for the purpose of the background asbestos fibre air monitoring performed on the specified date on the specific site outlined in the Site Details section. Dates or areas not listed are not applicable to this Air Monitoring Report.
- Must not be copied to, used by, altered, amended or abbreviated, issued in part or issued incomplete without the prior written consent of PRM.
- In no way comments on any asbestos removal works and in no way certifies an area suitable for reoccupation.
- To the maximum extent permitted by law, all implied warranties and conditions in relation to the services provided by PRM and the air monitoring letter are excluded unless they are expressly stated to apply in this letter.
- The data and advice provided herein relates only to the project and structures described in the Air Monitoring Report and must be reviewed by a competent professional before being used for any other purpose. PRM accepts no responsibility for other use of the data.

If you have further questions please do not hesitate to contact the undersigned.

Report Review:		
	Report Prepared by:	Report Reviewed by:
Signature:		
Name:	Sarah Dale	Nick Passlow
Position:	Consultant	Director
NSW SafeWork LAA Number:	-	-
Phone:	0420-692-608	0404-485-980
Email:	sarah.dale@progressiverm.com.au	nick.passlow@progressiverm.com.au
Progressive Risk Management		





Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



Photolog	
Report:	Asbestos Fibre Air Monitoring Report
Site:	Wamberal Beach - Ocean View Drive, Wamberal Beach NSW 2260
Reference:	P033823.010

 <p>Photo 1: Photo of PRM06</p>	 <p>Photo 2: Photo showing works area</p>
--	---

End of Photolog

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



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

CERTIFICATE OF ANALYSIS 201852**Client Details**

Client	Progressive Risk Management Pty Ltd
Attention	Jonathan Coffey
Address	14/76 Reserve Road, ARTARMON, NSW, 2064

Sample Details

Your Reference	P033823.010 - Wamberal Beach Work Zone AAM
Number of Samples	2 Filter
Date samples received	28/09/2018
Date completed instructions received	28/09/2018
Sampler Name	S Dale, G Fletcher
Date Sampled	25/09/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	02/10/2018
Date of Issue	02/10/2018
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Asbestos Approved By

Analysed by Approved Counter: Panika Wongchanda
 Analysed by Asbestos Count Approved Signatory: Matt Tang

Results Approved By

Matthew Tang, Asbestos Analyst

Authorised By

Jacinta Hurst, Laboratory Manager

Envirolab Reference: 201852
 Revision No: R00



Page | 1 of 4

Attachment 1**Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan**

Client Reference: P033823.010 - Wamberal Beach Work Zone AAM

Fibre Counting + Concentration			
Our Reference		201852-1	201852-2
Your Reference	UNITS	Exclusion Zone Fence	Blank
Cassette No.		DG096298	DG096297
Pump ID		PRM06	-
Type of sample		Filter	Filter
Date analysed	-	02/10/2018	02/10/2018
Fibres	-	0.0	0.0
Fields	-	100	100
Effective Filter Area	mm ²	381.65	381.65
Graticule Diameter	µm	100	100
Volume Sampled	Litres	410	-
Total Sample Time	Min	205	0
Fibre Concentration	Fibres/mL	<0.01	-

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.010 - Wamberal Beach Work Zone AAM

Method ID	Methodology Summary
ASB-002	<p>Estimation of Airborne Asbestos Fibres by the Membrane Filter Method. Filters examined in accordance with NOHSC:3003 (April 2005) Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres and Envirolab in-house method ASB-002.</p> <p>The microscope constant for Carl Zeiss Axio Lab.A1 (Sydney Laboratory) calculated using 25mm filter is 48593.</p> <p>The microscope constant for Olympus BX41 (Perth Laboratory) calculated using 25mm filter is 46981.</p> <p>These constants are to be used to calculate fibres/mL concentration for asbestos fibre air monitoring filters.</p> <p>If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005)</p>
Disclaimer	Please note that sampling strategies are outside the control of the laboratory and are therefore not covered under NATA accreditation.

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.010 - Wamberal Beach Work Zone AAM

Report Comments

Volume Measurement data for fibre samples was supplied by "client", the "client" has been trained by the Envirolab Group and hence the concentration data is covered by the Envirolab Group's NATA Accreditation. Therefore the facility is responsible for the data reported.

Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064



Background Asbestos Air Monitoring	
Date:	Thursday, 4 October 2018
Client Name:	Central Coast Council
Client Address:	P.O. Box 21, Gosford NSW 2250
Project Reference:	P033823.011
Client Code:	C0171

Site Details:	
Site Name:	Wamberal Beach
Site Address:	Ocean View Drive, Wamberal Beach NSW 2260
Date of Monitoring:	Wednesday, 26 September 2018
Purpose of Monitoring:	To determine the extent of background airborne asbestos contamination, if present.
Inspector:	Sarah Dale: Consultant
Figure(s):	Refer to Figure 1 appended to this report, for site location and sampling locations.
Introduction:	Progressive Risk Management (PRM) was engaged to conduct background asbestos fibre air monitoring at the site. This report provides details of the air monitoring conducted as well as the laboratory analysis results.
Scope of Works:	<p>The following scope of works was undertaken:</p> <ul style="list-style-type: none"> • Conduct background asbestos fibre air monitoring at the site. • NATA-accredited laboratory analysis of the air monitoring samples. <p>It should be noted that this Air Monitoring Report is not a clearance certificate and in no way states that an area is suitable for reoccupation.</p>

Legislation and Methodology:	
Legislation:	<p>This air monitoring was undertaken in general accordance with the following:</p> <ul style="list-style-type: none"> • Safe Work Australia <i>Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition</i> [NOHSC:3003(2005)].
Methodology:	<p>Asbestos fibre air monitoring:</p> <p>Field-based, analytical and reporting elements of this asbestos fibre air monitoring was conducted in general accordance with NOHSC:3003(2005) as follows:</p> <ul style="list-style-type: none"> • Background asbestos fibre air monitoring: Monitors are placed at various locations around the assessment area. Air monitoring is conducted to measure the background concentrations for potential asbestos contamination in ambient air. • Analysis: The air monitoring samples were then analysed by an external NATA accredited laboratory, Envirolab Services Pty Ltd.

Summary of Results:	
<p>Based upon the results of this asbestos fibre air monitoring detailed within this report, all results were below the detection limit of 0.01 fibre/mL of air, the lowest detectable limit for the method used.</p> <p>Refer to the following page for Detailed Results information and the appended NATA-accredited analysis results.</p>	

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064



Detailed Results:									
Project Ref: P033823.011					Client Reference: C0171				
Location	Date	Pump ID	Filter ID	Start Time	Finish Time	Sample Time (min)	Volume Sampled	Fibres / 100 Fields	Results (fibres/mL)
Beach front of Wamberal Beach SLSC	26/09/18	PRM48	DG096308	07:19	12:15	296	414	0.0	<0.01
Public access pathway off Surfers Road	26/09/18	PRM33	DG096299	07:30	12:08	278	389	0.0	<0.01
Beach front of property 95	26/09/18	PRM71	DG096305	07:32	12:06	274	384	0.0	<0.01
Public access pathway adjacent property 67	26/09/18	PRM68	DG096307	07:42	12:02	260	364	0.0	<0.01
Public access pathway adjacent property 27	26/09/18	PRM63	DG096304	07:47	11:58	251	351	0.0	<0.01
Beach front of property 1	26/09/18	PRM73	DG096526	07:52	11:50	238	333	0.0	<0.01
Blank	26/09/18	-	DG096306	-	-	-	-	0.0	-

NATA accredited laboratory analysis report is attached to the rear of this report.

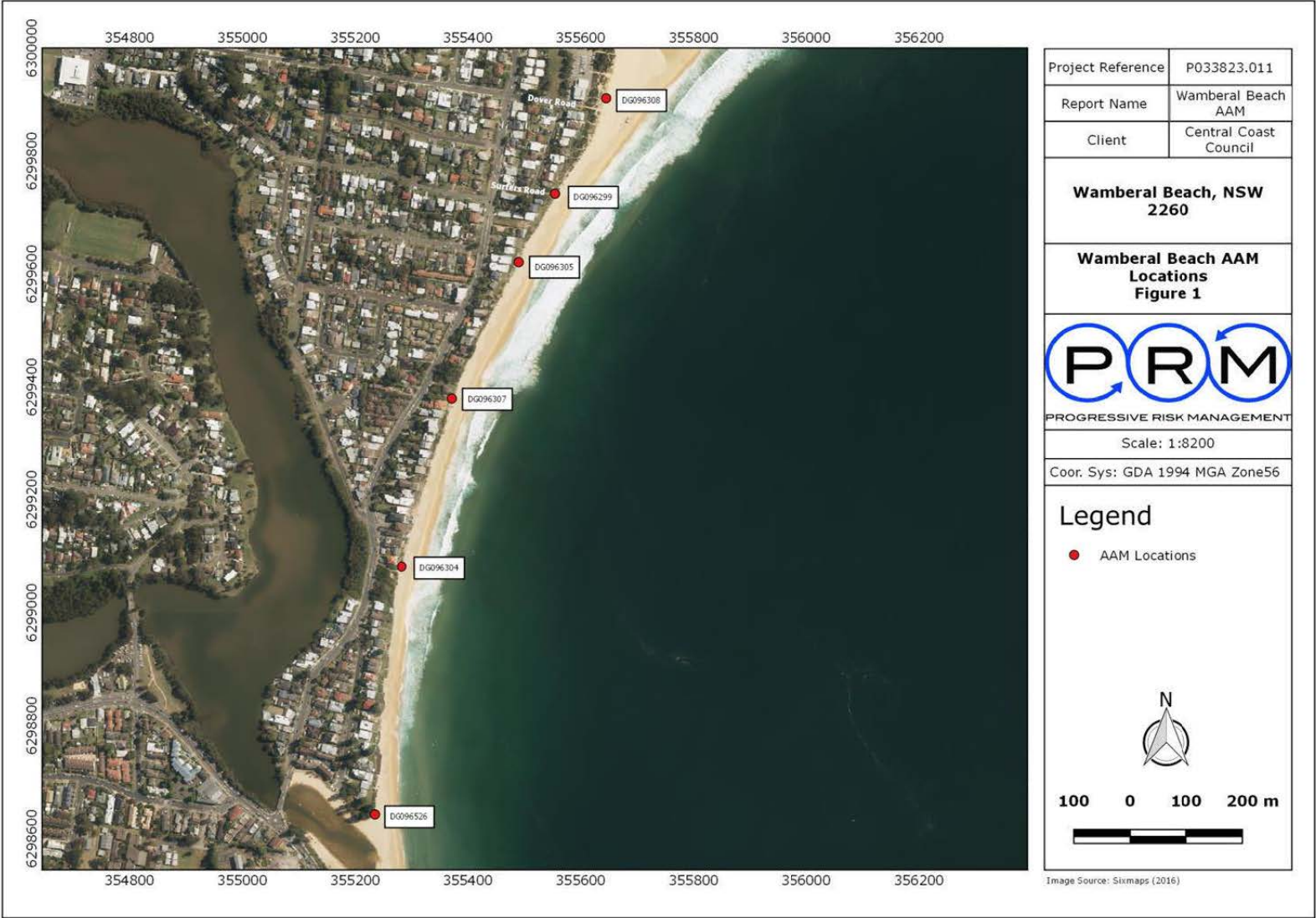
Limitations:

This Air Monitoring Report has been prepared by Progressive Risk Management Pty Ltd (PRM) for the client listed above, based upon a specific request made by the client for background asbestos fibre air monitoring to be undertaken at the site. This Air Monitoring Report:

- May only be used for the purpose of the background asbestos fibre air monitoring performed on the specified date on the specific site outlined in the Site Details section. Dates or areas not listed are not applicable to this Air Monitoring Report.
- Must not be copied to, used by, altered, amended or abbreviated, issued in part or issued incomplete without the prior written consent of PRM.
- In no way comments on any asbestos removal works and in no way certifies an area suitable for reoccupation.
- To the maximum extent permitted by law, all implied warranties and conditions in relation to the services provided by PRM and the air monitoring letter are excluded unless they are expressly stated to apply in this letter.
- The data and advice provided herein relates only to the project and structures described in the Air Monitoring Report and must be reviewed by a competent professional before being used for any other purpose. PRM accepts no responsibility for other use of the data.

If you have further questions please do not hesitate to contact the undersigned.

Report Review:		
	Report Prepared by:	Report Reviewed by:
Signature:		
Name:	Sarah Dale	Nick Passlow
Position:	Consultant	Director
NSW SafeWork LAA Number:	-	-
Phone:	0420-692-608	0404-485-980
Email:	sarah.dale@progressiverm.com.au	nick.passlow@progressiverm.com.au
Progressive Risk Management		



Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



Photolog	
Report:	Asbestos Fibre Air Monitoring Report
Site:	Wamberal Beach - Ocean View Drive, Wamberal Beach NSW 2260
Reference:	P033823.011




Photo 1: Image of PRM48




Photo 2: Image of PRM33




Photo 3: Image of PRM71




Photo 4: Image of PRM58




Photo 5: Image of PRM63




Photo 6: Image of PRM73

End of Photolog

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



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

CERTIFICATE OF ANALYSIS 201854**Client Details**

Client	Progressive Risk Management Pty Ltd
Attention	Jonathan Coffey
Address	14/76 Reserve Road, ARTARMON, NSW, 2064

Sample Details

Your Reference	P033823.011, Wamberal Beach AAM
Number of Samples	6 Filters
Date samples received	28/09/2018
Date completed instructions received	28/09/2018
Sampler Name	S Dale
Date Sampled	26/09/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	02/10/2018
Date of Issue	02/10/2018
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Asbestos Approved By

Analysed by Approved Counter: Panika Wongchanda
 Analysed by Asbestos Count Approved Signatory: Matt Tang

Results Approved By

Matthew Tang, Asbestos Analyst

Authorised By

Jacinta Hurst, Laboratory Manager

Envirolab Reference: 201854
 Revision No: R00



Page | 1 of 4

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.011, Wamberal Beach AAM

Fibre Counting + Concentration						
Our Reference		201854-1	201854-2	201854-3	201854-4	201854-5
Your Reference	UNITS	Beach front of Wamberal Beach SLSC	Public access pathway off Surfers Rd	Beachfront of property 95	Public access pathway adj property 67	Public access pathway adj property 27
Cassette No.		DG096308	DG096299	DG096305	DG096307	DG096304
Pump ID		PRM48	PRM33	PRM71	PRM68	PRM63
Type of sample		Filter	Filter	Filter	Filter	Filter
Date analysed	-	02/10/2018	02/10/2018	02/10/2018	02/10/2018	02/10/2018
Fibres	-	0.0	0.0	0.0	0.0	0.0
Fields	-	100	100	100	100	100
Effective Filter Area	mm ²	381.65	381.65	381.65	381.65	381.65
Graticule Diameter	µm	100	100	100	100	100
Volume Sampled	Litres	414	389	384	364	351
Total Sample Time	Min	296	278	274	260	251
Fibre Concentration	Fibres/mL	<0.01	<0.01	<0.01	<0.01	<0.01

Fibre Counting + Concentration			
Our Reference		201854-6	201854-7
Your Reference	UNITS	Beachfront of property 1	Blank
Cassette No.		DG096526	DG096306
Pump ID		PRM73	-
Type of sample		Filter	Filter
Date analysed	-	02/10/2018	02/10/2018
Fibres	-	0.0	0.0
Fields	-	100	100
Effective Filter Area	mm ²	381.65	381.65
Graticule Diameter	µm	100	100
Volume Sampled	Litres	291	-
Total Sample Time	Min	208	0
Fibre Concentration	Fibres/mL	<0.01	-

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.011, Wamberal Beach AAM

Method ID	Methodology Summary
ASB-002	<p>Estimation of Airborne Asbestos Fibres by the Membrane Filter Method. Filters examined in accordance with NOHSC:3003 (April 2005) Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres and Envirolab in-house method ASB-002.</p> <p>The microscope constant for Carl Zeiss Axio Lab.A1 (Sydney Laboratory) calculated using 25mm filter is 48593.</p> <p>The microscope constant for Olympus BX41 (Perth Laboratory) calculated using 25mm filter is 46981.</p> <p>These constants are to be used to calculate fibres/mL concentration for asbestos fibre air monitoring filters.</p> <p>If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005)</p>
Disclaimer	Please note that sampling strategies are outside the control of the laboratory and are therefore not covered under NATA accreditation.

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.011, Wamberal Beach AAM

Report Comments

Volume Measurement data for fibre samples was supplied by "client", the "client" has been trained by the Envirolab Group and hence the concentration data is covered by the Envirolab Group's NATA Accreditation. Therefore the facility is responsible for the data reported.

Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064



Background Asbestos Air Monitoring			
Date:	Thursday, 4 October 2018		
Client Name:	Central Coast Council		
Client Address:	P.O. Box 21, Gosford NSW 2250		
Project Reference:	P033823.012	Client Code:	C0171

Site Details:	
Site Name:	Terrigal Beach
Site Address:	Terrigal Esplanade, Terrigal Beach NSW 2260
Date of Monitoring:	Wednesday, 26 September 2018
Purpose of Monitoring:	To determine the extent of background airborne asbestos contamination, if present.
Inspector:	Geoff Fletcher: Senior Consultant
Figure(s):	Refer to Figure 1 appended to this report, for site location and sampling locations.
Introduction:	Progressive Risk Management (PRM) was engaged to conduct background asbestos fibre air monitoring at the site. This report provides details of the air monitoring conducted as well as the laboratory analysis results.
Scope of Works:	<p>The following scope of works was undertaken:</p> <ul style="list-style-type: none"> • Conduct background asbestos fibre air monitoring at the site. • NATA-accredited laboratory analysis of the air monitoring samples. <p>It should be noted that this Air Monitoring Report is not a clearance certificate and in no way states that an area is suitable for reoccupation.</p>

Legislation and Methodology:	
Legislation:	<p>This air monitoring was undertaken in general accordance with the following:</p> <ul style="list-style-type: none"> • Safe Work Australia <i>Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition</i> [NOHSC:3003(2005)].
Methodology:	<p>Asbestos fibre air monitoring: Field-based, analytical and reporting elements of this asbestos fibre air monitoring was conducted in general accordance with NOHSC:3003(2005) as follows:</p> <ul style="list-style-type: none"> • Background asbestos fibre air monitoring: Monitors are placed at various locations around the assessment area. Air monitoring is conducted to measure the background concentrations for potential asbestos contamination in ambient air. • Analysis: The air monitoring samples were then analysed by an external NATA accredited laboratory, Envirolab Services Pty Ltd.

Summary of Results:	
<p>Based upon the results of this asbestos fibre air monitoring detailed within this report, all results were below the detection limit of 0.01 fibre/mL of air, the lowest detectable limit for the method used.</p> <p>Refer to the following page for Detailed Results information and the appended NATA-accredited analysis results.</p>	

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064



Detailed Results:									
Project Ref: P033823.012					Client Reference: C0171				
Location	Date	Pump ID	Filter ID	Start Time	Finish Time	Sample Time (min)	Volume Sampled	Fibres / 100 Fields	Results (fibres/mL)
Terrigal Beach carpark on signage post	26/09/18	PRM04	DG096528	08:12	11:30	198	396	0.0	<0.01
SE of Terrigal SLSC on the esplanade walkway on signage post	26/09/18	PRM06	DG096524	08:05	11:33	208	416	0.0	<0.01
Opposite Kurrabyba Avenue on the esplanade walkway on signage post	26/09/18	PRM25	DG096523	07:58	11:35	217	434	0.0	<0.01
Opposite Ash Street on the esplanade walkway on signage post	26/09/18	PRM10	DG096525	07:53	11:38	225	450	0.0	<0.01
Blank	26/09/18	-	DG096522	-	-	-	-	0.0	-

NATA accredited laboratory analysis report is attached to the rear of this report.

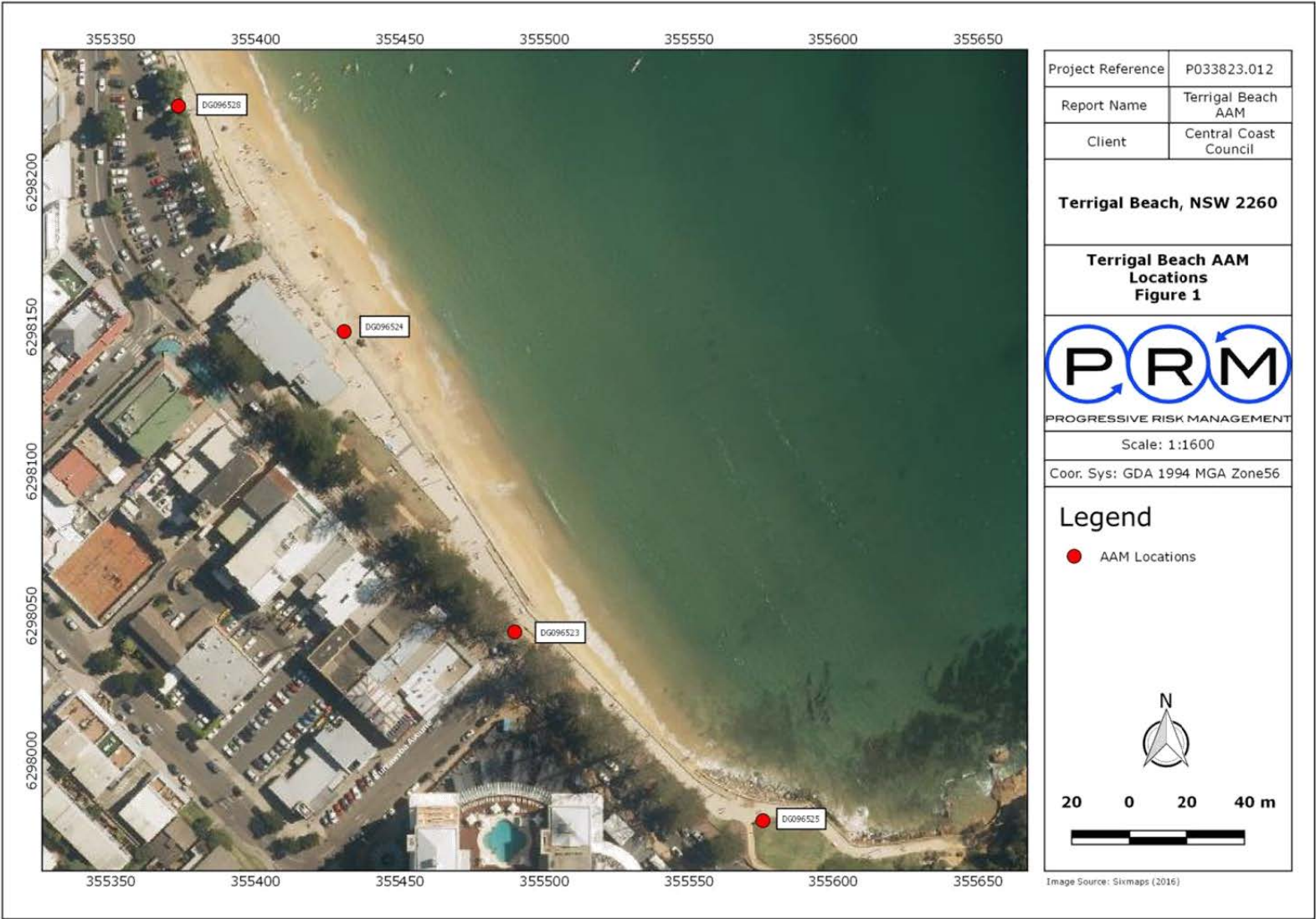
Limitations:

This Air Monitoring Report has been prepared by Progressive Risk Management Pty Ltd (PRM) for the client listed above, based upon a specific request made by the client for background asbestos fibre air monitoring to be undertaken at the site. This Air Monitoring Report:

- May only be used for the purpose of the background asbestos fibre air monitoring performed on the specified date on the specific site outlined in the Site Details section. Dates or areas not listed are not applicable to this Air Monitoring Report.
- Must not be copied to, used by, altered, amended or abbreviated, issued in part or issued incomplete without the prior written consent of PRM.
- In no way comments on any asbestos removal works and in no way certifies an area suitable for reoccupation.
- To the maximum extent permitted by law, all implied warranties and conditions in relation to the services provided by PRM and the air monitoring letter are excluded unless they are expressly stated to apply in this letter.
- The data and advice provided herein relates only to the project and structures described in the Air Monitoring Report and must be reviewed by a competent professional before being used for any other purpose. PRM accepts no responsibility for other use of the data.

If you have further questions please do not hesitate to contact the undersigned.

Report Review:		
	Report Prepared by:	Report Reviewed by:
Signature:		
Name:	Sarah Dale	Nick Passlow
Position:	Consultant	Director
NSW SafeWork LAA Number:	-	-
Phone:	0420-692-608	0404-485-980
Email:	sarah.dale@progressiverm.com.au	nick.passlow@progressiverm.com.au
Progressive Risk Management		




Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



Photolog	
Report:	Asbestos Fibre Air Monitoring Report
Site:	Terrigal Beach - Terrigal Esplanade, Terrigal Beach NSW 2260
Reference:	P033823.012

 <p>Photo 1: Image of PRM04</p>	 <p>Photo 2: Image of PRM06</p>
 <p>Photo 3: Image of PRM25</p>	 <p>Photo 4: Image of PRM10</p>

End of Photolog

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



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

CERTIFICATE OF ANALYSIS 201857**Client Details**

Client	Progressive Risk Management Pty Ltd
Attention	Jonathan Coffey
Address	14/76 Reserve Road, ARTARMON, NSW, 2064

Sample Details

Your Reference	P033823.012, Terrigal Beach AAM
Number of Samples	5 Filter
Date samples received	28/09/2018
Date completed instructions received	28/09/2018
Sampler Name	S Dale, G Fletcher
Date Sampled	26/09/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	02/10/2018
Date of Issue	02/10/2018
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Asbestos Approved By

Analysed by Approved Counter: Panika Wongchanda
 Analysed by Asbestos Count Approved Signatory: Matt Tang

Results Approved By

Matthew Tang, Asbestos Analyst

Authorised By

Jacinta Hurst, Laboratory Manager

Envirolab Reference: 201857
 Revision No: R00



Page | 1 of 4

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.012, Terrigal Beach AAM

Fibre Counting + Concentration						
Our Reference		201857-1	201857-2	201857-3	201857-4	201857-5
Your Reference	UNITS	Terrigal Beach Carpark	SE of Terrigal SLSC on the esplanade walkway	Opp. Kurrawyba Ave on the esplanade walkway	Opp. Ash St on the esplanade walkway	Blank
Cassette No.		DG096528	DG096524	DG096523	DG096525	DG096522
Pump ID		PRM04	PRM06	PRM25	PRM10	-
Type of sample		Filter	Filter	Filter	Filter	Filter
Date analysed	-	02/10/2018	02/10/2018	02/10/2018	02/10/2018	02/10/2018
Fibres	-	0.0	0.0	0.0	0.0	0.0
Fields	-	100	100	100	100	100
Effective Filter Area	mm ²	381.65	381.65	381.65	381.65	[NA]
Graticule Diameter	µm	100	100	100	100	[NA]
Volume Sampled	Litres	396	416	434	450	[NA]
Total Sample Time	Min	198	208	217	225	[NA]
Fibre Concentration	Fibres/mL	<0.01	<0.01	<0.01	<0.01	[NA]

Attachment 1 Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan
Client Reference: P033823.012, Terrigal Beach AAM

Method ID	Methodology Summary
ASB-002	<p>Estimation of Airborne Asbestos Fibres by the Membrane Filter Method. Filters examined in accordance with NOHSC:3003 (April 2005) Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres and Envirolab in-house method ASB-002.</p> <p>The microscope constant for Carl Zeiss Axio Lab.A1 (Sydney Laboratory) calculated using 25mm filter is 48593.</p> <p>The microscope constant for Olympus BX41 (Perth Laboratory) calculated using 25mm filter is 46981.</p> <p>These constants are to be used to calculate fibres/mL concentration for asbestos fibre air monitoring filters.</p> <p>If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005)</p>
Disclaimer	<p>Please note that sampling strategies are outside the control of the laboratory and are therefore not covered under NATA accreditation.</p>

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.012, Terrigal Beach AAM

Report Comments

Volume Measurement data for fibre samples was supplied by "client", the "client" has been trained by the Envirolab Group and hence the concentration data is covered by the Envirolab Group's NATA Accreditation. Therefore the facility is responsible for the data reported.

Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064



Background Asbestos Air Monitoring			
Date:	Thursday, 4 October 2018		
Client Name:	Central Coast Council		
Client Address:	P.O. Box 21, Gosford NSW 2250		
Project Reference:	P033823.013	Client Code:	C0171

Site Details:	
Site Name:	Terrigal Beach
Site Address:	Terrigal Esplanade, Terrigal Beach NSW 2260
Date of Monitoring:	Wednesday, 26 September 2018
Purpose of Monitoring:	To determine the extent of background airborne asbestos contamination, if present.
Inspector:	Sarah Dale: Consultant
Figure(s):	Refer to Figure 1 appended to this report, for site location and sampling locations.
Introduction:	Progressive Risk Management (PRM) was engaged to conduct background asbestos fibre air monitoring at the site. This report provides details of the air monitoring conducted as well as the laboratory analysis results.
Scope of Works:	<p>The following scope of works was undertaken:</p> <ul style="list-style-type: none"> • Conduct background asbestos fibre air monitoring at the site. • NATA-accredited laboratory analysis of the air monitoring samples. <p>It should be noted that this Air Monitoring Report is not a clearance certificate and in no way states that an area is suitable for reoccupation.</p>

Legislation and Methodology:	
Legislation:	<p>This air monitoring was undertaken in general accordance with the following:</p> <ul style="list-style-type: none"> • Safe Work Australia <i>Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition</i> [NOHSC:3003(2005)].
Methodology:	<p>Asbestos fibre air monitoring: Field-based, analytical and reporting elements of this asbestos fibre air monitoring was conducted in general accordance with NOHSC:3003(2005) as follows:</p> <ul style="list-style-type: none"> • Background asbestos fibre air monitoring: Monitors are placed at various locations around the assessment area. Air monitoring is conducted to measure the background concentrations for potential asbestos contamination in ambient air. • Analysis: The air monitoring samples were then analysed by an external NATA accredited laboratory, Envirolab Services Pty Ltd.

Summary of Results:	
<p>Based upon the results of this asbestos fibre air monitoring detailed within this report, all results were below the detection limit of 0.01 fibre/mL of air, the lowest detectable limit for the method used.</p> <p>Refer to the following page for Detailed Results information and the appended NATA-accredited analysis results.</p>	

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064



Detailed Results:									
Project Ref: P033823.013					Client Reference: C0171				
Location	Date	Pump ID	Filter ID	Start Time	Finish Time	Sample Time (min)	Volume Sampled	Fibres / 100 Fields	Results (fibres/mL)
Exclusion Zone Fence	26/09/18	PRM37	DG096517	08:45	10:38	113	226	0.0	<0.01
Blank	26/09/18	-	DG096515	-	-	-	-	0.0	-

NATA accredited laboratory analysis report is attached to the rear of this report.

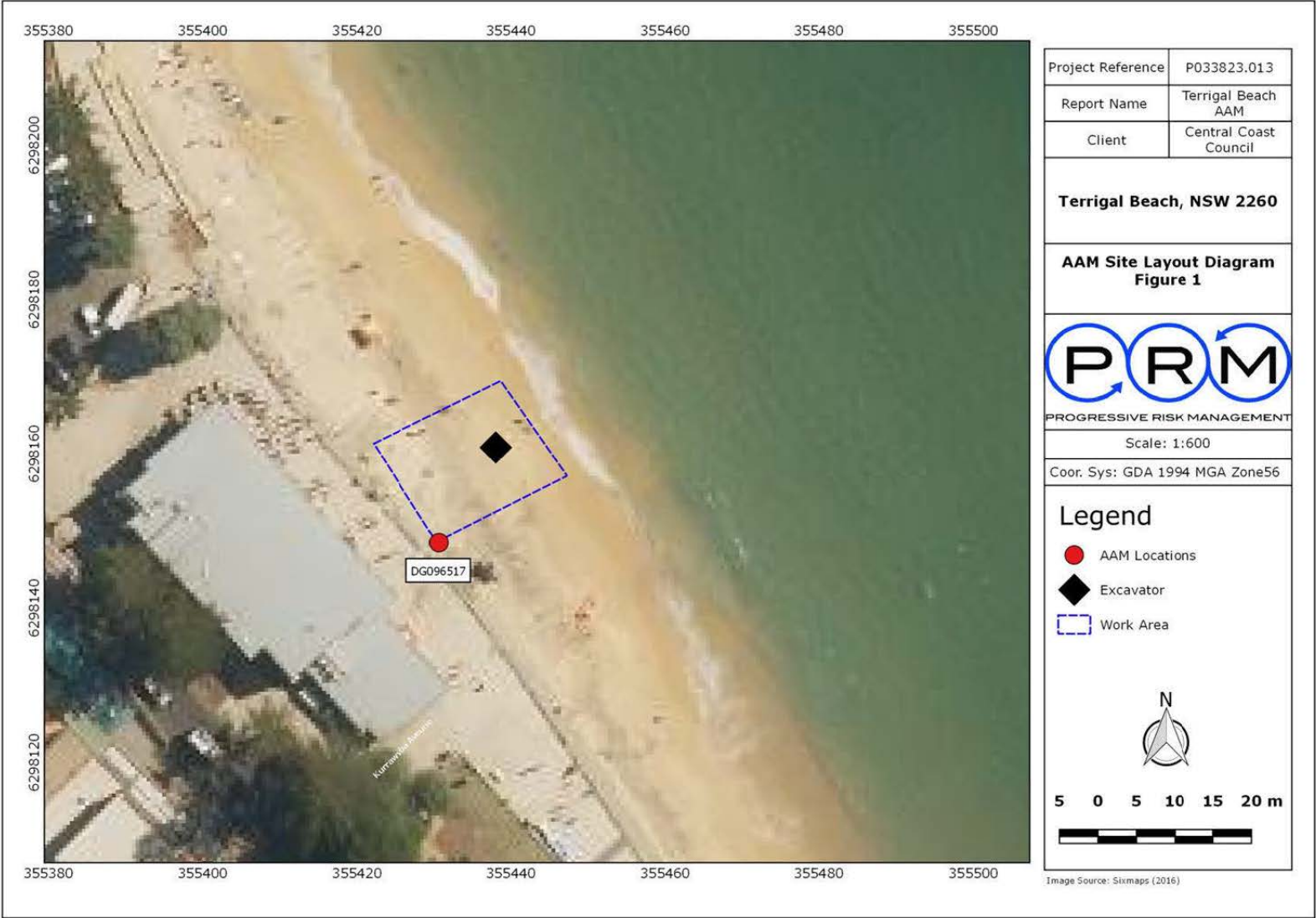
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If you have further questions please do not hesitate to contact the undersigned.

Report Review:		
	Report Prepared by:	Report Reviewed by:
Signature:		
Name:	Sarah Dale	Nick Passlow
Position:	Consultant	Director
NSW SafeWork LAA Number:	-	-
Phone:	0420-692-608	0404-485-980
Email:	sarah.dale@progressiverm.com.au	nick.passlow@progressiverm.com.au
Progressive Risk Management		



Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



Photolog	
Report:	Asbestos Fibre Air Monitoring Report
Site:	Terrigal Beach - Ocean View Drive, Wamberal Beach NSW 2260
Reference:	P033823.013

 <p>Photo 1: Image of PRM37</p>	 <p>Photo 2: Image of work zone</p>
--	---

End of Photolog

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



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

CERTIFICATE OF ANALYSIS 201853**Client Details**

Client	Progressive Risk Management Pty Ltd
Attention	Jonathan Coffey
Address	14/76 Reserve Road, ARTARMON, NSW, 2064

Sample Details

Your Reference	P033823.013 - Terrigal Beach Work Zone AAM
Number of Samples	2 Filter
Date samples received	28/09/2018
Date completed instructions received	28/09/2018
Sampler Name	S Dale, G Fletcher
Date Sampled	26/09/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	02/10/2018
Date of Issue	02/10/2018
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Asbestos Approved By

Analysed by Approved Counter: Aida Marner
Analysed by Asbestos Count Approved Signatory: Matt Tang
Results Approved By
Matthew Tang, Asbestos Analyst

Authorised By

Jacinta Hurst, Laboratory Manager

Envirolab Reference: 201853
Revision No: R00



Page | 1 of 4

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.013 - Terrigal Beach Work Zone AAM

Fibre Counting + Concentration			
Our Reference		201853-1	201853-2
Your Reference	UNITS	Exclusion Zone Fence	Blank
Cassette No.		DG096517	DG096515
Pump ID		PRM37	-
Type of sample		Filter	Filter
Date analysed	-	02/10/2018	02/10/2018
Fibres	-	0.0	0.0
Fields	-	100	100
Effective Filter Area	mm ²	381.65	[NA]
Graticule Diameter	µm	100	[NA]
Volume Sampled	Litres	226	[NA]
Total Sample Time	Min	113	[NA]
Fibre Concentration	Fibres/mL	<0.01	[NA]

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.013 - Terrigal Beach Work Zone AAM

Method ID	Methodology Summary
ASB-002	<p>Estimation of Airborne Asbestos Fibres by the Membrane Filter Method. Filters examined in accordance with NOHSC:3003 (April 2005) Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres and Envirolab in-house method ASB-002.</p> <p>The microscope constant for Carl Zeiss Axio Lab.A1 (Sydney Laboratory) calculated using 25mm filter is 48593.</p> <p>The microscope constant for Olympus BX41 (Perth Laboratory) calculated using 25mm filter is 46981.</p> <p>These constants are to be used to calculate fibres/mL concentration for asbestos fibre air monitoring filters.</p> <p>If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005)</p>
Disclaimer	Please note that sampling strategies are outside the control of the laboratory and are therefore not covered under NATA accreditation.

Attachment 1***Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan***

Client Reference: P033823.013 - Terrigal Beach Work Zone AAM

Report Comments

Volume Measurement data for fibre samples was supplied by "client", the "client" has been trained by the Envirolab Group and hence the concentration data is covered by the Envirolab Group's NATA Accreditation. Therefore the facility is responsible for the data reported.

Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064



Background Asbestos Air Monitoring			
Date:	Tuesday, 9 October 2018		
Client Name:	Central Coast Council		
Client Address:	P.O. Box 21, Gosford NSW 2250		
Project Reference:	P033823.014	Client Code:	C0171

Site Details:	
Site Name:	Terrigal Beach
Site Address:	Terrigal Esplanade, Terrigal Beach NSW 2260
Date of Monitoring:	Thursday, 4 October 2018
Purpose of Monitoring:	To determine the extent of background airborne asbestos contamination, if present.
Inspector:	Sarah Dale: Consultant
Figure(s):	Refer to Figure 1 appended to this report, for site location and sampling locations.
Introduction:	Progressive Risk Management (PRM) was engaged to conduct background asbestos fibre air monitoring at the site. This report provides details of the air monitoring conducted as well as the laboratory analysis results.
Scope of Works:	<p>The following scope of works was undertaken:</p> <ul style="list-style-type: none"> • Conduct background asbestos fibre air monitoring at the site. • NATA-accredited laboratory analysis of the air monitoring samples. <p>It should be noted that this Air Monitoring Report is not a clearance certificate and in no way states that an area is suitable for reoccupation.</p>

Legislation and Methodology:	
Legislation:	<p>This air monitoring was undertaken in general accordance with the following:</p> <ul style="list-style-type: none"> • Safe Work Australia <i>Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition</i> [NOHSC:3003(2005)].
Methodology:	<p>Asbestos fibre air monitoring: Field-based, analytical and reporting elements of this asbestos fibre air monitoring was conducted in general accordance with NOHSC:3003(2005) as follows:</p> <ul style="list-style-type: none"> • Background asbestos fibre air monitoring: Monitors are placed at various locations around the assessment area. Air monitoring is conducted to measure the background concentrations for potential asbestos contamination in ambient air. • Analysis: The air monitoring samples were then analysed by an external NATA accredited laboratory, Envirolab Services Pty Ltd.

Summary of Results:	
<p>Based upon the results of this asbestos fibre air monitoring detailed within this report, all results were below the detection limit of 0.01 fibre/mL of air, the lowest detectable limit for the method used.</p> <p>Refer to the following page for Detailed Results information and the appended NATA-accredited analysis results.</p>	

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Progressive Risk Management
Unit 14, 76 Reserve Road
Artarmon NSW 2064

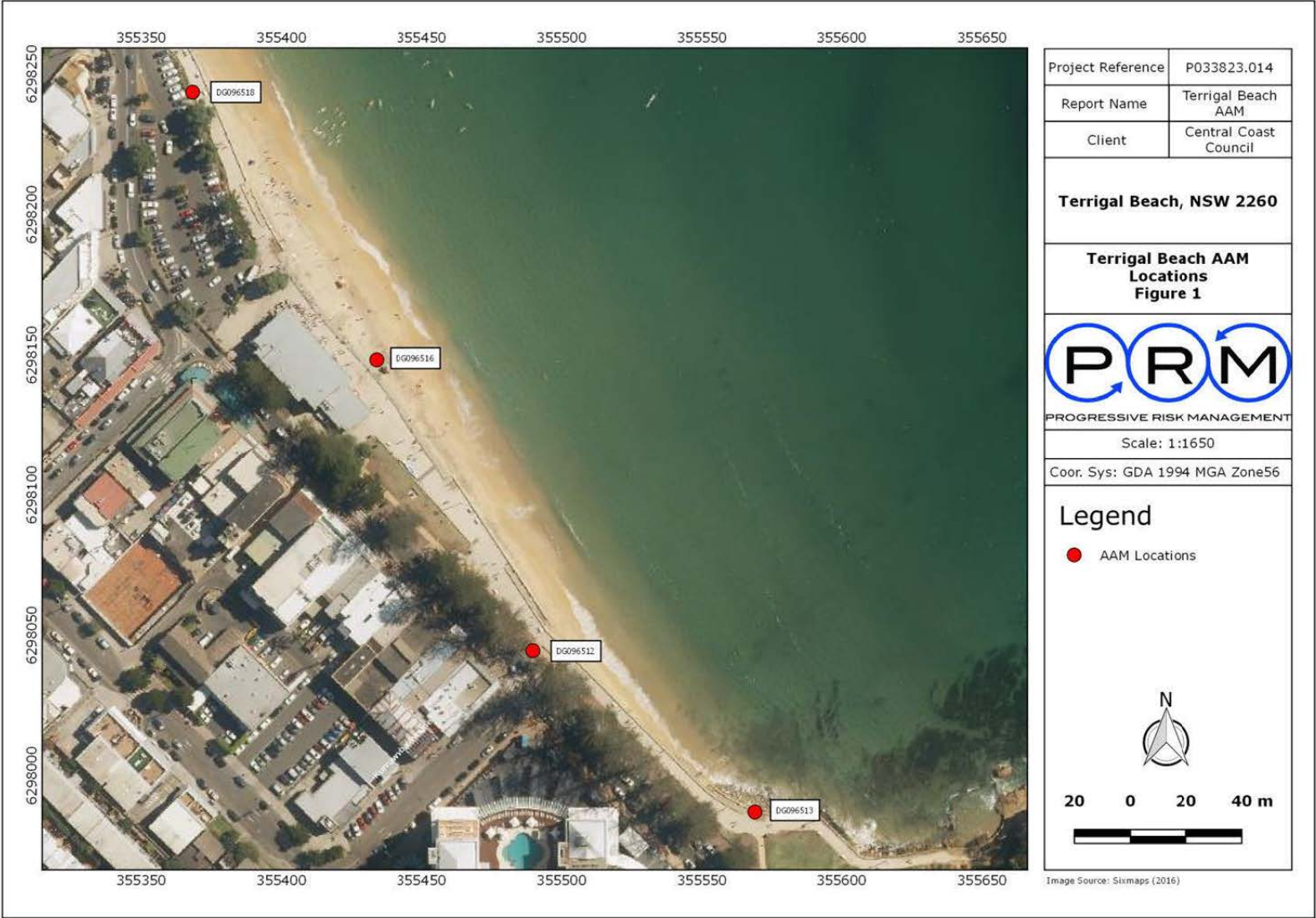


Detailed Results:									
Project Ref: P033823.014					Client Reference: C0171				
Location	Date	Pump ID	Filter ID	Start Time	Finish Time	Sample Time (min)	Volume Sampled	Fibres / 100 Fields	Results (fibres/mL)
Terrigal Beach carpark on signage post	4/10/18	PRM48	DG096518	04:08	06:00	112	392	0.0	<0.01
SE of Terrigal SLSC on the esplanade walkway on signage post	4/10/18	PRM71	DG096516	04:12	06:02	110	385	0.0	<0.01
Opposite Kurrabyba Aveune on the esplanade walkway on signage post	4/10/18	PRM68	DG096512	04:14	06:04	110	385	0.0	<0.01
Opposite Ash Street on the esplanade walkway on fence	4/10/18	PRM73	DG096513	04:16	06:06	110	385	0.0	<0.01
Blank	4/10/18	-	DG096519	-	-	-	-	0.0	-
NATA accredited laboratory analysis report is attached to the rear of this report.									

Limitations:	
<p>This Air Monitoring Report has been prepared by Progressive Risk Management Pty Ltd (PRM) for the client listed above, based upon a specific request made by the client for background asbestos fibre air monitoring to be undertaken at the site. This Air Monitoring Report:</p> <ul style="list-style-type: none"> • May only be used for the purpose of the background asbestos fibre air monitoring performed on the specified date on the specific site outlined in the Site Details section. Dates or areas not listed are not applicable to this Air Monitoring Report. • Must not be copied to, used by, altered, amended or abbreviated, issued in part or issued incomplete without the prior written consent of PRM. • In no way comments on any asbestos removal works and in no way certifies an area suitable for reoccupation. • To the maximum extent permitted by law, all implied warranties and conditions in relation to the services provided by PRM and the air monitoring letter are excluded unless they are expressly stated to apply in this letter. • The data and advice provided herein relates only to the project and structures described in the Air Monitoring Report and must be reviewed by a competent professional before being used for any other purpose. PRM accepts no responsibility for other use of the data. 	

If you have further questions please do not hesitate to contact the undersigned.

Report Review:		
	Report Prepared by:	Report Reviewed by:
Signature:		
Name:	Sarah Dale	Nick Passlow
Position:	Consultant	Director
NSW SafeWork LAA Number:	-	-
Phone:	0420-692-608	0404-485-980
Email:	sarah.dale@progressiverm.com.au	nick.passlow@progressiverm.com.au
Progressive Risk Management		



Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



Photolog	
Report:	Asbestos Fibre Air Monitoring Report
Site:	Terrigal Beach - Terrigal Esplanade, Terrigal Beach NSW 2260
Reference:	P033823.014



Photo 1: Image of PRM48



Photo 2: Image of PRM71



Photo 3: Image of PRM68



Photo 4: Image of PRM73



Photo 5: Image of beach raking works



Photo 6: Image of beach raking works

End of Photolog

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan



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

CERTIFICATE OF ANALYSIS 202414**Client Details**

Client	Progressive Risk Management Pty Ltd
Attention	Jonathan Coffey, Sarah Dale
Address	14/76 Reserve Road, ARTARMON, NSW, 2064

Sample Details

Your Reference	P033823.014, Terrigal Beach AAM CCC
Number of Samples	5 Filter
Date samples received	05/10/2018
Date completed instructions received	05/10/2018
Sampler Name	Jonathan Coffey
Date Sampled	04/10/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	08/10/2018
Date of Issue	08/10/2018
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Asbestos Approved By

Analysed by Approved Counter: Aida Marner
 Analysed by Asbestos Count Approved Signatory: Lucy Zhu

Results Approved By

Lucy Zhu, Asbestos Analyst

Authorised By

Jacinta Hurst, Laboratory Manager

Envirolab Reference: 202414
 Revision No: R00



Page | 1 of 4

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.014, Terrigal Beach AAM CCC

Fibre Counting + Concentration						
Our Reference		202414-1	202414-2	202414-3	202414-4	202414-5
Your Reference	UNITS	Terrigal Beach Carpark on signage post	SE of Terrigal SLSC on the esplanade walkway	Opp. Kurrawyba Ave on the esplanade walkway	Opp. Ash St on the esplanade walkway	Blank
Cassette No.		DG096518	DG096516	DG096512	DG096513	DG096519
Pump ID		PRM48	PRM71	PRM68	PRM73	-
Type of sample		Filter	Filter	Filter	Filter	Filter
Date analysed	-	08/10/2018	08/10/2018	08/10/2018	08/10/2018	08/10/2018
Fibres	-	0.0	0.0	0.0	0.0	0.0
Fields	-	100	100	100	100	100
Effective Filter Area	mm ²	381.65	381.65	381.65	381.65	[NA]
Graticule Diameter	µm	100	100	100	100	[NA]
Volume Sampled	Litres	392	385	385	385	[NA]
Total Sample Time	Min	112	110	110	110	[NA]
Fibre Concentration	Fibres/mL	<0.01	<0.01	<0.01	<0.01	[NA]

Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.014, Terrigal Beach AAM CCC

Method ID	Methodology Summary
ASB-002	<p>Estimation of Airborne Asbestos Fibres by the Membrane Filter Method. Filters examined in accordance with NOHSC:3003 (April 2005) Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres and Envirolab in-house method ASB-002.</p> <p>The microscope constant for Carl Zeiss Axio Lab.A1 (Sydney Laboratory) calculated using 25mm filter is 48593.</p> <p>The microscope constant for Olympus BX41 (Perth Laboratory) calculated using 25mm filter is 46981.</p> <p>These constants are to be used to calculate fibres/mL concentration for asbestos fibre air monitoring filters.</p> <p>If less than 10 fibres/100 graticule areas is observed, the figure of 10 fibres/100 graticule areas is the minimum that can be used to calculate airborne fibre concentration as per NOHSC: 3003(April 2005)</p>
Disclaimer	Please note that sampling strategies are outside the control of the laboratory and are therefore not covered under NATA accreditation.

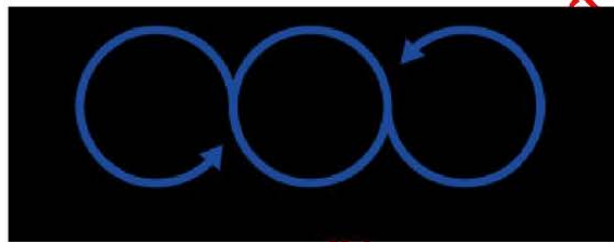
Attachment 1

Terrigal and Wamberal Beach Site Inspection Report and Risk Management Plan

Client Reference: P033823.014, Terrigal Beach AAM CCC

Report Comments

Volume Measurement data for fibre samples was supplied by "client", the "client" has been trained by the Envirolab Group and hence the concentration data is covered by the Envirolab Group's NATA Accreditation. Therefore the facility is responsible for the data reported.



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Risk Management Plan

Terrigal and Wamberal Beach




Central Coast Council

P033823.002

July 2018

**Document Control**

Project Details:	
Project Name:	Risk Management Plan
Site Address:	Terrigal and Wamberal Beach
Client Name:	Central Coast Council
Project Reference:	P033823.002

Report Review		
Report Version / Revision:		Rev0_Draft
Prepared by:	Technical Review by:	Authorised for Issue by:
		
Name: Jonathan Coffey	Name: Nick Passlow	Name: Nick Passlow
Position: Principal Consultant	Position: Director	Position: Director
Date: 15/06/2018	Date: 15/06/2018	Date: 15/06/2018




Report Review		
Report Version / Revision:		Rev0_Final
Prepared by:	Technical Review by:	Authorised for Issue by:
		
Name: Jonathan Coffey	Name: Nick Passlow	Name: Nick Passlow
Position: Principal Consultant	Position: Director	Position: Director
Date: 24/07/2018	Date: 24/07/2018	Date: 24/07/2018



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2.	Summary of Existing Information	2
3.	Risk Management Strategy	4
4.	Limitations	7

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1. Introduction

Progressive Risk Management Pty Ltd (PRM) were engaged by Central Coast Council (Council) to prepare a Risk Management Plan (RMP) for the management of asbestos contamination identified at various locations at Terrigal and Wamberal Beaches, located in the Central Coast Council local government area in NSW (referred to as 'the site').

This RMP has been developed by PRM in consultation with Council representatives to provide a documented approach for the active management of potential risk presented by the identified asbestos contamination.

1.1. Background

Suspected asbestos containing materials (ACM) in the form of bonded fibre-cement fragments have been identified by Council staff and members of the public at various locations across the site. The source of the suspected ACM is currently unclear and requires additional investigation.

1.2. Objectives

The primary objective of this RMP is to provide strategies to suitably and actively manage the identified contamination in order to:

- Assess and better understand both the source/s and the extent of the asbestos contamination.
- Protect human health.
- Prevent ongoing contamination to the extent practicable.
- Minimise costs and liability to Council associated with the identified contamination.
- Prioritise management requirements to allow Council to systematically implement recommended management strategies to reduce the potential risks of the identified contamination to the extent practicable.

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2. Summary of Existing Information

2.1. PRM Site Inspection

PRM completed a detailed inspection and associated reporting in May 2018. The detailed site inspection report, including summary of the suspected ACM contamination and potential sources is included in **Appendix A**.

The site inspection included a visual inspection of the foreshore between Wamberal Surf Club and Terrigal Rock Pool, and a detailed inspection of the Wamberal foredune including collection of suspected ACM fragments from Council owned land.

Recommendations provided in the PRM (2018) Site Inspection Report included:

1. Fencing of those properties where suspected ACM was observed by PRM that did not have fencing in place at the time of the inspection.
2. Collection and analysis of various types of suspected ACM present at the site to confirm the type and potential friability of the various types of ACM present. It is noted that the majority of visually observed suspected ACM was not sampled, as these were located on private property and not able to be accessed.
3. Due diligence asbestos air monitoring (AAM) to assess air quality at the site.
4. Provision of a dedicated phone number for members of the public to report suspected ACM finds.

The PRM Site Inspection Report is included at **Appendix A**.

2.2. Mitigation measures implemented to date

Council have employed a series of temporary mitigation measure at the site including daily site inspections across Terrigal and Wamberal Beaches to identify and remove suspected ACM. In addition, the erection of temporary fencing at those sections of Wamberal foredune visually suspected to contain ACM.

Council have implemented an online data capture program to log the identification of suspected ACM at the site. A review of the data collected by Council between April and June 2018 indicates the frequency of ACM identified at the site has reduced, particularly at Wamberal Beach where no ACM has been identified by Council during daily site inspections since 23 May 2018. A summary of the data capture is presented in **Figure 1**.

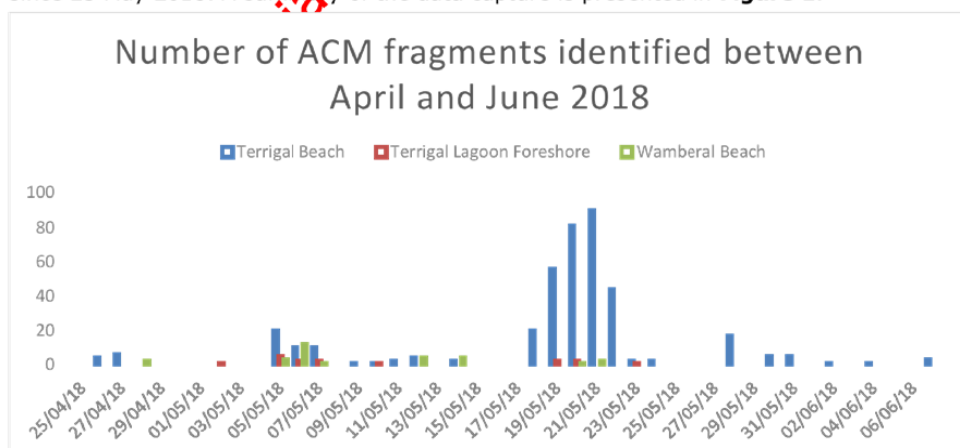


Figure 1: Number of ACM fragments identified during Council site inspections between April and June 2018.



2.3. Data gaps:

Following a review of the existing information, the following data gaps have been identified as requiring additional consideration and assessment:

1. The type and condition of ACM identified at the site to date has been highly variable. Although the ACM fragments identified to date have been reported as non-friable, it is not clear how and by whom this assessment has been made, and the friability of the contamination should be assessed.
2. The potential ACM sources have not been appropriately assessed and delineated through intrusive works.
3. The potential for airborne asbestos fibres to be present at the site has not been assessed. Although the likelihood of fibres being present at the site is considered to be low, the collection of background air monitoring data is considered to be a proactive data collection exercise in the instance that Council are approached by residents/members of the public regarding potential exposure scenarios.

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3. Risk Management Strategy

3.1. Risk Assessment

The key risk, potential impacts, likelihood of occurrence and management approach are described in **Table 1**.

Risk	Impact to council	Likelihood	Management Approach
Impacts to human health from the identified ACM contamination.	<ul style="list-style-type: none"> Financial: Litigation from private and government entities. 	Low: In consideration of the non friable nature ¹ of the ACM identified to date, the risk of potential exposure under normal conditions is considered to be negligible.	Undertake appropriate assessment of representative ACM fragments found at the site to correctly determine and document potential friability. Complete due-diligence AAM to provide Council with adequate data to address potential enquiries with regard to potential exposure scenarios.
Ongoing or increase in the presence of ACM contamination at the site.	<ul style="list-style-type: none"> Financial: Ongoing management and remedial costs. 	Medium: The source of the ACM contamination has not been confirmed or delineated.	Detailed investigation of suspected ACM sources to determine the presence and extent of ACM to inform ongoing management and/or remediation requirements.
Further erosion of Wamberal foredune resulting in the disturbance of additional ACM from the improvised shore protection structures and potential health and safety risks due to collapse of structures and buildings.	<ul style="list-style-type: none"> Financial: Ongoing management/ remedial costs/ litigation from private and government entities. 	High: The likelihood of a major storm event occurring in which the Wamberal foredune is impacted is unknown, however the potential for additional erosion and partial or complete collapse of parts of the foredune are considered high if such an event occurred.	Council consider taking enforcement action against private property owners where ACM has been identified on their property; and/or Undertaking appropriate remedial works to repair the foredune with appropriately designed long-term erosion protection measures which also remove the potential risk of exposure to the identified ACM contamination.

¹ Friability of the ACM is yet to be confirmed through inspection, sampling and analysis.



3.2. Management Approach

The following recommendations have been designed to address the key risk and current data gaps identified as part of the RMP development.

Table 2: Proposed Management Approach		
Item	Recommended Action	Comment
Immediate Management Recommendations (on or before 30 July 2018)		
1	Continue the daily site inspections. Based on a review of the online smartsheet data, the site inspections are recommended to be continued at Terrigal Beach on a daily basis, with a reduce frequency to weekly (or following any extreme weather event) inspections at Wamberal Beach.	Commenced June 2018
2	Collection of representative ACM fragments as well as "grab samples" of soil material for assessment of friability.	
3	Fencing at Wamberal Beach dune to be extended to include all properties to address both ACM risk and general safety risk from potential collapse onto Beach. Council to consider implications of fencing residents access stairs. Council to seek relevant advice from an appropriately qualified engineer (i.e. coastal engineer) on suitable fencing options.	
4	Council to create a dedicated phone number of public reports of any suspected ACM identified at the Beach.	
5	Complete an initial 5-day Asbestos Air Monitoring (AAM) event at Wamberal Beach to identify the presence (or absence) of airborne asbestos fibres. This AAM should be done under different wind conditions for a cross-section of data. Pending the results, the data can either be made publicly available on the Council website or retained by Council in the instance that enquiries to potential exposure are made by residents or Beach users	
6	Underwater survey of Terrigal swim zone to identify presence/absence of suspected ACM fragments in that area.	Completed June 2018
7	Prepare a Community Fact Sheet detailing the potential risks posed by the identified ACM contamination and how best to manage the identified risk	Completed June 2018
Short Term Management Recommendations (i.e. within 3 months)		
1	Undertake intrusive investigation works at Terrigal Beach to assess the suspected fill material behind the original timber sea wall. The sea wall fill is considered to be a potential source of the ACM appearing at Terrigal. Should ACM be identified, remedial measures will be required to either remove and/or encapsulate the fill.	
2	Undertake intrusive investigation works on Wamberal Beach between the foreshore and foredune to assess the presence (or absence) of ACM within the Beach strata. Where identified, the ACM should be remediated/removed. This is designed to allow CCC to provide data as to the presence/absence of ACM on the public opens space land. Potential limitations may be associated with the portion of Beach owned by the Browns.	



Table 2: Proposed Management Approach		
Item	Recommended Action	Comment
Long-Term Management Recommendations (i.e. within 6 months)		
1	<div>Council to consider long-term solutions, including whether to:<ul style="list-style-type: none">Undertake enforcement action against private property owners where ACM has been identified on their property, such as clean-up notices or other statutory notices;Consider placing a notation on Section 10.7 Planning Certificate to identify ACM contamination on the property.Develop solutions to address/remediate the identified contamination in addition to the above-mentioned options.</div>	

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4. Limitations

This report is confidential and has been prepared by Progressive Risk Management Pty Ltd (PRM) for Central Coast Council (the client). This report may only be used and relied upon by the client and must not be copied to, used by or relied upon by any person other than the client.

All results, conclusions and recommendations presented should be reviewed by a competent person before being used for any other purpose. PRM accepts no liability for use of, interpretation of or reliance upon this report by any person or body other than the client. Third parties must make their own independent inquiries.

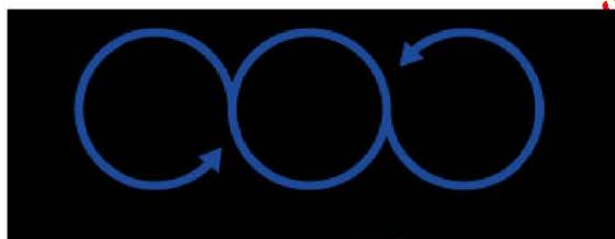
This report should not be altered amended or abbreviated, issued in part or issued incomplete without prior checking and approval by PRM. PRM accepts no liability that may arise from the alteration, amendment, abbreviation or part-issue or incomplete issue of this report. To the maximum extent permitted by law, all implied warranties and conditions in relation to the services provided by PRM and this report are expressly excluded (save as agreed otherwise with the client).

PRM shall bear no liability in relation to any change to site conditions after the date of this report. This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope and limitations defined herein (*Scope of Works*). Should information become available regarding conditions at the site including previously unknown sources of contamination, PRM reserves the right to review the report in the context of the additional information.

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Appendix A: PRM 2018 Sit Inspection Report

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Site Inspection Report

Terrigal and Wamberal Beach

Central Coast Council

P033823 July 2018

**Document Control**

Project Details:	
Project Name:	Site Inspection Report
Site Address:	Terrigal and Wamberal Beach
Client Name:	Central Coast Council
Project Reference:	P033823.001

Report Review			
Report Version / Revision:		Draft V0	
Prepared by:		Technical Review by:	Authorised for Issue by:
Name:	Jonathan Coffey	Name:	Nick Passlow
Position:	Principal Consultant	Position:	Director
Date:	11/05/2018	Date:	11/05/2018

Report Review			
Report Version / Revision:		Final V0	
Prepared by:		Technical Review by:	Authorised for Issue by:
Name:	Jonathan Coffey	Name:	Nick Passlow
Position:	Principal Consultant	Position:	Director
Date:	24/07/2018	Date:	24/07/2018

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3.	Summary of Contamination	6
4.	Site Inspection	9
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6.	Limitations	12

Attachments and Appendices

Figures

Appendix A: Photographic Log

Appendix B: Summary of ACM Sample Collection

Appendix C: Laboratory Analytical Results

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1. Introduction

Progressive Risk Management Pty Ltd (PRM) were engaged by Central Coast Council (Council) to provide professional advice regarding the management of suspected asbestos containing materials (ACM) identified at various locations at Terrigal and Wamberal Beaches, located on the Central Coast, NSW (referred to as 'the site').

The site inspection report has been prepared to provide a summary of the historical site setting as well as the current site conditions (with regards to suspected ACM contamination) to assist Council to determine appropriate mitigation actions for any issues raised.

The regional site location is provided in **Figure 1**.

1.1. Background

Suspected ACM in the form of non-friable cement fragments has been identified by members of the public at various locations across the site. The source of the suspected ACM is currently unclear.

In light of recent media reports regarding the identification of suspected ACM by members of the public, Council have employed a series of temporary mitigation measure at the site including daily site inspections to identify and remove suspected ACM, and the erection of temporary fencing at sections of Wamberal foredune visually suspected to contain ACM.

1.2. Objectives

The objectives of the historical information review and site inspection are to:

- Identify potential historical sources of suspected ACM contamination at the site.
- Document the current site condition (with respect to suspected ACM contamination).
- Evaluate the current mitigation measures implemented by council at the site.
- Provide recommendations of additional mitigations measure (where required).
- Inform the preparation of a Risk Management Plan for the site.

1.3. Scope of Works

The following scope of works was completed by PRM:

- A summary of historical information for the site as made available by Council.
- Site inspection and photographic log of suspected ACM related contamination.
- Collection of representative ACM fragments for laboratory analysis.
- Review of current mitigation measures implemented by Council at the site.
- Preparation of a brief report detailing the results of the site inspection.



2. Site Description and History

2.1. Site Description

The following site description was sourced from WorleyParsons report: *Open Coast and Broken Bay Beaches Coastal Processes and Hazard Definition Study* (February, 2014).

Terrigal and Wamberal Beach are a 2.8km long stretch of sand that trends southwest from Wamberal Point on the north side of Wamberal Lagoon entrance south to Terrigal Lagoon entrance where the Beach begins to curve around to the southeast to terminate at the rocks on the southern end of Terrigal Beach, in lee of Broken Head.

A 1km long 20m high foredune, between Wamberal and Terrigal lagoons, has been developed for Beachfront housing. South of the lagoon mouth, rocky bluffs then a low dune back the 700m long Terrigal Beach. The northern portion of Wamberal Beach is well exposed with waves averaging 1.5m and up to 15 rips dominating the surf zone.

Figure 2 provides the site layout.

2.2. Zoning and Surrounding Land Use

The Council LEP online interactive zoning map indicates the site is zoned as *RE1 Public Open Space*. Terrigal Beach is bordered by Terrigal Drive Promenade, high density residential and commercial properties. The central and southern section of Wamberal Beach is bound by residential properties which have been built on the foredune. It is understood that a small number of these properties have encroached onto Council land, zoned as RE1 Public Open Space.

2.3. Site History

2.3.1. Review of available information

A series of historical images for Terrigal Beach were reviewed by PRM as part of the site history review. The images were accessed online¹ by PRM on 3 July 2018 and included various imagery of Terrigal Beach and surrounds between 1907 and 1958. The images generally show Terrigal Beach to be low density residential and agricultural grazing land. In addition, a 1930s image of Terrigal Beach provided by Council is included in **Plate 1**. The image shows a former timber sea wall on the Beach front.



Plate 1 – 1930 historical image of Terrigal Beach

¹ <http://www.historicphotographs.com.au>



2.3.2. Review of Historical Aerial Photographs

Historical aerial photographs from 1954, 1964, 1977, 1986, 1991, 1995, 1999, 2005, 2007, 2010, 2012 and 2014 were obtained from Council for review (noting 1943 was not available). The aerial photograph review was conducted to ascertain a general history of the site and surrounding area. This review is summarised in **Table 1**.

Table 1: Historical Aerial Photograph Review	
Year	Observations
1954	<p>Terrigal: The Terrigal township consists primarily of low density residential properties. The location and layout of roads appears similar to present day. A portion of grassed land is located between the sand and what is now known as Terrigal Drive/Promenade. A number of small structures (assumed to be the Terrigal Surf club and Beach shacks) are located on the grassed area. The Norfolk pines in the southern end of Terrigal Beach are present. The Terrigal Lagoon appears similar to present day.</p> <p>Wamberal: The foredune area includes a number of lots consisting of small buildings and structures (assumed to be Beach shacks) and a number of lots with dense vegetation. The location and layout of roads appears similar to present day.</p>
1964	<p>Terrigal: Significant develop of the Terrigal township has occurred. A number of low density residential properties have been developed into much larger buildings. The smaller buildings (assumed to be Beach shacks) have been removed from the grassed area, and the area appears to be utilised as a car park. The rockpool at the southern end of the Beach appears to have been constructed. The Terrigal Lagoon appears similar to present day.</p> <p>Wamberal: The density of houses on the foredune has increased significantly. A number of smaller shacks have been removed and replaced with larger buildings. Only a minor amount of vegetation remains on the foredune.</p>
1977	<p>Terrigal: Additional high-density development of the Terrigal township has occurred. The Beachfront carpark has been asphalted. The remainder of the Beach appears similar to the 1964 imagery.</p> <p>Wamberal: A number of smaller shacks have again been removed and replaced with larger buildings. Only a minor amount of vegetation remains on the foredune. The carpark at the Wamberal surf club has been built. The remainder of the Beach appears similar to the 1964 imagery.</p>
1986	<p>Terrigal: The site appears similar to the 1977 imagery.</p> <p>Wamberal: More development of Beachfront properties has occurred. The site appears similar to the 1977 imagery.</p>
1991	<p>Terrigal: The site appears similar to the 1986 imagery. A sea wall is present (assumed to be the timber sea wall built in 1988).</p> <p>Wamberal: The site appears similar to the 1986 imagery.</p>
1995	<p>Terrigal: The site appears similar to the 1986 imagery. A sea wall is present (assumed to be the timber sea wall built in 1988).</p> <p>Wamberal: The site appears similar to the 1986 imagery.</p>
1999	<p>Terrigal: The site appears similar to the 1995 imagery.</p> <p>Wamberal: The site appears similar to the 1995 imagery.</p>
2005	<p>Terrigal: The site appears similar to the 1999 imagery. The current sea wall and walkway is present.</p> <p>Wamberal: The site appears similar to the 1999 imagery.</p>



Table 1: Historical Aerial Photograph Review	
Year	Observations
2007	Terrigal: The site appears similar to the 2005 imagery. Wamberal: The site appears similar to the 2005 imagery.
2010	Terrigal: The site appears similar to the 2007 imagery. Wamberal: The site appears similar to the 2007 imagery.
2012	Terrigal: The site appears similar to the 2010 imagery. Wamberal: The site appears similar to the 2010 imagery.
2014	Terrigal: The site appears similar to the 2012 imagery. Wamberal: The site appears similar to the 2012 imagery.

2.3.3. Significant Storm Events

A number of significant storm events have been recorded at the site since the 1970s. Generally speaking, the storms resulted in significant impacts (erosion) to the foredune and in some cases damage and destruction of property and houses.

A summary of relevant storm information sourced from WorleyParsons (2014) is provided in **Table 2**.

Table 2: Summary of historical storm events	
Year	Details
1974	The major storms of May-June 1974 are the most significant coastal storms that have been recorded to have impacted on the Central Coast of NSW (WorleyParsons, 2014). The severe erosion threatened virtually all Beachfront developments at Terrigal-Wamberal. Significant damage to the foredune at Wamberal was recorded, including damage to retaining structures and properties. The State Emergency Services and Australian Army were called in to place rocks, sand bags and other materials in front of the eroding dune face in an effort to halt further shoreline recession. Septic tanks were placed in front of the home units at Pacific Street (Wamberal) by private contractors.
1978	The major storms of June 1978 also produced significant erosion at Terrigal-Wamberal. Following the severe effects of the 1974 storms, many Beachfront owners constructed a variety of shore protection structures comprising rock rubble, corrugated iron, rubber tyres, besser blocks and concrete walls, while some sprayed the dune face with gunite and others attempted to mitigate erosion by planting vegetation. These ad hoc shore protection measures did not appear to be designed or constructed on sound coastal engineering principles, which was demonstrated during the severe storms of June 1978 when two houses collapsed into the ocean at Wamberal Beach. Anecdotal evidence suggest that much of the associated debris was buried insitu at the Beach.
1986	The August 1986 storms also resulted in major erosion at Terrigal-Wamberal Beaches. Exposed rock and fill material were reported on the foredune at Wamberal Beach.
1995	The 1995 storm event resulted in complete erosion of the Terrigal Beach face up to the old timber seawall, as well as minor overtopping of the wall. In addition, the complete erosion of the Wamberal foredune area was reported with wave runup occurring all the way to the primary dune area.



Table 2: Summary of historical storm events	
Year	Details
2016	<p>The June 2016 storms also resulted in major erosion at Terrigal-Wamberal Beaches. The complete erosion of the Wamberal foredune between Terrigal Lagoon and Wamberal Surf Club was reported, with wave runup occurring all the way to the primary dune area and onto private property. Significant undercutting of landscaped areas, access stairs and retaining structures was observed, with many areas still in a state of disrepair at the time of writing this report.</p> <p>Suspected ACM has been observed in the foredune of at a number of properties along the Wamberal portion of the site. The ACM appears to consist primarily of bonded cement sheeting of various size and condition.</p>

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3. Summary of Contamination

To date, fragments of suspected non-friable ACM are continually being identified at various locations across the site. The vast majority of ACM has been identified in two key areas:

1. In the wash zone and foreshore area of Terrigal Beach (generally at the low-tide mark).
2. Within improvised shore protection structures at Wamberal Beach foredune.

3.1. Sources of Contamination

Based on a review of available information the asbestos identified at Terrigal and Wamberal Beaches are likely to be from two separate sources, as described below.

3.1.1. Terrigal Beach

The exact source/s of the suspected ACM contamination identified at Terrigal Beach is unclear, however, anecdotal evidence suggests it may be associated with the historical construction and backfilling of a former timber sea wall at Terrigal Beach. It is understood that the former sea wall is located beneath the sand at the southern end of Terrigal Beach, between the rockpool and the surf life saving club. Images of the former timber seawall and exposed filling were provided to PRM by Council on 8 May 2018. **Plate 2** shows the exposed sea wall and fill material exposed during the 2016 storm event. Additional imagery of the exposed former seawall at Terrigal were source online² by PRM and are provided in **Plate 3** and **Plate 4**. It is suspected that fragments of ACM are being exposed by tidal erosion and natural Beach processes and are being transported within the wash-zone and deposited at random locations at Terrigal Beach. It is important to note that this has not been investigated or confirmed and is currently based on anecdotal evidence only.

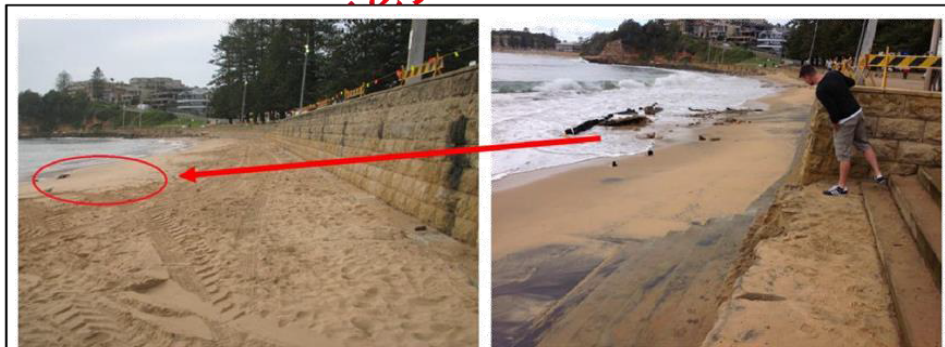


Plate 2 – 2016 Storm event at Terrigal Beach showing exposed timber sea wall and associated fill material.

² Sourced at www.centralcoastdrones.com.au



Plate 3 – Terrigal beach erosion and exposed former sea wall

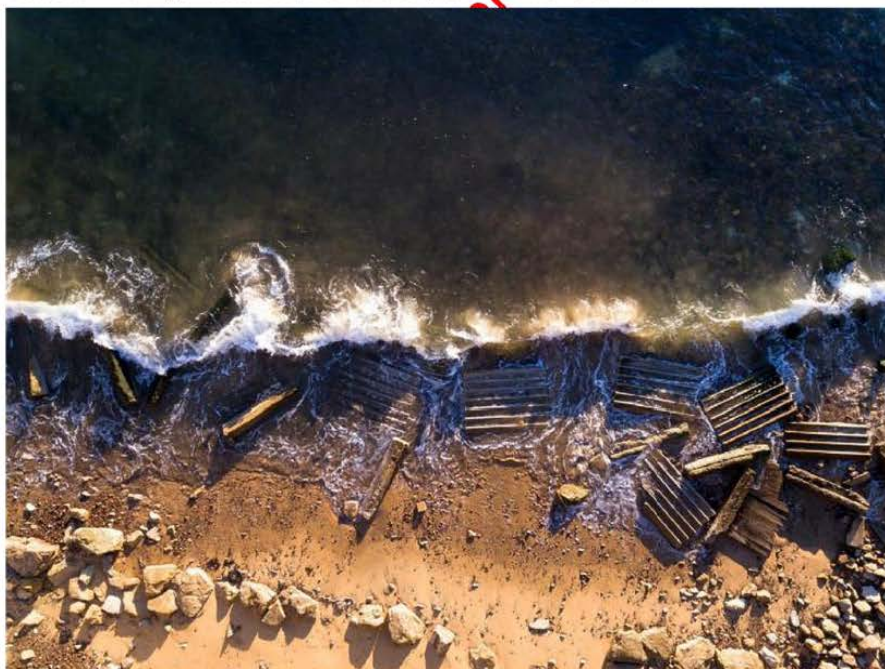


Plate 4 – Terrigal beach erosion and exposed former sea wall (aerial view).

Source: www.centralcoastdrones.com.au



3.1.2. Wamberal Beach

The ACM identified at Wamberal is likely primarily associated with the historical insitu demolition of former Beach shacks containing various forms of ACM (sheeting, cladding, roofing, water pipes and guttering), and the construction of improvised shore protection structures using various types of fill material including ACM.

In addition, a number of significant storm events over the last 50 years are known to have disturbed the improvised shore protection structures and the foredune of Wamberal Beach, causing historical fill material to be exposed, and in some instances fill material and entire houses to be washed into the ocean.

Plate 5 displays the typical condition of the eroded foredune and associated filling at Wamberal beach.



Plate 5 - Foredune erosion and typical filling at Wamberal Beach.

3.2. Transport Mechanisms

The primary transport mechanism for the suspected ACM are likely to be related to the disturbance of the fill materials during major storm events. It is considered likely that ACM disturbed during the major storm events has been buried within Wamberal and Terrigal Beaches and is exposed randomly during natural tidal events and wind erosion of the Beach.

4. Site Inspection

4.1. General

PRM completed a detailed site inspection on 4 May 2018, between 8:30am and 3:00pm. The inspection was performed by experienced Environmental Scientists from PRMs Environmental Risk Team. Council representative Brett Whyte accompanied PRM during part of the site inspection and provided detailed background of the site and the issues relating to the ongoing identification of suspected ACM.

The site inspection included a visual inspection of the foreshore between Wamberal Surf Club and Terrigal Rock Pool, and a detailed inspection of the Wamberal foredune including collection of suspected ACM fragments from Council owned land.

The inspection is summarised in the following sections and a photographic photo log is provided in **Appendix A**.

4.2. Observations

Foreshore:

The visual inspection of the foreshore between Wamberal Surf Club and Terrigal Rock Pool did not identify any suspected ACM.

Foredune (Wamberal):

The primary area of concern at the site is the Wamberal Beach foredune. The majority of the foredune has been impacted by tidal erosion and significant damage to the improvised shore protection structures. Significant fill material, including suspected ACM, was observed at a number of locations along the Wamberal foredune.

However, it is noted that the volume suspected ACM observed by PRM during the site inspection was minimal and was limited to the Wamberal foredune or the sand immediately below the foredune.

The majority of locations where suspected ACM was observed had been fenced by Council. However, several properties where suspected ACM was observed were not fenced at the time of the inspection. **Table 3** and **Figure 3** provide a summary of the ACM observations at the Wamberal foredune.

Property ID	Fenced (Y/N)	Comments
15	Y	
17	Y	
19	Y	
25	N	
29	Y	Sample Collected (SF01)
31	Y	
33	Y	
49	N	
55	N	Sample Collected (SF03)



Table 3: Properties observed with suspected ACM		
Property ID	Fenced (Y/N)	Comments
65	Y	
69	N	
75	N	Sample Collected (SF02)
79	Y	
83	Y	
89	N	
91	N	
93	N	
95	Y	
101	Y	
105	N	

A photolog of the above listed properties is included in **Appendix B**.

4.3. Sample Collection

A total of three suspected ACM fragments were collected from Council owned land immediately below the Wamberal Beach foredune. The fragments were photographed, the location recorded using hand held GPS (accurate to +/- 1m) and the fragments collected in a plastic zip lock bag and transported to NATA Accredited laboratory, Envirolab Services, for analysis.

A summary of the sample collection for the three samples is included in **Appendix B**.

4.4. Analytical Results

Analytical results for the three suspected ACM fragments collected during the site inspection are summarised in **Table 4**.

Table 4: Analytical Results		
Sample ID	Description	Analytical Result
SF01	Non-friable fragment: Weathered but not easily crushed/ pulverised by hand.	Chrysotile asbestos detected
SF02	Non-friable fragment: Weathered but not easily crushed/ pulverised by hand.	Chrysotile asbestos detected
SF03	Non-friable fragment: Weathered but not easily crushed/ pulverised by hand.	Chrysotile asbestos detected

Sample locations are provided on **Figure 2** and laboratory analytical reports are included in **Appendix C**.



5. Review of CCC Mitigation Measures

Council have employed a series of temporary mitigation measure at the site, including daily site inspections to identify and remove suspected ACM, and the erection of temporary fencing at those sections of Wamberal foredune visually suspected to contain ACM.

In consideration of the type of ACM identified at the site to date (non-friable) and the minimal volume and limited extent of suspected ACM observed at publicly accessible portions of the site by PRM during the site inspection, the current mitigation measures are considered appropriate to address the immediate risk of the ACM to site users in the short term, until more permanent rectification works are implemented.

However, consideration should be given to the following additional mitigation measures:

1. Fencing of those properties where suspected ACM was observed by PRM that did not have fencing in place at the time of the inspection (see Table 3).
2. Collection and analysis of various types of suspected ACM present at the site to confirm the type and potential friability of the various types of ACM present. It is noted that the majority of samples would need to be collected from private property.
3. Due diligence asbestos air monitoring (AAM) to provide council with a record of AAM which may be used in the preparation of a Risk Management Plan.
4. Provision of a dedicated phone number for members of the public to report suspected ACM finds.

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6. Limitations

This report is confidential and has been prepared by Progressive Risk Management Pty Ltd (PRM) for Central Coast Council (the client). This report may only be used and relied upon by the client and must not be copied to, used by or relied upon by any person other than the client.

This report is limited to the observations made by PRM during the Site Inspection detailed above and was limited to the assessment of suspected ACM only, as detailed in the *Scope of Works*.

All results, conclusions and recommendations presented should be reviewed by a competent person before being used for any other purpose. PRM accepts no liability for use of, interpretation of or reliance upon this report by any person or body other than the client. Third parties must make their own independent inquiries.

This report should not be altered amended or abbreviated, issued in part or issued incomplete without prior checking and approval by PRM. PRM accepts no liability that may arise from the alteration, amendment, abbreviation or part-issue or incomplete issue of this report. To the maximum extent permitted by law, all implied warranties and conditions in relation to the services provided by PRM and this report are expressly excluded (save as agreed otherwise with the client).

PRM shall bear no liability in relation to any change to site conditions after the date of this report. This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope and limitations defined herein (*Scope of Works*). Should information become available regarding conditions at the site including previously unknown sources of contamination, PRM reserves the right to review the report in the context of the additional information.

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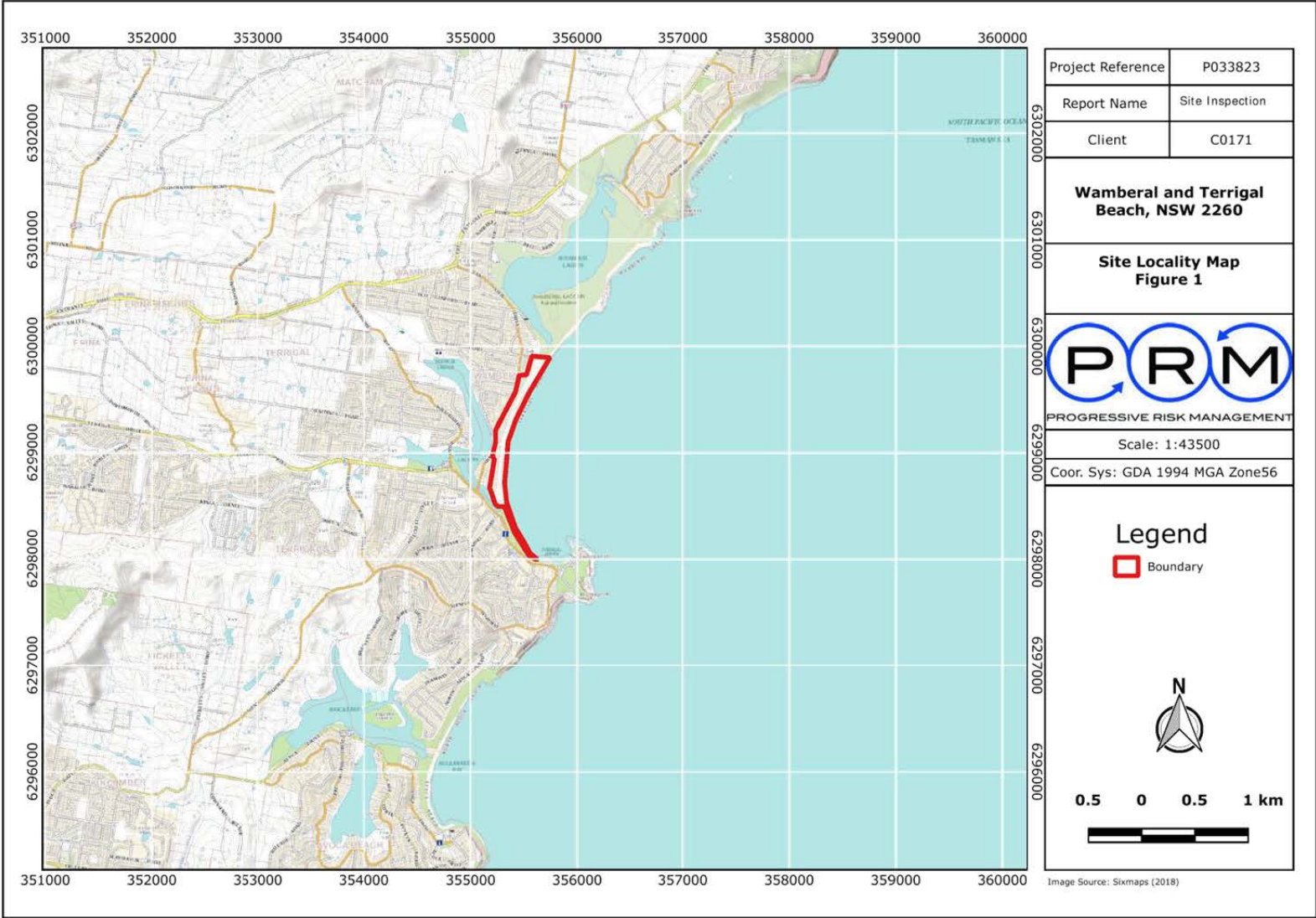
Figures

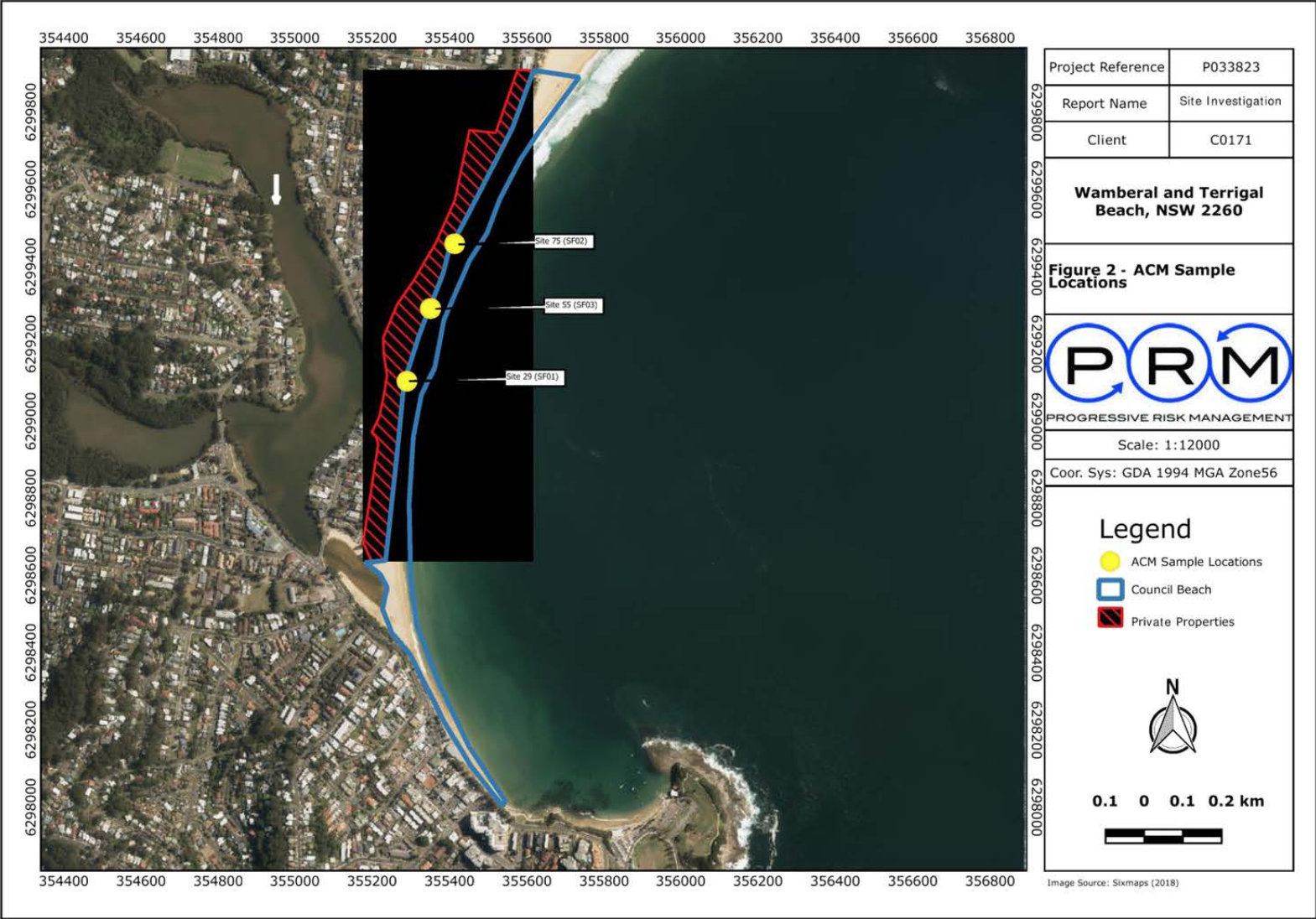
Figure 1: Regional Site Location

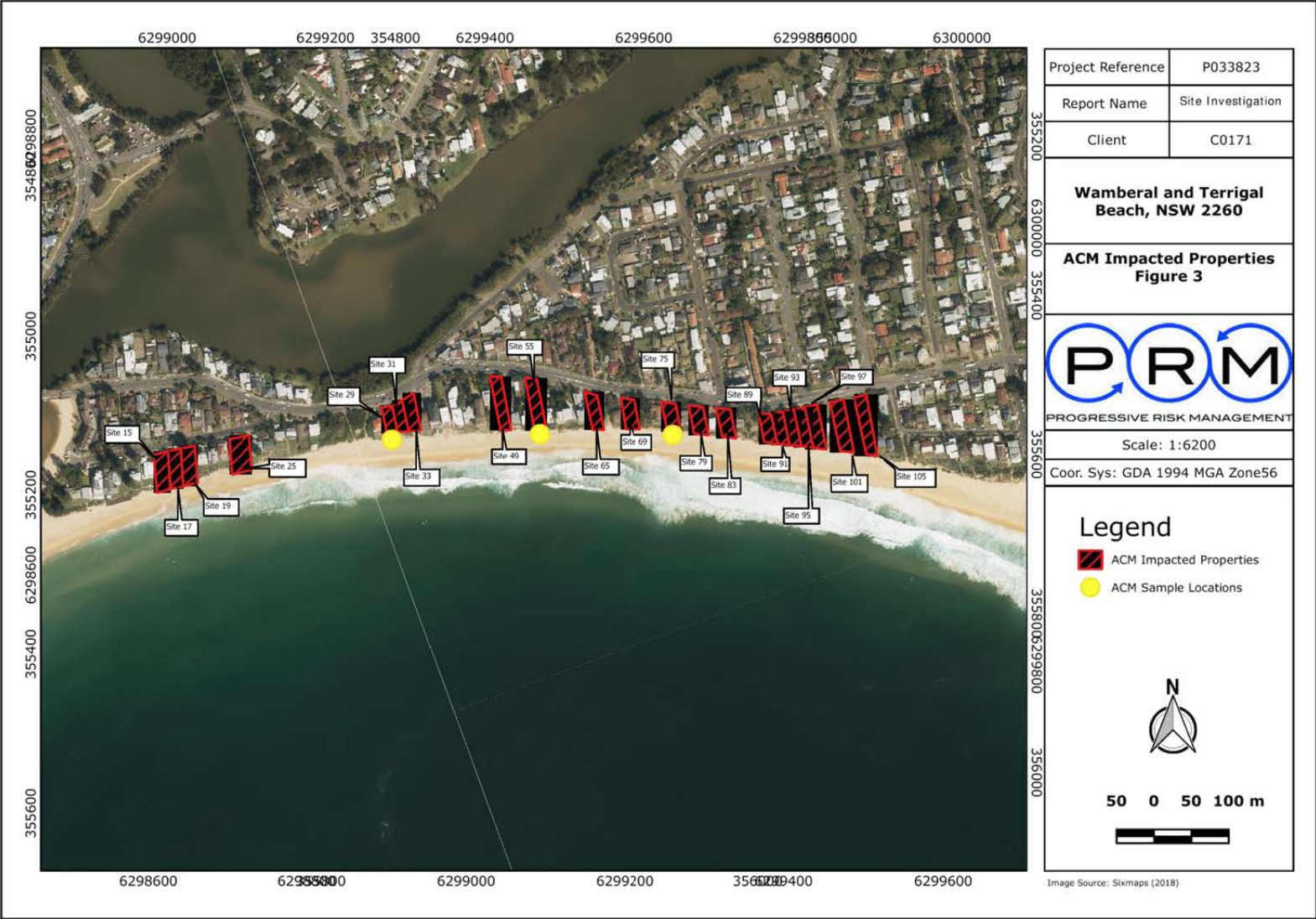
Figure 2: Suspected ACM Sample Locations

Figure 3: Properties with suspected ACM on Fore dune

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Appendix A: Photographic Log

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Photolog

Properties observed with suspected ACM: Refer to Table 1 for details.



Photo 1: Site: 15



Photo 2: Site: 17



Photo 3: Site: 19



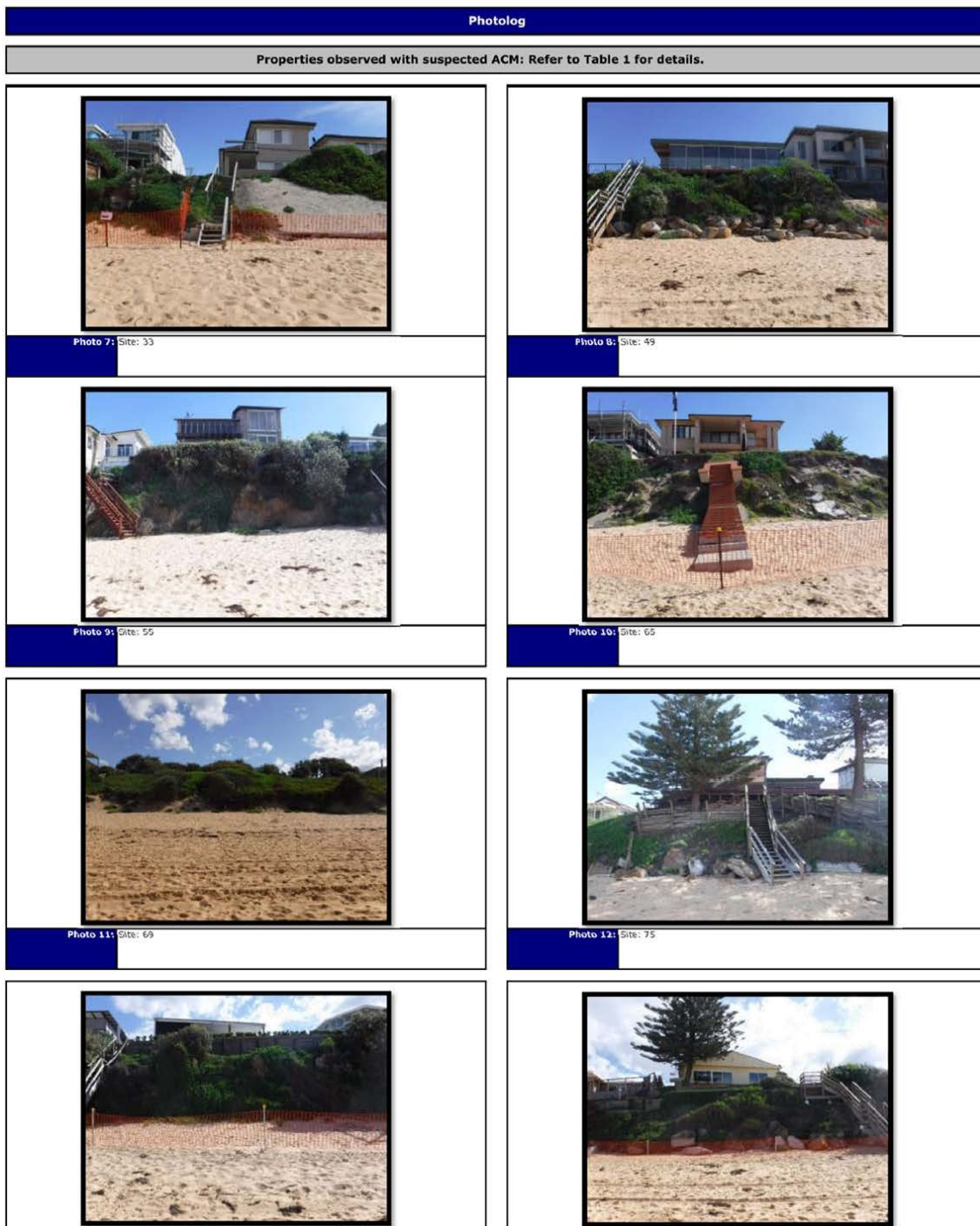
Photo 4: Site: 25



Photo 5: Site: 29











Photo 6: Site: 31



Progressive Risk Management Pty Ltd



Photolog	
Properties observed with suspected ACM: Refer to Table 1 for details.	
<p>Photo 13: Site: 79</p> 	<p>Photo 14: Site: 83</p> 
<p>Photo 15: Site: 89</p> 	<p>Photo 16: Site: 91</p> 
<p>Photo 17: Site: 93</p> 	<p>Photo 18: Site: 95</p> 
<p>Photo 19: Site: 97</p> 	<p>Photo 20: Site: 101</p> 



Photolog

Properties observed with suspected ACM: Refer to Table 1 for details.




Photo 21: Site: 105

End of Photolog

Appendix B: Summary of ACM Sample Collection

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Sample Collection Record - SF02







Inspection Particulars:	
Site Personnel:	Geoff Fletcher, Sarah Dale
Date:	4th May 2018
Time:	8:30am
Weather:	Clear skies
Wind:	No wind
Public Enquiry:	No
Google Maps Site ID:	75 Ocean View Drive, Wamberal NSW 2260





Inspection Results:	
General Comments:	
Embankment Description:	Good vegetation coverage, timber retaining wall on property, no temporary fence on public beach.
Embankment materials:	Sandstone at base, building rubble, minor exposed fill

Suspected Asbestos Containing Material Observed?		
Private Property	Yes	Bonded fragments, weathered
Council Beach	Yes	Bonded fragments, weathered


Areas of Note:



Note Number:	Comment/Description:
Note 1:	Suspected Asbestos Fragment
Note 2:	Suspected Asbestos Fragment SF02
Note 3:	

Sample Collection Record - SF03			PRM Preliminary Risk Management	
Inspection Particulars:			Areas of Note:	
Site Personnel:	Geoff Fletcher, Sarah Dale		   	
Date:	4th May 2018			
Time:	8:30am			
Weather:	Clear skies			
Wind:	No wind			
Public Enquiry:	No			
Google Maps Site ID:	55 Ocean View Drive, Wamberal NSW 2260			
Inspection Results:				
General Comments:				
Embankment Description:	Good vegetation coverage at top of embankment, fill exposed at the base, no temporary fence on public beach.			
Embankment materials:	Concrete, brick and sandstone in exposed fill			
Suspected Asbestos Containing Material Observed?				
Private Property	Yes	Bonded fragments, weathered	Note Number:	Comment/Description:
Council Beach	Yes	Bonded fragments, weathered	Note 1:	Suspected Asbestos Fragment
			Note 2:	Suspected Asbestos Fragment
			Note 3:	

Sample Collection Record - SF01



Inspection Particulars:

Site Personnel:Geoff Fletcher, Sarah Dale

Date:4th May 2018

Time:8:30am

Weather:Clear skies

Wind:No wind

Public Enquiry:No

Google Maps Site ID:29 Ocean View Drive, Wamberal NSW 2260

Inspection Results:

General Comments:

Embankment Description:Good vegetation coverage at top of embankment, major erosion at the bottom, construction site on property, temporary fence on public beach.





Embankment materials:Building rubble; concrete, brick, igneous and sandstone blocks throughout in exposed fill.

Suspected Asbestos Containing Material Observed?

Private PropertyYesBonded fragments, weathered

Council BeachYesBonded fragments, weathered

Areas of Note:



Note Number:Comment/Description:

Note 1:Suspected Asbestos Fragment

Note 2:Building rubble

Note 3:

- 227 -

- 266 -

Appendix C: Laboratory Analytical Results

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Attachment 2

PRM - Preliminary Asbestos Assessment, Terrigal and Wamberal Beach - 22.10.18
- P033823.015

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

CERTIFICATE OF ANALYSIS 191023**Client Details**

Client	Progressive Risk Management Pty Ltd
Attention	Jonathan Coffey, Geoff Fletcher
Address	79 Darley Rd, Manly, NSW, 2095

Sample Details

Your Reference	<u>P033823, Wamberal & Terrigal</u>
Number of Samples	3 Material
Date samples received	07/05/2018
Date completed instructions received	07/05/2018

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	08/05/2018
Date of Issue	08/05/2018
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Asbestos Approved By

Analysed by Asbestos Approved Identifier: Matt Tang
Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By

Lucy Zhu, Asbestos Analyst

Authorised By

Jacinta Hurst, Laboratory Manager



Attachment 2

PRM - Preliminary Asbestos Assessment, Terrigal and Wamberal Beach - 22.10.18
- P033823.015

Client Reference: P033823, Wamberal & Terrigal

Asbestos ID - materials				
Our Reference		191023-1	191023-2	191023-3
Your Reference	UNITS	SF01	SF02	SF03
Date Sampled		04/05/2018	04/05/2018	04/05/2018
Type of sample		Material	Material	Material
Date analysed	-	08/05/2018	08/05/2018	08/05/2018
Mass / Dimension of Sample	-	79x40x5mm	54x51x5mm	42x27x5mm
Sample Description	-	Grey compressed fibre cement material	Grey compressed fibre cement material	Grey compressed fibre cement material
Asbestos ID in materials	-	Chrysotile asbestos detected Amosite asbestos detected Crocidolite asbestos detected	Chrysotile asbestos detected	Chrysotile asbestos detected

Attachment 2

PRM - Preliminary Asbestos Assessment, Terrigal and Wamberal Beach - 22.10.18
- P033823.015

Client Reference: P033823, Wamberal & Terrigal

Method ID	Methodology Summary
ASB-001	Asbestos ID - Qualitative identification of asbestos in bulk samples using Polarised Light Microscopy and Dispersion Staining Techniques including Synthetic Mineral Fibre and Organic Fibre as per Australian Standard 4964-2004.

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

