Council Assessment Panel

Meeting Agenda

Monday, 17 June 2019, at 5.30 pm, Colonel Light Room, Town Hall, Adelaide.

Presiding Member – Mr John Hodgson

Acting Presiding Member – Councillor Anne Moran

Specialist Members – Mr Ross Bateup, Mr Heath Edwards and Mads Gaardboe

1. Confirmation of Minutes – 27/5/2019 [CAP]

That the Minutes of the meeting of the City of Adelaide Council Assessment Panel held on 27 May 2019, be taken as read and be confirmed as an accurate record of proceedings.

2. Non-Complying Applications - Nil

3. Applications for consideration on Merit

3.1

Subject Site	9 Stafford Street, Adelaide SA 5000 [Page 3]
Application No.	DA/85/2016
Proposal	Construct two, three level semi-detached dwellings with parking at rear accessed from O'Halloran Place
Recommendation	Development Plan Consent Be GRANTED

4. Other Applications - Nil

5. Other Business

5.1 List of Recent Lodgements for Planning Consent (2017/02505) [Page 208]

5.2 Other Business

6. Exclusion of the Public

6.1 Exclusion of the Public from attendance at the meeting to Consider Item 7.1 and Item 7.2 on a Confidential basis [Page 214]

Item 7.1 – ERD Court Consideration – DA/812/2018

Section 13(2) (a) (ix) information relating to actual litigation, or litigation that the panel believes on reasonable grounds will take place

[*Planning, Development and Infrastructure (General) Regulations 2017 (SA)*]

Item 7.2 – ERD Court Consideration – DA/3/2018

Section 13(2) (a) (ix) information relating to actual litigation, or litigation that the panel believes on reasonable grounds will take place

[*Planning, Development and Infrastructure (General) Regulations 2017 (SA)*]

CITY OF ADELAIDE

7. Matters for Consideration on a Confidential Basis

7.1	Subject Site	Land, 22A Moger Lane, Adelaide SA 5000 [Page 216]
	Application No.	DA/812/2018
	Proposal	ERD Court Consideration - Construct three four-storey townhouses on existing allotment
7.2	Subject Site	200 Hutt Street & 290 Halifax Street, Adelaide SA 5000 [Page 287]
	Application No.	DA/3/2018
	Proposal	ERD Court Consideration – Construct a four-storey dwelling with roof top terrace

8. Closure

CITY OF ADELAIDE COUNCIL ASSESSMENT PANEL ON 17/6/2019

Item No	**3.1**
Address	9 Stafford Street, Adelaide SA 5000
Proposal	Construct two, three level semi-detached dwellings with parking at rear accessed from O'Halloran Place, DA/85/2016 - HD) [CAP]
Applicant	Proske Architects P/L
Relevant Development Plan	24 September 2015
Lodgement Date	19 December 2016
Zone / Policy Area	City Living Zone – South Central Policy Area 32
Public Notification	Category 2
Application Type	Application Assessed on Merit
Delegations Policy	Unresolved Representation
Recommendation	**Development Plan Consent Be GRANTED**

ATTACHMENTS

Plans and Supporting Information

PERSONS SPEAKING BEFORE THE PANEL

Nil

1. DESCRIPTION OF PROPOSAL

1.1 Planning consent is sought for the construction of two three level dwellings constructed on an existing allotment that currently contains car parking. Each of the dwellings front Stafford Street, with vehicular access provided via O'Halloran Place at the rear.

1.2 Each of the proposed dwellings will contain the following:

Ground level

- Entry from Stafford Street, study/bedroom 3, bathroom and garaging/car parking space for two vehicles, accessed from O'Halloran Place;

Second level

- Deck to Stafford Street, living and kitchen/dining area

Third level

- Two bedrooms, each with their own ensuite

2. DEVELOPMENT DATA

DESIGN CHARACTERISTICS	GUIDELINE	PROPOSED
Site area – 180 m^2		
Plot ratio	2.0 (360 m^2)	1.3 (242 m^2)
Building height - Storeys - Metres (building height)	 4 storeys 14 metres (max.)	 3 storeys 10.24 metres
Private Open Space (POS) - m^2 - dimensions	 8 m^2 2.0 metres (min.)	 (east) 11.3 m^2 (west) 13.5 m^2 2.2 metres (min.)
Landscaped Open Space (LOS) - % of total site area	 10% (18 m^2)	 9.9% (17.4 m^2)
Car parking and Access - Number of spaces	 2 spaces	 4 spaces

3. BACKGROUND

3.1 Archival photos indicate the site has been void of built form for many years. More recently, the site has been used for parking ancillary to land uses associated with the now defunct Viterra operations, previously located in numerous buildings within the locality.

3.2 A number of applications have been lodged previously for the site however none have come to fruition.

3.3 The current application was lodged in February 2016. The application was notified as a Category 2 form of development. One representation was received. At the same time, there were protracted negotiations taking place with a view to resolving:

- heritage adjacency aspects of the proposal;
- site contamination matters in association with an adjoining site;
- traffic matters in relation to the rear access as well as waste storage and presentation.

Several iterations and details were tabled to resolve mainly heritage adjacency issues until in approximately November 2017, the application was placed on hold by the applicant pending further design development.

3.4 In February 2019, the application was reactivated after further discussions resulted in the satisfactory resolution of heritage adjacency matters. The application was renotified as a Category 2 application and is the subject of this report.

4. SITE

4.1 The site is located on the southern side of Stafford Street.

4.2 It is slightly irregular in shape with a 'nib' at the rear resulting in the eastern boundary being slightly longer than the western boundary.

4.3 The site is 7.6 metres wide and between 22.86 and 24.38 metres deep, resulting in a total site area of approximately 180 m^2.

4.4 The site is currently covered with asphalt and is still used as a car park. It is void of any significant vegetation.

4.5 O'Halloran Place abuts the site at the rear. This is a public lane approximately 3.05 metres wide, with a widened portion at the western end where it terminates into the property adjacent the subject site to the west. At present, the site can also be accessed via a crossover in Stafford Street.

5. LOCALITY

5.1 The locality is diverse, containing a mixture of residential and office/commercial land uses. Buildings vary from one storey to up to ten levels.

5.2 The buildings on Stafford Street are a mixture of remnant low scale heritage cottages and row cottages interspersed with two and three storey buildings, some of which contain non-residential land uses.

5.3 O'Halloran Place is a narrow laneway which mainly serves as the rear entrance to premises fronting either Stafford Street or South Terrace.

5.4 There has been recent redevelopment of a pre-existing at grade carpark on the northern side of Stafford Street (opposite the subject site) into seven three-storey dwellings.

5.5 Stafford Street buildings are generally set on their side boundaries and either on the street boundary, or behind a narrow verandah.

5.6 The subject site is located between two Local Heritage places that take the form of a single storey dwelling to the east and a row of single storey attached dwellings to the west.

5.7 The boundary to the City Frame Zone to the south is located on the southern side of O'Halloran Place.

KEY

	Subject Site	L	Local Heritage Place
CiL32	City Living Zone – South Central Policy Area 32	S	State Heritage Place
CF	City Frame Zone		Zone Boundary
R	Representor(s)		Locality

Photo 1 – Subject site as viewed from Stafford Street

Photo 2 – Adjacent Local Heritage Places to the west

Photo 3 – Local Heritage place located to the east of the subject site

Photo 4 – Residential development located on the northern side of Stafford Street

Photo 5 – Residential development located to the south towards South Terrace

Photo 6 – Non-residential development located to the east of subject site

6. PUBLIC NOTIFICATION

6.1 Please note: Category 2 representations are only 'valid' and taken into account if the representor has been directly notified in writing, by Council, of the development. Only valid Category 2 representations are afforded the opportunity to be heard by the Council Assessment Panel. This is in accordance with legislation and a resolution of Council on 27 June 2017.

Category of Notification	Category 2
Representations Received – 2	• Mr John Rushforth – on behalf of the South Australian Housing Trust, owner of 7-7A Stafford Street, Adelaide • Mr Athanasios Tsakonas – owner of 121-123 South Terrace, Adelaide

Administration note: The South Australian Housing Trust lodged a representation with both rounds of public notification but have only been counted once.

Summary of Representation	**Applicant's response**
Ensure overshadowing impacts to solar panels and loss of electrical generation is kept to reasonable levels.	Given north/south orientation of site, dwellings will not cast shadow over properties to the west after midday. Shadow diagram provided to demonstrate this.
Private open space should not be overshadowed especially in winter.	As above.
Privacy to adjacent property should be maintained.	No comment provided.
Scale and massing as viewed from the rear of SAHT properties.	Extensive consultation has been undertaken with Council's Heritage Advisor to ensure design supported on heritage level.
Right of way in favour of SAHT properties must not be unreasonably affected by the development.	Proposal does not affect the right of way.
Proximity of proposed building requires proponent to provide a dilapidation report and an engineering proposal on how stability of adjacent structure at 7A will be maintained.	Points raised are not considered a planning matter, however it is intended that applicant would undertake appropriate measure to ensure structural integrity of adjacent properties during construction.
Access to parking looks difficult given one-way access and other cars that use this access for office parking.	Swept path analysis confirms access is in accordance with Australian Standards.

7. REQUIRED EXTERNAL REFERRALS

7.1 No external referrals required.

8. SPECIALIST ADVICE

8.1 Local Heritage

- The proposed development is sited between two Local Heritage Places (Townscape) - five row cottages at 1- 7a Stafford Street to the west and a single fronted detached cottage at 11 Stafford Street to the east. The historic context of the cottages has been significantly altered in recent years with several contemporary large-scale residential developments of two and three storeys on both sides of Stafford Street.
- The proposed new development is three storeys high although the third storey is accommodated within a mansard roof to lessen the visual impact on the adjacent local heritage places. The width of the dwellings is similar to the row cottages and the masonry 'frame' around each first-floor deck strengthens the relationship.
- The front set back of the new development continues the alignment of the row cottages to the east.
- The development continues the strong horizontal lines of the picket front fences, front verandah and eaves of the adjacent local heritage places.
- In general, the materials, colours and finishes are considered appropriate in relation to the adjacent cottages.
- On balance the development is considered appropriate in relation to the local heritage places and is supported.

8.2 Waste

- Support the proposal as amended (with waste located on and presented to Stafford Street).
- Support the communal organics waste bin shared and located in the garage.

8.3 Traffic

- Support the proposal.

RELEVANT CITY OF ADELAIDE 2016-2020 STRATEGIC PLAN ACTIONS

Whilst an assessment against the Strategic Plan is not required, the Development Plan is informed by Council's Strategic Plan Objectives and Actions as below:

SMART	GREEN
• Develop and promote an international City brand that showcases the smart, liveable, green and cultural advantages of Adelaide	• Improve energy performance and use of renewable energy in Council and privately-owned buildings, including consideration of solar heating, solar energy generation and battery storage • Work with private property owners and the State Government to embed better environmental performance into new and existing developments • Identify opportunities for building adaptation and re-use that supports heritage aspirations while reducing carbon emissions and waste • Work with all City stakeholders to increase public and private greening with street trees, gardens, community gardens, green walls and roofs, providing incentives where appropriate
LIVEABLE	**CREATIVE**
• Encourage growth in the full range of residential property development in a mixed-use environment in a manner that respects the human scale and different character of districts in the City • Promote and protect Adelaide's built character and heritage through our operations, incentives, policies and direct investment, while working with and advocating to Federal and State governments for an increase in City buildings protected under State or Local Heritage regulations	• Increase public art and cultural expression in private development by using planning levers and requirements

9. DETAILED ASSESSMENT

9.1 Summary of Policy Area Objectives & Principles

DESIRED CHARACTER – SOUTH CENTRAL POLICY AREA 32

"The Policy Area will provide for medium scale residential development supported by a range of uses that provide valued local services, including shops, offices and consulting rooms, as well as community service and education, that maintain the area's residential amenity. Development will provide an increase in dwelling density in order to increase residential population.

Non-residential land uses such as shops, consulting rooms and offices are appropriate at the ground level of buildings. Education facilities will continue to be established. The Policy Area will gradually provide a shift in dwelling form from detached and semi-detached dwellings to moderately scaled residential flat buildings providing relief in scale from the adjoining Capital City, Main Street and City Frame Zones. Wholesale redevelopment of non-residential sites should be for ground level non-residential and with residential above.

Buildings will have a strong horizontal emphasis with clearly defined and segmented vertical elements. Façades will be well articulated with finer details that contribute positively to the public realm, including modelled façades, verandahs, fenestration and balconies that make use of light and shade.

At street level, visual interest and activity will be enhanced through considered design approaches, including buildings that contribute towards activating the street, by the careful treatment of driveways and access areas, and by avoiding blank walls at street level.

The high quality of landscaping, of both public and private space, will provide the Policy Area a high level of amenity. Vehicle movement within the Policy Area will be primarily for local and visitor traffic, with an increasing promotion of pedestrian and cycling links through the City."

Subject DP Ref	**Assessment**	Achieved ✓ Not Achieved ✗
Desired Character	• Achieved. • See detailed assessment.	✓
Objective O1	• Achieved. • See detailed assessment.	✓
Land Use P1	• Mostly achieved. • Policy Area states that non-residential land use at ground level is appropriate however it does not discourage residential at ground level.	✓ ✗
Form and Character P2	• Achieved. • See detailed assessment.	✓

Design and Appearance P3-6	• Mostly achieved. • Plot does not exceed 2.0 as stipulated. • Maximum building height does not exceed 14 metres as required. • Building achieves minimum building height of 2 storeys as required. • Does not achieve 10% landscaped open space however the shortfall is minimal.	✓ ✗

9.2 Summary of Zone Objectives & Principles

DESIRED CHARACTER – CITY LIVING ZONE

"The Zone is spread across the southern half of Adelaide, flanked to the north by the City's central business area. Mixed use apartment and commercial corridors frame much of the southern and western margins of the Zone which is also bisected by the Hutt Street main street strip, and corridors of core business areas centred on the Squares and the City's main north-south axis roads, Morphett, King William and Pulteney Streets.

The Zone comprises Adelaide's main residential living districts which have developed with a range of stand-alone and paired cottages, terrace or row housing, and low to medium scale contemporary apartment buildings, and with remnant workshops, service trades, offices and mixed uses, particularly west of Hutt Street.

The City Living Zone will provide high amenity residential living environments along with related non-residential uses compatible with residential amenity, as articulated in the Policy Areas. Carefully executed high quality residential infill is envisaged and opportunities are presented for comprehensive redevelopment on larger, particularly non-residential sites, and also on catalyst sites fronting South Terrace and East Terrace. The desired increase in the City's resident population relies, in part, on realising infill housing opportunities with high regard to their context and achieving overall, higher dwelling densities in this Zone."

Subject DP Ref	**Assessment**	Achieved ✓ Not Achieved ✗
Desired Character	• Achieved. • Level of residential amenity is appropriate. • Well executed residential infill. • Achieves a reasonable density given its location between two heritage places.	✓
Objectives O1-4	• Land use desired. • Provides reasonable density. • Potential impact of building height for adjacent properties has been considered and factored into design.	✓
Form of Development P1-10	• Achieved. • See detailed assessment.	✓
Car parking P11	• Achieved. • Access via minor street.	✓

9.3 Summary of Council Wide Objectives & Principles

Subject DP Ref	**Assessment**	Achieved ✓ Not Achieved ×
Housing choice O6-8 P5-9	• Achieved. • Appropriate form of housing for the Policy Area. • Conveniently located. • Development is considered appropriate regarding adjacent historic character.	✓
LOW SCALE RESIDENTIAL DEVELOPMENT		
Building Appearance & Neighbourhood Character O11-12 P17-21	• Achieved. • No existing site features that need to be protected. • Built form compatible (see detailed assessment).	✓
Dwelling Setbacks O13 P22	• Setbacks reinforce pattern and character of the locality.	✓
Building Siting O14 P23-24	• Achieved. • Desired character maintained.	✓ ×
Daylight & Sunlight O15 P25-28	• Achieved. • Northern aspect to ground and upper level open space and habitable rooms. • See detailed assessment.	✓
Private Open Space O16 P29-34	• Not achieved. • Required to provide 8 m^2 with a minimum dimension of 2 metres. • Proposal provides 7.7 m^2 for each of the dwellings falling short of recommended minimum but is 2.2 metres wide exceeding minimum dimension.	×
Visual & Acoustic Privacy O17 P35-38	• Achieved. • Windows to southern elevation conditioned. • See detailed assessment.	✓

Adaptability P39	• Achieved.	✓
Carports, Garaging & Fencing O18-19 P40-43	• Achieved. • Parking from rear.	✓
On-Site Parking & Access O20 P44-45	• Achieved. • Adequate space for manoeuvring.	✓
Site Facilities & Storage O21 P46-47	• Achieved.	✓
ENVIRONMENTAL		
Waste management O28 P101-104	• Achieved. • Provision at front of dwellings for collection on Stafford Street provided. • Additional communal green waste bin stored in garage.	✓
Contaminated Sites O29 P105	• Achieved. • Condition included with regards to barrier. • See detailed assessment.	✓
Energy Efficiency O30 P106-112 Residential Development P113-114	• North facing living areas. • Efficient layout. • Shading to windows to assist in reducing summer heat loads. • Cross ventilation. • Roof could be used for panels in future.	✓
Heritage & Conservation O42-45 P136-143, 145-146	• Achieved. • See detailed assessment.	✓
Height, Bulk and Scale P167-173	• See Policy Area and detailed assessment.	✓

Plot Ratio P174	• Achieved.	✓
Materials, Colours & Finishes P186-189	• See detailed assessment.	✓
Sky & Roof Lines O49 P191-194	• Achieved. • See detailed assessment.	✓
Vacant Sites & Buildings O54 P203-205	• Achieved. • Brings a long-standing under developed site into a desired land use.	✓
Traffic and vehicle access O68-70 P240-249	• Achieved. • Accessed from rear of site. • Meets standards.	✓
Car parking O71-72 P250-264	• Achieved.	✓

9.4 Detailed Discussion

Desired Character

The subject site is located in the South Central Policy Area 32 within the City Living Zone.

The Policy Area desired character is seeking medium scale residential development, supported by a range of non-residential land uses that provide local services. It seeks an increase in dwelling density in order to increase residential population. It is also seeking to gradually provide a shift in dwelling form from detached and semi-detached dwellings to moderately scaled residential flat buildings providing relief in scale from the adjoining Capital City, Main Street and City Frame Zones.

With regards to built form, the desired character states that buildings with a strong horizontal emphasis with clearly defined and segmented vertical elements is sought. Façades should be well articulated with finer details and contribute positively to the public realm, including modelled façades, verandahs, fenestration and balconies that make use of light and shade.

At street level, visual interest and activity should be enhanced through considered design approaches, including buildings that contribute towards activating the street, through the careful treatment of driveways and access areas, and by avoiding blank walls at street level. High quality landscaping in both public and private spaces should provide the Policy Area with a high level of amenity.

The Zone desired character states that it will provide high amenity residential living environments along with related non-residential uses compatible with residential amenity, as articulated in the Policy Areas. Carefully executed high quality residential infill is envisaged. It states that the desired increase in the City's resident population relies, in part, on realising infill housing opportunities with high regard to their context and achieving overall, higher dwelling densities in this Zone.

This proposal does not propose the optimal development of the site as sought by the desired character for both the Zone and Policy Area. This is, in part, due to the fact that the site is wedged between two low scale Local Heritage places. Much of the remaining development in the locality is of a higher scale and density. The proposed three storey development is acceptable as it increases the residential population whilst providing a good relationship with the adjoining properties.

The built form is considered to adequately achieve the requirements of the desired character. Greater detail in relation to the built form is discussed further below.

Land Use

The proposal is considered consistent with Policy Area PDC 1 which seeks primarily residential development, or mixed-use buildings with non-residential development at ground level. Dwellings are also a form of development envisaged by Zone PDC 2.

Built Form and Design

The building consists of three levels with the front of the upper third level clad in roofing type material appearing like a mansard roof to reduce its visual impact. The material palette for the dwellings includes bagged and painted blockwork to external walls up to the second level, Maxline profiled steel cladding for the portion of the upper level and verandah roof, perforated steel mesh balustrading to the Stafford Street

decks, western red cedar lining to the interior of the deck area and a low, timber batten fence to match the adjacent fence. The materials have been worked through collaboratively with Council's Heritage Architect and are considered and appropriate contextual response for the proposal.

Policy Area PDC 3 states that the plot ratio of a development should not exceed 2.0. The proposal has a plot ratio of 1.3 and therefore under the stipulated maximum. With regards to height, Policy Area PDC 4 states development should not exceed 4 storeys or 14 metres building height. Policy Area PDC 5 follows on stating that a minimum building height of 2 storeys should be achieved. The building is 3 storeys in height with a maximum building height of 10.24 metres and therefore under the maximum. It also achieves the minimum building height stipulated. Policy Area PDC 6 seeks a minimum 10% landscaped open space. With 9.9% landscaped open space, the proposal falls marginally short of the stipulated 10% minimum for the site.

The desired character provides guidance on desired built form for the South Central Policy Area 32. It states that *"Buildings will have a strong horizontal emphasis with clearly defined and segmented vertical elements. Façades will be well articulated with finer details that contribute positively to the public realm, including modelled façades, verandahs, fenestration and balconies that make use of light and shade.'* City Living Zone PDC 1 reinforces this by stipulating that development should make a positive contribution to the desired character as express within its respective Policy Area.

With regards to Zone provisions, Zone PDC 5 seeks the number of dwellings to be increased through the redevelopment of poor quality and underutilised buildings or sites which are in discord with the desired character of the Policy Area (provided maintenance of residential amenity and the values of heritage places). Zone PDC 6 seeks buildings or additions (including those of innovative and contemporary design) that reinforces the desired character and also demonstrates a compatible visual relationship with the adjacent heritage places in terms of:

(a) bulk, height and scale (i.e. the length and size of unbroken walling and the roof volume and form);

(b) width of frontage and the front and side boundary building set-back patterns;

(c) overall building proportions and massing (by maintaining the desired horizontal [and/or vertical] emphasis, exhibiting vertical openings and a high solid to void ratio);

(d) modelling and articulation of facades; and

(e) incorporation of key architectural elements and detailing where a particular construction era and building style prevails as expressed in the desired character (without excessive use or mimicry of decorative elements and ornamentation) i.e. with the inclusion of elements such as porches, verandahs, balconies and fences where appropriate.

Zone PDC 7 seeks to ensure that building heights do not exceed the maximum prescribed for each Policy Area. It also seeks that the height of new buildings (including the floor to ceiling clearances of each level) taking reference from the prevailing building heights within the locality, with particular reference to adjacent heritage places. Zone PDC 9 seeks that where there is consistent building set-backs from front, side and rear allotment boundaries prevailing in a locality, new development should be consistent with these setbacks.

Some of the guidance in relation to new buildings relates directly to relationships with adjacent heritage places. This will be covered in the following section 'Heritage and Conservation'. With regards to other aspects of built form requirements, the proposal incorporates a horizontal emphasis with clearly defined and segmented vertical elements as sought. The façade is adequately articulated, including a modelled façade, verandah and balcony/deck.

The proposal also incorporates setbacks that are consistent with those prevailing in the locality.

Heritage and Conservation

The subject site is located between two Local Heritage places (Townscape) – five row cottages located at 1- 7a Stafford Street to the west and a single fronted detached cottage at 11 Stafford Street to the east.

As the site is adjacent heritage places, the Administration sought comments from Council's Heritage Architect. The Heritage Architect has been heavily involved in discussions regarding the development of the proposal and has provided substantial advice and guidance as to the appropriate form.

The Heritage Architect has acknowledged that the historic context of the listed cottages has significantly altered in recent years due to the development of several contemporary, large scale residential buildings of two and three storeys on both sides of Stafford Street.

On the most recent iteration of the design, the Heritage Architect provided the following summarised advice:

- The accommodation of the third storey within a mansard roof lessens the visual impact of this level on the adjacent Local Heritage places
- The width of the dwellings is similar to the row cottages.
- The masonry 'frame' around each first floor deck strengthens the relationship with the Local Heritage places.
- The front set back of the new development continues the alignment of the row cottages to the east.
- The development continues the strong horizontal lines of the picket front fences, front verandah and eaves of the adjacent Local Heritage places.
- In general, the materials, colours and finishes are considered appropriate in relation to the adjacent cottages.
- On balance the development is considered appropriate in relation to the local heritage places and is supported.

As the Heritage Architect considers the proposal to be appropriate in relation to the Local Heritage places, the proposal is considered consistent with Zone PDC 6 and Zone PDC 7 as well as broader Council Wide PDC 141 which seeks satisfactory incorporation of complementary design elements in buildings that are adjacent Local Heritage places in the City Living Zone.

Residential Amenity

Subject site

The proposal provides 7.7 m^2 of private open space for each dwelling in the form of a deck off the living area on the first floor.

Council Wide PDC 31(b) stipulates that residential dwellings with no ground level habitable rooms should include private open space in the form of balconies, terraces, roof gardens, decks or other elevated outdoor areas directly accessible from a habitable room which should be a minimum of 8 m^2 per dwelling with a minimum dimension of 2 metres.

Whilst this proposal does have a habitable room in the form of a bedroom/study at ground level, it is more optimal that the area be provided from the living area at first floor level. Whilst each dwelling falls short of the minimum amount by 0.3 m^2 it does meet the minimum dimension and is directly accessible from a habitable room, located off the living area. It is also of sufficient area, dimension and shape to be functional for the occupant's needs to satisfy Council Wide PDC 31. It is north facing with a deep setback and therefore will achieve comfortable year-round use as per Council Wide PDC 33(a).

The proposal provides adequate levels of sunlight and daylight to habitable rooms and private open space as sought by Council Wide PDC 26.

Adjacent sites

Overshadowing

The residential properties most likely to be impacted by the proposed development with regards to overshadowing are located to the east and to the west.

Council Wide PDC 27 requires development to maintain at least two hours of direct sunlight between 9 am and 3 pm solar time on 22 June to either the northern façade or at least one ground floor habitable room window, and to at least 20% of its private open space.

The proposal will not impact upon sunlight received to the northern façade or ground floor habitable room windows of either dwelling.

With regards to private open space, the allotment to the east is entirely covered with built form. As such, the proposal will not impact with regards to overshadowing to this property. The property to the west has a rear private yard. The applicant has provided overshadowing diagrams that indicate that more than 20% of the private open space of this adjoining property will receive direct sunlight in the afternoon of the winter solstice, from approximately 12.30 pm.

Overlooking

The proposal includes windows to the southern elevation that serve the kitchen/dining areas at first floor level and the rear bedrooms on the second level. The applicant has agreed to ensure that these windows will be fixed and translucent to a minimum height of 1.6 metres above the floor level of each of these levels. This will ensure that the adjoining properties overlooking will be mitigated in accordance with Council Wide PDC 36. Should planning consent be granted, a condition of consent has been included to ensure these windows remain fixed and obscured prior to occupancy to ensure ongoing protection from overlooking.

Environmental

Council Wide Objective 30 seeks development that is compatible with the long-term sustainability of the environment, minimises consumption of non-renewable resources and utilises alternative energy generation systems. The proposal meets this Objective in the following ways:

- Allowing natural cross ventilation to occur through each dwelling;
- Arranging and concentrating main activity areas of the dwellings to the north for solar penetration;
- Locating, sizing and shading windows to reduce summer heat loads and permit entry of winter sun;
- Grouping rooms with similar uses and heating and cooling needs together;
- Incorporating landscaping to assist in microclimatic management; and
- Minimal use of windows that face south.

The flat roof can facilitate the use of solar collectors and photovoltaic cells in accordance with CWPDC 109.

The applicant has also demonstrated that the solar panels of the adjacent dwelling to the west will receive the requisite two consecutive hours of sunlight after 12 pm on the winter solstice.

The applicant has also confirmed that stormwater will be harvested and re-used for flushing of the ground floor toilet, thereby achieving CWPDC 128.

Contamination

In the early stages of the application when it was lodged in 2016, the applicant was requested to provide a preliminary environmental soil assessment report to assist in identification of any significant contamination.

The report detailed that the site was unlikely to be impacted by site contamination given the history prior to the asphalted car park on the site showed that the property had contained a residence. There was however some concern raised regarding the presence of an underground fuel storage tank (UST) eight metres from the southern boundary of the site.

Council sought independent advice regarding the tank which recommended that supplementary enquiries be made to identify the operational status of the UST. It was revealed that the UST had not been operational for the past 20-30 years and had been filled with concrete.

Having furnished Council's independent environmental engineer with the additional information, he concluded that in light of the inclusion of a vapour barrier for the proposed development, Council could consider the development reasonable with regards to contamination. If granted consent, a condition in relation to the provision of a vapour barrier will be imposed to ensure this occurs.

Transport, Access and Parking

The proposal provides two car parking spaces for each dwelling. This exceeds the minimum requirement as stipulated in TABLE Adel/7 of the Development Plan.

Access to the vehicle parking area is via O'Halloran Place, the public road located at the rear of the site. This is in accordance with Zone PDC 11 and CWPDC 241.

Council's traffic team have reviewed the access. After some modifications (i.e. bin storage relocated to the front yard in lieu of in the garage) they have concluded the proposal meets relevant standards and they have no objections to the proposal.

Public Notification

The application was notified twice, once in the earlier stages of the assessment process and again more recently once heritage adjacency matters were resolved. Two representations were received. Neither of the representations particularly objected to the development, however they raised matters they felt Council should further investigate such safe and convenient vehicular access, structural soundness of adjacent buildings during the demolition/construction process and access to sunlight for the adjoining solar panels and private open space. The representor's comments as well as the applicant's response to these matters are included as attachments to this report. Conditions, where appropriate and relevant, have been imposed to further allay any concerns.

9.5 Conclusion

This application proposes the construction of two, three-level semi-detached dwellings on a site that has long been underdeveloped and used for an undesired use. The land use proposed is envisaged for both the Zone and Policy Area.

With regard to built form, the proposal meets most of the relevant quantative requirements of the Development Plan as specified in the desired character as well as Principles of Development Control of the Policy Area.

The development of the site has been influenced by its siting between two Local Heritage places. This has required the development to adapt its built form and use of colours and materials to ensure it provides an adequate relationship with the adjoining properties.

The proposal is considered to provide adequate amenity for the subject site and will not unduly impact on adjacent properties. Conditions in relation to fixed and obscured windows will ensure privacy for adjacent rear yards.

The proposal is not considered to be seriously at variance with the provisions of the Development Plan because it proposes a land use and form of development that is generally sought in the Zone and Policy Area.

It has been determined that, on balance, the proposal warrants Development Plan Consent.

10. RECOMMENDATION

That the development, the subject of the application from Proske Architects Pty Ltd to construct two, three level semi-detached dwellings with parking at rear accessed from O'Halloran Place at 9 Stafford Street, Adelaide SA 5000 as shown on plans designated DA/85/2016:

1. Is not seriously at variance with the provisions of the Development Plan and
2. Be GRANTED Development Plan Consent, subject to the following conditions and advices:

Conditions

1. The Development shall be undertaken in accordance with the plans, drawings, specifications and other documents submitted to the Council that are relevant to the consent as listed below:

- **Plans drafted by Proske Architects, project no. 17-043, plan nos. SK01.C dated 4/6/2019 and SK02.B dated 11/6/2019 and SK03.A dated 8/5/2019**

to the reasonable satisfaction of the Council except where varied by conditions below (if any).

Reason: *To ensure that the Development is undertaken in accordance with the plans and details submitted.*

---

2. Prior to the granting of development approval to the Development the applicant or the person(s) having the benefit of the consent shall submit to the Council samples of the final selection of all external materials, surface finishes and colours of the Development so as to ensure that such samples are consistent with the consent. Such samples shall be to the reasonable satisfaction of the Council.

Reason: *To ensure a high standard of materials and finishes are used in the finished presentation of the building.*

---

3. The windows of the on the second and third floors as depicted on the southern elevation shall be translucent and permanently fixed to a minimum height of 1600mm above the finished floor level of each floor. Such windows shall be installed prior to the occupation or use of the Development and thereafter shall be maintained to the reasonable satisfaction of the Council.

Reason: *To ensure that the Development does not unreasonably diminish the privacy of residents in adjoining properties.*

---

4. The finished floor level of the car park entry and exit points on the Land shall match the adjacent road level unless otherwise agreed to by the Council in writing.

Reason: *To ensure public footpaths remain level and as such pedestrian safety and amenity is not compromised.*

---

5. The connection of any storm water discharge from the Land to any part of the Council's underground drainage system shall be undertaken in accordance with the Council Policy entitled 'Adelaide City Council Storm Water Requirements' which is attached to this consent to the reasonable satisfaction of the Council.

Reason: *To ensure that adequate provision is made for the collection and dispersal of stormwater.*

---

6. The development shall include a suitably designed and installed vapour barrier beneath the ground slab or equivalent vapour venting measures as part of the approved development to the reasonable satisfaction of Council. Details of the proposed barrier or other measures shall be provided to Council prior to the issue of Development Approval.

Reason: *To ensure that the development will only occur on land that is suitable for its intended use prior to the commencement of that use.*

Advices

1. Building Consent for Approval

Development Approval will not be granted until Building Rules Consent has been obtained. A separate application must be submitted for such consent. No building work or change of classification is permitted until the Development Approval has been obtained.

---

2. Expiration Time of Approval

Pursuant to the provisions of Regulation 48 under the Development Act 1993, this consent will lapse at the expiration of 12 months from the operative date of the consent unless the relevant development has been lawfully commenced by substantial work on the site of the development within 12 months, in which case the approval will lapse within 3 years from the operative date of the approval subject to the proviso that if the development has been substantially or fully completed within those 3 years, the approval will not lapse.

---

3. Boundaries

It is recommended that as the applicant is undertaking work on or near the boundary, the applicant should ensure that the boundaries are clearly defined, by a Licensed Surveyor, prior to the commencement of any building work.

---

4. Public Utilities

The applicant must ensure there is no objection from any of the public utilities in respect of underground or overhead services and any alterations that may be required are to be at the applicant's expense.

In addition you are advised that the installation of an SA Power Networks transformer within the building may require the submission of a variation application. Furthermore, any proposal to install electricity infrastructure including a transformer or switching cubicle within the public realm will require the consent of Council and may not be forthcoming.

---

5. Residential Parking Permits

No on-street residential parking permits will be issued for use by occupants of, or visitors to, the development herein approved (unless the subject site meets the relevant criteria).

Please contact the City of Adelaide Customer Centre on 8203 7203 for further information.

---

6. Crossing Places

The vehicle crossing place(s) made redundant as a result of this development will be closed by Council and the applicant will be charged directly for the work. A quotation for the work will be provided by Council to the applicant prior to the work being undertaken.

There is no objection to the proposed vehicle crossing place(s)/alterations to the existing vehicle crossing place(s), however the work will be undertaken by Council and the cost of the work will be charged to the applicant. Separate application for the crossing place(s) is required and the applicant can obtain a form from Customer Service, 25 Pirie Street, Adelaide, telephone 8203 7236. A quotation for the work will be provided by Council prior to the work being undertaken.

---

7. Right of Way

The applicant shall ensure that the right of way to the rear of the property is not blocked or access restricted during the construction of the development herein approved.

---

8. Damage to Council's Footpath / Kerbing / Road Pavement / Verge

Section 779 of the Local Government Act provides that where damage to Council footpath / kerbing / road pavement / verge occurs as a result of the development, the owner / applicant shall be responsible for the cost of Council repairing the damage.

---

9. City Works Permit

Any activity in the public realm, whether it be on the road or footpath, requires a City Works Permit. 48 hours' notice is required before commencement of any activity.

The City Works Guidelines detailing the requirements for various activities, a complete list of fees and charges and an application form can all be found on Council's website at www.cityofadelaide.com.au

When applying for a City Works Permit you will be required to supply the following information with the completed application form:
A Traffic Management Plan (a map which details the location of the works, street, property line, hoarding/mesh, lighting, pedestrian signs, spotters, distances etc.);
Description of equipment to be used;
A copy of your Public Liability Insurance Certificate (minimum cover of $20 Million required);
Copies of consultation with any affected stakeholders including businesses or residents.
Please note: Upfront payment is required for all city works applications.

Applications can be lodged via the following:

Email: cityworks@cityofadelaide.com.au
Fax: 8203 7674
In Person: 25 Pirie Street, Adelaide

10. Street Numbering

Any street numbering which may have been indicated on this application has neither been approved nor denied. To avoid any potential confusion regarding the addressing of your development, it is recommended that you contact the Rates and Valuation Section to confirm the correct address prior to the commencement of marketing. The Rates and Valuation Section can be contacted on 8203 7128 or 8203 7129.

11. Footpath Levels

The existing footpath level shall not be modified to suit the floor level of the entry point to the development, unless otherwise agreed to by the Council in writing.

12. Dilapidation Survey

A dilapidation survey recording the condition of the dwellings adjacent the subject site boundary to the east and west should be undertaken prior to works being commenced.

As well as recording fabric in good condition, the survey should also record the location, type and dimensional extent of any existing physical damage to the dwellings that might be affected by the proposed works.

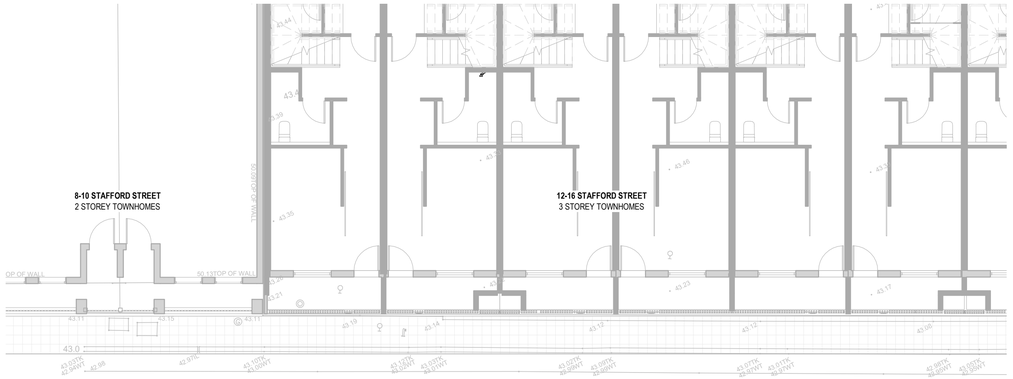
CITY OF ADELAIDE

Item No. 3.1 – Attachments 1 – 177 (9 Stafford Street, Adelaide SA 5000)

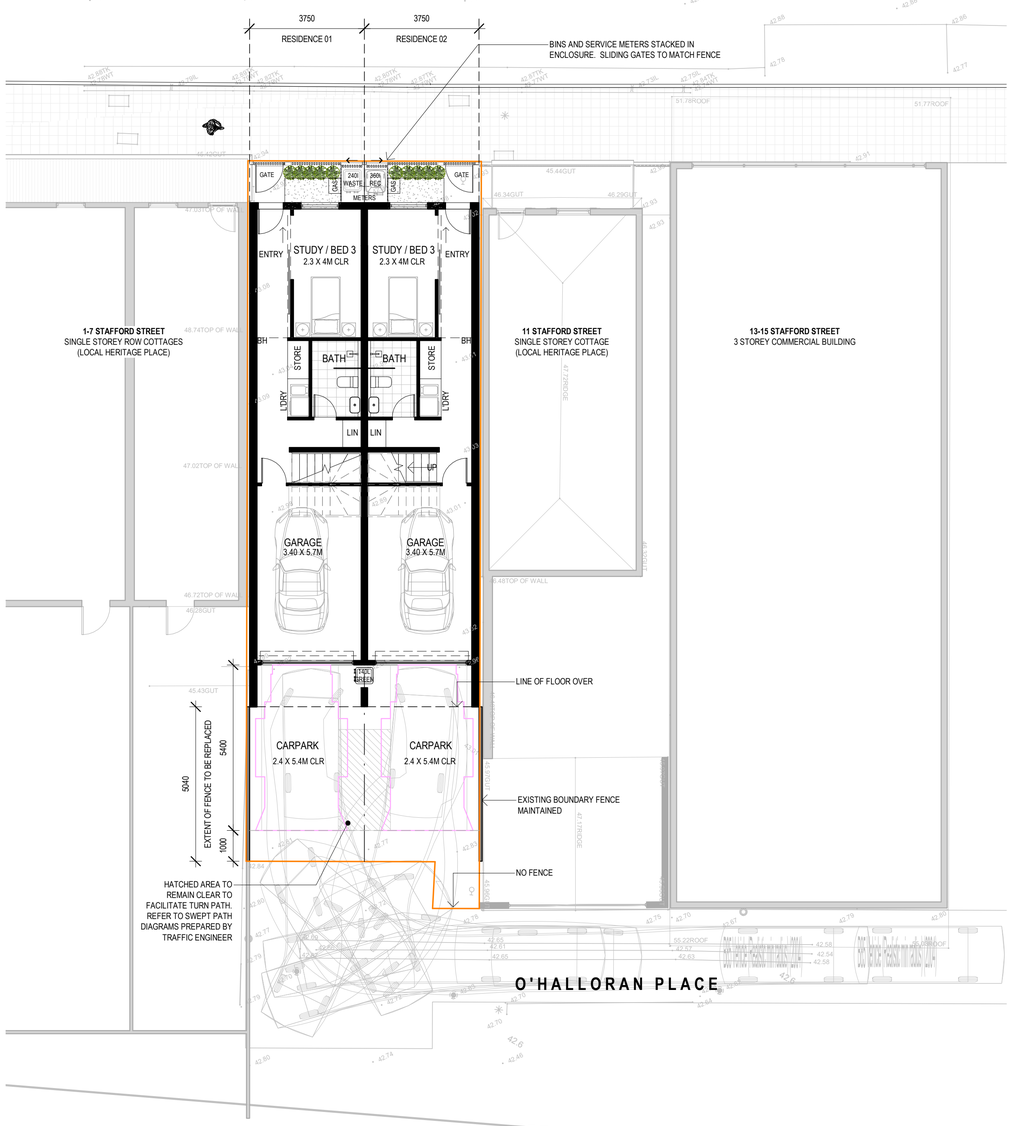
Pages 31 to 207

ATTACHMENTS

Plans and Supporting Information

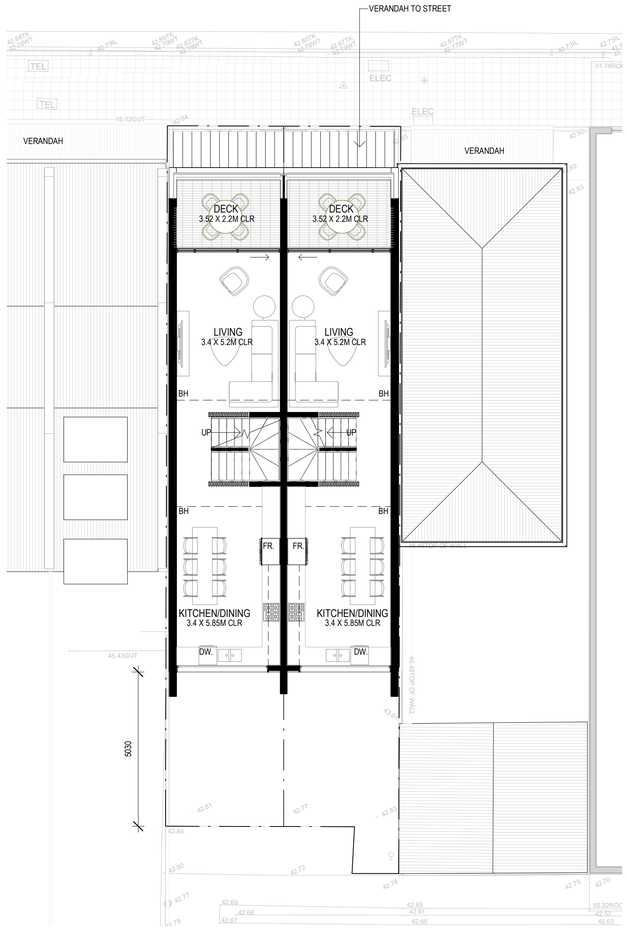


STAFFORD STREET



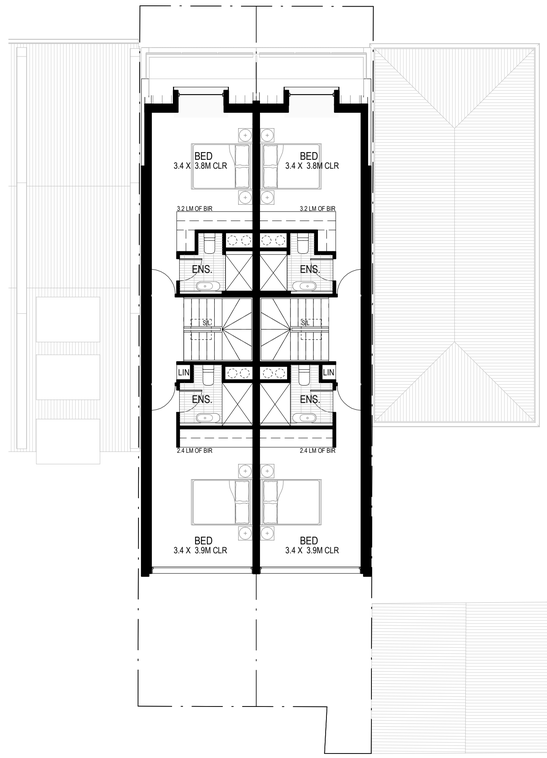
GROUND FLOOR PLAN
SCALE 1 : 100

STAFFORD STREET



LEVEL 01
SCALE 1 : 100

STAFFORD STREET



LEVEL 02
SCALE 1 : 100

AREA SCHEDULE

TOTAL SITE AREA	176m2
PROPOSED LOT 1	87.60m2
PROPOSED LOT 2	88.80m2
TYPICAL RESIDENCE	
GROUND FLOOR	56m2
FIRST FLOOR	51m2
SECOND FLOOR	58m2
TOTAL GROSS AREA	165m2
FRONT COURTYARD	5m2
FIRST FLOOR BALCONY	8.5m2

CITY OF ADELAIDE
ADDITIONAL DOCUMENTS RECEIVED

DA/85/2016

11/06/2019

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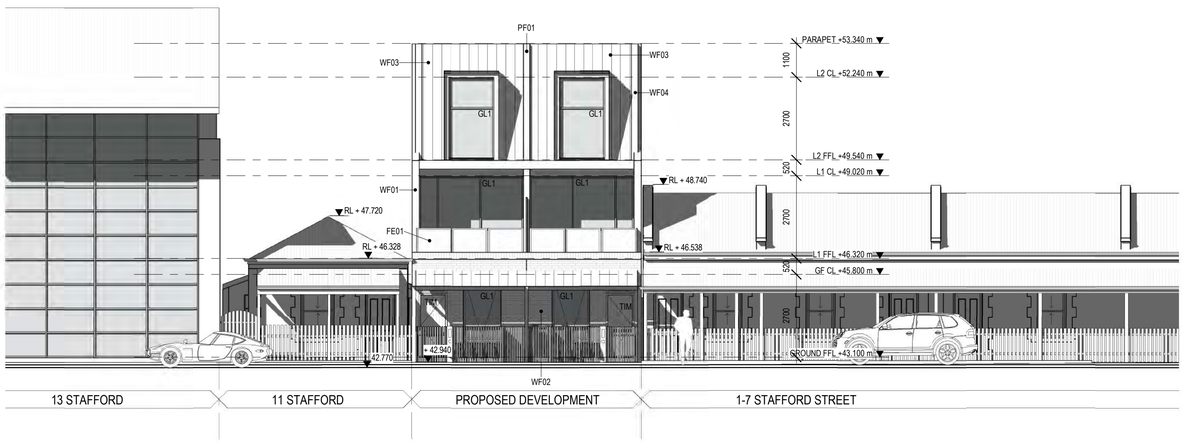
SK01.C. PROPOSED PLANS

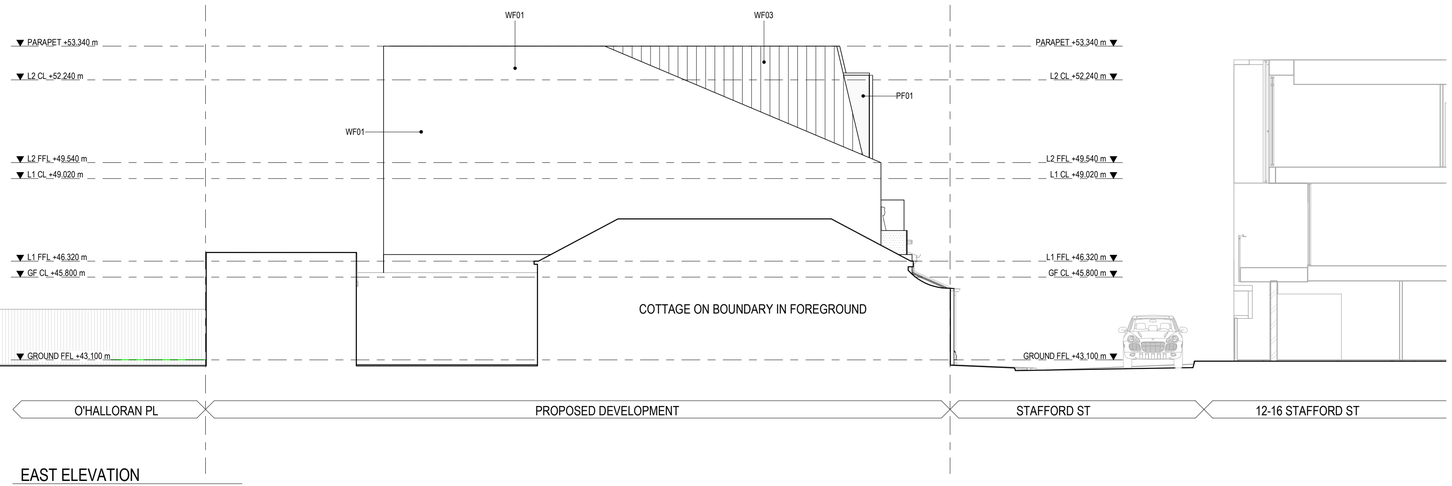
STAFFORD STREET APARTMENTS
9-9A STAFFORD STREET, ADELAIDE, SA

PROJECT NO: 17-043
CLIENT: LOT ONE PROPERTY
DRAWN: LR
SCALE: 1 : 100 @ A1
DATE: 04/06/2019



NORTH ELEVATION

SCALE 1 : 100



EAST ELEVATION

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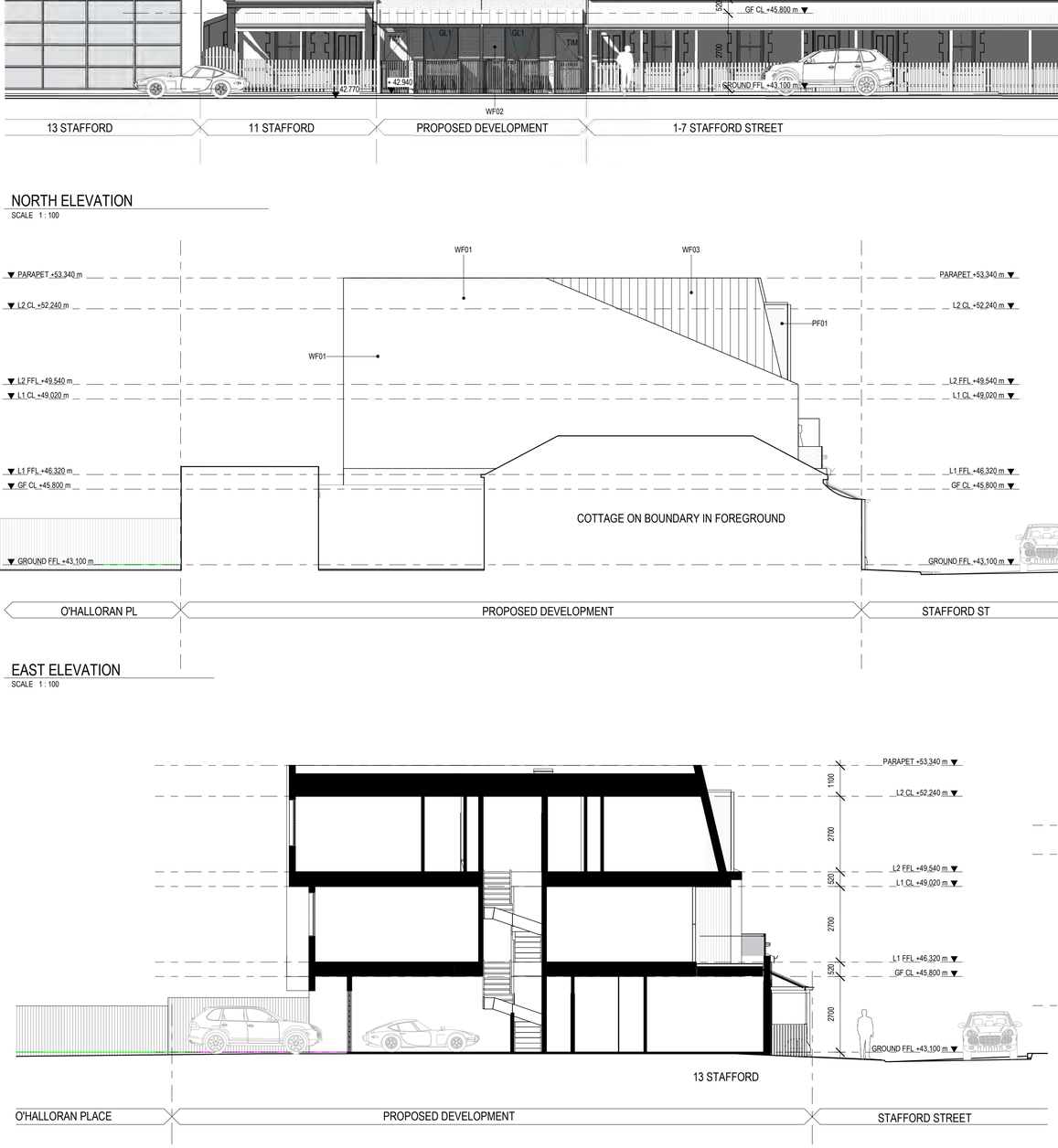
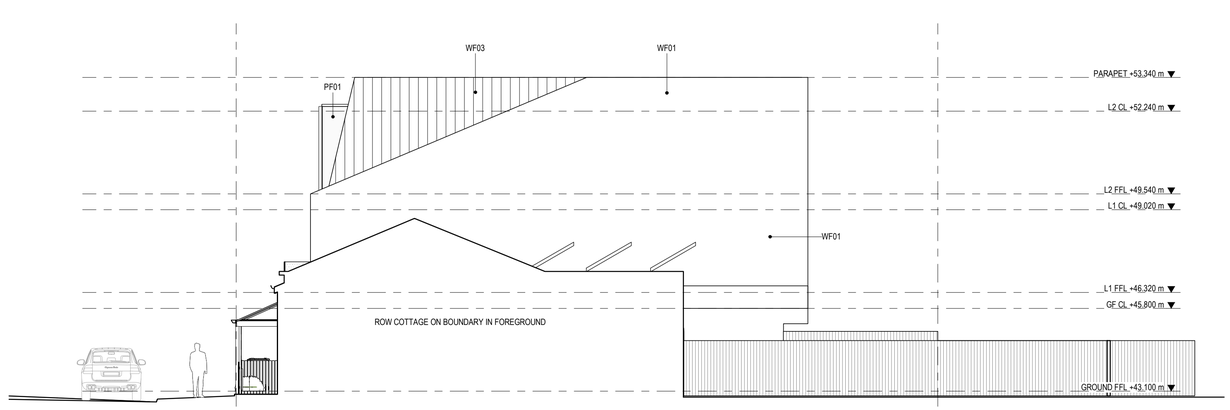


DESIGN SECTION

SCALE 1 : 100



WEST ELEVATION

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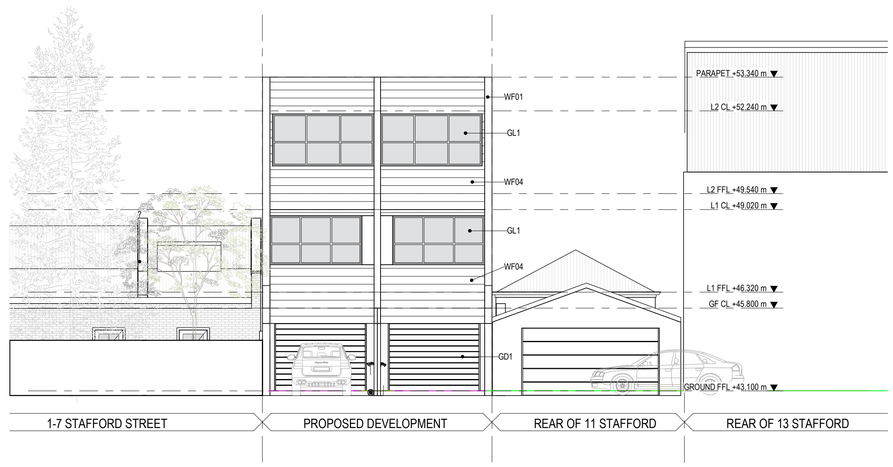
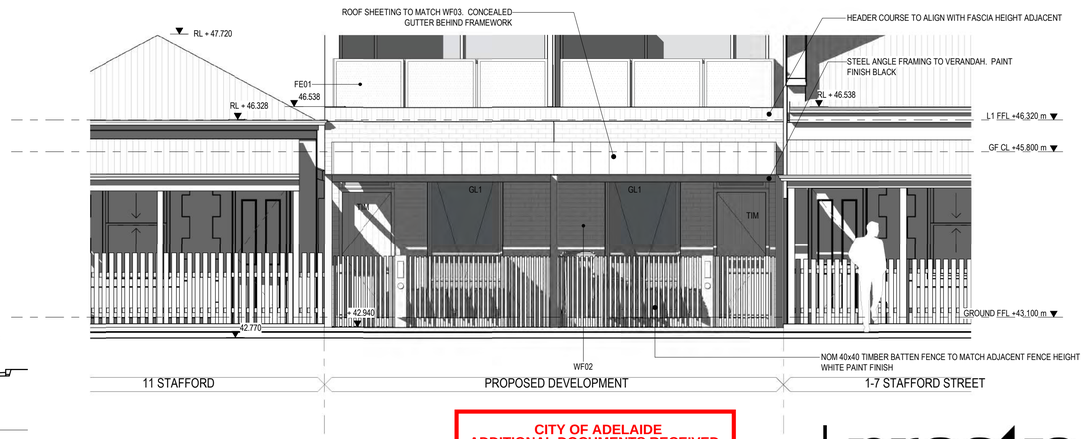


SOUTH ELEVATION

SCALE 1 : 100



NORTH ELEVATION DETAIL

SCALE 1 : 50

EXTERNAL FINISHES

FE01	FENCE TYPE 01 PERFORATED STEEL BALUSTRADE COLOUR: BLACK
GD1	GARAGE DOOR - ROLLER FINISH: COLORBOND MONUMENT
GL1	GLAZING: NEUTRAL PERFORMANCE TINT FRAMES: ALUMINIUM BLACK POWDERCOAT
PF01	PAINT FINISH COLOUR: COLORBOND MONUMENT
TIM	TIMBER FINISH TYPE 01 FINISH: WESTERN RED CEDAR COLOUR: NATURAL FINISH
WF01	WALL FINISH 01 MASONRY BLOCK WITH BAGGED RENDER & PORTERS STONE PAINT COLOUR: WARM WHITE TONAL RANGE
WF02	WALL FINISH 02 BRICKWORK WITH PAINT FINISH COLOUR: WARM WHITE TONAL RANGE
WF03	WALL FINISH 03 COLORBOND STEEL SHEET PROFILE - MAXILINE COLOUR - MONUMENT
WF04	WALL FINISH 04 SCYON STRIA FIBRE CEMENT SHEET PROFILE - HORIZONTAL GROOVE COLOUR - MONUMENT

CITY OF ADELAIDE
ADDITIONAL DOCUMENTS RECEIVED

DA/85/2016

11/06/2019

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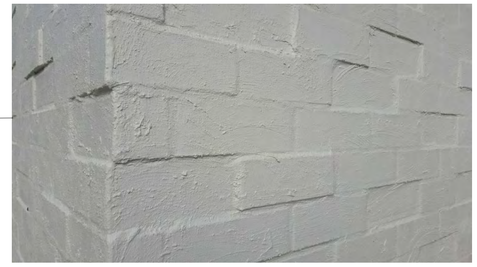
SK02.B. PROPOSED ELEVATIONS

STAFFORD STREET APARTMENTS
9-9A STAFFORD STREET, ADELAIDE, SA

PROJECT NO: **17-043**
CLIENT: **LOT ONE PROPERTY**
DRAWN: **LR**
SCALE: **As indicated @ A1**
DATE: **11.06.2019**

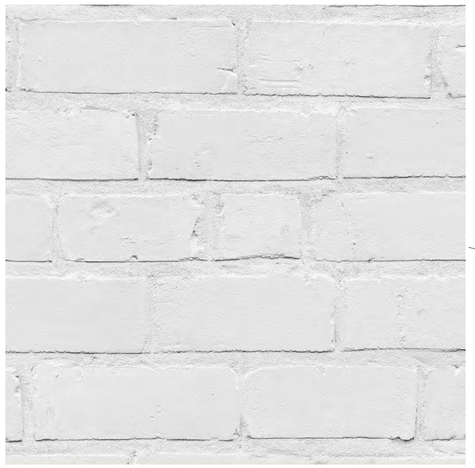
PERFORATED STEEL MESH BALUSTRADE

NORTHERN ELEVATION FROM STAFFORD STREET



BAGGED AND PAINTED BLOCKWORK - WARM WHITE TONAL RANGE

MAXLINE PROFILED STEEL CLADDING. COLORBOND MONUMENT



PAINTED BRICKWORK. WARM WHITE TONAL RANGE

NORTHERN ELEVATION

WESTERN RED CEDAR LINING

CITY OF ADELAIDE
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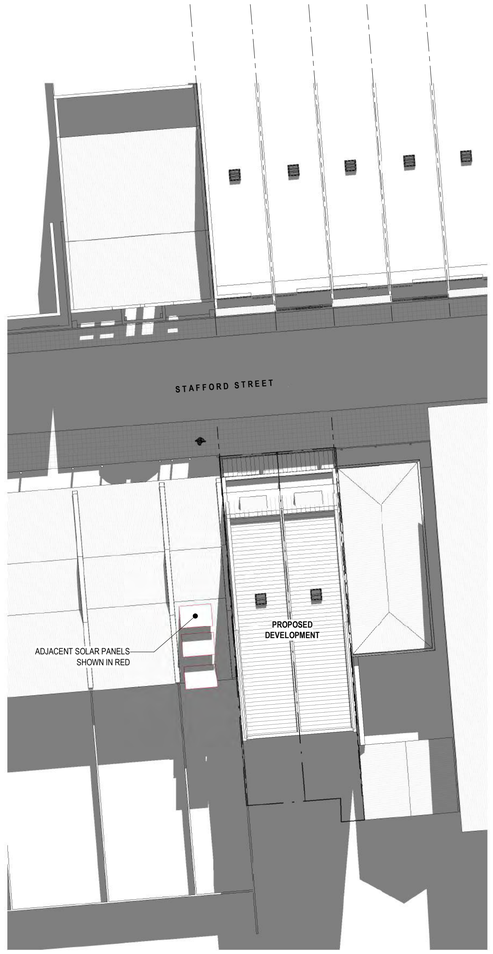
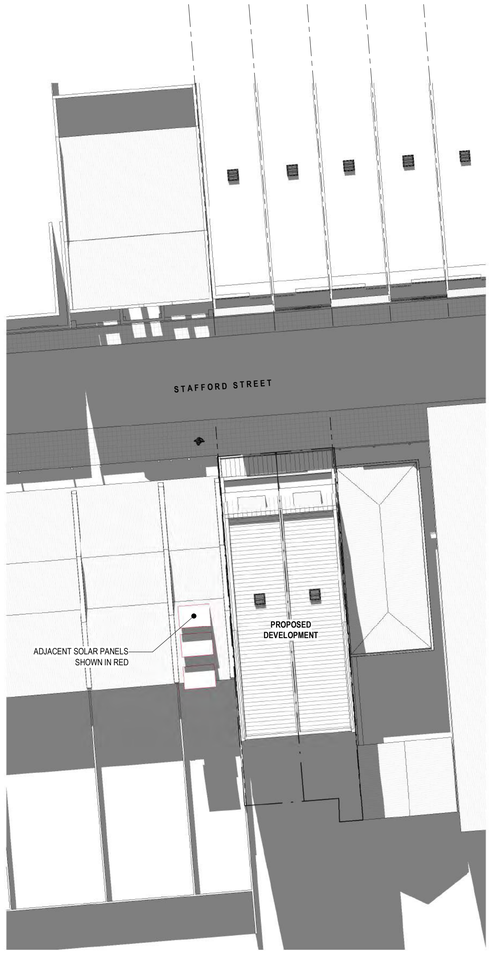
SK03.A. PROPOSED MATERIALS

STAFFORD STREET APARTMENTS
9-9A STAFFORD STREET, ADELAIDE, SA

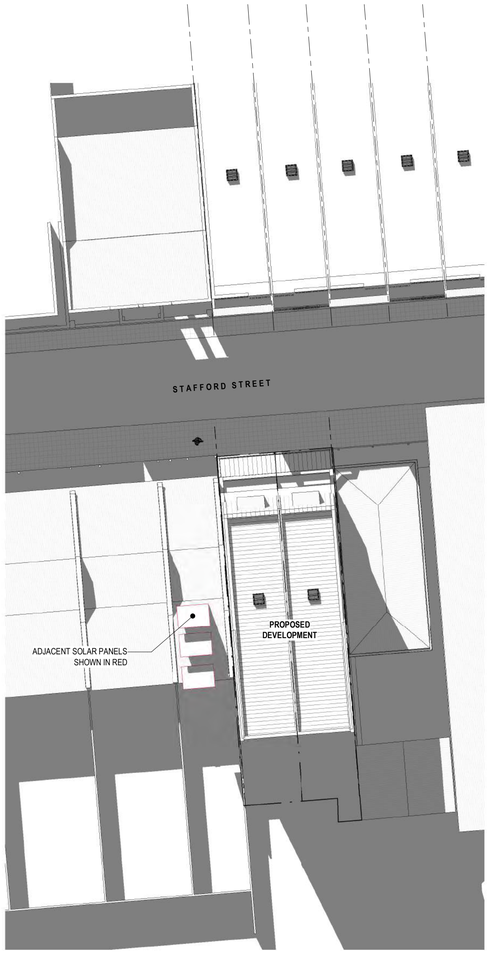
PROJECT NO: 17-043
CLIENT: LOT ONE PROPERTY
DRAWN: LR
SCALE: @ A1
DATE: 08/05/2019



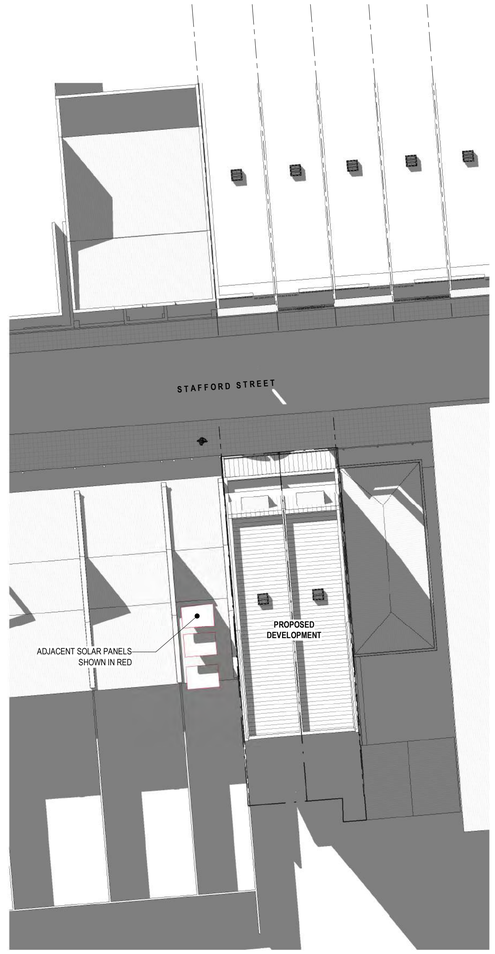
Winter Solstice 1200



Winter Solstice 1300



Winter Solstice 1400



Winter Solstice 1500

SUN SHADOW DIAGRAMS
DATE: WINTER SOLSTICE 21st JUNE
TIME: 12:00pm - 3:00pm

CITY OF ADELAIDE
ADDITIONAL DOCUMENTS RECEIVED
DA/85/2016
11/06/2019

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SK04.-. Sun Shading
STAFFORD STREET APARTMENTS
9-9A STAFFORD STREET, ADELAIDE, SA

PROJECT NO: **17-043**
CLIENT: **LOT ONE PROPERTY**
DRAWN: **LR**
SCALE: **1 : 200 @ A1**
DATE: **22/05/2019**

Government of South Australia
Department of Planning, Transport and Infrastructure

Product	Register Search
Date/Time	03/05/2016 01:21PM
Customer Reference	
Order ID	20160503006802
Cost	$27.25

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.

Registrar-General

Certificate of Title - Volume 5606 Folio 347

REAL PROPERTY ACT, 1886
South Australia

Parent Title(s)	CT 2215/45, CT 2215/46
Dealing(s) Creating Title	RTA 8514843
Title Issued	14/12/1998
Edition	4
Edition Issued	14/01/2016

Estate Type

FEE SIMPLE

Registered Proprietor

9 STAFFORD STREET PTY. LTD. (ACN: 609 666 622)
OF PO BOX 1142 NORTH ADELAIDE SA 5006

Description of Land

ALLOTMENT 1 DEPOSITED PLAN 50371
IN THE AREA NAMED ADELAIDE
HUNDRED OF ADELAIDE

Easements

NIL

Schedule of Dealings

Dealing Number	Description
12475303	MORTGAGE TO WESTPAC BANKING CORPORATION (ACN: 007 457 141)

Notations

Dealings Affecting Title

NIL

Priority Notices

NIL

Notations on Plan

NIL

Registrar-General's Notes

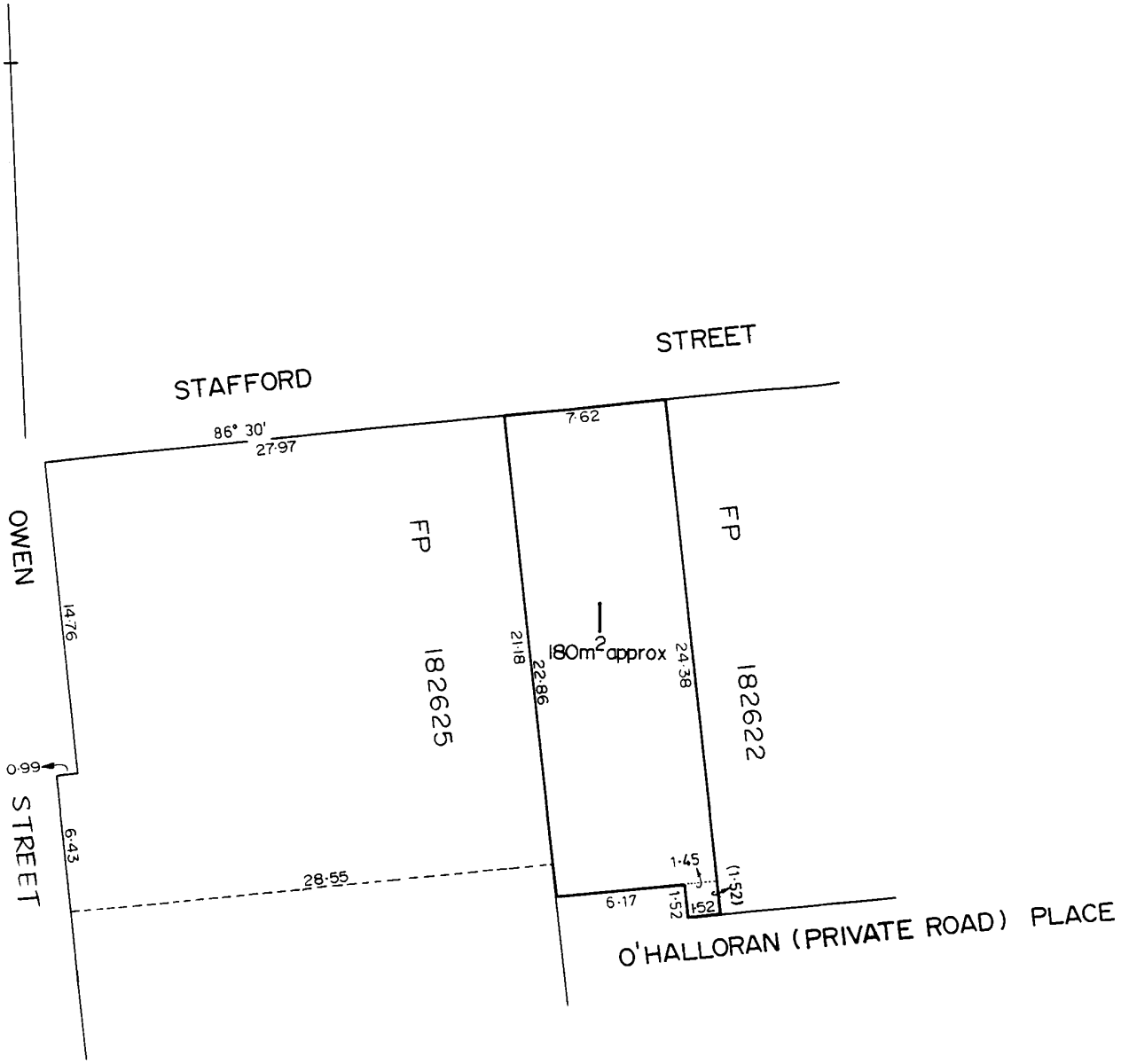
NIL

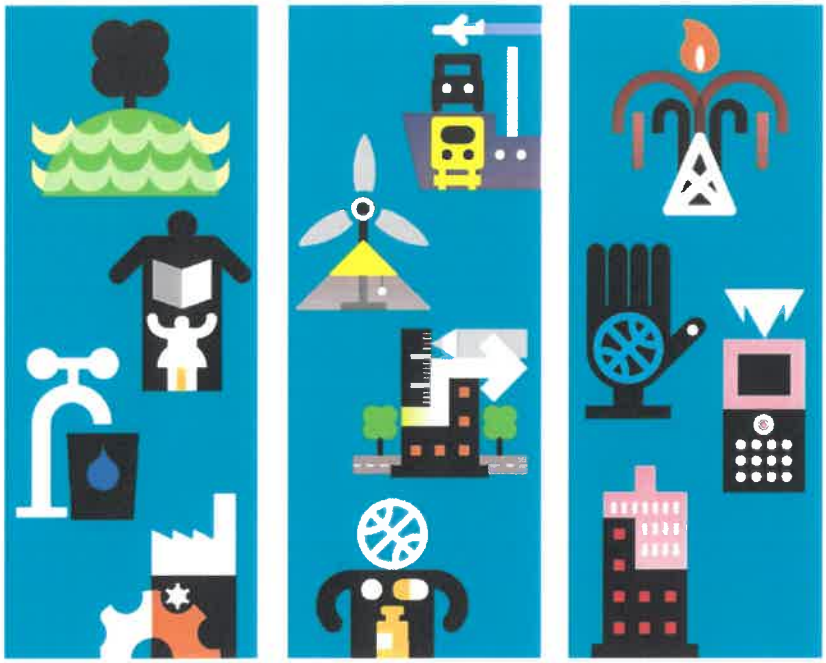
Administrative Interests

NIL

* Denotes the dealing has been re-lodged.

Product	Register Search
Date/Time	03/05/2016 01:21PM
Customer Reference	
Order ID	20160503006802
Cost	$27.25





Preliminary Environmental Soil Assessment

9-9A Stafford Street, Adelaide, South Australia

11 May 2016

9 Stafford Street Pty Ltd

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Preliminary Environmental Soil Assessment

9-9A Stafford Street, Adelaide, South Australia
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11 May 2016

9 Stafford Street Pty Ltd

Mott MacDonald, 22 King William Street, Adelaide SA 5000, Australia
PO Box 3400, Rundle Mall SA 5000 Australia
T +61 (0)8 7825 7325 F +61 (0)8 7325 7326 www.mottmac.com

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Issue and revision record

Revision	Date	Originator	Checker	Approver	Description	Secure
A	4 April 2016	RL	AM	AM	Draft for client review	
B	11 May 2016	AM	AM	AM	Final Report	

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Contents

1 Introduction

1.1 Background

Mott MacDonald Australia Pty Ltd (Mott MacDonald) was engaged by 9 Stafford Street Pty Ltd to conduct a Preliminary Environmental Soil Assessment for 9-9A Stafford Street, Adelaide, South Australia (CT5606/347) ('the site').

The site has a plan area of approximately 0.018ha and is situated within the City of Adelaide local government area. The site context, boundary and features are shown in Figures 1.1 and 1.2.

The aim was to assess the potential for gross or widespread soil contamination to exist as a result of current or previous land uses at the site (documented by others) and whether there are potential issues likely to present future liabilities or constraints on a proposed residential development.

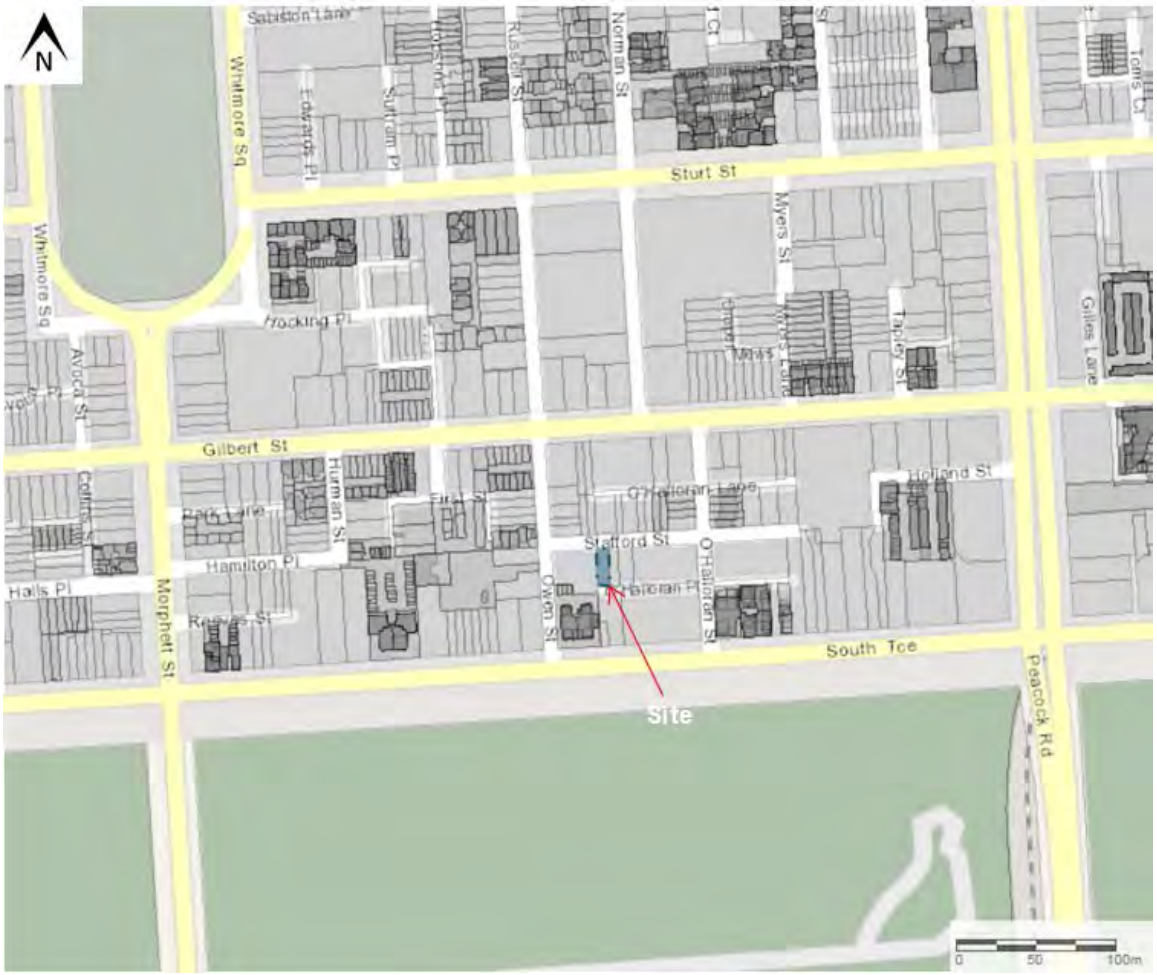

Figure 1.1: Context map showing site location (Source: http://maps.sa.gov.au, 2016)

Figure 1.2: Aerial photograph showing approximate site boundary and features (Source: http://maps.sa.gov.au, 2016)

1.2 Previous reporting

A Preliminary Site Investigation (Report Version: J130565C/01) was prepared by Greencap in February 2015 for the site. Extracts are shown below and the report is provided in Appendix A.

'The historical information indicates that prior to the 1970s the site appears to have been used for residential purposes. Since the mid-1970s the site has been owned by various businesses with the former residential building being demolished in the late 1970s. In 1992 the site was purchased by South

Australian Cooperative Bulk Handling Limited (later became Viterra) and since this time the site has only been used for car parking.

The identified potential on-site sources of contamination associated with past and present site uses include (but may not be limited to) historical use of imported fill from unknown sources, use of pest control chemicals and asbestos debris from the demolition of former buildings.

It is noted that two underground storage tanks are located in the vicinity of the site (the nearest approximately 8 metres to the south and another 45 metres east). Information relating to the tank south of the site is limited but recent testing of the tank to the east indicates it is in good condition.

In terms of future ongoing use of the site for similar purposes, there is generally considered to be a low risk of contamination being present on this site that would pose unacceptable health or environmental risks. It is noted that the nature and extent of any soil or groundwater impacts (if present) could only be assessed via intrusive investigations.'

The following report extract (Greencap, 2015) shows the identified potentially contaminating activities that may have historically occurred at the site:

PCA and likely location	Contaminants of Potential Concern	Persistence / mobility in soils and toxicity	Comments with regards to ongoing commercial / industrial use of the site
Historical use of imported fill brought onto the site for as a base course under buildings.	Heavy metals, PAH and TPH	Heavy metals - Mobility = low, persistence = high PAH - Mobility = low, persistence = high TPH - Mobility = moderate, persistence = moderate	The extent and depth of fill material under the site is unknown. In addition, the source of any fill material is unknown. The Adelaide CBD is known to have been levelled with fill material from numerous unknown sources.
Use of pest control chemicals under former site buildings.	Heavy metals and OCPs	Heavy metals - Mobility = low, persistence = high OCP - Mobility = low to moderate, persistence = high	The use of OCPs as termite control chemicals was not completely discontinued until 1995 (Australian Pesticide and Veterinary Medicines Authority). Any impacts would likely be limited to near surface soils under or adjacent former buildings.
Demolition of former buildings	Asbestos	Asbestos – Mobility = low to high (depending on whether friable or non-friable), persistence = high	According to the historical information, a former building was located on the site. Due to the age of the former building it is possible that it contained asbestos building products and debris may be present in soils as a result of the demolition of these buildings.

Notes:
OCP = organochlorine pesticides TPH = total petroleum hydrocarbons PAH = polycyclic aromatic hydrocarbons
PCB = polychlorinated biphenyls

These chemicals of environmental interest are not a prescriptive list for further exploratory intrusive assessment that may be conducted, nor a statement of the presence of these chemicals, but rather a list to be given consideration.

1.3 Proposed development

The proposed development would comprise a multi-storey building with concrete slab underlain by base course gravel and fortecon plastic. The fully capped site would have potted plants on the northern site boundary. The site surface would be stripped for geotechnical purposes during early phase construction works. Groundwater is not proposed for abstraction at the site. Refer to Figure 1.3 for the proposed site development plan.

Figure 1.3: Proposed site development plan (provided by AWI Construction in March 2016)

1.4 Scope of work

The scope of work conducted by Mott MacDonald included:

- Site walkover
- Consideration of the Preliminary Site Investigation (Report Version: J130565C/01), prepared by Greencap in February 2015
- Consideration of the proposed site development plan
- Assessment of soils at the site, comprising:
  - Drilling and retrieval of soil samples at four locations on 17 March 2016 with a drilling rig using pushtube techniques
  - Screening of soil samples in the field using a Photo Ionisation Detector (PID) to assess the presence of volatile organic compounds
  - Logging of the materials encountered
  - Chemical analysis of selected soil samples for key chemicals of interest
  - Implementation of a QA/QC program
  - Data interpretation and reporting.

2 Site description

2.1 Site walkover and photographs

A site visit was conducted on 17 March 2016 by a Mott MacDonald representative.

The site and surrounding areas were generally level. The rectangular shaped site comprised a bitumen car park. At the time of the site visit, the site was being utilised for car parking purposes only. No gross or widespread soil contamination was observed during the site walkover.

Site photographs are provided in Photos 3.1-3.2.

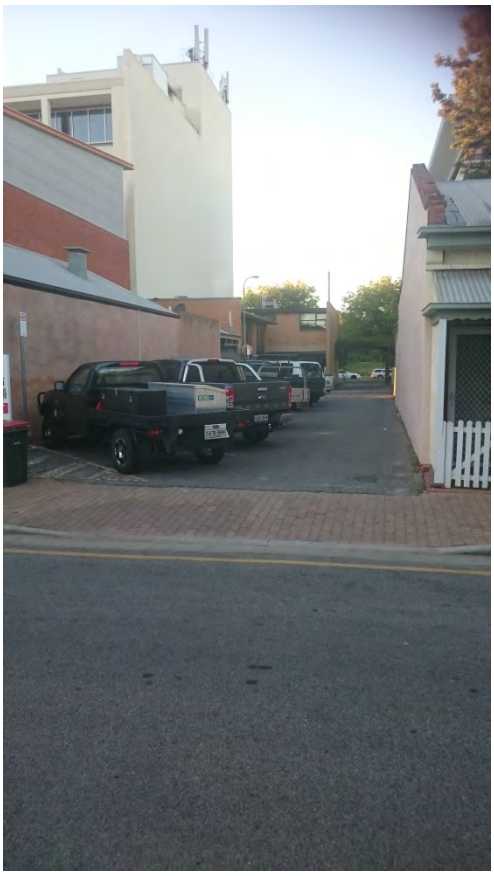

Photo 3.1 Photo facing south

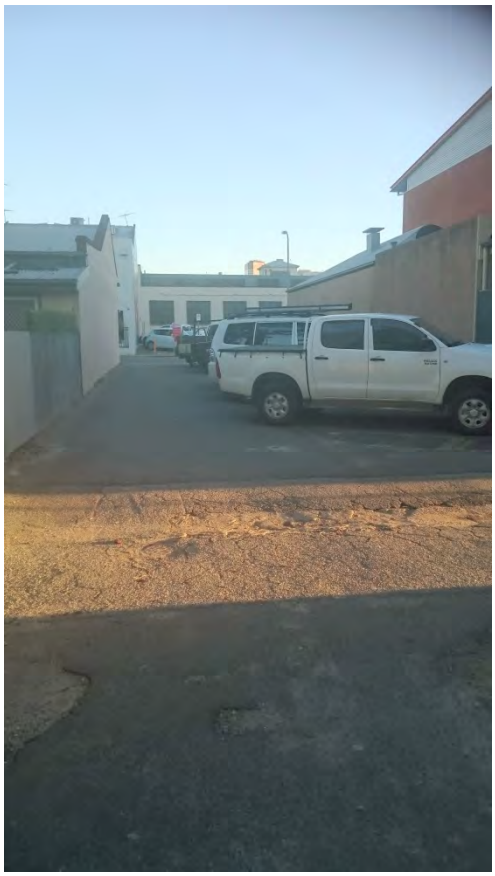

Photo 3.2 Photo facing north

2.2 Surrounding land use

The site is bound by O'Halloran Place to the south and Stafford Street to the north, and is surrounded by the following:

- North – office, residential properties and a car park
- East – commercial/industrial building containing a gym
- West – residential properties
- South – car park, offices and other commercial/industrial buildings.

2.3 Regional geology and hydrogeology

A summary of the regional geology and hydrogeology is presented in the Preliminary Site Investigation (Greencap, 2015) in Appendix A. An extract is provided below:

The Department of Mines and Energy Bulletin 51 'Engineering Geology of the Adelaide City Area' indicates the local near surface geology comprises a sequence of Quaternary and Tertiary sediments. There is reportedly a calcareous mantle up to 2m thick overlying 5-10m of high plasticity clay (Hindmarsh Clay). The Quaternary sediments overly a Tertiary Age calcareous sandstone (Hallett Cove Sandstone).

Groundwater may occur as discontinuous perched water in the lower portion of Hindmarsh Clay, in discontinuous sand layers and lenses within the Hindmarsh Clay. Both the SA Department of Mines and Energy Information Bulletin 51 'Engineering Geology of the Adelaide City Area', and Information Sheet 21 "Groundwater in the Adelaide Metropolitan Area" indicates the depth to groundwater is approximately 15-20m, and the total dissolved solids level is between 1,500 and 2,500 mg/L. The general direction of groundwater flow in the area of the site is expected to be to the north/north-west. Groundwater information from 12 wells located within a 200m radius of the site showed a standing water level in shallow groundwater wells (<25 m bgl) in the local area as ranging from 9.6 to 15.5 m bgl. These wells are recorded as being for investigation, monitoring and drainage purposes.

The nearest watercourse is an intermittent creek running through the south parklands, located approximately 900m south-east of the Adelaide CBD. The River Torrens is also located approximately 1.7km north of the site. The Gulf of St Vincent is located approximately 9km west of the site.

3 Regulatory and assessment framework

3.1 Site contamination

Soil contamination has the potential to impact adversely on human health and the environment; however in order for a significant or identifiable risk to be present, there must be an exposure pathway. The exposure pathway comprises the following:

- Source – The presence of a substance that may cause harm.
- Receptor – The presence of a receptor which might be harmed at an exposure point.
- Pathway – The existence of a means or mechanism of exposing a receptor to the source.

In the absence of a plausible exposure pathway there can be minimal risk. Therefore, the presence of 'something measureable' i.e. concentrations of a chemical or presence of asbestos does not necessarily imply that there is measurable human harm. It is necessary to have a significant source of contamination, an appropriate or effective pathway for this to be presented to a receptor, and the receptor must have a negative response to this exposure.

Hence, the nature and importance of sources, receptors and exposure routes will vary with every site, situation, intended end use and environmental setting.

It should also be noted that management measures to address any aspect of the above can reduce the significance of any risks.

3.2 Adelaide (City) Development Plan (Consolidated – 24 September 2015)

The Adelaide (City) Development Plan (Consolidated – 24 September 2015) identifies the following pertaining to site contamination:

PRINCIPLES OF DEVELOPMENT CONTROL

105 Where there is evidence of, or reasonable suspicion that land, buildings and/or water, including underground water, may have been contaminated, or there is evidence of past potentially contaminating activity/ies, development should only occur where it is demonstrated that the land, buildings and/or water can be made suitable for its intended use prior to commencement of that use.

Note: Information of the suitability of land for the proposed land use should be provided as part of the development application and should include:

(a) the provision of a report of the land use history and condition of the site;

(b) where the report reveals that contamination is suspected or identified, a detailed site assessment report that determines whether site contamination poses an actual or potential risk to human health and the environment, either on or off the site, of sufficient magnitude to warrant remediation appropriate to the proposed land use;

(c) where remediation is warranted, a remediation and/or management strategy prepared in consultation with an independent Environmental Auditor, Contaminated Land, endorsed by the EPA;

(d) a site audit report, prepared by an independent Environmental Auditor, Contaminated Land, endorsed by the EPA, that states that in the opinion of the Auditor, the site is suitable for the intended uses(s), or for certain stated uses(s) and also states any conditions pertaining to the use(s).

3.3 Environment Protection Act, 1993

In South Australia, the assessment, management and remediation of site contamination is regulated by the *Environment Protection Act 1993* (EP Act). The EP Act defines site contamination in section 5B as follows:

> *(1) For the purposes of this Act, site contamination exists at a site if—*
>
> > *(a) chemical substances are present on or below the surface of the site in concentrations above the background concentrations (if any); and*
> >
> > *(b) the chemical substances have, at least in part, come to be present there as a result of an activity at the site or elsewhere; and*
> >
> > *(c) the presence of the chemical substances in those concentrations has resulted in—*
> >
> > > *(i) actual or potential harm to the health or safety of human beings that is not trivial, taking into account current or proposed land uses; or*
> > >
> > > *(ii) actual or potential harm to water that is not trivial; or*
> > >
> > > *(iii) other actual or potential environmental harm that is not trivial, taking into account current or proposed land uses.*
>
> *(2) For the purposes of this Act, environmental harm is caused by the presence of chemical substances—*
>
> > *(a) whether the harm is a direct or indirect result of the presence of the chemical substances; and*
> >
> > *(b) whether the harm results from the presence of the chemical substances alone or the combined effects of the presence of the chemical substances and other factors.*
>
> *(3) For the purposes of this Act, site contamination does not exist at a site if circumstances of a kind prescribed by regulation apply to the site.*

Based on the above, the first stage in determining whether or not site contamination exists is to assess whether chemical substances have been added to the site through an activity and whether these substances are above background concentrations. The second stage is to assess whether the chemical substances have resulted in actual or potential harm to the health or safety of human beings or the environment that is not trivial.

The professional assessment of site contamination and consequential risk to human health and the environment is guided by the *National Environment Protection (Assessment of Site Contamination) Measure* (NEPM), Australian Standards and several guidelines prepared the EPA. The NEPM operates as an environment protection policy under the EP Act.

If site contamination is determined to be present at a site, the EP Act provides mechanisms to assign responsibility for the contamination and appropriate assessment and/or remediation of the contamination.

3.4 Assessment guidelines

3.4.1 General

The scope of works, methodology and guidelines adopted for this assessment are based on the guidance provided in the following documents:

- Standards Australia. Guide to the investigation and sampling of sites with potentially contaminated soil – AS 4482.1-2005.
- NEPC (1999), National Environment Protection (Assessment of Site Contamination) Measure, December 1999 (ASC NEPM), as amended in 2013.
- ANZECC/NHMR.C (1992). Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites.

The following were used to assess the sampled soil at the site against accepted guideline criteria. The specific chemical criteria are presented with the analytical results in Appendix E.

3.4.2 National Environment Protection Measure

The NEPM operates as an environment protection policy under the EP Act. It provides a nationally consistent framework for assessing the presence and significance of site contamination in soil and groundwater. The NEPM methodology is based on assessing the potential for an unacceptable risk to human health or the environment by comparing concentrations of chemical substances to conservative, generic investigation levels for various environmental settings and land use scenarios.

Investigation levels are defined in the NEPM as ‘concentrations of a contaminant above which further appropriate investigation and evaluation will be required’. They are not clean up or response levels. A response level is defined as ‘the concentration of a contaminant at a specific site based on a site assessment for which some form of response is required to provide an adequate margin of safety to protect public health and/or the environment’.

NEPM health investigation levels for soil (HILs) are based on conservative assumptions around providing protection to a young child living or playing on the site and subjected to exposure to contaminated soils. The most stringent HILs are assigned to sensitive land uses such as residential, child care centres and primary schools. Where the land use provides for reduced access to soils, or reduced time in the setting for a child (e.g. high density residential apartments or an industrial site), higher HILs are set respectively in the NEPM. In the event that an investigation level is exceeded at a site, the nature of the appropriate response is typically determined by a site-specific environmental or human health risk assessment. NEPM HIL B (Residential with minimal opportunities for soil access; includes dwellings with fully and permanently paved yard space such as high rise buildings and apartments) is used in this assessment.

NEPM ecological investigation levels (EILs) are provided for Arsenic, Copper, Chromium III, DDT, naphthalene, Nickel, Lead and Zinc in soil for the protection of terrestrial ecosystems. These are based on a species sensitivity distribution model developed for Australian conditions, and have been developed for areas of ecological significance, urban residential areas/public open space and commercial and industrial uses. The protection levels are dependent on these landuse settings, with areas of ecological significance having the most protection. NEPM EILs for urban residential areas/public open space (aged, high traffic) are used in this assessment. Refer to Appendix G for EIL calculation input and output spreadsheet extracts.

The NEPM ecological screening levels (ESLs) (urban residential & public open space – fine & coarse) are concentrations above which further appropriate investigation and evaluation would be required. ESLs

broadly apply to coarse- and fine-grained soils and various land uses and are generally applicable to the top 2 m of soil. NEPM ESLs for (urban residential & public open space) are used in this assessment.

The NEPM Petroleum hydrocarbon management limits are restricted to petroleum hydrocarbon compounds. They are maximum values that should remain in a site following evaluation of human health and ecological risks and risks to groundwater resources and apply to all soil depths based on site-specific considerations. These limits are to consider the formation of light non aqueous phase liquids, fire and explosion risks and damage to buried infrastructure. NEPM management limits (residential, parkland & public open space) are used in this assessment.

The NEPM also provides Health Screening Levels for Vapour Intrusion (HSLs). These are investigation levels for soil and soil vapour in the assessment of site contamination. These guidelines consider concentrations in soil and take into consideration soil types, depths of contaminant concentrations in the soil profile, the depth to groundwater and the nature of the overlying soils. NEPM HSL-A (Low Density Residential) and HSL-B (High Density Residential) guidelines are used in this assessment.

3.5 Data quality objectives

3.5.1 Introduction

The DQO process is a seven-step iterative planning approach that is used to define the type, quantity and quality of data needed to inform decisions relating to the environmental condition of a site. The summary of the process below is adapted from US EPA (2006a) and NSW DEC (2006).

The DQO process should commence before any investigative work starts, with the timing for various stages of the project being clearly understood by all parties. It is useful to apply the process initially at a project level to determine the overall project requirements and then modified as required for specific investigation activities.

The seven steps in the DQO process are:

- Step 1: State the problem
- Step 2: Identify the decision/goal of the study
- Step 3: Identify the information inputs
- Step 4: Define the boundaries of the study
- Step 5: Develop the analytical approach
- Step 6: Specify performance or acceptance criteria
- Step 7: Develop the plan for obtaining data

3.5.2 The seven-step DQO process

3.5.2.1 Step 1: State the problem

The field investigation and sampling programs aim to collect quality groundwater and soil data for the purposes of refining the body of the knowledge about the site conditions and to enable an assessment of the site's suitability for the proposed use within the requirements of the Adelaide (City) Development Plan.

3.5.2.2 Step 2: Identify the decisions/goal of the study

The second step involves identifying the decisions that need to be made about the contamination problem and the new environmental data required to make them. The goals of the additional field investigation and

sampling programs are to obtain sufficient information on the distribution and characteristics of contaminated soil, fill, soil vapour and groundwater where necessary.

The history and use of the site and the chemicals of interest and the media are considered in the balance of this report, together with the assessment guidelines.

3.5.2.3 Step 3: Identify information inputs

The third step involves identifying the information needed to support any decision and whether new environmental data will be needed.

The information inputs are:
- the media that needs to be collected, e.g. fill, soil
- soil would be assessed against the guidelines outlined in this report
- soil guidelines are provided in this report
- analytical methods are provided on the certified laboratory certificates
- if the PID reading is greater than 10ppm then further consideration of soil sampling for VOC's/organics would be conducted and during groundwater sampling the field parameters would be measured until there is less than 10% variation between the measurements

The inputs required to address the study goals are also outlined in this report and include:
- Existing site data
- Proposed land uses and development boundaries
- Appropriate guideline documents
- Appropriately experienced environmental staff
- Geological data and information relevant to subsurface structures
- Hydrogeological data
- Concentrations of chemicals of interest remaining at the site
- Observations regarding the presence of building materials or other waste materials including materials potentially containing ash, separate phase liquids, staining, odours and discolouration of the soil media
- Distribution of identified contamination both laterally and vertically
- Identification of potential contamination below permanent structures (including post demolition)
- Consideration of potential transport mechanisms
- Consideration or potential exposure pathway
- Quality Assurance and Quality Control (QA/QC) data.

3.5.2.4 Step 4: Define the study boundaries

The fourth step involves specifying the spatial and temporal aspects of the environmental media that the data must represent to support decision(s). The matters to consider at this stage include:
- the geographical extent of the proposed investigation is provided in Figure 1.1.
- temporal boundaries: no obvious ongoing requirements
- the lateral and vertical contamination distribution

3.5.2.5 Step 5: Develop the analytical approach (or decision rule)

The fifth step involves defining the parameter of interest, specifying the action level, and integrating information from Steps 1–4 into a single statement that gives a logical basis for choosing between alternative actions. Acceptable limits should be defined for the following:
- chemicals of concern detected in field blanks, rinsate blanks, volatile-spiked trip samples, laboratory method blanks
- recovery of matrix spike additions, surrogate spike additions, laboratory control samples

- relative percent differences (RPDs) of matrix spike and matrix spike duplicates.

Step 5 of the DQO process should assist in producing:

- the statistical parameter (the parameter of interest) that characterises the population
- confirmation that the action level exceeds measurement detection limits
- an 'if …, then …' statement that defines the conditions that would cause a decision-maker to choose from alternative actions.

Table 3.1: Data quality indicators

DQI	Field	Laboratory	Acceptability Limits
Completeness	- All critical locations sampled - All samples collected (from grid and depth) - Standard Operating Procedures (SOPs) appropriate and complied with - Experienced sampler - Documentation correct	- All critical samples analysed and all analytes analysed according to SOPs - Appropriate methods - Appropriate practical quantitation limits (PQL) - Sample documentation complete - Sample holding times complied with	As per NEPC (1999) < nominated criteria As per NEPC (1999)
Comparability	- Sample SOPs used on each occasion - Experienced sampler - Site climatic conditions - Same types of samples collected - Use of the same kinds of instruments	- Same analytical methods used (including clean-up) - Sample PQL (justify/quantify if different) - Same laboratories (NATA accredited) - Same units	As per NEPC (1999) < nominated criteria
Representativeness	- Appropriate media sampled according to SOP - All relevant media sampled -The analytical suite targets the contaminants of concern	- All samples analysed according to SOP	
Precision	- SOPs appropriate and complied with - Collection of blind and split duplicate samples	- Analysis of: Blind duplicate samples (1 in 10 samples) Split duplicate samples (1 in 20 samples) Laboratory duplicate samples Laboratory prepared trip blank (1 sampling round)	 RPD of 30 to 50% RPD of 30 to 50% RPD of 30 to 50% non-detect for COC
Accuracy	- SOPs appropriate and complied with - Collection of rinsate blanks - Field trip blanks - Field rinsates - Method blanks	- Analysis of: Matrix spikes acceptability ranges Matrix spike duplicates Surrogate spikes Laboratory control samples Laboratory prepared spikes	 Typically 70 to 130% RPD of <30% 70 to 130% 70 to 130 % 70 to 130%

3.5.2.6 Step 6: Specify the performance or acceptance criteria

Relevant performance and/or acceptance criteria were determined for quality assurance/quality control purposes and comparison of soil and groundwater analytical results to appropriate assessment criteria. The method to address the acceptable limits on decision errors have been based on the Data Quality Indicators (DQIs) of precision, accuracy, representativeness, comparability and completeness. The

tolerable limits on decision errors for data include: Probability that 95% of data satisfied the DQIs, therefore the limit on the decision error that a conclusive statement may be incorrect is 5%.

In applying statistical analysis of a data set:

- No individual sample reports a concentration that exceeded 250% of site assessment criteria
- A normal distribution was only used if the coefficient of variance was not greater than 1.2
- The standard deviation of a sample population did not exceed 50% of the site assessment criteria
- Appropriate sampling and analytical density for the purposes of the investigations and representative sampling was undertaken.

The project DQIs have been established to set acceptance limits on field and laboratory data collected for this investigation. Laboratory procedure acceptance limits are set at different levels for different laboratories. Non-compliances with acceptance limits are to be documented and discussed. The DQIs provided in Table 2.1 reference Australian Standard AS4482.1 2005 Guide to the investigation and sampling of sites with potentially contaminated soil and EPA 2007 Guidelines: Regulatory monitoring and testing, groundwater sampling.

3.5.2.7 Step 7: Optimise the design for obtaining data

The seventh step involves identifying the most resource-effective sampling and analysis design for generating the data that is required to satisfy the DQOs.

The collection of data was optimised by the development of an appropriate sampling and analytical strategy and included:

- The division of work into distinct sections for consideration
- The consideration of the most suitable sampling and assessment methods and options
- The selection of site assessment guidelines was based on the site context and the optimisation of the site redevelopment at this point in time

4 Soil assessment

4.1 Rationale

Four locations were sampled in accordance with AS 4482.1 for a site of 0.018ha. Grid based sampling was undertaken to gain broad site coverage.

4.2 Methodology

On 17 March 2016, four locations were drilled by Aussieprobe Pty Ltd and the soil was sampled by an experienced Mott MacDonald representative. Representative soil samples were generally collected from the top of each soil horizon. The sampling locations are approximately shown in Figure 4.1.

The detailed soil assessment methodology that was followed, including key elements of the QA/QC program, is presented in Table 4.1.

Table 4.1: Soil assessment methodology

Activity	Details
Soil sampling	Drilling and retrieval of soil samples was undertaken with a drilling rig using pushtube techniques. Soil samples were collected by hand with fresh gloves for each soil sample. Each pushtube was cleaned with diluted Decon90 and rinsed with laboratory supplied water between locations. A rinsate sample was obtained from the cleaned pushtube and analysed for select chemicals of interest as a QA check.
Duplicate sampling	Field duplicate soil samples were collected to provide a check on sample variability, laboratory performance and accuracy.
Sample preservation	Samples were placed in laboratory supplied glass jars and stored in chilled eskies. Samples were then freighted directly to the NATA accredited Eurofins MGT laboratory.
Sample labelling	A unique sample number was used to label and clearly identify each sample.
Soil PID screening	All soil samples were screened in the field for the presence of volatile organic compounds using a PID, which was calibrated using isobutylene gas prior to use. The PID meter calibration certificate was retained and is provided in Appendix F.
Chain of custody	A chain of custody document was completed listing sample numbers, date of collection and analyses required. This was signed by each person transferring and accepting custody.
EILs	Natural soil sample 'SBC/3_0.4-0.5' retrieved from 0.4-0.5 mbgl was tested for CEC, pH, Fe, Clay and TOC in order to calculate the aged EILs for the site. The results from the laboratory are presented in Appendix D and were converted to the applicable units and then inputted into the Ecological investigation levels - Interactive (Excel) Calculation Spreadsheet (available at http://www.scew.gov.au/node). Refer to Appendix G for extracts of the inputs to the EIL Interactive (Excel) Calculation Spreadsheet and the associated outputs.

Figure 4.1: Plan showing approximate soil retrieval locations

4.3 Chemical analysis

Primary soil samples were submitted for chemical testing to the NATA accredited analytical laboratory of Eurofins MGT. The sample list and associated analytical testing is presented in the chain of custody documentation included in Appendix C, and is summarised below:

- Heavy metals (18)
- Vic EPA - Short Screen: TRH/ PAH/ Phenols/ OCP/ PCB/ BTEX/ Metals (As, Cd, Cr, Cu, Pb, Hg, Mo, Ni, Se, Ag, Sn, Zn)/ CN/ Total Fluoride
- Organochlorine pesticides (OCP)
- Total Recoverable Hydrocarbons (TRH)
- Benzene, Toluene, Ethyl Benzene, Xylenes (BTEX)

- Polycyclic aromatic hydrocarbons (PAH)
- Asbestos
- pH, Clay, TOC, CEC and Fe (for EIL calculations)

The analytical methods used are described on copies of the analytical laboratory certificates provided in Appendix D.

4.4 Guidelines

The guidelines used for the assessment of the analytical results are presented in Table 4.2.

Table 4.2: Applicable soil assessment guidelines

Criteria	Applicability
NEPM Health investigation levels (HILs)	
NEPM HIL B (Residential)	Concentrations of a contaminant above which further appropriate investigation and evaluation would be required. HILs are generic to all soil types and generally apply to the top 3m of soil.
NEPM Ecological investigation levels (EILs)	
NEPM EIL (urban residential areas & public open space) – Aged in high traffic area	Concentrations of contaminants above which further appropriate investigation and evaluation would be required. EILs depend on specific soil physicochemical properties and land use scenarios and generally apply to the top 2m of soil. A contaminant incorporated in soil for at least two years is considered to be aged for the purpose of EIL derivation.
NEPM Petroleum hydrocarbon management limits	
NEPM management limits (residential, parkland & public open space)	Limited to petroleum hydrocarbon compounds. They are maximum values that should remain in a site following evaluation of human health and ecological risks and risks to groundwater resources and apply to all soil depths based on site-specific considerations. These limits are to consider the formation of light non aqueous phase liquids, fire and explosion risks and damage to buried infrastructure.
Ecological screening levels (ESLs) for petroleum hydrocarbons	
NEPM ESLs (urban residential & public open space)	Concentrations above which further appropriate investigation and evaluation would be required. ESLs broadly apply to coarse- and fine-grained soils and various land uses. They are generally applicable to the top 2 m of soil.
Health screening levels (HSLs) for petroleum hydrocarbons	
HSL A & HSL B (Low-high density residential)	Concentrations above which further appropriate investigation and evaluation would be required. HSLs depend on physicochemical properties of soil, as these affect hydrocarbon vapour movement in soil, and the characteristics of building structures. HSLs apply to different soil types, land uses and depths below surface to >4 m and have a range of limitations.

4.5 Results

4.5.1 Aesthetic considerations

Aesthetic considerations relate to the presence of low-concern or non-hazardous inert foreign material (refuse) in soil or fill resulting from human activity. Construction and demolition waste materials, some of which are inert and non-hazardous and are widely distributed in urban areas, soils with discolouration from relatively inert chemical waste (for example ferric metals) or residual odour (for example, natural sulphur odour) are included in this category.

There are no specific numeric aesthetic guidelines; however site assessment requires balanced consideration of the quantity, type and distribution of foreign material or odours in relation to the specific land use and its sensitivity.

The following observations were made in relation to aesthetic issues at the site:

- There were no highly malodorous soils (e.g. strong residual petroleum hydrocarbon odours, hydrogen sulphide, organosulfur compounds)
- There was no hydrocarbon sheen on the site surface
- There were no discoloured chemical deposits or soil stains with chemical waste
- There were no observations of large monolithic deposits of otherwise low-risk material, e.g. gypsum as powder or plasterboard/cement kiln dust
- There was no putrescible refuse, including material that may generate hazardous levels of methane such as a deep-fill profile of green waste or large quantities of timber waste
- There were no soils containing residue from animal burial (e.g. former abattoir sites).

4.5.2 Soil observations

Bitumen was generally underlain by gravelly sand to 0.4-0.5mbgl. This was underlain by sandy clay/clayey sand. Fill was encountered at ‘SBA’ at 0-0.5mbgl and ‘SBC’ and ‘SBD’ at 0.0-0.4mbgl. ‘SBB’ struck refusal, possibly on concrete fill, at 0.4mbgl. Traces of ash and cinders were noted in ‘SBA’ and ‘SBD’ within the fill layer. No odours were noted during the soil sampling. Detailed field soil logs are provided in Appendix B.

4.5.3 PID results

The PID results from the soil samples retrieved were measured at 0ppm. This indicates that the likelihood of volatile gases being present in the soil at the site is low.

4.5.4 Laboratory results

The analytical soil results were compared to adopted criteria shown in Table 4.2.

The laboratory results for each of the soil samples analysed for the chemicals of interest were below the respective human health guidelines – set at NEPM B.

The analysis results are detailed in the certified laboratory certificates in Appendix D and a summary of the results in the context of the adopted guidelines is provided in Appendix E.

4.5.5 Quality assurance/quality control (QA/QC)

4.5.5.1 Sampling methods

The sampling methods and QA/QC for field procedures are considered to be suitable for the purpose of this assessment.

4.5.5.2 RPD calculations

Field duplicate (blind replicate) soil samples were collected to provide a check on sample variability and laboratory performance and accuracy.

Validation and interpretation of the quality control data was undertaken by calculating the relative percentage differences (RPDs) for the primary sample and duplicate sample concentrations. The RPD value for an analyte was calculated using the formula:

RPD (%) = 100[(x1 – x2)/x] where x1, x2 = duplicate results and x = mean of duplicate results.

According to AS4482.1-2005, typical RPD values for soils range from ±30 to ±50%; an RPD within the range of -50% to 50% is considered to show acceptable agreement and, conversely, data is considered to have poor agreement where an RPD is outside this range.

4.5.5.3 Intra-laboratory duplicates

Primary sample ‘SBD/2_0.2-0.3’ was paired with duplicate sample ‘DUPB_17/3/16’ and was analysed by Eurofins MGT as an intra-laboratory split sample for HM(18). The RPD values for the inter-laboratory duplicate pair samples show generally good agreement, with the exception of Lead (74%) and Mercury (67%), which are likely to be due to fill heterogeneity. The results are considered to be acceptable for the purposes of this assessment.

4.5.5.4 Inter-laboratory duplicates

Primary sample ‘SBC/2_0.2-0.3’ was paired with duplicate sample ‘DUP A_17/3/16’ as an inter-laboratory split, however due to a packing error the laboratory did not receive the sample for analysis. The precision of the soil investigation results are not considered to be impacted by this error as there were other lines of evidence and the results from the primary assessment concentrations did not exceed guideline concentrations. The results are considered sufficient to enable an assessment of risk.

4.5.5.5 Trip blank

Trip blank ‘TRIPA_17/3/16’ was tested by Eurofins MGT for BTEX. The results were less than the laboratory reporting limits and are considered to be acceptable for the purpose of this assessment.

4.5.5.6 Rinsate

Rinsate sample ‘RINA_17/3/16’ was retrieved from the cleaned pushtube and tested by Eurofins MGT for Heavy Metals (18). The results were less than the laboratory reporting limits and therefore the decontamination procedure is considered to be acceptable.

5 Conclusion

The proposed development would comprise a multi-storey building with concrete slab underlain by base course gravel and fortecon plastic. The site surface would be stripped for geotechnical purposes during early phase construction works. The site would be fully capped once developed. Groundwater is not proposed for abstraction at the site.

Based on the above proposed development description and the results of this assessment where concentrations did not exceed NEPM Setting B, **the likelihood of significant gross soil contamination at the site that is likely to preclude the proposed residential development is considered to be low.**

6 Limitations

Mott MacDonald Australia Pty Ltd (Mott MacDonald) has prepared this report based on generally accepted practices and standards in operation at the time that it was prepared. No other warranty is made as to the professional advice included in this report. All parties should satisfy themselves that the scope of work conducted and reported herein meets their specific needs before relying on this document.

Mott MacDonald believes that its opinions have been developed according to the professional standard of care for the environmental consulting profession at the date of this document. That standard of care may change as new methods and practices of exploration, testing, analysis and remediation develop in the future, which may produce different results.

Environmental conditions are created by natural processes and human activity, and as such may change over time e.g. groundwater levels may rise or fall, contamination may migrate and fill may be added to the site. This report therefore presents a point in time assessment of the site, and as such can only be valid for the time at which the investigation was undertaken.

Any investigation such as that contained in this report can examine only a fraction of the subsurface conditions at the site. There remains a risk that pockets of contamination or other hazards may not be identified as investigations are necessarily based on sampling at localised points. Certain indicators or evidence of hazardous substances or conditions may have been outside the portion of the subsurface investigated or monitored, and thus may not have been identified or their full significance appreciated. As such, the identified environmental conditions reported are only valid at the points of direct sampling and any derived or interpolated conditions may differ from these targeted locations and cannot be assumed to be indicative of the remainder of the site.

The methodology adopted and the sources of information used are outlined in this report. Mott MacDonald has limited its investigation to the scope agreed for this contract and it is possible that additional sampling and analysis could produce different results and/or opinions. Mott MacDonald has made no independent verification of this information beyond the agreed scope of works and assumes no responsibility for any inaccuracies or omissions.

This assessment assumes that the proposed development meets requirements as outlined in the Building Code of Australia and Australian Standards. If these recommendations are not met, there is potential for the exposure and therefore risk to building users to be higher than that presented in this assessment.

The soil descriptions contained in this report have not been prepared for engineering design purposes and the reinstatement of any sampling locations were not conducted in accordance with any supervised filling or geotechnical standard. The term suitable has been used in the context of a request from the planning authority and means that the concentrations reported did not exceed the guideline concentrations adopted for the proposed land use/exposure pathway.

This report does not include the assessment or consideration of hazardous building materials, including asbestos. Such materials should be assessed and managed by a qualified and licensed assessor/contractor.

In general, the available scientific information pertaining to contamination is insufficient to provide a thorough understanding of all of the potential toxic properties of chemicals to which humans may be

exposed. The majority of the toxicological knowledge of chemicals comes from experiments with laboratory animals, where there may be interspecies differences in chemical absorption, metabolism, excretion and toxic response. There may also be uncertainties concerning the relevance of animal studies using exposure routes that differ from human exposure routes. In addition, the frequent necessity to extrapolate results of short-term or subchronic animal studies to humans exposed over a lifetime has inherent uncertainty. Therefore, in order to conduct an environmental assessment, it is necessary to take into account these inherent uncertainties and extrapolate information from the data that is available, considered current and endorsed as acceptable for the assessment of risks to human health. There is therefore inherent uncertainty in the process, and to compensate for uncertainty, conservative assumptions are often made that result in an overestimation rather than an underestimation of risk.

All advice, opinions or recommendations contained in this document should be read and relied upon only in the context of the document as a whole. This report does not purport to give legal advice as this can only be given by qualified legal practitioners. This document does not represent a Site Contamination Audit Report.

Appendices

Appendix A. Preliminary Site Investigation (Greencap, 2015)

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PRELIMINARY SITE INVESTIGATION

Viterra Ltd

9-9A Stafford Street, Adelaide, South Australia

February 15
J130565C
Report Version: J130565C/01

C110884

February 2015

Preliminary Site Investigation

Viterra Ltd

9-9A Stafford Street, Adelaide, South Australia

EXECUTIVE SUMMARY

Greencap was commissioned by Viterra Ltd to prepare a Preliminary Site Investigation report for the site located at 9-9A Stafford Street, Adelaide, South Australia, South Australia. The purpose of the investigation was to identify potential contamination issues associated with past and present land uses in order to provide information to prospective purchasers of the site.

The historical information indicates that prior to the 1970s the site appears to have been used for residential purposes. Since the mid-1970s the site has been owned by various businesses with the former residential building being demolished in the late 1970s. In 1992 the site was purchased by South Australian Cooperative Bulk Handling Limited (later became Viterra) and since this time the site has only been used for car parking.

The identified potential on-site sources of contamination associated with past and present site uses include (but may not be limited to) historical use of imported fill from unknown sources, use of pest control chemicals and asbestos debris from the demolition of former buildings.

It is noted that two underground storage tanks are located in the vicinity of the site (the nearest approximately 8 metres to the south and another 45 metres east). Information relating to the tank south of the site is limited but recent testing of the tank to the east indicates it is in good condition.

In terms of future ongoing use of the site for similar purposes, there is generally considered to be a low risk of contamination being present on this site that would pose unacceptable health or environmental risks. It is noted that the nature and extent of any soil or groundwater impacts (if present) could only be assessed via intrusive investigations.

Statement of Limitations

This report has been prepared in accordance with the agreement between Viterra Ltd and AEC Environmental (Greencap subsidiary).

Within the limitations of the agreed upon scope of services, this work has been undertaken and performed in a professional manner, in accordance with generally accepted practices, using a degree of skill and care ordinarily exercised by members of its profession and consulting practice. No other warranty, expressed or implied, is made.

This report is solely for the use of Viterra Ltd and any reliance on this report by third parties shall be at such party's sole risk and may not contain sufficient information for purposes of other parties or for other uses. This report shall only be presented in full and may not be used to support any other objective than those set out in the report, except where written approval with comments are provided by AEC Environmental (Greencap subsidiary).

Preliminary Site Investigation

Viterra Ltd

9-9A Stafford Street, Adelaide, South Australia

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February 2015

Preliminary Site Investigation

Viterra Ltd

9-9A Stafford Street, Adelaide, South Australia

Document Control

Report Title:- Preliminary Site Investigation – 9-9A Stafford Street, Adelaide AEC Job Ref:- J130565C	**Filename:-** J130565C – 9-9A Stafford Street, Adelaide (Preliminary Site Investigation)
Written:  **Alicia Lintern** **Environmental Scientist**	**Approved:**  **Andrew Durand** **Contaminated Land Manager (SA)**

Rev No	Status	Date	Author	Reviewer
1	Final	February 2015	AL	AD

Rev No	Copies	Recipient
1	1 x Digital	Viterra Ltd

1.0 INTRODUCTION

Greencap was commissioned by Viterra Ltd to prepare a Preliminary Site Investigation for the site located at 9-9A Stafford Street, Adelaide, South Australia. The purpose of this investigation was to identify potential contamination issues associated with past and present land uses in order to provide information to prospective purchasers. The location of the site is presented in Figure 1.

Source: www.maps.google.com.au (viewed 12 January 2015)

Figure 1: Site Location

The scope of the work has comprised:

- Research of the site history.
- A site inspection.
- Review of local geology and hydrogeology.
- Identification of potential contaminants associated with current and past uses of the site.

This Preliminary Site Investigation has been prepared with reference to industry standards and guidelines including the National Environment Protection (Assessment of Site Contamination) Measure 1999 and the Australian Standard "Guide to the investigation and sampling of potentially contaminated soil": AS4482.1-2005.

2.0 SITE DETAILS

2.1 Site Identification and Zoning

The site is described by Certificate of Title Volume 5606 Folio 347 – Allotment 1 in Deposited Plan 50371. The current registered proprietor is Viterra Operations Ltd. The site is within the area named Adelaide, Hundred of Adelaide.

The site is located within a City Living Zone within the City of Adelaide. A copy of the current Certificate of Title and Council zoning information is provided in Appendix A.

2.2 Physical Setting

The site is situated in central Adelaide. The site and surrounding areas are essentially level. The nearest watercourse is an intermittent creek running through the south parklands, located approximately 900 metres south east of the Adelaide CBD. The River Torrens is also located approximately 1.7 kilometres north of the site. The Gulf of St Vincent is located approximately 9 kilometres west of the site.

2.3 Site Description and Current Land Use

The site has an approximate area of 180 square metres. The site consists of a bitumen paved car park covering the entire site. Figure 2 shows the current site layout and photographs of the site (taken on 14 January 2015) follow.

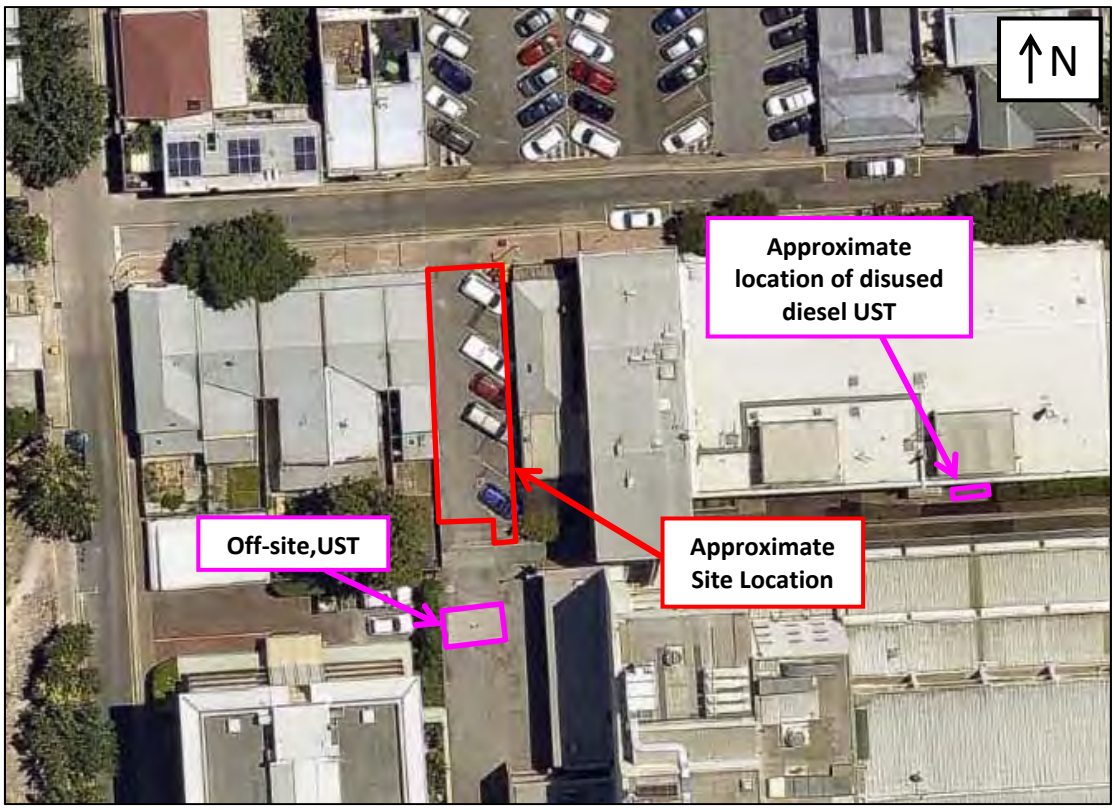


Figure 2: Current Site Layout

Photograph 1 – View of site from Stafford Street

Photograph 2 – View from O'Halloran Place

2.4 Surrounding Land Use

The site is bound by O'Halloran Place to the south and Stafford Street to the north and is surrounded by the following:

- North – accounting office, residential properties and a car park.
- East – commercial/industrial building containing a gym.
- West – residential properties.
- South – car park, Viterra offices and other commercial/industrial buildings.

2.5 Site Inspection for Contamination Indicators

A Greencap environmental scientist inspected the site on 14 January 2015. The objectives of the inspection were to locate and identify:-

- Structures and storage areas including underground tanks, waste pits and lagoons, hazardous materials storage, electrical transformers and hydraulic equipment, asbestos products, septic tanks and drain fields.
- Obvious visual contamination indicators such as disturbed vegetation, discoloured, oily or disturbed soil and / or the presence of any odours.

The following features were noted during the inspection: -

Imported Fill

It was noted that the site was covered by bitumen. It is likely that imported fill was used as a base course under the bitumen. It is also noted that the Adelaide CBD is known to have been historically filled with material from unknown sources for site levelling purposes.

Off-site – Underground Storage Tanks

Greencap also noted during the inspection that a disused, underground storage tank (UST) was present approximately 8 metres south of the site. No access was possible into the inspection point of this UST and as such its size and contents (if any) were unable to be determined.

Additionally, a disused diesel UST (still containing product) was located approximately 45 metres east of the site. An assessment including pressure testing and groundwater testing was conducted by O'Donnell Griffin in December 2014. A letter report detailing the December 2014 assessment was provided to Greencap by Viterra and stated that no leaks to the ground were evident from the tank. A testing report was also provided to Greencap of the water from the monitoring well adjacent this tank which states 'Water & Sediment analysis done by centrifuge, sample contains 0.6% sediment. No fuel present.' It is noted that no chemical testing (of water from the well or soils surrounding the tank) was conducted.

The approximate locations of both USTs are indicated in Figure 2.

2.6 Geology and Hydrogeology

The Department of Mines and Energy Bulletin 51 'Engineering Geology of the Adelaide City Area' indicates the local near surface geology comprises a sequence of Quaternary and Tertiary sediments. There is reportedly a calcareous mantle up to 2 metres thick overlying five to ten metres of high plasticity clay (Hindmarsh Clay). The Quaternary sediments overly a Tertiary Age calcareous sandstone (Hallett Cove Sandstone). Groundwater may occur as discontinuous perched water in the lower portion of Hindmarsh Clay, in discontinuous sand layers and lenses within the Hindmarsh Clay. Both the SA Department of Mines and Energy Information Bulletin 51 'Engineering Geology of the Adelaide City Area', and Information Sheet 21 "Groundwater in the Adelaide Metropolitan Area" indicates the depth to groundwater is approximately fifteen to twenty metres, and the total dissolved solids level is between 1,500 and 2,500 mg/L. The general direction of groundwater flow in the area of the site is expected to be to the north/north west.

Groundwater information from 12 wells located within a 200 metre radius of the approximate centre point of the site was obtained from the Department of Environment, Water and Natural Resources (DEWNR). The standing water level in shallow groundwater wells (<25 m bgl) in the local area ranged from 9.6 to 15.5 m bgl. The groundwater data (from wells with relevant data) is presented in Appendix B and a summary of the information is presented in Table 1.

Table 1: Local Groundwater Well Information (DEWNR Records)

Location	DEWNR Well ID	Total Depth (m)	Water Level (m) & date	TDS (mg/L)	Yield (L/sec)	Status / Purpose
~40 m N	6628-24329	17.5	11.0 (2008)	-	-	- / Investigation
~175 m NE	6628-21370	12.0	10.6 (2003)	-	0.010	- / Monitoring
~160 m E	6628-350	10.67	9.75 (1914)	-	-	Abandoned / -
~170 m N	6628-21371	12.0	10.6 (2003)	-	0.010	- / Monitoring
~170 m N	6628-19655	10.8	9.6 (1999)	-	0.020	- / Monitoring
~175 m N	6628-19654	10.8	9.6 (1999)	-	0.020	- / Monitoring
~180 m N	6628-21374	12.0	10.6 (2003)	-	0.010	- / Monitoring
~180 m N	6628-21372	12.0	10.6 (2003)	-	0.010	- / Monitoring
~195 m NE	6628-19653	10.8	9.6 (1999)	-	0.020	- / Monitoring
~190 m W	6628-21102	18.0	10.0 (2002)	-	-	- / Drainage
~180 m W	6628-22995	15.6	15.5 (2007	-	-	- / Investigation
~200 m NE	6628-21373	12.0	10.8 (2003)	-	0.010	- / Monitoring

2.7 Acid Sulfate Soils

The map produced by the Australian Soil Resource Information System indicates that the potential for acid sulfate soils to exist at the site is C4 Extremely Low Probability / Very Low Confidence. A copy of the map is presented in Appendix C.

3.0 SITE HISTORY

3.1 History of Ownership

A historical ownership search was conducted on the current Certificate of Title. A copy of the current Certificate of Title is presented in Appendix A.

Up until the mid-1970s, it appears the site was owned by various individuals and most likely used for residential purposes. From the mid-1970s the site was owned by a number of businesses. The site was purchased by South Australian Co-operative Bulk Handling Limited in 1992 and has changed name since this time to Ausbulk (2001) and, currently, Viterra (2010).

Table 2: History of Ownership

Date	Owner (occupation)
6/11/1884–27/2/1885.	Emily Viney (widow) and Edmund Watts Stuchbury (dairyman)
27/2/1885–5/1/1916.	Thomas Brook (farmer)
5/1/1916–15/11/1916.	Thomas Haynes Viney (farmer) and Benjamin Brook (farmer)
15/11/1916–12/8/1927.	Elizabeth Chapman (widow)
12/8/1927–9/8/1946.	Executor Trustee and Agency Company of South Australia Limited
9/8/1946–10/4/1952.	John Cecil Albert Cheney (hardware merchant)
10/4/1952–16/7/1952.	James Bruce Boyd Draffen
16/7/1952–5/3/1953.	James Bruce Boyd Draffen (motor Mechanic) (CT 2215/45) Madeline Dorythea Draffen (married woman) (CT 2215/26)
5/3/1953–25/11/1969.	Petro Ristier (porter) and Ewhenija Ristier (wife)
25/11/1969–24/6/1970.	Vasily Alexovich Smykoff (retired cleaner)
24/6/1970–7/11/1973.	Vasily Alexovich Smykoff and Alexander Smykoff (student) - Name change to Alexander Ristics (30/3/1973)
7/11/1973–19/7/1976.	Alexander Ristics (tutor)
19/7/1976–27/7/1977.	Glenrussell Estates Pty. Ltd.
27/7/1977–29/8/1978	B.L. and M.D. Pridham Pty. Ltd.
29/8/1978–13/3/1992.	United Farmers and Graziers of S.A. Incorporated - Change of name to United Farmers and Stockowners of S.A. Incorporated (15/11/1984)
13/3/1992-Current	South Australian Co-operative Bulk Handling Ltd. - Change of name to Ausbulk Ltd. (2/1/2001) - Change of name to Viterra Operations Ltd. (25/6/2010)

3.2 History of Occupancy

A search of the Sands and McDougall's South Australian Street, Trade, Professional and Municipal Directory was conducted from 1879 (in approximately 10 year intervals) up to the last edition published in 1973. It appears that between the late 1890s and early 1970s the site was occupied by various individuals and was likely used for residential purposes. A detailed table of site occupancy is presented in Appendix D.

3.3 Aerial Photographs

Aerial photographs of the site dating from 1949 in approximate 10 year intervals have been reviewed by Greencap. Copies of aerial photographs reviewed are presented in Appendix E.

The 1949 aerial photograph is of poor resolution and therefore physical features are difficult to determine. However, it appears that a number of structures cover the site. The surrounding area is developed with numerous buildings.

The 1959 aerial photograph is of poor resolution and therefore physical features are difficult to determine. However, it appears that the northern portion of the site is covered by a building. Any structure that might have been present across the southern portion of the site appears to have been demolished.

The 1969 aerial photograph is of very poor resolution and therefore physical features and the site boundaries are difficult to determine. However, it no significant changes are evident to the site or surrounding properties.

The 1979 aerial photograph is on an angle the exact location of the site is very difficult to determine based on the quality of the image.

The 1989 aerial photograph shows that the site is now used for car parking with some vegetation present of the northern boundary. There are some changes evident to surrounding properties with the construction of a number of new buildings.

The 1999 aerial photograph shows that the site is still being used for car parking however; the vegetation evident in 1989 along the northern boundary is no longer obvious.

The 2005 and 2010 aerial photographs show no significant changes to the site which appears as a vacant bitumen paved block.

3.4 Government Records

3.4.1 EPA Section 7 Search

The South Australia Environment Protection Authority (EPA) has a statutory obligation under the *Land and Business (Sale and Conveyancing) Act, 1994* to provide information relating to environment protection. As such, a search was conducted of the EPA database for information relating to the subject land in accordance with Section 7 of the *Land and Business (Sale and Conveyancing) Act, 1994*. The EPA advised in written form of records of issues associated with:-

- particulars of mortgages, charges, prescribed encumbrances affecting the land; or
- particulars relating to environmental protection including:
  - Environmental assessments.
  - Waste depots.
  - Production of certain waste.
  - Waste on land.

The searches found the EPA holds no records of the above activities being undertaken at the site. A copy of the EPA's written response is presented in Appendix F.

3.4.2 EPA Site Contamination (Groundwater Notifications) Index

A search was conducted of the EPA's on-line Site Contamination (Groundwater Notifications) Index for information relating to notifications and reports received by the EPA since 1 July 2009 under the *Environment Protection Act 1993*. The Index provides information relating to S83A and audit notifications and reports that relate to specific suburbs or towns. The suburb of Adelaide was searched. The results of Section 83A notifications only located within a 500 metre radius of the site are provided in Table 3. A copy of the full search results are provided in Appendix F.

Table 3: Results from the EPA's Site Contamination (Groundwater Notifications) Index

Notification No.	Type	Address	Potentially Contaminating Activity	Approximate distance and direction from site
60184, 60194, 60256 & 60704	Audit Notification	Sturt Street Carpark Sturt Street	Not recorded	~260 m NE
60704 - 001	Audit Report		Fill or soil importation; Motor vehicle repair or maintenance; Works depot	
60184 & 60256	Audit Termination		Not recorded	
61111	Audit Notification	172-176 Gilbert Street	Service stations	~350 m NW
60121 - 01	S83A Notification		Service stations	
60768 & 61267	Audit Notification	43-69 Sturt Street	Electrical or electronics component manufacture; spray painting	~250 m N
60768	Audit Termination		Not recorded	
60784 - 01	S83A Notification		Electrical or electronics component manufacture; spray painting	
60923 - 01	S83A Notification	35-37 Wright Street	Not recorded	**~370 m NE**

3.4.3 Dangerous Substances Licence Search

SafeWork SA (under the Department for Premier and Cabinet) was contacted regarding its knowledge of dangerous good storage at the site. SafeWork SA advised that they did not hold any records for current or cancelled dangerous goods licenses at the site or on the majority of the properties surrounding the sites. Copies of Safework SA's responses are presented in Appendix F.

3.4.4 Adelaide City Archives

A search was conducted of the Adelaide City Archives for information relating to the previous buildings on site. No plans existed for the site.

3.5 Interviews

Greencap spoke to Mr Barry Pridham (of B.L. & M.D. Pridham Pty, Ltd.) a former owner of the site in the 1970's. Mr Pridham informed Greencap that when they first bought the site there was a cottage with a collapsed roof. They removed the remnants of the cottage and used the site for rubble storage. Mr Pridham could not recall the presence of any asbestos products in the remnants of the cottage. No other activities were conducted at the site during B.L & M.D. Pridham Pty. Ltd.'s ownership and occupancy.

Greencap also spoke to Mr Mark Peterson regarding more recent site use. To Mr Peterson's knowledge the site has only been used for car parking purposes since Viterra has owned the site.

3.6 Information Sources

- Department of Agriculture, Fisheries and Forestry and CSIRO – Provision of acid sulphate soil information.
- Department for Environment, Water & Natural Resources, South Australia – Provision of aerial photographs and groundwater information.
- Department for the Premier and Cabinet, SafeWork SA, South Australia – Provision of dangerous substance licence information.
- Department for Transport, Energy and Infrastructure, Lands Titles Office, South Australia - Provision of Certificate of Title information.
- Mr Barry Pridham and Mr Mark Peterson– Information on past site use.
- City of Adelaide – Information on zoning.
- South Australian Environment Protection Authority – Information on any known environmental issues on the site.

4.0 SUMMARY OF POTENTIALLY CONTAMINATING ACTIVITIES

The historical site review and site inspection have revealed several potentially contaminating activities (PCA) on the site. The details of each of the PCAs, contaminant persistence / mobility and discussion in terms of ongoing commercial/industrial use are presented in Table 4.

Table 4 – Summary of Potential Contaminating Activities

PCA and likely location	Contaminants of Potential Concern	Persistence / mobility in soils and toxicity	Comments with regards to ongoing commercial / industrial use of the site
Historical use of imported fill brought onto the site for as a base course under buildings.	Heavy metals, PAH and TPH	Heavy metals - Mobility = low, persistence = high PAH - Mobility = low, persistence = high TPH - Mobility = moderate, persistence = moderate	The extent and depth of fill material under the site is unknown. In addition, the source of any fill material is unknown. The Adelaide CBD is known to have been levelled with fill material from numerous unknown sources.
Use of pest control chemicals under former site buildings.	Heavy metals and OCPs	Heavy metals - Mobility = low, persistence = high OCP - Mobility = low to moderate, persistence = high	The use of OCPs as termite control chemicals was not completely discontinued until 1995 (Australian Pesticide and Veterinary Medicines Authority). Any impacts would likely be limited to near surface soils under or adjacent former buildings.
Demolition of former buildings	Asbestos	Asbestos – Mobility = low to high (depending on whether friable or non-friable), persistence = high	According to the historical information, a former building was located on the site. Due to the age of the former building it is possible that it contained asbestos building products and debris may be present in soils as a result of the demolition of these buildings.

Notes:
OCP = organochlorine pesticides TPH = total petroleum hydrocarbons PAH = polycyclic aromatic hydrocarbons
PCB = polychlorinated biphenyls

Greencap also noted during the inspection that a disused underground storage tank was present approximately 8 metres south west of the site. This tank appears to be disused and no access was possible to the inspection point. Additionally, a disused diesel UST is located approximately 45 metres east of the site. The diesel tank (4,500L capacity) was used for storing diesel fuel for use in a nearby generator. Approximately 4,200L of product still remains within the tank. An assessment conducted by O'Donnell Griffin in December 2014 reported no evidence of leaks.

5.0 CONCLUSIONS

The historical information suggests that prior to the 1970s the site was likely used for residential purposes. Since the mid-1970s the site was owned by Glenrussell Estates Pty. Ltd. (site uses unknown), B.L and M.D. Pridham Pty. Ltd (metal fabricators, but only used the site for the storage of rubble following demolition of a former cottage) (1977-1978), United Farmers and Graziers of S.A Incorporated (name change to United Farmers and Stockowners of S.A, Incorporated – 1984) (1978-1992) and South Australian Cooperative Bulk Handling Limited which later became Viterra until present day. Since the late 1970s, the site has been used primarily for car parking purposes.

The identified potential on-site sources of contamination associated with past and present site uses include:

- Use of pest control chemicals under former buildings.
- Use of imported fill brought for site levelling or as a base course under buildings and hard stand areas.
- Asbestos products, from the demolition of former site buildings.

It is also noted that two underground storage tanks are located in the vicinity of the site (the nearest approximately 8 metres to the south and another 45 metres east). Information relating to the tank south of the site is limited, but recent testing of the tank to the east indicates it is in good condition.

Potential contaminants of interest associated with the identified potential sources of contamination may include (but not be limited to) heavy metals, polycyclic aromatic hydrocarbons, fuel/oil related compounds, pesticides and asbestos.

In terms of future ongoing use of the site for similar purposes, there is generally considered to be a low risk of contamination being present on this site that would pose unacceptable health or environmental risks. It is noted that the nature and extent of any soil or groundwater impacts could only be assessed via intrusive investigations.

February 2015

Preliminary Site Investigation

Viterra Ltd

9-9A Stafford Street, Adelaide, South Australia

Appendix A: Certificates of Title & Council Zoning Information

Title Register Search

LANDS TITLES OFFICE, ADELAIDE

For a Certificate of Title issued pursuant to the Real Property Act 1886

REGISTER SEARCH OF CERTIFICATE OF TITLE * VOLUME 5606 FOLIO 347 *

COST : $26.50 (GST exempt)	PARENT TITLE : CT 2215/45 & OTHERS
REGION : EMAIL	AUTHORITY : RTA 8514843
AGENT : AECE BOX NO : 000	DATE OF ISSUE : 14/12/1998
SEARCHED ON : 19/12/2014 AT : 10:05:03	EDITION : 3
CLIENT REF 0023948AL	

REGISTERED PROPRIETOR IN FEE SIMPLE

VITERRA OPERATIONS LTD. OF GPO BOX 1169 ADELAIDE SA 5001

DESCRIPTION OF LAND

ALLOTMENT 1 DEPOSITED PLAN 50371
IN THE AREA NAMED ADELAIDE
HUNDRED OF ADELAIDE

EASEMENTS

NIL

SCHEDULE OF ENDORSEMENTS

NIL

NOTATIONS

DOCUMENTS AFFECTING THIS TITLE

NIL

REGISTRAR-GENERAL'S NOTES

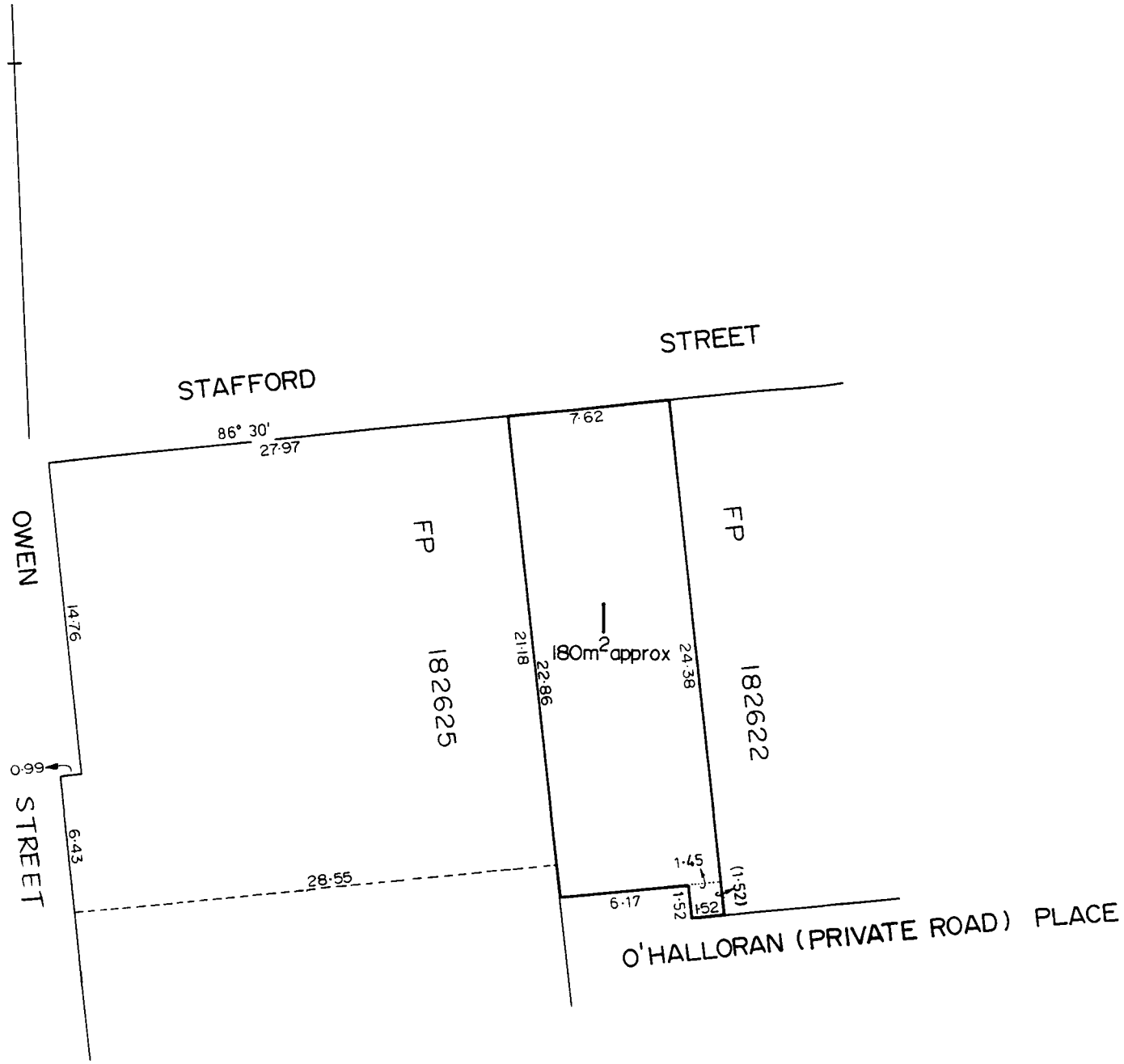
NIL

END OF TEXT.

LANDS TITLES OFFICE ADELAIDE SOUTH AUSTRALIA

DIAGRAM FOR CERTIFICATE OF TITLE VOLUME 5606 FOLIO 347

SEARCH DATE : 19/12/2014 TIME: 10:05:03



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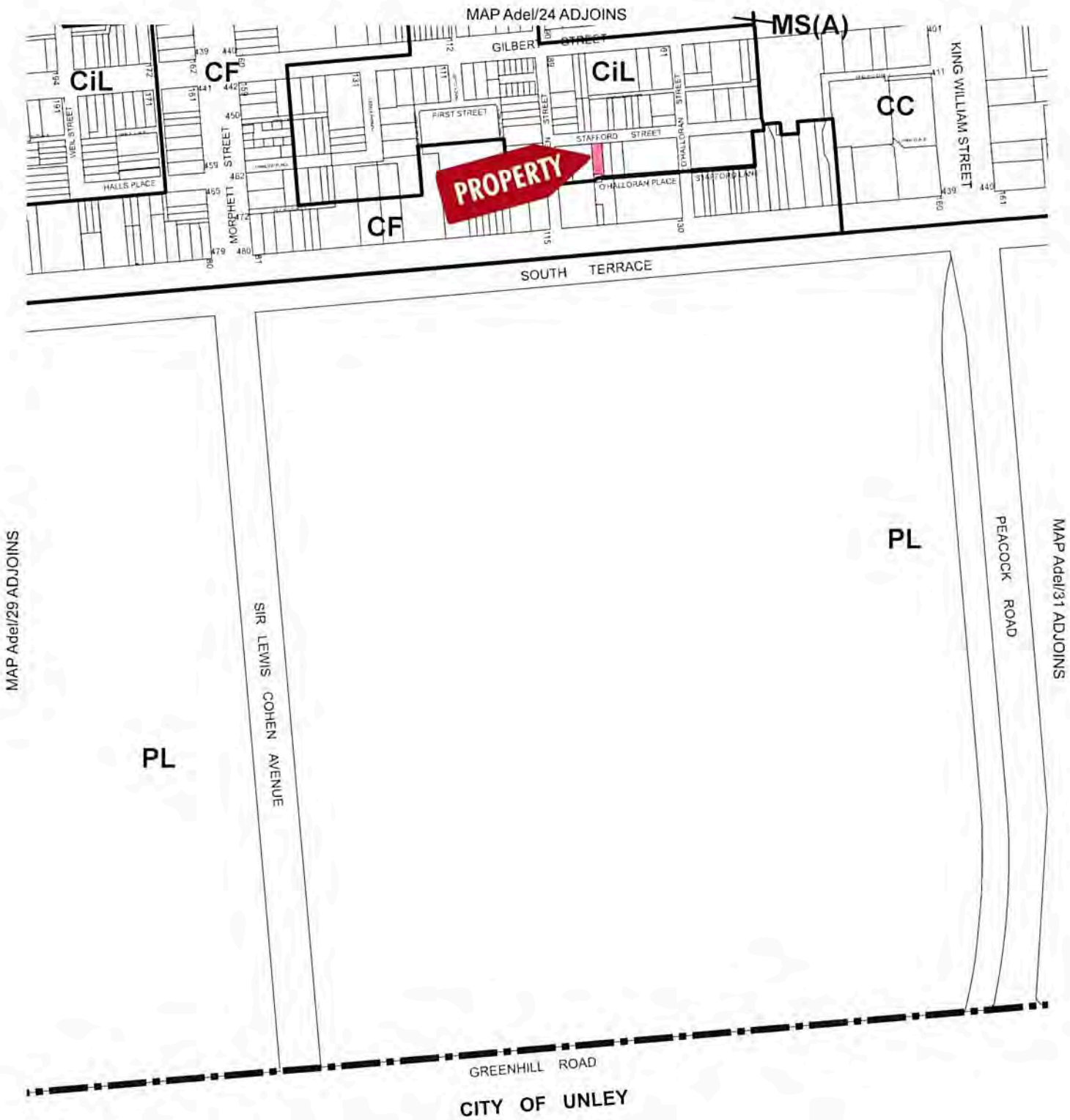

NOTE : For Policy Areas See MAP Adel/61

CC	Capital City Zone
CF	City Frame Zone
CiL	City Living Zone
MS(A)	Main Street (Adelaide) Zone
PL	Park Lands Zone

Scale 1:4150

0metres 100 200 300

ADELAIDE (CITY) ZONES MAP Adel/30

Zone Boundary
Development Plan Boundary

Consolidated - 30 October 2014

CITY LIVING ZONE

Introduction

The objective and principles of development control that follow apply in the City Living Zone shown in Maps Adel/20, 23 to 26 and 29 to 33. They are additional to those expressed for the whole of the Council area and in cases of apparent conflict, take precedence over the more general provisions. In the assessment of development, the greatest weight is to be applied to satisfying the desired character for the Zone.

Desired Character

The Zone is spread across the southern half of Adelaide, flanked to the north by the City's central business area. Mixed use apartment and commercial corridors frame much of the southern and western margins of the Zone which is also bisected by the Hutt Street main street strip, and corridors of core business areas centred on the Squares and the City's main north-south axis roads, Morphett, King William and Pulteney Streets.

The Zone comprises Adelaide's main residential living districts which have developed with a range of stand-alone and paired cottages, terrace or row housing, and low to medium scale contemporary apartment buildings, and with remnant workshops, service trades, offices and mixed uses, particularly west of Hutt Street.

The City Living Zone will provide high amenity residential living environments along with related non-residential uses compatible with residential amenity, as articulated in the Policy Areas. Carefully executed high quality residential infill is envisaged and opportunities are presented for comprehensive redevelopment on larger, particularly non-residential sites, and also on catalyst sites fronting South Terrace and East Terrace. The desired increase in the City's resident population relies, in part, on realising infill housing opportunities with high regard to their context and achieving overall, higher dwelling densities in this Zone.

OBJECTIVES

Objective 1: A Zone comprising a range of dwelling types and tenures, including affordable housing.

Objective 2: Increased dwelling densities in appropriate locations.

Objective 3: Non-residential activities that support city living and amenity with minimal impact on the environmental quality or amenity of living conditions.

Objective 4: Development having regard to the potential impacts of building height and activities from land in the adjoining zones.

PRINCIPLES OF DEVELOPMENT CONTROL

Form of Development

1 Development should make a positive contribution to the desired character as expressed by its respective Policy Area.

2 The following types of development, or combinations thereof, are envisaged:

Affordable housing
Community Centre
Domestic outbuilding in association with a dwelling
Domestic structure
Dwelling
Dwelling addition
Residential Flat Building

3 Non-residential land uses should be limited to land lawfully used for non-residential purposes and should comprise land uses more in conformity with the intended residential amenity, except where envisaged in the relevant Policy Area. Non-residential land uses should be of a scale and role to not prejudice the envisaged development of non-residential zones.

4 Development listed as non-complying is generally inappropriate.

5 The number of dwellings should be increased by:

(a) the redevelopment of poor quality and underutilised buildings or sites which are in discord with the desired character of the Policy Area, provided maintenance of residential amenity and the values of heritage places;

(b) the adaptation and conversion of non-residential buildings to residential uses; or

(c) development in upper levels of existing buildings, or by increasing the height of buildings or roof volumes, or on sites behind existing buildings.

6 Buildings or additions, including those of innovative and contemporary design, should reinforce the Policy Area and demonstrate a compatible visual relationship with adjacent heritage places or the Adelaide Historic (Conservation) Zone in terms of its:

(a) bulk, height and scale (i.e. the length and size of unbroken walling and the roof volume and form);

(b) width of frontage and the front and side boundary building set-back patterns;

(c) overall building proportions and massing (by maintaining the desired horizontal [and/or vertical] emphasis, exhibiting vertical openings and a high solid to void ratio);

(d) modelling and articulation of facades; and

(e) incorporation of key architectural elements and detailing where a particular construction era and building style prevails as expressed in the desired character (without excessive use or mimicry of decorative elements and ornamentation) i.e. with the inclusion of elements such as porches, verandahs, balconies and fences where appropriate.

7 Development should not exceed the height prescribed for each Policy Area. The height of new buildings, including the floor to ceiling clearances of each level, should take reference from the prevailing building heights within the locality, with particular reference to adjacent heritage places.

8 Where development proposes a building higher than the prevailing building heights that contribute to the desired character of a locality, the taller building elements should be setback from street frontages to avoid a detrimental impact on the prevailing character.

9 Where consistent building set-backs from front, side and rear allotment boundaries prevail in a locality, new development should be consistent with these setbacks.

10 The finished ground floor level of buildings should be at grade and/or level with the footpath to provide direct pedestrian access and street-level activation.

Car Parking

11 Access to parking and service areas should be located so as to minimise the interruption to built form on street frontages and to minimise conflict with pedestrians. Access, where possible, should be from minor streets, or side or rear lanes provided road width is suitable and the traffic generation does not unreasonably impact residential amenity.

Advertising

12 Internal illumination of advertisements should only occur in the major streets and limited to projecting advertising displays located beneath verandahs or awnings extending over the footpath. Otherwise only external illumination of advertisements will be appropriate. Illumination of advertisements should not detrimentally affect residential amenity.

13 Advertisements more than 3 metres above natural ground level or an abutting footpath or street should not occur.

14 Advertisements which project from a wall of a building should not occur in minor streets.

Complying Development

15 Complying developments are prescribed in Schedule 4 of the *Development Regulations 2008*.

In addition, the following kinds of development are designated as **complying:**

(a) Temporary depot for Council for a period of no more than 3 months provided appropriate provision is made for:

(i) dust control;

(ii) screening, including landscaping;

(iii) containment of litter and water; and

(iv) securing the site.

Non-complying Development

16 The following kinds of development are **non-complying**:

(a) A change of use to any of the following:

Adult entertainment premises
Adult products and services premises
Amusement machine centre
Auditorium
Car park except where ancillary to an approved or existing use
Cinema
Conference centre
Hospital
Industry
Hotel
Licensed Premises
Licensed entertainment premises
Service trade premises not within a building
Theatre
Warehouse

(b) A change of use to any of the following except:

(i) within the site of a lawfully existing non-residential use

(ii) within the site of a heritage place originally constructed for non-residential use

(iii) in East Terrace Policy Area 29 or South Terrace Policy Area 30 on sites greater than 1500 square metres in area, which may include one or more allotment

(iv) in East Terrace Policy Area 29 fronting Wakefield Street

(v) in South Terrace Policy Area 30

(vi) in South East Policy Area 31 on a key development area on Figure SE/1

(vii) in South Central Policy Area 32

(viii) in South West Policy Area 33 fronting Sturt Street

Consulting Room
Office
Restaurant
Shop

(c) Building work involving any of the following:

Demolition of a Local Heritage Place (City Significance) or of the frontage and side wall returns visible from the street of a Local Heritage Place (Townscape).
Demolition of a Local Heritage Place, or that portion of a Local Heritage Place comprising its Elements of Heritage Value.

(d) Total demolition of a State Heritage Place (as identified in Table Adel/1)

(e) Advertisements involving any of the following:

Animation
Third party advertising
Advertisements at roof level where the sky or another building forms the background when viewed from ground level.

Public Notification

17 For the purposes of public notification in accordance with the procedures and rights established by the Development Act, 1993, development is assigned to the specified categories as follows:

(a) **Category 1**, public notification not required:

(i) The following forms of development:

Carport, domestic outbuilding, garage, pergola, shade sail (or the like) or verandah, in association with a dwelling
Domestic structure
Dwelling addition (single storey)
Dwelling (single storey)
Fence

(ii) Advertisements (except those classified as non-complying)

(iii) a kind of development which, in the opinion of the relevant authority, is of a minor nature only and will not unreasonably impact on the owners or occupiers of land in the locality of the site of the development.

(b) **Category 2**, public notification required, third parties may, at the discretion of the relevant planning authority, appear before the relevant planning authority on the matter. Third parties do not have appeal rights:

(i) all development, other than development classified as non-complying or which falls within Part (a) of this provision.

Note: For Category 3 development, public notification is required. Third parties may make written representations, appear before the relevant planning authority on the matter, and may appeal against a development consent. This includes any development not classified as either Category 1 or Category 2.

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Preliminary Site Investigation

Viterra Ltd

9-9A Stafford Street, Adelaide, South Australia

Appendix B: Local Groundwater Information

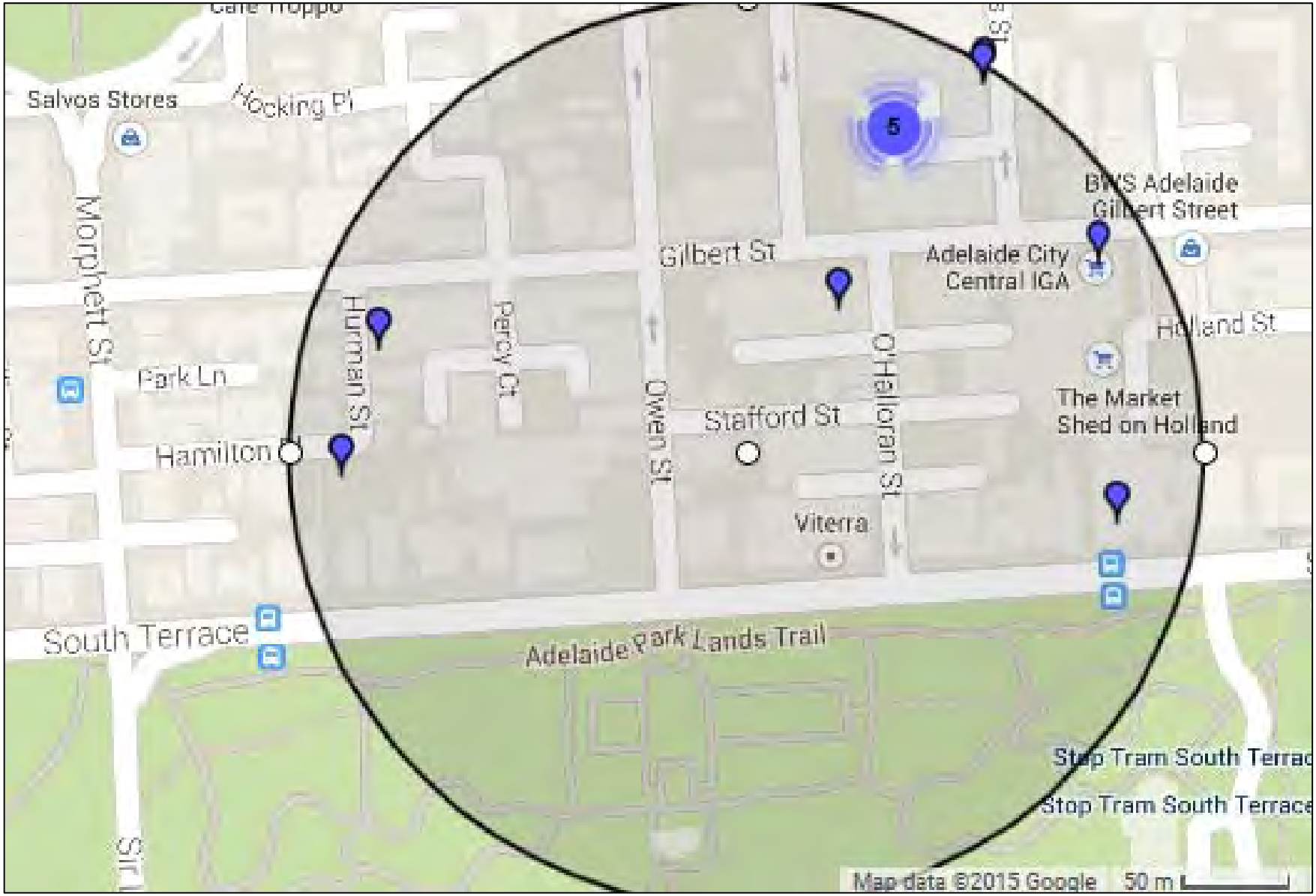

Figure – Groundwater Well Locations within 0.2 km of site

Groundwater Data Report

WaterConnect

Government of South Australia
Department of Environment, Water and Natural Resources

Unit Number(s) 6628-24329, Radius 0.2km

Unit No	Date	Max Depth (m)	Latest Depth (m)	SWL (m)	SWL Date	Status	Cased To (m)	Yield (L/sec)	Yield Date	Purpose	Permit No
6628-350	09/10/1914	10.67	10.67	9.75	09/10/1914	ABD					
6628-19653	17/04/1999	10.8	10.8	9.6	17/04/1999		10.8	0.02	17/04/1999	MON	48415
6628-19654	17/04/1999	10.8	10.8	9.6	17/04/1999		10.8	0.02	17/04/1999	MON	48540
6628-19655	17/04/1999	10.8	10.8	9.6	17/04/1999		10.8	0.02	17/04/1999	MON	48541
6628-21102	14/10/2002	18	18	10	14/10/2002		13			DRN	59676
6628-21370		12	12	10.6	14/03/2003		9	0.01	14/03/2003	MON	61445
6628-21371	14/03/2003	12	12	10.6	14/03/2003		9	0.01	14/03/2003	MON	61446
6628-21372	14/03/2003	12	12	10.6	14/03/2003		6	0.01	14/03/2003	MON	61447
6628-21373	14/03/2003	12	12	10.6	14/03/2003		9	0.01	14/03/2003	INV	61448
6628-21374	14/03/2003	12	12	10.6	14/03/2003		9	0.01	14/03/2003	MON	61449
6628-22995	09/01/2007	15.6	15.6	15.5	09/01/2007		12.6			INV	126243
6628-24329	27/11/2008	17.5	17.5	11	27/11/2008		15			INV	157810

12 records

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Preliminary Site Investigation

Viterra Ltd

9-9A Stafford Street, Adelaide, South Australia

Appendix C: Acid Sulphate Soils Map

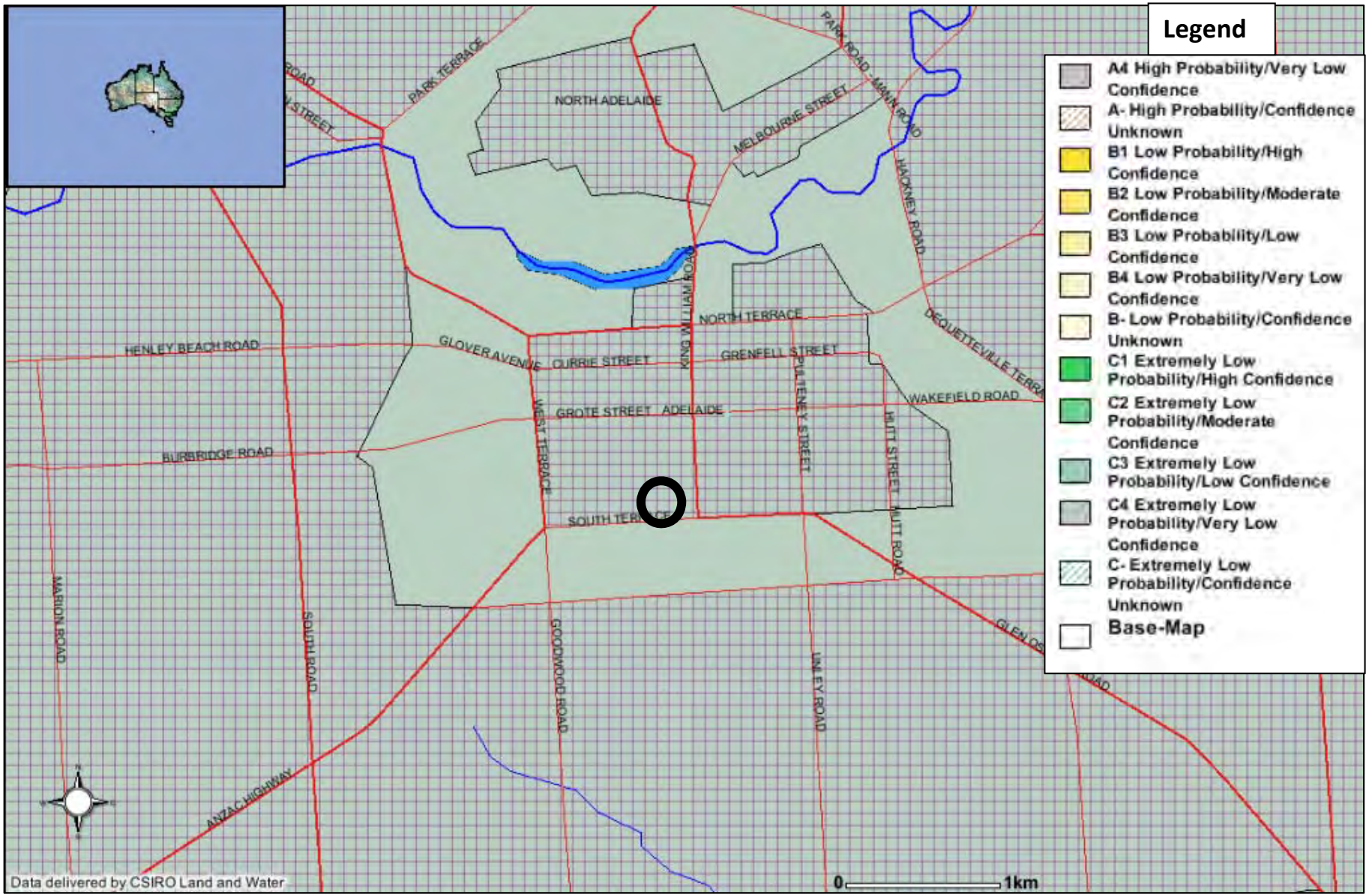


Figure – Acid Sulphate Soils Map (approximate site location circled in black)

February 2015

Preliminary Site Investigation

Viterra Ltd

9-9A Stafford Street, Adelaide, South Australia

Appendix D: Historical Occupancy – Sands and MacDougall Directories

Year	Street Number & Listed Occupants (possible site occupants in bold)			
	Stafford Street South Side West to east	Stafford Street North Side West to east	O'Halloran Street East Side North to South	O'Halloran Street West Side North to South
1973	*Owen Street* Conduit, Mrs M. McCue, J. J. 3. Linsket, Mrs J. M. 5. Wayman, R. 7. Skachill, T. 7a. James, Mrs E. M. **9. Smykoff, V. A.** 11. – SA Co-operative Bulk Handling Car Park Australian Barley Board Car Park *O'Halloran Street* 35. Lapham, Mrs A Taylor, J.N. & Co Ltd. inwards goods *Dead End*	*Owen Street* Newton McLaren Ltd. Private Car Park 14. – 18. – 20. Clay, A. W. 22. Dodds, L. R. 22a. Wheeler, Lorraine R. *O'Halloran Street* Yorke Parts Pty. Ltd. car park Yorke Parts Pty. Ltd. despatch *Dead End*	*Gilbert Street* 8-10. Yorke Parts Pty. Ltd. 14. Bennett, S. E. 16. – 18. – *Stafford Street* *Lane* *South Terrace*	*Gilbert Street* 11. Newton McClaren Ltd. *O'Halloran Lane* 17. Central Garage complete auto repairs 19. Smith Mrs H. G. 23. Foweraker, Helen Co-operative Bulk Handling Private Car Park *South Terrace*
1969	*Owen Street* Conduit, Mrs M. McCue, J. J. 3. Linsket, Mrs J. M. 7. McPherson, F. 7a. James, Mrs E. M. **9. Smykoff, W.** 11. Jaworski, S. SA Co-operative Bulk Handling Car Park Australian Barley Board Car Park 17. Elis, Mrs M. 17. Alsop, D. J. 19. Lonsdale, D. *O'Halloran Street*	*Owen Street* Newton McLaren Ltd. Private Car Park 14. Rowe, E. 18. Barrow, L. H. 20. Clay, W. 22. Kilgallon, W. F.. 22a. Johnston, C. J. 22a. Brooks, P. C. *O'Halloran Street* 40. Camplin, Mrs E. E. 42-44. Motors Limited *Dead End*	*Gilbert Street* 8-10. Motors Limited Private Parking 14. Bennett, S. E. 16. – 18.Absolon, A. R. (fence erector) *Lane* *Stafford Street* *Stafford Lane* *South Terrace*	*Gilbert Street* 11. Newton McClaren Ltd. *O'Halloran Lane* 11. Lord, A. (wicker worker) 19. Smith Mrs E. 23. Foweraker, Mrs E. 23. Foweraker, P. Co-operative Bulk Handling Private Car Park *South Terrace*

Year	Street Number & Listed Occupants (possible site occupants in bold)			
	Stafford Street South Side West to east	Stafford Street North Side West to east	O'Halloran Street East Side North to South	O'Halloran Street West Side North to South
	35. Lapham, Mrs A Taylor, J.N. & Co Ltd. car park Vacant block *Dead End*			
1959	*Owen Street* 1 Clarke, Mrs A.C.A. 3. Langton, Mrs A. B. 5. Wayman, R. J. (mechanic) 7. Rein, O. 7a. Paterson, L. H. **9. Ristics, P.** 11. Gnilka, S. 15. Pratt, A. J. 17. Ellis, Mrs J. 19. Kinross, H. (painter) *O'Halloran Street* 35. Lapham, Mrs A Waymouth Service Ltd. car park *Dead End*	*Owen Street* 10. Franklin, A. G. 10a. Robertson, W. T. 12. Kinross, F. H. (paintern) 14. Rowe, E. 18. Lambrakis, D. 20. Clay, A. W. 22. Driscoll, Mrs. L. 22a. Driscoll, Mrs L. *O'Halloran Street* 40. Garcia, S. E. (photographer) 40. Camplin, Mrs E. E. 42. McCleod, C. 44. Linsket, Mrs J. M. 46. Gillespie, O. S. 48. Foweraker, Mrs M. E. *Dead End*	*Gilbert Street* 8. Peisley, Mrs M. 10. Cryer, M. 14. Bennett, S. E. 16. Reardon, J. (labourer) 18.Absolon, A. R. (carpenter) *Lane* *Stafford Street* *South Terrace*	*Gilbert Street* 11. Economy House 11. Lord, A. (wicker worker) 19. Clarke, E. H. C. (labourer) *Stafford Street* 23. Foweraker, E. J. (printer) 25. Russell, G. P. (carpenter) 27. Hooper. Mrs F. 27. Hooper, F. J. P 29. O'Connor D. E. (storeman) *South Terrace*
1949	*Owen Street* 1 Clarke, Mrs A.C.A. 3. Gregory, J. F. (fitter) 5. Howard, J. F. 7. Rein, O.	*Owen Street* 10. Oliver, A. 10a. Clark, W. J. 12. Eming, L. F. (labourer) 14. Roberts, S. J.	*Gilbert Street* 8. Fields, Mrs. R. 10. Cryer, M. 14. Bennett, S. E. 16. Winter, Mrs E. M.	*Gilbert Street* 9. Latham, G. M. & Co. (die cast welding) 11. Economy House 11. Lord, A. (wicker worker)

Year	Street Number & Listed Occupants (possible site occupants in bold)			
	Stafford Street South Side West to east	Stafford Street North Side West to east	O'Halloran Street East Side North to South	O'Halloran Street West Side North to South
	7a. Purcell, Miss M. **9. Martin, Miss L.** **9a. Jackson, G.** 11. Gleeson, 15. Pratt, A. L. 17. Ellis, Mrs J. 19. Gray, C. G. *O'Halloran Street* 35. Russell, G. P. *Dead End*	18. Kinross, H. 20. Payne, Mrs R. J. 22. Driscoll, A. (labourer) 22a. Ingram, S. L. *O'Halloran Street* 40. Garcia, S. E. (photographer) 42. Carter, R. 44. Lines, J. 46. Gillespie, O. S. 48. Foweraker, Mrs M. *Dead End*	18.Kelly, J. L. (rail employee) 22. Wilson, K. *South Terrace*	11. Matties, A. (furniture warehouse) 19. Clarke, E. H. C. (labourer) *Stafford Street* 23. Foweraker, E. J. (printer) 25. Lewis, L. 27. Hooper. M (labourer) 27. Hooper, F. J. P 29. O'Connor D. E. (pastry cook) *South Terrace*
1939	*Owen Street* 1 Smith, G. 3. Gregory, J. F. (fitter) 5. Hayles, Mark (labourer) 7. Beale, Mrs M. 7a. Dunbar, J. E. **9. Martin, Miss L.** **9a. Thomas, J.** 11. Gleeson, 15. Daly, Mrs M. 17. Birkett, J. 19. Carlson, Miss F. A. *O'Halloran Street* 35. Miller, S. *Dead End*	*Owen Street* 10. Lewis, Mrs L. 10a. Gale, Mrs 12. Thomas, Mrs 14. Lester, J. A. 18. Kinross, H. 20. Ryan, - 22. Driscoll, A. (labourer) 22a. Driscoll, V.. *O'Halloran Street* 40. Bennett, Mrs A. 42. Carter, R. 44. Mitchell, K. W. 46. Gillespie, O. S. 48. Foweraker, Mrs M.	*Gilbert Street* 8. Vanstone, W. H. (fitter and turner) 10. Rein, O. 14. Bennett, Mrs E. M. 16. Winter, Mrs E. M. 18.Kelly, J. L. (rail employee) 22. Kester, Mrs B.	11. Lord, A. (wicker worker) 11. Economy House 19. Clarke, E. H. C. (labourer) 23. Foweraker, E. (printer) 25. Lewis, L. 27. Hooper. M (labourer) 29. Wallis, Mrs D.
1929	1. Black, Mrs N. 3. Hocking, Mrs L. 5. Hayles, Mark (labourer) 7. Nottle, Mrs M. M. 7a. Beale, Mrs M.	10a. Campbell, Mrs J 12. Mocard, H. (labourer) 14. Francis, W. 22. Driscoll, A. (labourer) 22a. Taylor, Mrs E.	10. Sheard, Mrs E. 14. Milburn, E. (plasterer) 16. Winter, Mrs E. M. 18. Kelly, J. L. (rail employee) 22. Kester, Mrs B.	9. Morrel, A. (labourer) 11. Lord, A. W. (wickerworker) 19. Simmons, J. F. (motor trimmer) 23. Foweraker, E. (printer) 25. Gillespie, O. S. (rail employee)

Year	Street Number & Listed Occupants (possible site occupants in bold)			
	Stafford Street South Side West to east	Stafford Street North Side West to east	O'Halloran Street East Side North to South	O'Halloran Street West Side North to South
	9. Griffin, G. **9a. Maddick, Mrs S. M.** 11. Viant, W. (storeman) 13. Monaghan, Mrs E. 15. Pearce, S. 17. Jenkins, Wm J. (motor mechanic) 19. Carlson, A. P. *O'Halloran Street* 35. Kinross, H. (painter) *O'Halloran Street*	*O'Halloran Street* 42. Bennett, W. T. (barman) 44. Old, R. (hawker) 46. Marsden, J. 48. Foweraker, Mrs M.		27. Clark, E. H. C. (labourer) 29. Bennett, Jno (butcher)
1919	Coleman, Alf J (bootmaker) 1. Tierney, Jno P. (porter) 1. Hayles, Mark (labourer) 3. Tierney, M (painter) 5. Beale, J. A. (labourer) 7. Ross, Mrs. **9. Richardson, J (labourer)** 10, Powell, Arth R. 15. Carlson, A. P. (gardener) *O'Halloran Street* 19. Wagner, Jno A. (baker) 21. Manley, E. (agent)	*Owen Street* 2. Whyte, Jno (labourer) 4. Lowry, Arthur (labourer) 6. Castle, Herbt (labourer) 8. Wallace, Mrs 12. Bailey, Mrs M. 14. Murphy, Mrs C. 16. Driscoll, Austin (labourer) 18. Rees, R. (printer) *O'Halloran Street* 22. McLoughlin, Mrs 24. Boulden, Mrs T. 26. Cordt, W. J. (compositor) 28. Olds, R. (pedler) 30. Kelly, Jas M. (labourer)	2. Barrowcliff, J. 4. Brace. Wm (labourer) 6. Marsdon, Jno (cab proprietor) 8. Winter, Frederick (painter) 10. Hammond, Mrs H. 17. Leo, Joseph	3. Warmingham, H. 5. O'Neil, Miss mary 7. Oliver, Wm (butcher) 9. Foweraker, Edward (printer) 11. Austin, Mrs 13. Cotton, Mrs 15. Bennett, Jno (butcher)
1909	1 Robinson, J. A. (agent) 1 McLeod, Donald (mason) 1 Kennedy, Edward (butcher) 3. Tierney, Michl (painter 5. Blay, Wm (labourer) 7. Mertin, L. W. (labourer)		2. Smith, Mrs Catherine 3. Warmingham, Hy (dealer) 4. Stewart, Wm (cellarman) 5. Ryan, Frank (greengrocer) 6. Marsden, Jno (cab proprietor) 7. Foweraker, Edward (printer)	

Year	Street Number & Listed Occupants (possible site occupants in bold)			
	Stafford Street South Side West to east	Stafford Street North Side West to east	O'Halloran Street East Side North to South	O'Halloran Street West Side North to South
	9. Reece, Mrs Alice 10. Jones, C. R. (cab driver) 11. Evans, Reuben (labourer) 12. Murphy, Mrs Catherine 13. Foran, Jas (carter) 14. Francis, E. (labourer) 16. Driscoll, Austin (labourer) 13. Green, Phillip (miner) 19. Myers, Jas (shoemaker) 23. Riley, Jos (carpenter) 24. Boulden, A. A. (carpenter) 25. Coward, Thos (painter) 26. Latimer, Jas (labourer) 27. Jenkinson, Wm (mechanic) 28. Baxter, J. C. (enginedriver) 29. Cordt, W. J. (printer) 30. Whelan, Wm (labourer)		8. Winter, Frederick (painter) 10. Poolford, A. (carpenter) 10. Farquar, Harry (labourer) 10. Bennett, Jno (butcher) 10. Evans, A. H. (bootmaker) 10. Austin, J. G. (clerk) 10. Kane, Mrs Mary	
1899	1 Morris, T. N. (carpenter) 2. Bradley, Mrs J. 3. Bigwood, Mrs 4. Reynolds, J. 5. Coonan, T. W. (ironworker) 7. Williams, Mrs 9. Laurie, Mrs 9. Bennet, Jno (butcher) 9. Boran, Mrs 9. McDonald, Norman 12. Murphy, E 13. Foran, Jas (carter) 13. Considine, Michl (constable) 14. Rowe, Saml		Johnson, Jno Hart, Alex Kirkbride, Arth. (plasterer) Davidson, Jas (constable) Sowter, C. S. (painter) Kingsley, Mrs Hennesy, Mrs J. A. Evans, Albert Euson, Mrs M. (dressmaker) Jackson, Thos (storeman) Warmingham, Hy (dealer)	

Year	Street Number & Listed Occupants (possible site occupants in bold)			
	Stafford Street South Side West to east	Stafford Street North Side West to east	O'Halloran Street East Side North to South	O'Halloran Street West Side North to South
	16. Quigley, Mrs 18. Jolly, Jno 19. Allen, Wm (carpenter) 22. Rollison, Wm 23. Riley, Jos (carpenter) 24. Boulden, A. A. (carpenter) 25. Austin, J. G. (clerk) 27. Caulfield, Patk 28. Baxter, J. C. (enginedriver) 29. Buckley, Mrs 30. Coward, J. H. (jeweller)			
1889	*No Listings*		Chard, William (gardener) Vernon, Miss Elizabeth Munro, John (paper ruler) Stead, Joseph (builder) Gardner, Jas Wm (grocers assistant) Priest, John R. (general dealer) Lockwood, Edmund (general dealer) Evans, John (blacksmith) James, J. C. (blacksmith) Ambler, Mrs Mary	

February 2015

Preliminary Site Investigation

Viterra Ltd

9-9A Stafford Street, Adelaide, South Australia

Appendix E: Aerial Photographs

Project:	Preliminary Site Investigation (Site History)					
Location:	9-9A Stafford Street, Adelaide					
Job Ref: J129032	Drawn: AL	Checked: AD	Date: 14/1/15	Scale: Not to scale	Source: Mapland	

FIGURE - 1949 Aerial

GREENCAP

ADELAIDE
12 Greenhill Road
Wayville SA 5061
Telephone (08) 8299 9955

Project:	Preliminary Site Investigation (Site History)					
Location:	9-9A Stafford Street, Adelaide					
Job Ref: J129032	Drawn: AL	Checked: AD	Date: 14/1/15	Scale: Not to scale	Source: Mapland	

FIGURE - 1959 Aerial

GREENCAP

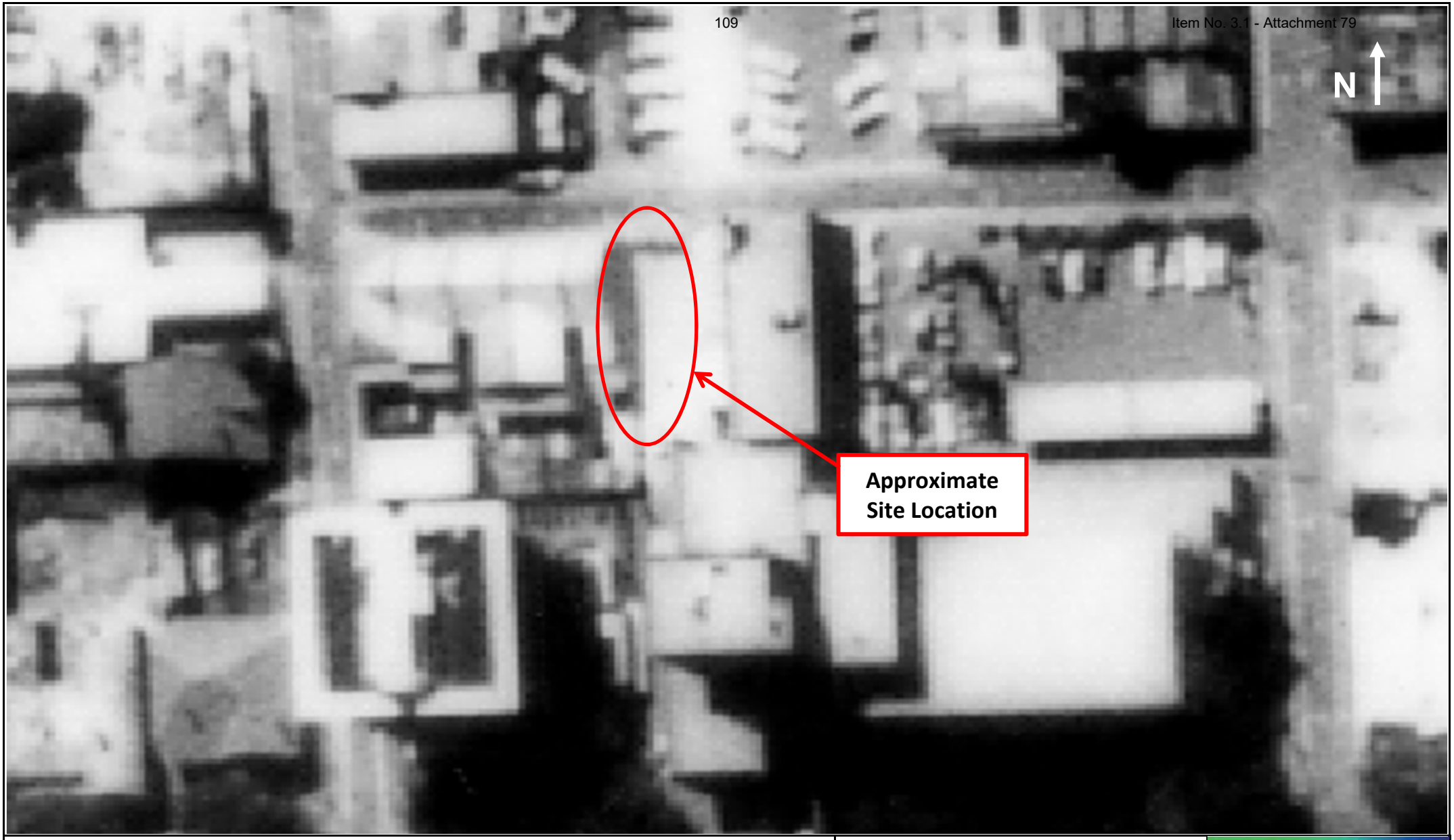
ADELAIDE
12 Greenhill Road
Wayville SA 5061
Telephone (08) 8299 9955

Project:	Preliminary Site Investigation (Site History)					
Location:	9-9A Stafford Street, Adelaide					
Job Ref: J129032	Drawn: AL	Checked: AD	Date: 14/1/15	Scale: Not to scale	Source: Mapland	

FIGURE - 1969 Aerial

GREENCAP

ADELAIDE
12 Greenhill Road
Wayville SA 5061
Telephone (08) 8299 9955



Project:	Preliminary Site Investigation (Site History)					
Location:	9-9A Stafford Street, Adelaide					
Job Ref: J129032	Drawn: AL	Checked: AD	Date: 14/1/15	Scale: Not to scale	Source: Mapland	

FIGURE - 1979 Aerial

GREENCAP

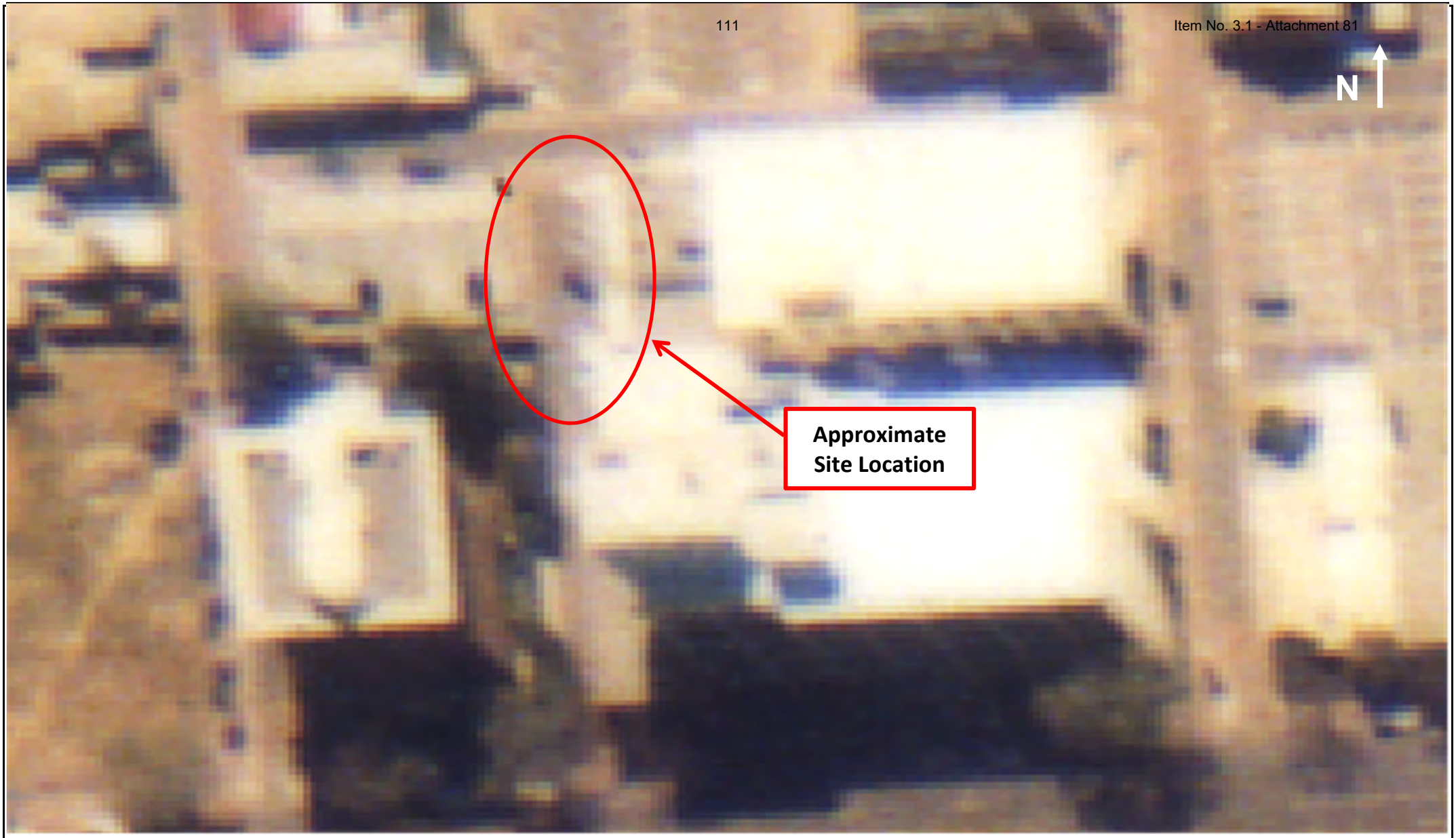
ADELAIDE
12 Greenhill Road
Wayville SA 5061
Telephone (08) 8299 9955

Project:	Preliminary Site Investigation (Site History)					
Location:	9-9A Stafford Street, Adelaide					
Job Ref: J129032	Drawn: AL	Checked: AD	Date: 14/1/15	Scale: Not to scale	Source: Mapland	

FIGURE - 1989 Aerial

GREENCAP

ADELAIDE
12 Greenhill Road
Wayville SA 5061
Telephone (08) 8299 9955

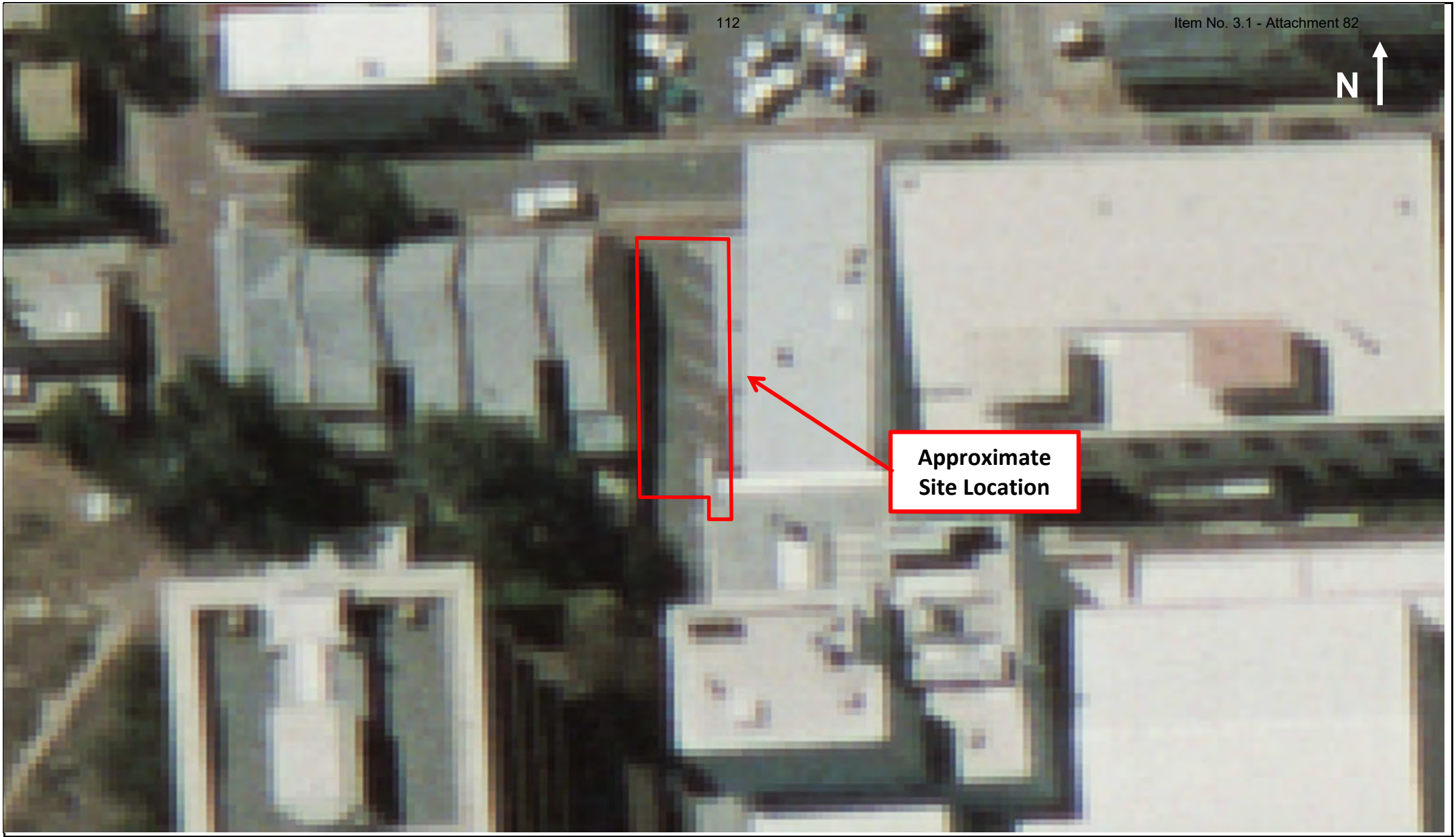


Project:	Preliminary Site Investigation (Site History)					
Location:	9-9A Stafford Street, Adelaide					
Job Ref: J129032	Drawn: AL	Checked: AD	Date: 14/1/15	Scale: Not to scale	Source: Mapland	

FIGURE - 1999 Aerial

GREENCAP

ADELAIDE
12 Greenhill Road
Wayville SA 5061
Telephone (08) 8299 9955



Project:	Preliminary Site Investigation (Site History)					
Location:	9-9A Stafford Street, Adelaide					
Job Ref: J129032	Drawn: AL	Checked: AD	Date: 14/1/15	Scale: Not to scale	Source: Mapland	

FIGURE - 2005 Aerial

GREENCAP

ADELAIDE
12 Greenhill Road
Wayville SA 5061
Telephone (08) 8299 9955

Project:	Preliminary Site Investigation (Site History)					
Location:	9-9A Stafford Street, Adelaide					
Job Ref: J129032	Drawn: AL	Checked: AD	Date: 14/1/15	Scale: Not to scale	Source: Mapland	

FIGURE - 2010 Aerial

GREENCAP

ADELAIDE
12 Greenhill Road
Wayville SA 5061
Telephone (08) 8299 9955

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Preliminary Site Investigation

Viterra Ltd

9-9A Stafford Street, Adelaide, South Australia

Appendix F: Government Records

Environment Protection Authority
www.epa.sa.gov.au

EPA South Australia
GPO Box 2607 Adelaide SA 5001
250 Victoria Square Adelaide SA
T (08) 8204 2000 F (08) 8204 2020
Country areas 1800 623 445

Greencap
12 Greenhill Road
WAYVILLE SA 5034

Contact: Section 7
Telephone: (08) 8204 2026
Email: epasection7@epa.sa.gov.au

Contact: Public Register
Telephone: (08) 8204 9128
Email: epa.publicregister@epa.sa.gov.au

07 January, 2015

Dear Sir/Madam,

Section7 - Land and Business (Sale and Conveyancing) Act 1994

I refer to your enquiry concerning the parcel of land comprised in

Title Reference CT Volume 5606 Folio 347
Address Allotment 1, 9-9A Stafford Street, ADELAIDE SA 5000

I advise as follows:

PARTICULARS OF MORTGAGES, CHARGES PRESCRIBED ENCUMBRANCES AFFECTING THE LAND

9.1	Environment performance agreement under section 59 of the *Environment Protection Act 1993* that is registered in relation to the land.	NO
9.2.1	Environment protection order issued under section 93 of the *Environment Protection Act 1993* that is registered in relation to the land.	NO
9.2.2	Section 93A - Environment protection order relating to cessation of activity that is registered in relation to the land.	NO
9.3	Clean-up order issued under section 99 of the *Environment Protection Act 1993* that is registered in relation to the land.	NO
9.4	Clean-up authorisation issued under section 100 of the *Environment Protection Act 1993* that is registered in relation to the land.	NO
9.5.1	Section 103H - Site contamination assessment order that is registered in relation to the land.	NO

9.5.2 Section 103J - Site remediation order that is registered in relation to the land. NO

9.5.3 Section 103N - Notice of declaration of special management area in relation to the land (due to possible existence of site contamination). NO

9.5.4 Section 103P - Notation of site contamination audit report in relation to the land. NO

9.5.5 Section 103S - Notice of prohibition or restriction on taking water affected by site contamination in relation to the land. NO

PARTICULARS RELATING TO ENVIRONMENT PROTECTION

Section 7 - Land and Business (Sale and Conveyancing) Act 1994

3) Licences and exemptions recorded by EPA in public register

Does the EPA hold any of the following details in the public register:

a) details of a current licence issued under Part 6 of the *Environment Protection Act 1993* to conduct, at the land-

i) a waste or recycling depot (as referred to in clause 3(3) of Schedule 1 Part A of that Act); or NO

ii) activities producing listed wastes (as referred to in clause 3(4) of Schedule 1 Part A of that Act)? NO

iii) any other prescribed activity of environmental significance under Schedule 1 of that Act? NO

b) details of a licence no longer in force issued under Part 6 of the *Environment Protection Act 1993* to conduct, at the land-

i) a waste or recycling depot (as referred to in clause 3(3) of Schedule 1 Part A of that Act); or NO

ii) activities producing listed wastes (as referred to in clause 3(4) of Schedule 1 Part A of that Act)? NO

iii) any other prescribed activity of environmental significance under Schedule 1 of that Act? NO

c) details of a current exemption issued under Part 6 of the Environmental Protection Act 1993 from the application of a specified provision of that Act in relation to an activity carried on at the land. NO

d) details of an exemption that are no longer enforced, issued under Part 6 of the Environmental Protection Act 1993 from the application of a specified provision of that Act in relation to an activity carried on at the land. NO

e) details of a licence issued under the repealed *South Australian Waste Management Commission Act 1979* to operate a waste depot at the land. NO

f) details of a licence issued under the repealed *Waste Management Act 1987* to operate a waste depot at the land NO

g) details of a licence issued under the repealed *South Australian Waste Management Commission Act 1979* to produce waste of a prescribed kind (within the meaning of that Act) at the land. NO

h) details of a licence issued under the repealed *Waste Management Act 1987* to produce prescribed waste (within the meaning of that Act) at the land? NO

4) Pollution and site contamination on the land - details recorded by the EPA in public register

Does the EPA hold any of the following details in the public register in relation to the land or part of the land:

a) details of serious or material environmental harm caused or threatened in the course of an activity (whether or not notified under section 83 of the *Environment Protection Act 1993*)? NO

b) details of site contamination notified to the EPA under section 83A of the *Environment Protection Act 1993*? NO

c) a copy of a report of an environmental assessment (whether prepared by the EPA or some other person or body and whether or not required under legislation) that forms part of the information required to be recorded in the public register? NO

d) a copy of a site contamination audit report? NO

e) details of an agreement for the exclusion or limitation of liability for site contamination to which section 103E of the *Environment Protection Act 1993* applies? NO

f) details of an agreement entered into with the EPA relating to an approved voluntary site contamination assessment proposal under section 103I of the *Environment Protection Act 1993?*	NO
g) details of an agreement entered into with the EPA relating to an approved voluntary site remediation proposal under section 103K of the *Environment Protection Act 1993?*	NO
h) details of a notification under section 103Z(1) of the *Environment Protection Act 1993* relating to the commencement of a site contamination audit?	NO
i) details of a notification under section 103Z(2) of the *Environment Protection Act 1993* relating to the termination before completion of a site contamination audit?	NO
j) details of records, held by the former *South Australian Waste Management Commission* under the repealed *Waste Management Act 1987*, of waste (within the meaning of that Act) having been deposited on the land between 1 January 1983 and 30 April 1995?	NO

5) Pollution and site contamination on the land - other details held by EPA

Does the EPA hold any of the following details in relation to the land or part of the land:

a) a copy of a report known as a "Health Commission Report" prepared by or on behalf of the *South Australian Health Commission* (under the repealed *South Australian Health Commission Act 1976*)?	NO
b) details (which may include a report of an environmental assessment) relevant to an agreement entered into with the EPA relating to an approved voluntary site contamination assessment proposal under section 103I of the *Environment Protection Act 1993?*	NO
c) details (which may include a report of an environmental assessment) relevant to an agreement entered into with the EPA relating to an approved voluntary site remediation proposal under section 103K of the *Environment Protection Act 1993*?	NO
d) a copy of a pre-1 July 2009 site audit report?	NO
e) details relating to the termination before completion of a pre-1 July 2009 site audit?	NO

All care and diligence has been taken to access the above information from available records. Historical records provided to the EPA concerning matters arising prior to 1 May 1995 are limited and may not be accurate or complete and therefore the EPA cannot confirm the accuracy of the historical information provided.

The following pulic register search is for Adelaide, SA, last updated on 19th December 2014

Notification no	Type	Address	Potentially contaminating activity
60184	Audit Notification	Sturt Street Carpark Sturt Street ADELAIDE SA 5000	Not recorded
60088	Audit Notification	North Terrace ADELAIDE SA 5000	Not recorded
60074	Audit Notification	Lot 101 Montefiore Road ADELAIDE SA 5000	Not recorded
60079	Audit Notification	231-241 Waymouth and 17 Crowther Street ADELAIDE SA 5000	Not recorded
60093	Audit Notification	South Parklands (near cnr of Greenhill & Fullarton Roads) ADELAIDE SA 5000	Not recorded
60098	Audit Notification	142-184 Franklin Street ADELAIDE SA 5000	Not recorded
60099	Audit Notification	Fullarton Road ADELAIDE SA 5000	Not recorded
60101	Audit Notification	102 Waymouth Street ADELAIDE SA 5000	Not recorded
60117	Audit Notification	Franklin Street ADELAIDE SA 5000	Not recorded
60125	Audit Notification	Lot 20 North Terrace ADELAIDE SA 5000	Not recorded
60377	Audit Notification	North Terrace ADELAIDE SA 5000	Fill or soil importation; Incineration; Listed Substances (storage); Motor vehicle repair or maintenance; Railway operations; Waste depots; Wastewater storage, treatment or disposal
60380	Audit Notification	North Terrace ADELAIDE SA 5000	Not recorded
60194	Audit Notification	Sturt Street Carpark Sturt Street ADELAIDE SA 5000	Not recorded
60227	Audit Notification	Victoria Park Grandstand Precinct & Northern Playing Field South West Corner of Fullarton & Wakefield Road ADELAIDE SA 5000	Not recorded

60256	Audit Notification	Sturt Street Carpark Sturt Street ADELAIDE SA 5000	Not recorded
60261	Audit Notification	Former Adelaide Rail Yards Festival Drive ADELAIDE SA 5000	Not recorded
60314	Audit Notification	445-449A Pulteney Street ADELAIDE SA 5000	Not recorded
60514	Audit Notification	Section 6016 Fullarton Road ADELAIDE SA 5000	Fill or soil importation
60625	Audit Notification	Cnr Port & James Congdon Roads ADELAIDE SA 5000	Motor vehicle repair or maintenance; Works depots
60627	Audit Notification	Lot 10 North Tce and Lot 60 Port Road ADELAIDE SA 5000	Not recorded
60628	Audit Notification	Lot 30 North Terrace ADELAIDE SA 5000	Not recorded
60704	Audit Notification	Sturt Street (Former Sturt St Carpark) ADELAIDE SA 5000	Not recorded
60728	Audit Notification	Lot 20 North Terrace ADELAIDE SA 5000	Not recorded
60768	Audit Notification	43-69 Sturt Street ADELAIDE SA 5000	Electrical or electronics component manufacture; Spray painting
60778	Audit Notification	22-26 Selby Street ADELAIDE SA 5000	Fill or soil importation; Motor vehicle repair or maintenance; Spray painting
60934	Audit Notification	142-184 Franklin Street ADELAIDE SA 5000	Fill or soil importation; Liquid organic chemical substances-storage
61111	Audit Notification	172-176 Gilbert Street ADELAIDE SA 5000	Service stations
61216	Audit Notification	Lot 30 North Terrace ADELAIDE SA 5000	Listed Substances (storage); Railway operations
61249	Audit Notification	Lot 20 North Terrace ADELAIDE SA 5000	Railway operations
61267	Audit Notification	43-69 Sturt Street ADELAIDE SA 5000	Electrical or electronics component manufacture; Electrical transformer or capacitor works; Foundry; Listed Substances (storage); Metal coating, finishing or spray painting; Motor vehicle repair or maintenance; Spray painting

61297	Audit Notification	95-97 Gilles Street ADELAIDE SA 5000	Not recorded
61314	Audit Notification	Lot 30 North Terrace ADELAIDE SA 5000	Listed Substances (storage); Railway operations
61315	Audit Notification	Lot 20 North Terrace ADELAIDE SA 5000	Railway operations
60314 - 001	Audit Report	445-449A Pulteney Street ADELAIDE SA 5000	Fill or soil importation; Listed Substances (storage); Motor vehicle repair or maintenance
60778 - 001	Audit Report	22-26 Selby Street ADELAIDE SA 5000	Fill or soil importation; Motor vehicle repair or maintenance; Spray painting
60704 - 001	Audit Report	Sturt Street (Former Sturt St Carpark) ADELAIDE SA 5000	Fill or soil importation; Motor vehicle repair or maintenance; Works depots
60101 - 001	Audit Report	102 Waymouth Street ADELAIDE SA 5000	Not recorded
60625 - 001	Audit Report	Cnr Port & James Congdon Roads ADELAIDE SA 5000	Motor vehicle repair or maintenance; Works depots
60088	Audit Termination	North Terrace ADELAIDE SA 5000	Not recorded
60184	Audit Termination	Sturt Street Carpark Sturt Street ADELAIDE SA 5000	Not recorded
60194	Audit Termination	Sturt Street Carpark Sturt Street ADELAIDE SA 5000	Not recorded
60099	Audit Termination	Fullarton Road ADELAIDE SA 5000	Not recorded
60125	Audit Termination	Lot 20 North Terrace ADELAIDE SA 5000	Not recorded
60377	Audit Termination	North Terrace ADELAIDE SA 5000	Not recorded
60380	Audit Termination	North Terrace ADELAIDE SA 5000	Not recorded
60256	Audit Termination	Sturt Street Carpark Sturt Street ADELAIDE SA 5000	Not recorded
60117	Audit Termination	Franklin Street ADELAIDE SA 5000	Not recorded
60098	Audit Termination	142-184 Franklin Street ADELAIDE SA 5000	Not recorded

60093	Audit Termination	South Parklands (near cnr of Greenhill & Fullarton Roads) ADELAIDE SA 5000	Not recorded
60227	Audit Termination	Victoria Park Grandstand Precinct & Northern Playing Field South West Corner of Fullarton & Wakefield Road ADELAIDE SA 5000	Not recorded
60514	Audit Termination	Section 6016 Fullarton Road ADELAIDE SA 5000	Not recorded
60628	Audit Termination	Lot 30 North Terrace ADELAIDE SA 5000	Not recorded
60728	Audit Termination	Lot 20 North Terrace ADELAIDE SA 5000	Not recorded
60768	Audit Termination	43-69 Sturt Street ADELAIDE SA 5000	Not recorded
60934	Audit Termination	142-184 Franklin Street ADELAIDE SA 5000	Not recorded
61111	Audit Termination	172-176 Gilbert Street ADELAIDE SA 5000	Not recorded
61216	Audit Termination	Lot 30 North Terrace ADELAIDE SA 5000	Not recorded
61249	Audit Termination	Lot 20 North Terrace ADELAIDE SA 5000	Not recorded
60104 - 01	S83A Notification	Lots 20 & 30 North Terrace ADELAIDE SA 5000	Listed Substances (storage); Railway operations
60121 - 01	S83A Notification	172-176 Gilbert Street ADELAIDE SA 5000	Service stations
60123 - 01	S83A Notification	East Parklands Cnr Gilles Street & East Terrace ADELAIDE SA 5000	Not recorded
60418 - 01	S83A Notification	Franklin Street ADELAIDE SA 5000	Listed Substances (storage)
60413 - 01	S83A Notification	151-153 Gilles Street ADELAIDE SA 5000	Motor vehicle repair or maintenance
60482 - 01	S83A Notification	Festival Drive ADELAIDE SA 5000	Listed Substances (storage); Railway operations

60522 - 01	S83A Notification	172-190 Gawler Place ADELAIDE SA 5000	Transport depots or loading sites
60784 - 01	S83A Notification	43-69 Sturt Street ADELAIDE SA 5000	Electrical or electronics component manufacture; Spray painting
60841 - 01	S83A Notification	Lot 101 Montefiore Road ADELAIDE SA 5000	Railway operations
60923 - 01	S83A Notification	35-37 Wright Street ADELAIDE SA 5000	Not recorded
60987 - 01	S83A Notification	172-190 Gawler Place ADELAIDE SA 5000	Transport depots or loading sites
61113 - 01	S83A Notification	Hundred Plan 106100 Section 1639 ADELAIDE SA 5000	Fill or soil importation
61247 - 01	S83A Notification	Filed Plan 38386 Allotment Piece 22 Frome Road ADELAIDE SA 5000	Not recorded
61360 - 01	S83A Notification	224-228 Waymouth Street ADELAIDE SA 5000	Motor vehicle repair or maintenance
61356 - 01	S83A Notification	95-97 Gilles Street ADELAIDE SA 5000	Fill or soil importation

Government of South Australia
SafeWork SA

Attorney-General's Department

Licensing Unit

Level 4, World Park A,
33 Richmond Road
Keswick SA 5035

GPO Box 465
Adelaide SA 5001

DX 715 Adelaide

Phone (08) 8303 0400
Fax (08) 8303 9903
Email licensing@safework.sa.gov.au

ABN 50-560-588-327

www.safework.sa.gov.au

9 January 2015

Alicia Lintern
Greencap
12 Greenhill Road
WAYVILLE SA 5034

Dear Alicia

DANGEROUS SUBSTANCES LICENCE SEARCH

RE: Stafford Street, ADELAIDE SA 5000

According to the records available to SafeWork SA, the site listed above has no licenced items.

Yours sincerely

MANAGER
LICENSING & AUTHORISATION UNIT
SAFEWORK SA

Government of South Australia
SafeWork SA
Attorney-General's Department

Licensing Unit

Level 4, World Park A,
33 Richmond Road
Keswick SA 5035

GPO Box 465
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Phone (08) 8303 0400
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Email licensing@safework.sa.gov.au

ABN 50-560-588-327

www.safework.sa.gov.au

9 January 2015

Alicia Lintern
Greencap
12 Greenhill Road
WAYVILLE SA 5034

Dear Alicia

DANGEROUS SUBSTANCES LICENCE SEARCH

RE: O'Halloran Place, ADELAIDE SA 5000

According to the records available to SafeWork SA, the site listed above has no licenced items.

Yours sincerely

MANAGER
LICENSING & AUTHORISATION UNIT
SAFEWORK SA

Government of South Australia
SafeWork SA

Attorney-General's Department

Licensing Unit

Level 4, World Park A,
33 Richmond Road
Keswick SA 5035

GPO Box 465
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Phone (08) 8303 0400
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Email licensing@safework.sa.gov.au

ABN 50-560-588-327

www.safework.sa.gov.au

9 January 2015

Alicia Lintern
Greencap
12 Greenhill Road
WAYVILLE SA 5034

Dear Alicia

DANGEROUS SUBSTANCES LICENCE SEARCH

RE: South Terrace, ADELAIDE SA 5000

According to the records available to SafeWork SA, the site listed above has no licenced items.

Yours sincerely

MANAGER
LICENSING & AUTHORISATION UNIT
SAFEWORK SA

Government of South Australia
SafeWork SA

Attorney-General's Department

Licensing Unit

Level 4, World Park A,
33 Richmond Road
Keswick SA 5035

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Email licensing@safework.sa.gov.au

ABN 50-560-588-327

www.safework.sa.gov.au

9 January 2015

Alicia Lintern
Greencap
12 Greenhill Road
WAYVILLE SA 5034

Dear Alicia

DANGEROUS SUBSTANCES LICENCE SEARCH

RE: Owen Street, ADELAIDE SA 5000

According to the records available to SafeWork SA, the site listed above has no licenced items.

Yours sincerely

MANAGER
LICENSING & AUTHORISATION UNIT
SAFEWORK SA

Appendix B. Borehole logs

Mott MacDonald
22 King William St
Adelaide
PO Box 3400
Rundle Mall SA 5000
+61 (0)8 7325 7325

SOIL BOREHOLE LOG SBA

NOT FOR CONSTRUCTION PURPOSES **SHEET 1 of 1**

PROJECT No: 369514
CLIENT:
PROJECT NAME: 9-9A Stafford Street (cont.)
SITE: Stafford Street South Carpark
DRILLING METHOD: Back hoe
SAMPLING METHOD: Grab
DATE: 17/03/2016
LOGGED BY: BB
TOTAL DEPTH: 1.0 m

	LEGEND	DEPTH (m)	DESCRIPTION	ODOUR	PID (ppmv)	SAMPLE LABEL
0.0			~~Ground Surface~~			
			FILL Gravelly SAND, m-c grain, yellow, blue/grey gravels to 10 mm	None recorded throughout	0	SBA/1_0.0-0.1
			FILL Clayey SAND, dark brown, red brick fragments, minor ash and cinders		0	SBA/2_0.3-0.4
			NAT Sandy CLAY, red/brown, firm grain, medium plasticity EOH 1.0 m		0	SBA/3_0.5-0.6
					0	SBA/4_0.9-1.0
1.0						

NOTES 25 mm bitumen surface

Descriptions are based on observations and hand testing of grab samples. Mechanical Tests were not performed unless otherwise stated.

Reviewed By: **FILE**

Mott MacDonald
22 King William St
Adelaide
PO Box 3400
Rundle Mall SA 5000
+61 (0)8 7325 7325

SOIL BOREHOLE LOG SBB

NOT FOR CONSTRUCTION PURPOSES **SHEET 1 of 1**

PROJECT No: 369514
CLIENT:
PROJECT NAME: 9-9A Stafford Street (cont.)
SITE: Stafford Street South Carpark
DRILLING METHOD: Back hoe
SAMPLING METHOD: Grab
DATE: 17/03/2016
LOGGED BY: BB
TOTAL DEPTH: 0.4 m

	LEGEND	DEPTH (m)	DESCRIPTION	ODOUR	PID (ppmv)	SAMPLE LABEL
0.0			Ground Surface FILL Gravelly SAND, yellow, m-c grain sand, blue/grey gravels to 15 mm Refusal on concrete at 0.4 m	None recorded throughout	0	SBB/1_0.0-0.1 SBB/2_0.3-0.4

NOTES 25 mm bitumen surface

Descriptions are based on observations and hand testing of grab samples. Mechanical Tests were not performed unless otherwise stated.

	Reviewed By:	FILE

Mott MacDonald
22 King William St
Adelaide
PO Box 3400
Rundle Mall SA 5000
+61 (0)8 7325 7325

SOIL BOREHOLE LOG SBC

NOT FOR CONSTRUCTION PURPOSES **SHEET 1 of 1**

PROJECT No: 369514 **CLIENT:**

PROJECT NAME: 9-9A Stafford Street (cont.) **SITE: Stafford Street South Carpark** **DRILLING METHOD: Back hoe**

SAMPLING METHOD: Grab

DATE: 17/03/2016 **LOGGED BY: BB** **TOTAL DEPTH: 1.0 m**

	LEGEND	DEPTH (m)	DESCRIPTION	ODOUR	PID (ppmv)	SAMPLE LABEL
0.0			Ground Surface			
			FILL Gravelly SAND, grey to yellow sand, blue/grey gravels to 15 mm	None recorded throughout	0	SBC/1_0.0-0.1
			FILL Sandy CLAY, mottled dark brown/black/white, brick fragments, medium plasticity		0	SBC/2_0.2-0.3 and DUPA
			NAT Sandy CLAY, red/brown, medium plasticity EOH 1.0 m		0	SBC/3_0.4-0.5
					0	SBC/4_0.9-1.0
1.0						

NOTES 25 mm bitumen surface

Descriptions are based on observations and hand testing of grab samples. Mechanical Tests were not performed unless otherwise stated.

	Reviewed By:	FILE

Mott MacDonald
22 King William St
Adelaide
PO Box 3400
Rundle Mall SA 5000
+61 (0)8 7325 7325

SOIL BOREHOLE LOG SBD

NOT FOR CONSTRUCTION PURPOSES **SHEET 1 of 1**

PROJECT No: 369514
CLIENT:
PROJECT NAME: 9-9A Stafford Street (cont.)
SITE: Stafford Street South Carpark
DRILLING METHOD: Back hoe
SAMPLING METHOD: Grab
DATE: 17/03/2016
LOGGED BY: BB
TOTAL DEPTH: 1.0 m

	LEGEND	DEPTH (m)	DESCRIPTION	ODOUR	PID (ppmv)	SAMPLE LABEL
0.0			~~Ground Surface~~			
			FILL Gravelly SAND, yellow/brown sand, blue/grey gravels to 15 mm	None recorded throughout	0	SBD/1_0.0-0.1
			FILL Sandy CLAY, dark brown, mottled grey/green, glass and brick fragments, ash and cinders, medium plasticity		0	SBD/2_0.2-0.3 and DUPB
			NAT Sandy CLAY, light brown, mottled white, high plasticity EOH 1.0 m		0	SBD/3_0.4-0.5
					0	SBD/4_0.9-1.0
1.0						

NOTES 25 mm bitumen surface

Descriptions are based on observations and hand testing of grab samples. Mechanical Tests were not performed unless otherwise stated.

	Reviewed By:	FILE

Appendix C. Chain of custody documentation

AU02_USR_LAB00020

From: Sarah Gould <SarahGould@eurofins.com>
Sent: Wednesday, 30 March 2016 12:27 PM
To: EnviroSampleVIC
Subject: FW: Eurofins | mgt Test Results, Invoice - Report 493579 : Site 9-9A STAFFORD ST
Attachments: 493579_COC.PDF

Sarah Gould
Phone : +61 3 8564 5053
Email : SarahGould@eurofins.com

-----Original Message-----
From: Lucock, Rebecca K [mailto:Rebecca.Lucock@mottmac.com]
Sent: Wednesday, 30 March 2016 12:26 PM
To: Sarah Gould
Subject: RE: Eurofins | mgt Test Results, Invoice - Report 493579 : Site 9-9A STAFFORD ST

Sarah,

Please could you test the following from the attached COC:

DUPB_17/3/16 - leachability - lead and zinc. MA18522 DS 17/3

Kind regards,

Rebecca

(431)

Rebecca Lucock
Senior Environmental Scientist

T: +61 8 7325 7358 | E: Rebecca.lucock@mottmac.com

Robert Johnston 30/03/16
Eurofins MGT
494710

-----Original Message-----
From: SarahGould@eurofins.com [mailto:SarahGould@eurofins.com]

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

☐ Eurofins | mgt Sydney Lab ☐ Eurofins | mgt Brisbane Lab ☐ Eurofins | mgt Melbourne Lab

Company	Mott MacDonald	Purchase Order		Project Manager	Rebecca Lucock
Address	LM 22 King William St. Adelaide	Eurofins | mgt Quote №		Project №	
Contact Name	Rebecca Lucock	Project Name	9-9A Stafford St	Electronic Results Format	
Contact Phone №	(08) 7325 7358	Email for Results	rebecca.lucock@mottmac.com		
Special Direction	CC: Ashley.Moule@mottmac.com p1 of 2	Turn Around Requirements	☐ 1 DAY* ☐ 2 DAY* ☐ 3 DAY* ☐ 5 DAY (Std) ☐ Other ( ) *Surcharges apply		
Relinquished by (Signature) (Time / Date)	Bridy Baney [signature] — 17/3/16	Method of Shipment	☐ Courier (#) ☐ Hand Delivered ☐ Postal		

Analysis (Note: Where metals are requested, please specify "Total" or "Filtered")

Containers: 1L Plastic, 250mL Plastic, 125mL Plastic, 200mL Amber Glass, 40mL Vial, 125mL Amber Glass, Jar

№	Client Sample ID	Date	Matrix	M18	PAH	TPH	OCP	Asbestos (Presence/absence)	Short inc EPA screen	pH, Fe, CEC, clay, TOC	1L Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL Vial	125mL Amber Glass	Jar	Sample Comments / DG Hazard Warning
1	SBA/1_0-0.1	17/3/16	SOIL														1	
2	SBA/2_0.3-0.4	↓	↓					✓	✓								1	
3	SBA/3_0.5-0.6	↓	↓														1	
4	SBA/4_0.9-1.0	↓	↓														1	
5	SBB/1_0-0.1	↓	↓	✓		✓											1	
6	SBB/2_0.3-0.4	↓	↓														1	
7	SBC/1_0-0.1	↓	↓														1	
8	SBC/2_0.2-0.3	↓	↓	✓	✓												1	
9	SBC/3_0.4-0.5	↓	↓				✓			✓							1	
10	SBC/4_0.9-1.0	↓	↓														1	
11	SBD/1_0-0.1	↓	↓														1	
12	SBD/2_0.2-0.3	↓	↓	✓	✓												1	

Laboratory Use Only												
	Received By	Pat Ermal	SYD | BNE | MEL | PER | (ADL) | NEW | DAR	Date	17/3/16	Time	3:38pm	Signature	[signature]	Temperature	17.4
	Received By	Tony W	SYD | BNE | (MEL) | PER | ADL | NEW | DAR	Date	18/3/16	Time	9:16	Signature	[signature]	Report №	493579

QS3009_R4 Modified by S. Agnew Approved by T. Leuland Approved on 11 August 2015

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

Dup A_17/3/16 → Envirolab

CHAIN OF CUSTODY RECORD

ABN 50 005 085 521

☐ Eurofins | mgt Sydney Lab ☐ Eurofins | mgt Brisbane Lab ☐ Eurofins | mgt Melbourne Lab

Company	Mott MacDonald	Purchase Order		Project Manager	Rebecca Lucock
Address	LM 22 King William St Adelaide	Eurofins | mgt Quote №		Project №	
Contact Name	Rebecca Lucock				
Contact Phone №	(08) 73257358				
Special Direction	CC: Ashley.Mowle@mottmac.com P2of2				
Relinquished by (Signature)	Bridy Barclay				
(Time / Date)	17/3/16				

Project Name	9-9A Stafford St
Electronic Results Format	
Email for Results	rebecca.lucock@mottmac.com
Turn Around Requirements	☐ 1 DAY* ☐ 2 DAY* ☐ 3 DAY* * Surcharges apply ☐ 5 DAY (Std) ☐ Other ( )

Analysis (Note: Where metals are requested, please specify "Total" or "Filtered")

№	Client Sample ID	Date	Matrix	M18	BTEX	Vic EPA screen short	Containers: 1L Plastic	250mL Plastic	125mL Plastic	200mL Amber Glass	40mL Vial	125mL Amber Glass	Jar	Method of Shipment	Sample Comments / DG Hazard Warning
1	SBD/3_0.4-0.5	17/3/16	SOIL			/							1	☐ Couner (#) ☐ Hand Delivered ☐ Postal	
2	SBD/4_0.9-1.0												1		
3	DUPA_17/3/16												1		
4	DUPB_17/3/16												1		
5	RINA_17/3/16		WATER				1		1		2	1			
6	TRIPA_17/3/16		WATER								1				
7															
8															
9															
10															
11															
12															

Laboratory Use Only									
Received By	Parkmad	SYD | BNE | MEL | PER | (ADL) | NEW | DAR	Date	17/3/16	Time	3:30pm	Signature	Temperature	17.4
Received By	Tony W	SYD | BNE | (MEL) | PER | ADL | NEW | DAR	Date	18/3/16	Time	9:16	Signature	Report №	493579

QS3002_R4 Modified by S Kemp Approved by T Lakeland Approved on 11 August 2015

Submission of samples to the laboratory will be deemed as acceptance of Eurofins | mgt Standard Terms and Conditions unless agreed otherwise. A copy of Eurofins | mgt Standard Terms and Conditions is available on request.

Appendix D. Laboratory analytical certificates

Certificate of Analysis

Mott MacDonald
Mezzanine Level, 22 King William St
Adelaide
SA 5000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **- Rebecca Lucock**

Report **494710-L**
Project name 9-9A STAFFORD ST
Received Date Mar 30, 2016

Client Sample ID			**DUPB_17/3/16**
Sample Matrix			**ASLP**
Eurofins | mgt Sample No.			**M16-Ma28013**
Date Sampled			**Mar 17, 2016**
Test/Reference	LOR	Unit	
Heavy Metals			
Lead	0.01	mg/L	0.02
Zinc	0.01	mg/L	6.8
AUS Leaching Procedure			
Leachate Fluid[C01]		comment	1.0
pH (initial)	0.1	pH Units	7.4
pH (Leachate fluid)	0.1	pH Units	4.9
pH (off)	0.1	pH Units	5.8

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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

Description	Testing Site	Extracted	Holding Time
Heavy Metals	Melbourne	Mar 30, 2016	180 Day
- Method: LTM-MET-3030 by ICP-OES (hydride ICP-OES for Mercury)			
AUS Leaching Procedure	Melbourne	Mar 30, 2016	7 Day
- Method: LTM-GEN-7010			

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Melbourne
3-5 Kingston Town Close
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Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
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Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Company Name:	Mott MacDonald	**Order No.:**		**Received:**	Mar 30, 2016 12:26 PM
Address:	Mezzanine Level, 22 King William St Adelaide SA 5000	**Report #:** **Phone:** **Fax:**	494710 08 7325 7325	**Due:** **Priority:** **Contact Name:**	Apr 6, 2016 5 Day - Rebecca Lucock
Project Name:	9-9A STAFFORD ST				

Eurofins | mgt Client Manager: Sarah Gould

Sample Detail					Lead	Zinc	AUS Leaching Procedure
Laboratory where analysis is conducted							
Melbourne Laboratory - NATA Site # 1254 & 14271					X	X	X
Sydney Laboratory - NATA Site # 18217							
Brisbane Laboratory - NATA Site # 20794							
External Laboratory							
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
DUPB_17/3/16	Mar 17, 2016		ASLP	M16-Ma28013	X	X	X

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per Kilogram

mg/l: milligrams per litre

ug/l: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100ml: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (Eurofins | mgt uses NATA accredited in-house method LTM-GEN-7010)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank									
Heavy Metals									
Lead			mg/L	< 0.01			0.01	Pass	
Zinc			mg/L	< 0.01			0.01	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Heavy Metals				Result 1					
Lead	M16-Ma26620	NCP	%	115			75-125	Pass	
Zinc	M16-Ma27265	NCP	%	95			75-125	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Lead	M16-Ma27265	NCP	mg/L	21	19	9.0	30%	Pass	
Zinc	M16-Ma27265	NCP	mg/L	0.06	0.05	11	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other

Authorised By

Sarah Gould	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)

Glenn Jackson
National Operations Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

eurofins | mgt

Certificate of Analysis

Mott MacDonald
Mezzanine Level, 22 King William St
Adelaide
SA 5000

NATA Accredited
Accreditation Number 1261
Site Number 1254

Accredited for compliance with ISO/IEC 17025.
The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **- Rebecca Lucock**

Report **493579-W**
Project name 9-9A STAFFORD ST
Received Date Mar 18, 2016

Client Sample ID			**RINA_17/3/16**	**TRIPA_17/3/16**
Sample Matrix			**Water**	**Water**
Eurofins | mgt Sample No.			**M16-Ma18523**	**M16-Ma18524**
Date Sampled			**Mar 17, 2016**	**Mar 17, 2016**
Test/Reference	LOR	Unit		
BTEX				
Benzene	0.001	mg/L	-	< 0.001
Toluene	0.001	mg/L	-	< 0.001
Ethylbenzene	0.001	mg/L	-	< 0.001
m&p-Xylenes	0.002	mg/L	-	< 0.002
o-Xylene	0.001	mg/L	-	< 0.001
Xylenes - Total	0.003	mg/L	-	< 0.003
4-Bromofluorobenzene (surr.)	1	%	-	80
Heavy Metals				
Antimony	0.005	mg/L	< 0.005	-
Arsenic	0.001	mg/L	< 0.001	-
Beryllium	0.001	mg/L	< 0.001	-
Boron	0.05	mg/L	< 0.05	-
Cadmium	0.0002	mg/L	< 0.0002	-
Chromium	0.001	mg/L	< 0.001	-
Cobalt	0.001	mg/L	< 0.001	-
Copper	0.001	mg/L	< 0.001	-
Lead	0.001	mg/L	< 0.001	-
Manganese	0.005	mg/L	< 0.005	-
Mercury	0.0001	mg/L	< 0.0001	-
Molybdenum	0.005	mg/L	< 0.005	-
Nickel	0.001	mg/L	< 0.001	-
Selenium	0.001	mg/L	< 0.001	-
Silver	0.005	mg/L	< 0.005	-
Tin	0.005	mg/L	< 0.005	-
Vanadium	0.005	mg/L	< 0.005	-
Zinc	0.001	mg/L	< 0.001	-

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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

Description	Testing Site	Extracted	Holding Time
BTEX	Melbourne	Mar 19, 2016	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Metals M18	Melbourne	Mar 19, 2016	28 Day
- Method: LTM-MET-3040 Metals in Waters by ICP-MS			

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NATA # 1261 Site # 20794

Company Name: Mott MacDonald
Address: Mezzanine Level, 22 King William St
Adelaide
SA 5000

Project Name: 9-9A STAFFORD ST

Order No.:
Report #: 493579
Phone: 08 7325 7325
Fax:

Received: Mar 18, 2016 9:16 AM
Due: Mar 29, 2016
Priority: 5 Day
Contact Name: - Rebecca Lucock

Eurofins | mgt Client Manager: Sarah Gould

Sample Detail					% Clay	Asbestos Absence /Presence	HOLD	Iron	pH (1:5 Aqueous extract)	Total Organic Carbon	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	BTEX	Metals M18	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons	Vic EPA Short Screen
Laboratory where analysis is conducted																		
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X												
Brisbane Laboratory - NATA Site # 20794					X													
External Laboratory																		
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**														
SBA/2_0.3-0.4	Mar 17, 2016		Soil	M16-Ma18516		X									X			X
SBB/1_0-0.1	Mar 17, 2016		Soil	M16-Ma18517										X	X		X	
SBC/2_0.2-0.3	Mar 17, 2016		Soil	M16-Ma18518							X			X	X			
SBC/3_0.4-0.5	Mar 17, 2016		Soil	M16-Ma18519	X			X	X	X		X			X	X		
SBD/2_0.2-0.3	Mar 17, 2016		Soil	M16-Ma18520							X			X	X			
SBD/3_0.4-0.5	Mar 17, 2016		Soil	M16-Ma18521											X			X
DUPB_17/3/16	Mar 17, 2016		Soil	M16-Ma18522											X			X
RINA_17/3/16	Mar 17, 2016		Water	M16-Ma18523										X				
TRIPA_17/3/16	Mar 17, 2016		Water	M16-Ma18524									X					
SBA/1_0-0.1	Mar 17, 2016		Soil	M16-Ma18525			X											

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Contact Name: - Rebecca Lucock

Eurofins | mgt Client Manager: Sarah Gould

Sample Detail					% Clay	Asbestos Absence /Presence	HOLD	Iron	pH (1:5 Aqueous extract)	Total Organic Carbon	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	BTEX	Metals M18	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons	Vic EPA Short Screen
Laboratory where analysis is conducted																		
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X												
Brisbane Laboratory - NATA Site # 20794					X													
External Laboratory																		
SBA/3_0.5-0.6	Mar 17, 2016		Soil	M16-Ma18526			X											
SBA/4_0.9-1.0	Mar 17, 2016		Soil	M16-Ma18527			X											
SBB/2_0.3-0.4	Mar 17, 2016		Soil	M16-Ma18528			X											
SBC/1_0-0.1	Mar 17, 2016		Soil	M16-Ma18529			X											
SBC/4_0.9-1.0	Mar 17, 2016		Soil	M16-Ma18530			X											
SBD/1_0-0.1	Mar 17, 2016		Soil	M16-Ma18531			X											
SBD/4_0.9-1.0	Mar 17, 2016		Soil	M16-Ma18532			X											

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
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4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

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Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per Kilogram

mg/l: milligrams per litre

ug/l: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100ml: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
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USEPA	United States Environmental Protection Agency
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TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
BTEX							
Benzene	mg/L	< 0.001			0.001	Pass	
Toluene	mg/L	< 0.001			0.001	Pass	
Ethylbenzene	mg/L	< 0.001			0.001	Pass	
m&p-Xylenes	mg/L	< 0.002			0.002	Pass	
o-Xylene	mg/L	< 0.001			0.001	Pass	
Xylenes - Total	mg/L	< 0.003			0.003	Pass	
Method Blank							
Heavy Metals							
Antimony	mg/L	< 0.005			0.005	Pass	
Arsenic	mg/L	< 0.001			0.001	Pass	
Beryllium	mg/L	< 0.001			0.001	Pass	
Boron	mg/L	< 0.05			0.05	Pass	
Cadmium	mg/L	< 0.0002			0.0002	Pass	
Chromium	mg/L	< 0.001			0.001	Pass	
Cobalt	mg/L	< 0.001			0.001	Pass	
Copper	mg/L	< 0.001			0.001	Pass	
Lead	mg/L	< 0.001			0.001	Pass	
Manganese	mg/L	< 0.005			0.005	Pass	
Mercury	mg/L	< 0.0001			0.0001	Pass	
Molybdenum	mg/L	< 0.005			0.005	Pass	
Nickel	mg/L	< 0.001			0.001	Pass	
Selenium	mg/L	< 0.001			0.001	Pass	
Silver	mg/L	< 0.005			0.005	Pass	
Tin	mg/L	< 0.005			0.005	Pass	
Vanadium	mg/L	< 0.005			0.005	Pass	
Zinc	mg/L	< 0.001			0.001	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	104			70-130	Pass	
Toluene	%	85			70-130	Pass	
Ethylbenzene	%	84			70-130	Pass	
m&p-Xylenes	%	128			70-130	Pass	
Xylenes - Total	%	112			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Antimony	%	91			80-120	Pass	
Arsenic	%	94			80-120	Pass	
Beryllium	%	96			80-120	Pass	
Boron	%	92			80-120	Pass	
Cadmium	%	94			80-120	Pass	
Chromium	%	92			80-120	Pass	
Cobalt	%	94			80-120	Pass	
Copper	%	94			80-120	Pass	
Lead	%	96			80-120	Pass	
Manganese	%	94			80-120	Pass	
Mercury	%	94			75-125	Pass	
Molybdenum	%	93			80-120	Pass	
Nickel	%	94			80-120	Pass	
Selenium	%	96			80-120	Pass	
Silver	%	96			80-120	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Tin			%	95			80-120	Pass	
Vanadium			%	93			80-120	Pass	
Zinc			%	94			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic	B16-Ma12583	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M16-Ma19286	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Toluene	M16-Ma19286	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Ethylbenzene	M16-Ma19286	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
m&p-Xylenes	M16-Ma19286	NCP	mg/L	< 0.002	< 0.002	<1	30%	Pass	
o-Xylene	M16-Ma19286	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Xylenes - Total	M16-Ma19286	NCP	mg/L	< 0.003	< 0.003	<1	30%	Pass	

Comments

Sample Integrity

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

Authorised By

Sarah Gould	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)

Glenn Jackson
National Operations Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

Certificate of Analysis

Mott MacDonald
Mezzanine Level, 22 King William St
Adelaide
SA 5000

NATA Accredited
Accreditation Number 1261
Site Number 1254

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The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Attention: **- Rebecca Lucock**

Report **493579-S**
Project name 9-9A STAFFORD ST
Received Date Mar 18, 2016

Client Sample ID			**SBA/2_0.3-0.4**	**SBB/1_0-0.1**	**SBC/2_0.2-0.3**	**SBC/3_0.4-0.5**
Sample Matrix			**Soil**	**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**M16-Ma18516**	**M16-Ma18517**	**M16-Ma18518**	**M16-Ma18519**
Date Sampled			**Mar 17, 2016**	**Mar 17, 2016**	**Mar 17, 2016**	**Mar 17, 2016**
Test/Reference	LOR	Unit				
Total Recoverable Hydrocarbons - 1999 NEPM Fractions						
TRH C6-C9	20	mg/kg	< 20	< 20	-	-
TRH C10-C14	20	mg/kg	< 20	< 20	-	-
TRH C15-C28	50	mg/kg	< 50	< 50	-	-
TRH C29-C36	50	mg/kg	< 50	< 50	-	-
TRH C10-36 (Total)	50	mg/kg	< 50	< 50	-	-
BTEX						
Benzene	0.1	mg/kg	< 0.1	-	-	-
Toluene	0.1	mg/kg	< 0.1	-	-	-
Ethylbenzene	0.1	mg/kg	< 0.1	-	-	-
m&p-Xylenes	0.2	mg/kg	< 0.2	-	-	-
o-Xylene	0.1	mg/kg	< 0.1	-	-	-
Xylenes - Total	0.3	mg/kg	< 0.3	-	-	-
4-Bromofluorobenzene (surr.)	1	%	53	-	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
Naphthalene[N02]	0.5	mg/kg	< 0.5	< 0.5	-	-
TRH C6-C10	20	mg/kg	< 20	< 20	-	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	< 20	< 20	-	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	< 50	< 50	-	-
Polycyclic Aromatic Hydrocarbons						
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.6	-	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	-	1.2	-
Acenaphthene	0.5	mg/kg	< 0.5	-	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	-	< 0.5	-
Anthracene	0.5	mg/kg	< 0.5	-	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	< 0.5	-	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	< 0.5	-	< 0.5	-
Chrysene	0.5	mg/kg	< 0.5	-	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	-	< 0.5	-
Fluoranthene	0.5	mg/kg	< 0.5	-	< 0.5	-
Fluorene	0.5	mg/kg	< 0.5	-	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	-	< 0.5	-

Client Sample ID			SBA/2_0.3-0.4	SBB/1_0-0.1	SBC/2_0.2-0.3	SBC/3_0.4-0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M16-Ma18516	M16-Ma18517	M16-Ma18518	M16-Ma18519
Date Sampled			Mar 17, 2016	Mar 17, 2016	Mar 17, 2016	Mar 17, 2016
Test/Reference	LOR	Unit				
Polycyclic Aromatic Hydrocarbons						
Phenanthrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Pyrene	0.5	mg/kg	< 0.5	-	< 0.5	-
Total PAH*	0.5	mg/kg	< 0.5	-	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	52	-	79	-
p-Terphenyl-d14 (surr.)	1	%	66	-	78	-
Organochlorine Pesticides						
Chlordanes - Total	0.1	mg/kg	< 0.1	-	-	< 0.1
4.4'-DDD	0.05	mg/kg	< 0.05	-	-	0.14
4.4'-DDE	0.05	mg/kg	< 0.05	-	-	< 0.05
4.4'-DDT	0.05	mg/kg	< 0.05	-	-	0.79
a-BHC	0.05	mg/kg	< 0.05	-	-	< 0.05
Aldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
b-BHC	0.05	mg/kg	< 0.05	-	-	< 0.05
d-BHC	0.05	mg/kg	< 0.05	-	-	< 0.05
Dieldrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan I	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan II	0.05	mg/kg	< 0.05	-	-	< 0.05
Endosulfan sulphate	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin aldehyde	0.05	mg/kg	< 0.05	-	-	< 0.05
Endrin ketone	0.05	mg/kg	< 0.05	-	-	< 0.05
g-BHC (Lindane)	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Heptachlor epoxide	0.05	mg/kg	< 0.05	-	-	< 0.05
Hexachlorobenzene	0.05	mg/kg	< 0.05	-	-	< 0.05
Methoxychlor	0.05	mg/kg	< 0.05	-	-	< 0.05
Toxaphene	1	mg/kg	< 1	-	-	< 1
Dibutylchlorendate (surr.)	1	%	101	-	-	106
Tetrachloro-m-xylene (surr.)	1	%	94	-	-	123
Polychlorinated Biphenyls						
Aroclor-1016	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1221	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1232	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1242	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1248	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1254	0.1	mg/kg	< 0.1	-	-	-
Aroclor-1260	0.1	mg/kg	< 0.1	-	-	-
Total PCB*	0.1	mg/kg	< 0.1	-	-	-
Dibutylchlorendate (surr.)	1	%	101	-	-	-
Tetrachloro-m-xylene (surr.)	1	%	94	-	-	-
Phenols (Halogenated)						
2-Chlorophenol	0.5	mg/kg	< 0.5	-	-	-
2.4-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
2.4.5-Trichlorophenol	1.0	mg/kg	< 1	-	-	-
2.4.6-Trichlorophenol	1.0	mg/kg	< 1	-	-	-
2.6-Dichlorophenol	0.5	mg/kg	< 0.5	-	-	-
4-Chloro-3-methylphenol	1.0	mg/kg	< 1	-	-	-
Pentachlorophenol	1.0	mg/kg	< 1	-	-	-
Tetrachlorophenols - Total	1.0	mg/kg	< 1	-	-	-
Total Halogenated Phenol*	1	mg/kg	< 1	-	-	-

Client Sample ID			SBA/2_0.3-0.4	SBB/1_0-0.1	SBC/2_0.2-0.3	SBC/3_0.4-0.5
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins | mgt Sample No.			M16-Ma18516	M16-Ma18517	M16-Ma18518	M16-Ma18519
Date Sampled			Mar 17, 2016	Mar 17, 2016	Mar 17, 2016	Mar 17, 2016
Test/Reference	LOR	Unit				
Phenols (non-Halogenated)						
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	< 20	-	-	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	< 5	-	-	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	< 0.2	-	-	-
2-Nitrophenol	1.0	mg/kg	< 1	-	-	-
2.4-Dimethylphenol	0.5	mg/kg	< 0.5	-	-	-
2.4-Dinitrophenol	5	mg/kg	< 5	-	-	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	< 0.4	-	-	-
4-Nitrophenol	5	mg/kg	< 5	-	-	-
Dinoseb	20	mg/kg	< 20	-	-	-
Phenol	0.5	mg/kg	< 0.5	-	-	-
Total Non-Halogenated Phenol*	20	mg/kg	< 20	-	-	-
Phenol-d6 (surr.)	1	%	29	-	-	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions						
TRH >C10-C16	50	mg/kg	< 50	< 50	-	-
TRH >C16-C34	100	mg/kg	< 100	< 100	-	-
TRH >C34-C40	100	mg/kg	< 100	< 100	-	-
% Clay	1	%	-	-	-	53
Conductivity (1:5 aqueous extract at 25°C)	10	uS/cm	-	-	-	330
Cyanide (total)	5	mg/kg	< 5	-	-	-
Fluoride	100	mg/kg	150	-	-	-
pH (1:5 Aqueous extract)	0.1	pH Units	-	-	-	8.4
Total Organic Carbon[M10]	0.1	%	-	-	-	2.1
% Moisture	1	%	10	3.1	15	21
Heavy Metals						
Antimony	10	mg/kg	-	< 10	< 10	-
Arsenic	2	mg/kg	13	5.5	8.7	-
Beryllium	2	mg/kg	-	< 2	< 2	-
Boron	10	mg/kg	-	< 10	< 10	-
Cadmium	0.4	mg/kg	0.6	< 0.4	< 0.4	-
Chromium	5	mg/kg	18	6.0	20	-
Cobalt	5	mg/kg	-	5.3	6.6	-
Copper	5	mg/kg	44	< 5	12	-
Iron	5	mg/kg	-	-	-	22000
Lead	5	mg/kg	230	8.7	16	-
Manganese	5	mg/kg	-	340	430	-
Mercury	0.1	mg/kg	1.0	< 0.1	< 0.1	-
Molybdenum	10	mg/kg	< 10	< 10	< 10	-
Nickel	5	mg/kg	6.7	7.9	8.6	-
Selenium	2	mg/kg	< 2	< 2	< 2	-
Silver	5	mg/kg	< 5	< 5	< 5	-
Tin	10	mg/kg	< 10	< 10	< 10	-
Vanadium	10	mg/kg	-	< 10	28	-
Zinc	5	mg/kg	490	17	25	-
Ion Exchange Properties						
Cation Exchange Capacity	0.05	meq/100g	-	-	-	47

Client Sample ID			SBD/2_0.2-0.3	SBD/3_0.4-0.5	DUPB_17/3/16
Sample Matrix			Soil	Soil	Soil
Eurofins | mgt Sample No.			M16-Ma18520	M16-Ma18521	M16-Ma18522
Date Sampled			Mar 17, 2016	Mar 17, 2016	Mar 17, 2016
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 1999 NEPM Fractions					
TRH C6-C9	20	mg/kg	-	< 20	-
TRH C10-C14	20	mg/kg	-	< 20	-
TRH C15-C28	50	mg/kg	-	< 50	-
TRH C29-C36	50	mg/kg	-	< 50	-
TRH C10-36 (Total)	50	mg/kg	-	< 50	-
BTEX					
Benzene	0.1	mg/kg	-	< 0.1	-
Toluene	0.1	mg/kg	-	< 0.1	-
Ethylbenzene	0.1	mg/kg	-	< 0.1	-
m&p-Xylenes	0.2	mg/kg	-	< 0.2	-
o-Xylene	0.1	mg/kg	-	< 0.1	-
Xylenes - Total	0.3	mg/kg	-	< 0.3	-
4-Bromofluorobenzene (surr.)	1	%	-	62	-
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
Naphthalene[N02]	0.5	mg/kg	-	< 0.5	-
TRH C6-C10	20	mg/kg	-	< 20	-
TRH C6-C10 less BTEX (F1)[N04]	20	mg/kg	-	< 20	-
TRH >C10-C16 less Naphthalene (F2)[N01]	50	mg/kg	-	< 50	-
Polycyclic Aromatic Hydrocarbons					
Benzo(a)pyrene TEQ (lower bound) *	0.5	mg/kg	0.6	< 0.5	-
Benzo(a)pyrene TEQ (medium bound) *	0.5	mg/kg	0.9	0.6	-
Benzo(a)pyrene TEQ (upper bound) *	0.5	mg/kg	1.2	1.2	-
Acenaphthene	0.5	mg/kg	< 0.5	< 0.5	-
Acenaphthylene	0.5	mg/kg	< 0.5	< 0.5	-
Anthracene	0.5	mg/kg	< 0.5	< 0.5	-
Benz(a)anthracene	0.5	mg/kg	0.5	< 0.5	-
Benzo(a)pyrene	0.5	mg/kg	0.5	< 0.5	-
Benzo(b&j)fluoranthene[N07]	0.5	mg/kg	< 0.5	< 0.5	-
Benzo(g.h.i)perylene	0.5	mg/kg	0.5	< 0.5	-
Benzo(k)fluoranthene	0.5	mg/kg	0.5	< 0.5	-
Chrysene	0.5	mg/kg	0.6	< 0.5	-
Dibenz(a.h)anthracene	0.5	mg/kg	< 0.5	< 0.5	-
Fluoranthene	0.5	mg/kg	1.0	< 0.5	-
Fluorene	0.5	mg/kg	< 0.5	< 0.5	-
Indeno(1.2.3-cd)pyrene	0.5	mg/kg	< 0.5	< 0.5	-
Naphthalene	0.5	mg/kg	< 0.5	< 0.5	-
Phenanthrene	0.5	mg/kg	< 0.5	< 0.5	-
Pyrene	0.5	mg/kg	1.1	< 0.5	-
Total PAH*	0.5	mg/kg	4.7	< 0.5	-
2-Fluorobiphenyl (surr.)	1	%	100	69	-
p-Terphenyl-d14 (surr.)	1	%	98	74	-
Organochlorine Pesticides					
Chlordanes - Total	0.1	mg/kg	-	< 0.1	-
4.4'-DDD	0.05	mg/kg	-	< 0.05	-
4.4'-DDE	0.05	mg/kg	-	< 0.05	-
4.4'-DDT	0.05	mg/kg	-	< 0.05	-
a-BHC	0.05	mg/kg	-	< 0.05	-
Aldrin	0.05	mg/kg	-	< 0.05	-
b-BHC	0.05	mg/kg	-	< 0.05	-

Client Sample ID			SBD/2_0.2-0.3	SBD/3_0.4-0.5	DUPB_17/3/16
Sample Matrix			Soil	Soil	Soil
Eurofins | mgt Sample No.			M16-Ma18520	M16-Ma18521	M16-Ma18522
Date Sampled			Mar 17, 2016	Mar 17, 2016	Mar 17, 2016
Test/Reference	LOR	Unit			
Organochlorine Pesticides					
d-BHC	0.05	mg/kg	-	< 0.05	-
Dieldrin	0.05	mg/kg	-	< 0.05	-
Endosulfan I	0.05	mg/kg	-	< 0.05	-
Endosulfan II	0.05	mg/kg	-	< 0.05	-
Endosulfan sulphate	0.05	mg/kg	-	< 0.05	-
Endrin	0.05	mg/kg	-	< 0.05	-
Endrin aldehyde	0.05	mg/kg	-	< 0.05	-
Endrin ketone	0.05	mg/kg	-	< 0.05	-
g-BHC (Lindane)	0.05	mg/kg	-	< 0.05	-
Heptachlor	0.05	mg/kg	-	< 0.05	-
Heptachlor epoxide	0.05	mg/kg	-	< 0.05	-
Hexachlorobenzene	0.05	mg/kg	-	< 0.05	-
Methoxychlor	0.05	mg/kg	-	< 0.05	-
Toxaphene	1	mg/kg	-	< 1	-
Dibutylchlorendate (surr.)	1	%	-	100	-
Tetrachloro-m-xylene (surr.)	1	%	-	101	-
Polychlorinated Biphenyls					
Aroclor-1016	0.1	mg/kg	-	< 0.1	-
Aroclor-1221	0.1	mg/kg	-	< 0.1	-
Aroclor-1232	0.1	mg/kg	-	< 0.1	-
Aroclor-1242	0.1	mg/kg	-	< 0.1	-
Aroclor-1248	0.1	mg/kg	-	< 0.1	-
Aroclor-1254	0.1	mg/kg	-	< 0.1	-
Aroclor-1260	0.1	mg/kg	-	< 0.1	-
Total PCB*	0.1	mg/kg	-	< 0.1	-
Dibutylchlorendate (surr.)	1	%	-	100	-
Tetrachloro-m-xylene (surr.)	1	%	-	101	-
Phenols (Halogenated)					
2-Chlorophenol	0.5	mg/kg	-	< 0.5	-
2.4-Dichlorophenol	0.5	mg/kg	-	< 0.5	-
2.4.5-Trichlorophenol	1.0	mg/kg	-	< 1	-
2.4.6-Trichlorophenol	1.0	mg/kg	-	< 1	-
2.6-Dichlorophenol	0.5	mg/kg	-	< 0.5	-
4-Chloro-3-methylphenol	1.0	mg/kg	-	< 1	-
Pentachlorophenol	1.0	mg/kg	-	< 1	-
Tetrachlorophenols - Total	1.0	mg/kg	-	< 1	-
Total Halogenated Phenol*	1	mg/kg	-	< 1	-
Phenols (non-Halogenated)					
2-Cyclohexyl-4.6-dinitrophenol	20	mg/kg	-	< 20	-
2-Methyl-4.6-dinitrophenol	5	mg/kg	-	< 5	-
2-Methylphenol (o-Cresol)	0.2	mg/kg	-	< 0.2	-
2-Nitrophenol	1.0	mg/kg	-	< 1	-
2.4-Dimethylphenol	0.5	mg/kg	-	< 0.5	-
2.4-Dinitrophenol	5	mg/kg	-	< 5	-
3&4-Methylphenol (m&p-Cresol)	0.4	mg/kg	-	< 0.4	-
4-Nitrophenol	5	mg/kg	-	< 5	-
Dinoseb	20	mg/kg	-	< 20	-
Phenol	0.5	mg/kg	-	< 0.5	-
Total Non-Halogenated Phenol*	20	mg/kg	-	< 20	-
Phenol-d6 (surr.)	1	%	-	93	-

Client Sample ID			SBD/2_0.2-0.3	SBD/3_0.4-0.5	DUPB_17/3/16
Sample Matrix			**Soil**	**Soil**	**Soil**
Eurofins | mgt Sample No.			**M16-Ma18520**	**M16-Ma18521**	**M16-Ma18522**
Date Sampled			**Mar 17, 2016**	**Mar 17, 2016**	**Mar 17, 2016**
Test/Reference	LOR	Unit			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions					
TRH >C10-C16	50	mg/kg	-	< 50	-
TRH >C16-C34	100	mg/kg	-	< 100	-
TRH >C34-C40	100	mg/kg	-	< 100	-
Cyanide (total)	5	mg/kg	-	< 5	-
Fluoride	100	mg/kg	-	150	-
% Moisture	1	%	17	23	15
Heavy Metals					
Antimony	10	mg/kg	< 10	-	< 10
Arsenic	2	mg/kg	16	22	16
Beryllium	2	mg/kg	< 2	-	< 2
Boron	10	mg/kg	23	-	21
Cadmium	0.4	mg/kg	1.1	< 0.4	1.7
Chromium	5	mg/kg	25	36	27
Cobalt	5	mg/kg	8.4	-	6.9
Copper	5	mg/kg	71	12	93
Lead	5	mg/kg	180	21	390
Manganese	5	mg/kg	200	-	230
Mercury	0.1	mg/kg	0.9	< 0.1	1.8
Molybdenum	10	mg/kg	< 10	< 10	< 10
Nickel	5	mg/kg	9.2	12	10
Selenium	2	mg/kg	< 2	< 2	< 2
Silver	5	mg/kg	< 5	< 5	< 5
Tin	10	mg/kg	19	< 10	30
Vanadium	10	mg/kg	45	-	37
Zinc	5	mg/kg	1800	42	2600

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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

Description	Testing Site	Extracted	Holding Time
Total Recoverable Hydrocarbons - 1999 NEPM Fractions	Melbourne	Mar 22, 2016	14 Day
- Method: TRH C6-C36 - LTM-ORG-2010			
BTEX	Melbourne	Mar 21, 2016	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 21, 2016	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Polycyclic Aromatic Hydrocarbons	Melbourne	Mar 22, 2016	14 Day
- Method: USEPA 8270 Polycyclic Aromatic Hydrocarbons			
Organochlorine Pesticides	Melbourne	Mar 21, 2016	14 Day
- Method: USEPA 8081 Organochlorine Pesticides			
Polychlorinated Biphenyls	Melbourne	Mar 21, 2016	28 Day
- Method: USEPA 8082 Polychlorinated Biphenyls			
Phenols (Halogenated)	Melbourne	Mar 22, 2016	14 Day
- Method: USEPA 8270 Phenols			
Phenols (non-Halogenated)	Melbourne	Mar 22, 2016	14 Day
- Method: USEPA 8270 Phenols			
Total Recoverable Hydrocarbons - 2013 NEPM Fractions	Melbourne	Mar 22, 2016	14 Day
- Method: TRH C6-C40 - LTM-ORG-2010			
Cyanide (total)	Melbourne	Mar 21, 2016	14 Day
- Method: LTM-INO-4020 Total Free WAD Cyanide by CFA			
Fluoride	Melbourne	Mar 22, 2016	28 Day
- Method: NEPC 404 (Fusion followed by ISE)			
IWRG 621 Metals : Metals M12	Melbourne	Mar 21, 2016	28 Day
- Method: LTM-MET-3030 by ICP-OES (hydride ICP-OES for Mercury)			
% Clay	Brisbane	Mar 22, 2016	6 Day
- Method: LTM-GEN-7040			
pH (1:5 Aqueous extract)	Melbourne	Mar 21, 2016	7 Day
- Method: LTM-GEN-7090 pH in soil by ISE			
Total Organic Carbon	Melbourne	Mar 22, 2016	28 Day
- Method: APHA 5310B Total Organic Carbon			
Metals M18	Melbourne	Mar 21, 2016	28 Day
- Method: LTM-MET-3030 by ICP-OES (hydride ICP-OES for Mercury)			
Heavy Metals	Melbourne	Mar 21, 2016	180 Day
- Method: LTM-MET-3030 by ICP-OES (hydride ICP-OES for Mercury)			
Conductivity (1:5 aqueous extract at 25°C)	Melbourne	Mar 21, 2016	7 Day
- Method: LTM-INO-4030			
Ion Exchange Properties	Melbourne	Mar 22, 2016	
% Moisture	Melbourne	Mar 19, 2016	14 Day
- Method: LTM-GEN-7080 Moisture			

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Brisbane
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NATA # 1261 Site # 20794

Company Name: Mott MacDonald
Address: Mezzanine Level, 22 King William St
Adelaide
SA 5000

Project Name: 9-9A STAFFORD ST

Order No.:
Report #: 493579
Phone: 08 7325 7325
Fax:

Received: Mar 18, 2016 9:16 AM
Due: Mar 29, 2016
Priority: 5 Day
Contact Name: - Rebecca Lucock

Eurofins | mgt Client Manager: Sarah Gould

Sample Detail					% Clay	Asbestos Absence /Presence	HOLD	Iron	pH (1:5 Aqueous extract)	Total Organic Carbon	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	BTEX	Metals M18	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons	Vic EPA Short Screen
Laboratory where analysis is conducted																		
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X												
Brisbane Laboratory - NATA Site # 20794					X													
External Laboratory																		
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**														
SBA/2_0.3-0.4	Mar 17, 2016		Soil	M16-Ma18516		X									X			X
SBB/1_0-0.1	Mar 17, 2016		Soil	M16-Ma18517										X	X		X	
SBC/2_0.2-0.3	Mar 17, 2016		Soil	M16-Ma18518							X			X	X			
SBC/3_0.4-0.5	Mar 17, 2016		Soil	M16-Ma18519	X			X	X	X		X			X	X		
SBD/2_0.2-0.3	Mar 17, 2016		Soil	M16-Ma18520							X			X	X			
SBD/3_0.4-0.5	Mar 17, 2016		Soil	M16-Ma18521											X			X
DUPB_17/3/16	Mar 17, 2016		Soil	M16-Ma18522											X			X
RINA_17/3/16	Mar 17, 2016		Water	M16-Ma18523										X				
TRIPA_17/3/16	Mar 17, 2016		Water	M16-Ma18524									X					
SBA/1_0-0.1	Mar 17, 2016		Soil	M16-Ma18525			X											

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Company Name:	Mott MacDonald	**Order No.:**	
Address:	Mezzanine Level, 22 King William St Adelaide SA 5000	**Report #:**	493579
		Phone:	08 7325 7325
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Received:	Mar 18, 2016 9:16 AM
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Contact Name:	- Rebecca Lucock

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Sample Detail					% Clay	Asbestos Absence /Presence	HOLD	Iron	pH (1:5 Aqueous extract)	Total Organic Carbon	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	BTEX	Metals M18	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons	Vic EPA Short Screen
Laboratory where analysis is conducted																		
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X												
Brisbane Laboratory - NATA Site # 20794					X													
External Laboratory																		
SBA/3_0.5-0.6	Mar 17, 2016		Soil	M16-Ma18526			X											
SBA/4_0.9-1.0	Mar 17, 2016		Soil	M16-Ma18527			X											
SBB/2_0.3-0.4	Mar 17, 2016		Soil	M16-Ma18528			X											
SBC/1_0-0.1	Mar 17, 2016		Soil	M16-Ma18529			X											
SBC/4_0.9-1.0	Mar 17, 2016		Soil	M16-Ma18530			X											
SBD/1_0-0.1	Mar 17, 2016		Soil	M16-Ma18531			X											
SBD/4_0.9-1.0	Mar 17, 2016		Soil	M16-Ma18532			X											

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
4. Results are uncorrected for matrix spikes or surrogate recoveries.
5. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
6. Samples were analysed on an 'as received' basis. 7. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

mg/kg: milligrams per Kilogram

mg/l: milligrams per litre

ug/l: micrograms per litre

ppm: Parts per million

ppb: Parts per billion

%: Percentage

org/100ml: Organisms per 100 millilitres

NTU: Nephelometric Turbidity Units

MPN/100mL: Most Probable Number of organisms per 100 millilitres

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery
CRM	Certified Reference Material - reported as percent recovery
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands. In the case of water samples these are performed on de-ionised water.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
Batch Duplicate	A second piece of analysis from a sample outside of the clients batch of samples but run within the laboratory batch of analysis.
Batch SPIKE	Spike recovery reported on a sample from outside of the clients batch of samples but run within the laboratory batch of analysis.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
ASLP	Australian Standard Leaching Procedure (Eurofins | mgt uses NATA accredited in-house method LTM-GEN-7010)
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
CP	Client Parent - QC was performed on samples pertaining to this report
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR : No Limit

Results between 10-20 times the LOR : RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

Surrogate Recoveries : Recoveries must lie between 50-150% - Phenols 20-130%.

QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling.Therefore laboratory analysis is unlikely to be completed within holding time. Analysis will begin as soon as possible after sample receipt.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	mg/kg	< 20			20	Pass	
TRH C10-C14	mg/kg	< 20			20	Pass	
TRH C15-C28	mg/kg	< 50			50	Pass	
TRH C29-C36	mg/kg	< 50			50	Pass	
Method Blank							
BTEX							
Benzene	mg/kg	< 0.1			0.1	Pass	
Toluene	mg/kg	< 0.1			0.1	Pass	
Ethylbenzene	mg/kg	< 0.1			0.1	Pass	
m&p-Xylenes	mg/kg	< 0.2			0.2	Pass	
o-Xylene	mg/kg	< 0.1			0.1	Pass	
Xylenes - Total	mg/kg	< 0.3			0.3	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	mg/kg	< 0.5			0.5	Pass	
TRH C6-C10	mg/kg	< 20			20	Pass	
Method Blank							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	mg/kg	< 0.5			0.5	Pass	
Acenaphthylene	mg/kg	< 0.5			0.5	Pass	
Anthracene	mg/kg	< 0.5			0.5	Pass	
Benz(a)anthracene	mg/kg	< 0.5			0.5	Pass	
Benzo(a)pyrene	mg/kg	< 0.5			0.5	Pass	
Benzo(b&j)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Benzo(g.h.i)perylene	mg/kg	< 0.5			0.5	Pass	
Benzo(k)fluoranthene	mg/kg	< 0.5			0.5	Pass	
Chrysene	mg/kg	< 0.5			0.5	Pass	
Dibenz(a.h)anthracene	mg/kg	< 0.5			0.5	Pass	
Fluoranthene	mg/kg	< 0.5			0.5	Pass	
Fluorene	mg/kg	< 0.5			0.5	Pass	
Indeno(1.2.3-cd)pyrene	mg/kg	< 0.5			0.5	Pass	
Naphthalene	mg/kg	< 0.5			0.5	Pass	
Phenanthrene	mg/kg	< 0.5			0.5	Pass	
Pyrene	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Organochlorine Pesticides							
Chlordanes - Total	mg/kg	< 0.1			0.1	Pass	
4.4'-DDD	mg/kg	< 0.05			0.05	Pass	
4.4'-DDE	mg/kg	< 0.05			0.05	Pass	
4.4'-DDT	mg/kg	< 0.05			0.05	Pass	
a-BHC	mg/kg	< 0.05			0.05	Pass	
Aldrin	mg/kg	< 0.05			0.05	Pass	
b-BHC	mg/kg	< 0.05			0.05	Pass	
d-BHC	mg/kg	< 0.05			0.05	Pass	
Dieldrin	mg/kg	< 0.05			0.05	Pass	
Endosulfan I	mg/kg	< 0.05			0.05	Pass	
Endosulfan II	mg/kg	< 0.05			0.05	Pass	
Endosulfan sulphate	mg/kg	< 0.05			0.05	Pass	
Endrin	mg/kg	< 0.05			0.05	Pass	
Endrin aldehyde	mg/kg	< 0.05			0.05	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Endrin ketone	mg/kg	< 0.05			0.05	Pass	
g-BHC (Lindane)	mg/kg	< 0.05			0.05	Pass	
Heptachlor	mg/kg	< 0.05			0.05	Pass	
Heptachlor epoxide	mg/kg	< 0.05			0.05	Pass	
Hexachlorobenzene	mg/kg	< 0.05			0.05	Pass	
Methoxychlor	mg/kg	< 0.05			0.05	Pass	
Toxaphene	mg/kg	< 1			1	Pass	
Method Blank							
Polychlorinated Biphenyls							
Aroclor-1016	mg/kg	< 0.1			0.1	Pass	
Aroclor-1221	mg/kg	< 0.1			0.1	Pass	
Aroclor-1232	mg/kg	< 0.1			0.1	Pass	
Aroclor-1242	mg/kg	< 0.1			0.1	Pass	
Aroclor-1248	mg/kg	< 0.1			0.1	Pass	
Aroclor-1254	mg/kg	< 0.1			0.1	Pass	
Aroclor-1260	mg/kg	< 0.1			0.1	Pass	
Total PCB*	mg/kg	< 0.1			0.1	Pass	
Method Blank							
Phenols (Halogenated)							
2-Chlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
2.4.5-Trichlorophenol	mg/kg	< 1			1.0	Pass	
2.4.6-Trichlorophenol	mg/kg	< 1			1.0	Pass	
2.6-Dichlorophenol	mg/kg	< 0.5			0.5	Pass	
4-Chloro-3-methylphenol	mg/kg	< 1			1.0	Pass	
Pentachlorophenol	mg/kg	< 1			1.0	Pass	
Tetrachlorophenols - Total	mg/kg	< 1			1.0	Pass	
Method Blank							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	mg/kg	< 20			20	Pass	
2-Methyl-4.6-dinitrophenol	mg/kg	< 5			5	Pass	
2-Methylphenol (o-Cresol)	mg/kg	< 0.2			0.2	Pass	
2-Nitrophenol	mg/kg	< 1			1.0	Pass	
2.4-Dimethylphenol	mg/kg	< 0.5			0.5	Pass	
2.4-Dinitrophenol	mg/kg	< 5			5	Pass	
3&4-Methylphenol (m&p-Cresol)	mg/kg	< 0.4			0.4	Pass	
4-Nitrophenol	mg/kg	< 5			5	Pass	
Dinoseb	mg/kg	< 20			20	Pass	
Phenol	mg/kg	< 0.5			0.5	Pass	
Method Blank							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	mg/kg	< 50			50	Pass	
TRH >C16-C34	mg/kg	< 100			100	Pass	
TRH >C34-C40	mg/kg	< 100			100	Pass	
Method Blank							
% Clay	%	< 1			1	Pass	
Conductivity (1:5 aqueous extract at 25°C)	uS/cm	< 10			10	Pass	
Cyanide (total)	mg/kg	< 5			5	Pass	
Fluoride	mg/kg	< 100			100	Pass	
Total Organic Carbon	%	< 0.1			0.1	Pass	
Method Blank							
Heavy Metals							
Antimony	mg/kg	< 10			10	Pass	
Arsenic	mg/kg	< 2			2	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Beryllium	mg/kg	< 2			2	Pass	
Boron	mg/kg	< 10			10	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Iron	mg/kg	< 5			5	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 10			10	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 5			5	Pass	
Tin	mg/kg	< 10			10	Pass	
Vanadium	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Ion Exchange Properties							
Cation Exchange Capacity	meq/100g	< 0.05			0.05	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 1999 NEPM Fractions							
TRH C6-C9	%	83			70-130	Pass	
TRH C10-C14	%	92			70-130	Pass	
LCS - % Recovery							
BTEX							
Benzene	%	104			70-130	Pass	
Toluene	%	89			70-130	Pass	
Ethylbenzene	%	102			70-130	Pass	
m&p-Xylenes	%	112			70-130	Pass	
Xylenes - Total	%	114			70-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
Naphthalene	%	115			70-130	Pass	
TRH C6-C10	%	75			70-130	Pass	
LCS - % Recovery							
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	%	109			70-130	Pass	
Acenaphthylene	%	110			70-130	Pass	
Anthracene	%	112			70-130	Pass	
Benz(a)anthracene	%	104			70-130	Pass	
Benzo(a)pyrene	%	88			70-130	Pass	
Benzo(b&j)fluoranthene	%	82			70-130	Pass	
Benzo(g.h.i)perylene	%	115			70-130	Pass	
Benzo(k)fluoranthene	%	119			70-130	Pass	
Chrysene	%	109			70-130	Pass	
Dibenz(a.h)anthracene	%	118			70-130	Pass	
Fluoranthene	%	110			70-130	Pass	
Fluorene	%	107			70-130	Pass	
Indeno(1.2.3-cd)pyrene	%	110			70-130	Pass	
Naphthalene	%	110			70-130	Pass	
Phenanthrene	%	105			70-130	Pass	
Pyrene	%	111			70-130	Pass	
LCS - % Recovery							

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Organochlorine Pesticides							
4.4'-DDD	%	111			70-130	Pass	
4.4'-DDE	%	104			70-130	Pass	
4.4'-DDT	%	125			70-130	Pass	
a-BHC	%	98			70-130	Pass	
Aldrin	%	99			70-130	Pass	
b-BHC	%	90			70-130	Pass	
d-BHC	%	104			70-130	Pass	
Dieldrin	%	94			70-130	Pass	
Endosulfan I	%	100			70-130	Pass	
Endosulfan II	%	101			70-130	Pass	
Endosulfan sulphate	%	105			70-130	Pass	
Endrin	%	117			70-130	Pass	
Endrin aldehyde	%	94			70-130	Pass	
Endrin ketone	%	102			70-130	Pass	
g-BHC (Lindane)	%	104			70-130	Pass	
Heptachlor	%	109			70-130	Pass	
Heptachlor epoxide	%	98			70-130	Pass	
Hexachlorobenzene	%	90			70-130	Pass	
Methoxychlor	%	120			70-130	Pass	
LCS - % Recovery							
Polychlorinated Biphenyls							
Aroclor-1260	%	104			70-130	Pass	
LCS - % Recovery							
Phenols (Halogenated)							
2-Chlorophenol	%	95			30-130	Pass	
2.4-Dichlorophenol	%	89			30-130	Pass	
2.4.5-Trichlorophenol	%	117			30-130	Pass	
2.4.6-Trichlorophenol	%	99			30-130	Pass	
2.6-Dichlorophenol	%	93			30-130	Pass	
4-Chloro-3-methylphenol	%	108			30-130	Pass	
Pentachlorophenol	%	64			30-130	Pass	
Tetrachlorophenols - Total	%	101			30-130	Pass	
LCS - % Recovery							
Phenols (non-Halogenated)							
2-Cyclohexyl-4.6-dinitrophenol	%	43			30-130	Pass	
2-Methyl-4.6-dinitrophenol	%	100			30-130	Pass	
2-Methylphenol (o-Cresol)	%	92			30-130	Pass	
2-Nitrophenol	%	90			30-130	Pass	
2.4-Dimethylphenol	%	69			30-130	Pass	
2.4-Dinitrophenol	%	48			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	%	97			30-130	Pass	
4-Nitrophenol	%	118			30-130	Pass	
Dinoseb	%	44			30-130	Pass	
Phenol	%	108			30-130	Pass	
LCS - % Recovery							
Total Recoverable Hydrocarbons - 2013 NEPM Fractions							
TRH >C10-C16	%	97			70-130	Pass	
LCS - % Recovery							
% Clay	%	100			70-130	Pass	
Cyanide (total)	%	94			70-130	Pass	
Fluoride	%	82			70-130	Pass	
Total Organic Carbon	%	96			70-130	Pass	
LCS - % Recovery							

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Heavy Metals									
Antimony			%	85			80-120	Pass	
Arsenic			%	85			80-120	Pass	
Beryllium			%	99			80-120	Pass	
Boron			%	85			80-120	Pass	
Cadmium			%	92			80-120	Pass	
Chromium			%	97			80-120	Pass	
Cobalt			%	97			80-120	Pass	
Copper			%	99			80-120	Pass	
Lead			%	96			80-120	Pass	
Manganese			%	101			80-120	Pass	
Mercury			%	107			75-125	Pass	
Molybdenum			%	94			80-120	Pass	
Nickel			%	98			80-120	Pass	
Selenium			%	83			80-120	Pass	
Silver			%	89			80-120	Pass	
Tin			%	109			80-120	Pass	
Vanadium			%	95			80-120	Pass	
Zinc			%	95			80-120	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Polycyclic Aromatic Hydrocarbons				Result 1					
Acenaphthene	M16-Ma18516	CP	%	83			70-130	Pass	
Acenaphthylene	M16-Ma18516	CP	%	86			70-130	Pass	
Anthracene	M16-Ma18516	CP	%	86			70-130	Pass	
Benz(a)anthracene	M16-Ma18516	CP	%	77			70-130	Pass	
Benzo(a)pyrene	M16-Ma18516	CP	%	84			70-130	Pass	
Benzo(b&j)fluoranthene	M16-Ma18516	CP	%	87			70-130	Pass	
Benzo(g.h.i)perylene	M16-Ma18516	CP	%	74			70-130	Pass	
Benzo(k)fluoranthene	M16-Ma18516	CP	%	89			70-130	Pass	
Chrysene	M16-Ma18516	CP	%	89			70-130	Pass	
Dibenz(a.h)anthracene	M16-Ma18516	CP	%	78			70-130	Pass	
Fluoranthene	M16-Ma18516	CP	%	84			70-130	Pass	
Fluorene	M16-Ma18516	CP	%	85			70-130	Pass	
Indeno(1.2.3-cd)pyrene	M16-Ma18516	CP	%	78			70-130	Pass	
Naphthalene	M16-Ma18516	CP	%	80			70-130	Pass	
Phenanthrene	M16-Ma18516	CP	%	77			70-130	Pass	
Pyrene	M16-Ma18516	CP	%	80			70-130	Pass	
Spike - % Recovery									
Organochlorine Pesticides				Result 1					
4.4'-DDD	M16-Ma18305	NCP	%	104			70-130	Pass	
4.4'-DDE	M16-Ma18305	NCP	%	118			70-130	Pass	
4.4'-DDT	M16-Ma18305	NCP	%	110			70-130	Pass	
a-BHC	M16-Ma18305	NCP	%	112			70-130	Pass	
Aldrin	M16-Ma18305	NCP	%	114			70-130	Pass	
b-BHC	M16-Ma18305	NCP	%	103			70-130	Pass	
d-BHC	M16-Ma18305	NCP	%	120			70-130	Pass	
Dieldrin	M16-Ma18305	NCP	%	110			70-130	Pass	
Endosulfan I	M16-Ma18305	NCP	%	115			70-130	Pass	
Endosulfan II	M16-Ma18305	NCP	%	117			70-130	Pass	
Endosulfan sulphate	M16-Ma18305	NCP	%	117			70-130	Pass	
Endrin	M16-Ma18305	NCP	%	105			70-130	Pass	
Endrin aldehyde	M16-Ma18305	NCP	%	100			70-130	Pass	
Endrin ketone	M16-Ma18305	NCP	%	111			70-130	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
g-BHC (Lindane)	M16-Ma18305	NCP	%	118			70-130	Pass	
Heptachlor	M16-Ma18305	NCP	%	123			70-130	Pass	
Heptachlor epoxide	M16-Ma18305	NCP	%	114			70-130	Pass	
Hexachlorobenzene	M16-Ma18305	NCP	%	104			70-130	Pass	
Methoxychlor	M16-Ma18305	NCP	%	102			70-130	Pass	
Spike - % Recovery									
Polychlorinated Biphenyls				Result 1					
Aroclor-1260	M16-Ma18497	NCP	%	74			70-130	Pass	
Spike - % Recovery									
Phenols (Halogenated)				Result 1					
2-Chlorophenol	M16-Ma18516	CP	%	78			30-130	Pass	
2.4-Dichlorophenol	M16-Ma18516	CP	%	71			30-130	Pass	
2.4.5-Trichlorophenol	M16-Ma18516	CP	%	102			30-130	Pass	
2.4.6-Trichlorophenol	M16-Ma18516	CP	%	75			30-130	Pass	
2.6-Dichlorophenol	M16-Ma18516	CP	%	76			30-130	Pass	
4-Chloro-3-methylphenol	M16-Ma18516	CP	%	89			30-130	Pass	
Pentachlorophenol	M16-Ma18516	CP	%	39			30-130	Pass	
Tetrachlorophenols - Total	M16-Ma18516	CP	%	78			30-130	Pass	
Spike - % Recovery									
Phenols (non-Halogenated)				Result 1					
2-Cyclohexyl-4.6-dinitrophenol	M16-Ma13710	NCP	%	108			30-130	Pass	
2-Methyl-4.6-dinitrophenol	M16-Ma18516	CP	%	41			30-130	Pass	
2-Methylphenol (o-Cresol)	M16-Ma18516	CP	%	75			30-130	Pass	
2-Nitrophenol	M16-Ma18516	CP	%	75			30-130	Pass	
2.4-Dimethylphenol	M16-Ma18516	CP	%	58			30-130	Pass	
2.4-Dinitrophenol	B16-Ma13933	NCP	%	71			30-130	Pass	
3&4-Methylphenol (m&p-Cresol)	M16-Ma18516	CP	%	77			30-130	Pass	
4-Nitrophenol	M16-Ma18516	CP	%	105			30-130	Pass	
Dinoseb	B16-Ma14612	NCP	%	38			30-130	Pass	
Phenol	M16-Ma18516	CP	%	91			30-130	Pass	
Spike - % Recovery									
				Result 1					
Cyanide (total)	M16-Ma18561	NCP	%	102			70-130	Pass	
Fluoride	M16-Ma16525	NCP	%	87			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Tin	M16-Ma18563	NCP	%	82			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Antimony	M16-Ma19268	NCP	%	78			70-130	Pass	
Manganese	M16-Ma20685	NCP	%	100			75-125	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic	M16-Ma18518	CP	%	100			75-125	Pass	
Beryllium	M16-Ma18518	CP	%	115			75-125	Pass	
Boron	M16-Ma18518	CP	%	113			75-125	Pass	
Cadmium	M16-Ma18518	CP	%	119			75-125	Pass	
Chromium	M16-Ma18518	CP	%	113			75-125	Pass	
Cobalt	M16-Ma18518	CP	%	112			75-125	Pass	
Copper	M16-Ma18518	CP	%	86			75-125	Pass	
Lead	M16-Ma18518	CP	%	89			75-125	Pass	
Mercury	M16-Ma18518	CP	%	87			70-130	Pass	
Molybdenum	M16-Ma18518	CP	%	114			75-125	Pass	
Nickel	M16-Ma18518	CP	%	112			75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Silver	M16-Ma18518	CP	%	115			75-125	Pass	
Vanadium	M16-Ma18518	CP	%	77			75-125	Pass	
Zinc	M16-Ma18518	CP	%	114			75-125	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1					
TRH C6-C9	M16-Ma18521	CP	%	86			70-130	Pass	
TRH C10-C14	M16-Ma18521	CP	%	109			70-130	Pass	
Spike - % Recovery									
BTEX				Result 1					
Benzene	M16-Ma18521	CP	%	120			70-130	Pass	
Toluene	M16-Ma18521	CP	%	109			70-130	Pass	
Ethylbenzene	M16-Ma18521	CP	%	109			70-130	Pass	
m&p-Xylenes	M16-Ma18521	CP	%	120			70-130	Pass	
o-Xylene	M16-Ma18521	CP	%	123			70-130	Pass	
Xylenes - Total	M16-Ma18521	CP	%	121			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
Naphthalene	M16-Ma18521	CP	%	122			70-130	Pass	
TRH C6-C10	M16-Ma18521	CP	%	78			70-130	Pass	
Spike - % Recovery									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1					
TRH >C10-C16	M16-Ma18521	CP	%	116			70-130	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C6-C9	M16-Ma18579	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
BTEX				Result 1	Result 2	RPD			
Benzene	M16-Ma18579	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Toluene	M16-Ma18579	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Ethylbenzene	M16-Ma18579	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
m&p-Xylenes	M16-Ma18579	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
o-Xylene	M16-Ma18579	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Xylenes - Total	M16-Ma18579	NCP	mg/kg	< 0.3	< 0.3	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
Naphthalene	M16-Ma18579	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
TRH C6-C10	M16-Ma18579	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Acenaphthene	M16-Ma19129	NCP	mg/kg	3.4	2.4	32	30%	Fail	Q15
Acenaphthylene	M16-Ma19129	NCP	mg/kg	2.6	2.3	11	30%	Pass	
Anthracene	M16-Ma19129	NCP	mg/kg	4.3	3.1	32	30%	Fail	Q15
Benz(a)anthracene	M16-Ma19129	NCP	mg/kg	9.5	9.5	<1	30%	Pass	
Benzo(a)pyrene	M16-Ma19129	NCP	mg/kg	26	25	3.0	30%	Pass	
Benzo(b&j)fluoranthene	M16-Ma19129	NCP	mg/kg	22	21	3.0	30%	Pass	
Benzo(g.h.i)perylene	M16-Ma19129	NCP	mg/kg	15	15	2.0	30%	Pass	
Benzo(k)fluoranthene	M16-Ma19129	NCP	mg/kg	21	21	<1	30%	Pass	
Chrysene	M16-Ma19129	NCP	mg/kg	12	13	12	30%	Pass	
Dibenz(a.h)anthracene	M16-Ma19129	NCP	mg/kg	3.6	3.3	6.0	30%	Pass	
Fluoranthene	M16-Ma19129	NCP	mg/kg	25	29	1.0	30%	Pass	
Fluorene	M16-Ma19129	NCP	mg/kg	6.7	5.0	29	30%	Pass	
Indeno(1.2.3-cd)pyrene	M16-Ma19129	NCP	mg/kg	15	14	2.0	30%	Pass	
Naphthalene	M16-Ma19129	NCP	mg/kg	1.3	1.4	10	30%	Pass	

Duplicate									
Polycyclic Aromatic Hydrocarbons				Result 1	Result 2	RPD			
Phenanthrene	M16-Ma19129	NCP	mg/kg	15	18	18	30%	Pass	
Pyrene	M16-Ma19129	NCP	mg/kg	22	26	<1	30%	Pass	
Duplicate									
Organochlorine Pesticides				Result 1	Result 2	RPD			
Chlordanes - Total	M16-Ma17299	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
4.4'-DDD	M16-Ma17299	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDE	M16-Ma17299	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
4.4'-DDT	M16-Ma17299	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
a-BHC	M16-Ma17299	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Aldrin	M16-Ma17299	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
b-BHC	M16-Ma17299	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
d-BHC	M16-Ma17299	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Dieldrin	M16-Ma17299	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan I	M16-Ma17299	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan II	M16-Ma17299	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endosulfan sulphate	M16-Ma17299	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin	M16-Ma17299	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin aldehyde	M16-Ma17299	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Endrin ketone	M16-Ma17299	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
g-BHC (Lindane)	M16-Ma17299	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor	M16-Ma17299	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Heptachlor epoxide	M16-Ma17299	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Hexachlorobenzene	M16-Ma17299	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Methoxychlor	M16-Ma17299	NCP	mg/kg	< 0.05	< 0.05	<1	30%	Pass	
Toxaphene	M16-Ma17299	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Polychlorinated Biphenyls				Result 1	Result 2	RPD			
Aroclor-1016	M16-Ma17299	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1221	M16-Ma17299	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1232	M16-Ma17299	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1242	M16-Ma17299	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1248	M16-Ma17299	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1254	M16-Ma17299	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Aroclor-1260	M16-Ma17299	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Total PCB*	M16-Ma17299	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Duplicate									
Phenols (Halogenated)				Result 1	Result 2	RPD			
2-Chlorophenol	M16-Ma19129	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dichlorophenol	M16-Ma19129	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4.5-Trichlorophenol	M16-Ma19129	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4.6-Trichlorophenol	M16-Ma19129	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.6-Dichlorophenol	M16-Ma19129	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
4-Chloro-3-methylphenol	M16-Ma19129	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Pentachlorophenol	M16-Ma19129	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Tetrachlorophenols - Total	M16-Ma19129	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
2-Cyclohexyl-4.6-dinitrophenol	M16-Ma19129	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
2-Methyl-4.6-dinitrophenol	M16-Ma19129	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
2-Methylphenol (o-Cresol)	M16-Ma19129	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
2-Nitrophenol	M16-Ma19129	NCP	mg/kg	< 1	< 1	<1	30%	Pass	
2.4-Dimethylphenol	M16-Ma19129	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
2.4-Dinitrophenol	M16-Ma19129	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
3&4-Methylphenol (m&p-Cresol)	M16-Ma19129	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	

Duplicate									
Phenols (non-Halogenated)				Result 1	Result 2	RPD			
4-Nitrophenol	M16-Ma19129	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Dinoseb	M16-Ma19129	NCP	mg/kg	< 20	< 20	<1	30%	Pass	
Phenol	M16-Ma19129	NCP	mg/kg	< 0.5	< 0.5	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
Cyanide (total)	M16-Ma18486	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Fluoride	M16-Ma18739	NCP	mg/kg	290	210	35	30%	Fail	Q15
Duplicate									
Total Recoverable Hydrocarbons - 1999 NEPM Fractions				Result 1	Result 2	RPD			
TRH C10-C14	M16-Ma18517	CP	mg/kg	< 20	< 20	<1	30%	Pass	
TRH C15-C28	M16-Ma18517	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH C29-C36	M16-Ma18517	CP	mg/kg	< 50	< 50	<1	30%	Pass	
Duplicate									
Total Recoverable Hydrocarbons - 2013 NEPM Fractions				Result 1	Result 2	RPD			
TRH >C10-C16	M16-Ma18517	CP	mg/kg	< 50	< 50	<1	30%	Pass	
TRH >C16-C34	M16-Ma18517	CP	mg/kg	< 100	< 100	<1	30%	Pass	
TRH >C34-C40	M16-Ma18517	CP	mg/kg	< 100	< 100	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M16-Ma18517	CP	%	3.1	3.8	20	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Antimony	M16-Ma18517	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Arsenic	M16-Ma18517	CP	mg/kg	5.5	5.9	8.0	30%	Pass	
Beryllium	M16-Ma18517	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Boron	M16-Ma18517	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Cadmium	M16-Ma18517	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M16-Ma18517	CP	mg/kg	6.0	6.0	<1	30%	Pass	
Cobalt	M16-Ma18517	CP	mg/kg	5.3	5.2	2.0	30%	Pass	
Copper	M16-Ma18517	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Lead	M16-Ma18517	CP	mg/kg	8.7	10	15	30%	Pass	
Manganese	M16-Ma18517	CP	mg/kg	340	330	1.0	30%	Pass	
Mercury	M16-Ma18517	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M16-Ma18517	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Nickel	M16-Ma18517	CP	mg/kg	7.9	7.0	12	30%	Pass	
Selenium	M16-Ma18517	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M16-Ma18517	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Tin	M16-Ma18517	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Vanadium	M16-Ma18517	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Zinc	M16-Ma18517	CP	mg/kg	17	20	16	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Antimony	M16-Ma18518	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Arsenic	M16-Ma18518	CP	mg/kg	8.7	8.6	1.0	30%	Pass	
Beryllium	M16-Ma18518	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Boron	M16-Ma18518	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Cadmium	M16-Ma18518	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M16-Ma18518	CP	mg/kg	20	20	1.0	30%	Pass	
Cobalt	M16-Ma18518	CP	mg/kg	6.6	6.6	<1	30%	Pass	
Copper	M16-Ma18518	CP	mg/kg	12	12	1.0	30%	Pass	
Lead	M16-Ma18518	CP	mg/kg	16	17	5.0	30%	Pass	
Manganese	M16-Ma18518	CP	mg/kg	430	380	12	30%	Pass	
Mercury	M16-Ma18518	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M16-Ma18518	CP	mg/kg	< 10	< 10	<1	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Nickel	M16-Ma18518	CP	mg/kg	8.6	8.8	2.0	30%	Pass	
Selenium	M16-Ma18518	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M16-Ma18518	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Tin	M16-Ma18518	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Vanadium	M16-Ma18518	CP	mg/kg	28	28	<1	30%	Pass	
Zinc	M16-Ma18518	CP	mg/kg	25	24	4.0	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Clay	M15-Jn21902	NCP	%	33	33	<1	30%	Pass	
Conductivity (1:5 aqueous extract at 25°C)	M16-Ma19137	NCP	uS/cm	120	150	21	30%	Pass	
pH (1:5 Aqueous extract)	M16-Ma18798	NCP	pH Units	8.2	8.2	pass	30%	Pass	
Total Organic Carbon	S16-Ma13092	NCP	%	1.5	1.1	24	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Iron	M16-Ma18662	NCP	mg/kg	11000	11000	1.0	30%	Pass	

Comments

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
M10	NATA accreditation does not cover the performance of this service in soil matrices
N01	F2 is determined by arithmetically subtracting the "naphthalene" value from the ">C10-C16" value. The naphthalene value used in this calculation is obtained from volatiles (Purge & Trap analysis).
N02	Where we have reported both volatile (P&T GCMS) and semivolatile (GCMS) naphthalene data, results may not be identical. Provided correct sample handling protocols have been followed, any observed differences in results are likely to be due to procedural differences within each methodology. Results determined by both techniques have passed all QAQC acceptance criteria, and are entirely technically valid.
N04	F1 is determined by arithmetically subtracting the "Total BTEX" value from the "C6-C10" value. The "Total BTEX" value is obtained by summing the concentrations of BTEX analytes. The "C6-C10" value is obtained by quantitating against a standard of mixed aromatic/aliphatic analytes.
N07	Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs
Q15	The RPD reported passes Eurofins | mgt's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised By

Sarah Gould	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Harry Bacalis	Senior Analyst-Volatile (VIC)
Huong Le	Senior Analyst-Inorganic (VIC)
Mele Singh	Senior Analyst-Organic (VIC)
Rhys Thomas	Senior Analyst-Asbestos (NSW)
Richard Corner	Senior Analyst-Inorganic (QLD)

Glenn Jackson

National Operations Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

Certificate of Analysis

NATA Accredited
Accreditation Number 1261
Site Number 18217

Accredited for compliance with ISO/IEC 17025. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Mott MacDonald
Mezzanine Level, 22 King William St
Adelaide
SA 5000

Attention:	- Rebecca Lucock
Report	493579-AID
Project Name	9-9A STAFFORD ST
Received Date	Mar 18, 2016
Date Reported	Mar 29, 2016

Methodology:

Asbestos ID	Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques. Bulk samples include building materials, soils and ores.
Subsampling Soil Samples	The whole sample submitted is first dried and then sieved through a 10mm sieve followed by a 2mm sieve. All fibrous matter viz greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) Iron ores - Sampling and Sample preparation procedures is employed. Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis in accordance with AS 4964-2004.
Bonded asbestos-containing material (ACM)	The material is first examined and any fibres isolated and where required interfering organic fibres or matter may be removed by treating the sample for several hours at a temperature not exceeding 400 ± 30°C. The resultant material is then ground and examined in accordance with AS 4964-2004.
Limit of Reporting	The nominal detection limit of the AS4964 method is around 0.01%. The examination of large sample sizes (at least 500 ml is recommended) may improve the likelihood of identifying asbestos material in the greater than 2 mm fraction. The NEPM screening level of 0.001% w/w asbestos in soil for FA and AF (i.e. non-bonded/friable asbestos) only applies where the FA and AF are able to be quantified by gravimetric procedures. This screening level is not applicable to free fibres. NOTE: NATA News, September 2011 – page 34, states, “Weighing of fibres is problematic and can lead to loss of fibres and potential exposure for laboratory analysts. To request laboratories to report information which is outside the scope of AS 4964-2004 and the scope of their accreditation is misleading and is most unwise” therefore such values reported are outside the scope of Eurofins | mgt NATA accreditation as designated by an asterisk.

Project Name 9-9A STAFFORD ST
Project ID
Date Sampled Mar 17, 2016
Report 493579-AID

Client Sample ID	Eurofins | mgt Sample No.	Date Sampled	Sample Description	Result
SBA/2_0.3-0.4	16-Ma18516	Mar 17, 2016	Approximate Sample 53g Sample consisted of: Brown fine grain soil and rocks	No asbestos detected. Organic fibre detected. No respirable fibres detected.

Sample History

Where samples are submitted/analysed over several days, the last date of extraction and analysis is reported.
A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results (regarding both quality and NATA accreditation).

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

Description	Testing Site	Extracted	Holding Time
Asbestos - LTM-ASB-8020	Sydney	Mar 23, 2016	Indefinite

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Oakleigh VIC 3166
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
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Lane Cove West NSW 2066
Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

Company Name: Mott MacDonald
Address: Mezzanine Level, 22 King William St
Adelaide
SA 5000

Project Name: 9-9A STAFFORD ST

Order No.:
Report #: 493579
Phone: 08 7325 7325
Fax:

Received: Mar 18, 2016 9:16 AM
Due: Mar 29, 2016
Priority: 5 Day
Contact Name: - Rebecca Lucock

Eurofins | mgt Client Manager: Sarah Gould

Sample Detail					% Clay	Asbestos Absence /Presence	HOLD	Iron	pH (1:5 Aqueous extract)	Total Organic Carbon	Polycyclic Aromatic Hydrocarbons	Organochlorine Pesticides	BTEX	Metals M18	Moisture Set	Cation Exchange Capacity	Total Recoverable Hydrocarbons	Vic EPA Short Screen
Laboratory where analysis is conducted																		
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X												
Brisbane Laboratory - NATA Site # 20794					X													
External Laboratory																		
Sample ID	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**														
SBA/2_0.3-0.4	Mar 17, 2016		Soil	M16-Ma18516		X									X			X
SBB/1_0-0.1	Mar 17, 2016		Soil	M16-Ma18517										X	X		X	
SBC/2_0.2-0.3	Mar 17, 2016		Soil	M16-Ma18518							X			X	X			
SBC/3_0.4-0.5	Mar 17, 2016		Soil	M16-Ma18519	X			X	X	X		X			X	X		
SBD/2_0.2-0.3	Mar 17, 2016		Soil	M16-Ma18520							X			X	X			
SBD/3_0.4-0.5	Mar 17, 2016		Soil	M16-Ma18521											X			X
DUPB_17/3/16	Mar 17, 2016		Soil	M16-Ma18522										X	X			
RINA_17/3/16	Mar 17, 2016		Water	M16-Ma18523										X				
TRIPA_17/3/16	Mar 17, 2016		Water	M16-Ma18524									X					
SBA/1_0-0.1	Mar 17, 2016		Soil	M16-Ma18525			X											

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Laboratory where analysis is conducted																		
Melbourne Laboratory - NATA Site # 1254 & 14271							X	X	X	X	X	X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						X												
Brisbane Laboratory - NATA Site # 20794					X													
External Laboratory																		
SBA/3_0.5-0.6	Mar 17, 2016		Soil	M16-Ma18526			X											
SBA/4_0.9-1.0	Mar 17, 2016		Soil	M16-Ma18527			X											
SBB/2_0.3-0.4	Mar 17, 2016		Soil	M16-Ma18528			X											
SBC/1_0-0.1	Mar 17, 2016		Soil	M16-Ma18529			X											
SBC/4_0.9-1.0	Mar 17, 2016		Soil	M16-Ma18530			X											
SBD/1_0-0.1	Mar 17, 2016		Soil	M16-Ma18531			X											
SBD/4_0.9-1.0	Mar 17, 2016		Soil	M16-Ma18532			X											

Internal Quality Control Review and Glossary

General

1. QC data may be available on request.
2. All soil results are reported on a dry basis, unless otherwise stated.
3. Samples were analysed on an 'as received' basis.
4. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the Sample Receipt Advice.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

Units

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

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
COC	Chain of custody
SRA	Sample Receipt Advice
ISO	International Stardards Organisation
AS	Australian Standards
WA DOH	Western Australia Department of Health
NOHSC	National Occupational Health and Safety Commission
ACM	Bonded asbestos-containing material means any material containing more than 1% asbestos and comprises asbestos-containing-material which is in sound condition, although possibly broken or fragmented, and where the asbestos is bound in a matrix such as cement or resin. Common examples of ACM include but are not limited to: pipe and boiler insulation, sprayed-on fireproofing, troweled-on acoustical plaster, floor tile and mastic, floor linoleum, transite shingles, roofing materials, wall and ceiling plaster, ceiling tiles, and gasket materials. This term is restricted to material that cannot pass a 7 mm x 7 mm sieve. This sieve size is selected because it approximates the thickness of common asbestos cement sheeting and for fragments to be smaller than this would imply a high degree of damage and hence potential for fibre release.
FA	FA comprises friable asbestos material and includes severely weathered cement sheet, insulation products and woven asbestos material. This type of friable asbestos is defined here as asbestos material that is in a degraded condition such that it can be broken or crumbled by hand pressure. This material is typically unbonded or was previously bonded and is now significantly degraded (crumbling).
PACM	Presumed Asbestos-Containing Material means thermal system insulation and surfacing material found in buildings, vessels, and vessel sections constructed no later than 1980 that are assumed to contain greater than one percent asbestos but have not been sampled or analyzed to verify or negate the presence of asbestos.
AF	Asbestos fines (AF) are defined as free fibres, or fibre bundles, smaller than 7mm. It is the free fibres which present the greatest risk to human health, although very small fibres (< 5 microns in length) are not considered to be such a risk. AF also includes small fragments of bonded ACM that pass through a 7 mm x 7 mm sieve. (Note that for bonded ACM fragments to pass through a 7 mm x 7 mm sieve implies a substatntial degree of damage which increases the potential for fibre release.)
AC	Asbestos cement means a mixture of cement and asbestos fibres (typically 90:10 ratios).

Comments

The sample received was not collected in an approved asbestos bag and was therefore sub-sampled from the 250mL glass jar. Valid sub-sampling procedures were applied so as to ensure that the sub-sample to be analysed accurately represented the sample received.

Sample Integrity

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

Qualifier Codes/Comments

Code	Description
N/A	Not applicable

Authorised by:

Rhys Thomas Senior Analyst-Asbestos (NSW)

Glenn Jackson
National Operations Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Uncertainty data is available on request

Appendix E. Summary of results

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Description					Heavy Metals & pH																				
Data Reference Number	Sample Number	Date Sampled	Sample Description	pH	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Tin	Zinc	Manganese	Iron	Beryllium	Cobalt	Boron	Antimony	Vanadium	Cyanide (total)	Fluoride
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
493579	DUPB_17/3/16	17/3/16	Soil	-	16	1.7	27	93	390	1.8	< 10	10	< 2	< 5	30	2600	230	-	< 2	6.9	21	< 10	37	-	-
493579	RINA_17/3/16	17/3/16	Water	-	< 0.001	< 0.0002	< 0.001	< 0.001	< 0.001	< 0.0001	< 0.005	< 0.001	< 0.001	< 0.005	< 0.005	< 0.001	< 0.005	-	< 0.001	< 0.001	< 0.05	< 0.005	< 0.005	-	-
493579	SBA/2_0.3-0.4	17/3/16	Soil	-	13	0.6	18	44	230	1	< 10	6.7	< 2	< 5	< 10	490	-	-	-	-	-	-	-	< 5	150
493579	SBB/1_0-0.1	17/3/16	Soil	-	5.5	< 0.4	6	< 5	8.7	< 0.1	< 10	7.9	< 2	< 5	< 10	17	340	-	< 2	5.3	< 10	< 10	< 10	-	-
493579	SBC/2_0.2-0.3	17/3/16	Soil	-	8.7	< 0.4	20	12	16	< 0.1	< 10	8.6	< 2	< 5	< 10	25	430	-	< 2	6.6	< 10	< 10	28	-	-
493579	SBC/3_0.4-0.5	17/3/16	Soil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22000	-	-	-	-	-	-	-
493579	SBD/2_0.2-0.3	17/3/16	Soil	-	16	1.1	25	71	180	0.9	< 10	9.2	< 2	< 5	19	1800	200	-	< 2	8.4	23	< 10	45	-	-
493579	SBD/3_0.4-0.5	17/3/16	Soil	-	22	< 0.4	36	12	21	< 0.1	< 10	12	< 2	< 5	< 10	42	-	-	-	-	-	-	-	< 5	150
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Guideline Concentrations																									Active = 1, Inactive = 0
NEPM HIL B (Residential)				-	500	150	-	30000	1200	120	-	1200	1400	-	-	60000	14000	-	90	600	40000	-	-	-	1
NEPM EIL (urban residential areas & public open space) (aged)				-	100	-	-	250	1100	-	-	480	-	-	-	1500	-	-	-	-	-	-	-	-	1
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Note that CCME 2010 SQG guidelines are used only where there is no available applicable NEPM EIL
Note that USEPA Eco-SSL guidelines are used only where there is no available applicable NEPM EIL or CCME 2010 SQG
Note that the most conservative environmental criteria from the USEPA Eco-SSL guidelines are adopted

Relative percentage difference (RPD) calculations

Data Reference Number	Sample Number	Date Sampled	Sample Description	pH	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Tin	Zinc	Manganese	Iron	Beryllium	Cobalt	Boron	Antimony	Vanadium	Cyanide (total)	Fluoride
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
493579	SBD/2_0.2-0.3	17/3/16	Soil	-	16	1.1	25	71	180	0.9	< 10	9.2	< 2	< 5	19	1800	200	-	< 2	8.4	23	< 10	45	-	-
493579	DUPB_17/3/16	17/3/16	Soil	-	16	1.7	27	93	390	1.8	< 10	10	< 2	< 5	30	2600	230	-	< 2	6.9	21	< 10	37	-	-
RPD (%)				-	0	43	8	27	74	67	-	8	-	-	45	36	14	-	-	20	9	-	20	-	-

According to AS4482. According to AS4482.1-2005, an RPD within the range of -50% to 50% is considered to show acceptable agreement

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Description				Phenols (Halogenated and Non-Halogenated)																			
Data Reference Number	Sample Number	Date Sampled	Sample Description	2.4.5-Trichlorophenol	2.4.6-Trichlorophenol	2.4-Dichlorophenol	2.6-Dichlorophenol	2-Chlorophenol	4-Chloro-3-methylphenol	Pentachlorophenol	Tetrachlorophenols - Total	Total Halogenated Phenol*	2.4-Dimethylphenol	2.4-Dinitrophenol	2-Cyclohexyl-4.6-dinitrophenol	2-Methyl-4.6-dinitrophenol	2-Methylphenol (o-Cresol)	3&4-Methylphenol (m&p-Cresol)	4-Nitrophenol	2-Nitrophenol	Dinoseb	Phenol	Total Non-Halogenated Phenol*	
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
493579	SBA/2_0.3-0.4	17/3/16	Soil	< 1	< 1	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 0.5	< 5	< 20	< 5	< 0.2	< 0.4	< 5	< 1	< 20	< 0.5	< 20	
493579	SBD/3_0.4-0.5	17/3/16	Soil	< 1	< 1	< 0.5	< 0.5	< 0.5	< 1	< 1	< 1	< 1	< 0.5	< 5	< 20	< 5	< 0.2	< 0.4	< 5	< 1	< 20	< 0.5	< 20	
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Guideline Concentrations																								Active = 1, Inactive = 0
NEPM HIL B (Residential)				-	-	-	-	-	-	130	-	-	-	-	-	-	4700		-	-	-	45000	-	1
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Description				Total Recoverable Hydrocarbons											
Data Reference Number	Sample Number	Date Sampled	Sample Description	TRH C10-36 (Total)	TRH C10-C14	TRH C15-C28	TRH C29-C36	TRH C6-C9	TRH >C10-C16	TRH >C10-C16 less Naphthalene (F2)	TRH >C16-C34	TRH >C34-C40	TRH C6-C10	TRH C6-C10 less BTEX (F1)	
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
493579	SBA/2_0.3-0.4	17/3/16	Soil	< 50	< 20	< 50	< 50	< 20	< 50	< 50	< 100	< 100	< 20	< 20	
493579	SBB/1_0-0.1	17/3/16	Soil	< 50	< 20	< 50	< 50	< 20	< 50	< 50	< 100	< 100	< 20	< 20	
493579	SBD/3_0.4-0.5	17/3/16	Soil	< 50	< 20	< 50	< 50	< 20	< 50	< 50	< 100	< 100	< 20	< 20	
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Guideline Concentrations															**Active = 1, Inactive = 0**
NEPM HSL A & HSL B (Low-high density residential) (0m to <1m) - Sand				-	-	-	-	-	-	110	-	-	-	45	1
NEPM HSL A & HSL B (Low-high density residential) (1m to <2m) - Sand				-	-	-	-	-	-	240	-	-	-	70	1
NEPM HSL A & HSL B (Low-high density residential) (2m to <4m) - Sand				-	-	-	-	-	-	440	-	-	-	110	1
NEPM HSL A & HSL B (Low-high density residential) (4m+) - Sand				-	-	-	-	-	-	NL	-	-	-	200	1
NEPM HSL A & HSL B (Low-high density residential) (0m to <1m) - Clay				-	-	-	-	-	-	280	-	-	-	50	1
NEPM HSL A & HSL B (Low-high density residential) (1m to <2m) - Clay				-	-	-	-	-	-	NL	-	-	-	90	1
NEPM HSL A & HSL B (Low-high density residential) (2m to <4m) - Clay				-	-	-	-	-	-	NL	-	-	-	150	1
NEPM HSL A & HSL B (Low-high density residential) (4m+) - Clay				-	-	-	-	-	-	NL	-	-	-	290	1
NEPM management limits (residential, parkland & public open space - coarse)				-	-	-	-	-	1000	-	2500	10000	700	-	1
NEPM management limits (residential, parkland & public open space - fine)				-	-	-	-	-	1000	-	3500	10000	800	-	1
NEPM ESLs (urban residential & public open space - coarse)				-	-	-	-	-	-	120	300	2800	-	180	1
NEPM ESLs (urban residential & public open space - fine)				-	-	-	-	-	-	120	1300	5600	-	180	1
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Description				Polychlorinated Biphenyls (PCBs)								
Data Reference Number	Sample Number	Date Sampled	Sample Description	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Total PCB*	
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
493579	SBA/2_0.3-0.4	17/3/16	Soil	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
493579	SBD/3_0.4-0.5	17/3/16	Soil	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
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Guideline Concentrations												Active = 1, Inactive = 0
NEPM HIL B (Residential)				-	-	-	-	-	-	-	1	1
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Description				Organochlorine Pesticides (OCP)																								
Data Reference Number	Sample Number	Date Sampled	Sample Description	4,4'-DDD	4,4'-DDE	4,4'-DDT	a-BHC	b-BHC	d-BHC	Chlordanes - Total	Aldrin	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sulphate	Endrin	Endrin Aldehyde	Endrin ketone	g-BHC (Lindane)	Heptachlor	Heptachlor Epoxide	Hexachlorobenzene	Methoxychlor	Toxaphene	Chlorpyrifos	Bifenthrin	
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		
493579	SBA/2_0.3-0.4	17/3/16	Soil	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 1	-	-		
493579	SBC/3_0.4-0.5	17/3/16	Soil	0.14	< 0.05	0.79	< 0.05	< 0.05	< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 1	-	-		
493579	SBD/3_0.4-0.5	17/3/16	Soil	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 1	-	-		
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Guideline Concentrations																											Active = 1, Inactive = 0	
NEPM HIL B (Residential)				600			-	-	-	90	10		400		-	20	-	-	-	10	-	15	500	30	340	840	1	
NEPM EIL (urban residential areas & public open space) (aged)				-	-	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
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Description				Polycyclic Aromatic Hydrocarbons (PAH)																				
Data Reference Number	Sample Number	Date Sampled	Sample Description	Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(a)pyrene TEQ (medium bound) *	Benzo(b&j)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzo(b+k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAH*	Carcinogenic PAHs (as BaP TEQ)	
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
493579	SBA/2_0.3-0.4	17/3/16	Soil	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.6	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	
493579	SBC/2_0.2-0.3	17/3/16	Soil	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.6	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	
493579	SBD/2_0.2-0.3	17/3/16	Soil	< 0.5	< 0.5	< 0.5	0.5	0.5	0.9	< 0.5	0.5	0.5	-	0.6	< 0.5	1	< 0.5	< 0.5	< 0.5	< 0.5	1.1	4.7	-	
493579	SBD/3_0.4-0.5	17/3/16	Soil	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.6	< 0.5	< 0.5	< 0.5	-	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	-	
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Guideline Concentrations																								Active = 1, Inactive = 0
NEPM HIL B (Residential)				-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	400	4	1
NEPM EIL (urban residential areas & public open space) (aged)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	170	-	-	-	-	1
NEPM ESLs (urban residential & public open space - coarse)				-	-	-	-	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
NEPM ESLs (urban residential & public open space - fine)				-	-	-	-	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
NEPM HSL A & HSL B (Low-high density residential) (0m to <1m) - Sand				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	1
NEPM HSL A & HSL B (Low-high density residential) (1m to <2m) - Sand				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NL	-	-	-	-	1
NEPM HSL A & HSL B (Low-high density residential) (2m to <4m) - Sand				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NL	-	-	-	-	1
NEPM HSL A & HSL B (Low-high density residential) (4m+) - Sand				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NL	-	-	-	-	1
NEPM HSL A & HSL B (Low-high density residential) (0m to <1m) - Clay				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	1
NEPM HSL A & HSL B (Low-high density residential) (1m to <2m) - Clay				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NL	-	-	-	-	1
NEPM HSL A & HSL B (Low-high density residential) (2m to <4m) - Clay				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NL	-	-	-	-	1
NEPM HSL A & HSL B (Low-high density residential) (4m+) - Clay				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NL	-	-	-	-	1
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Description	Description			BTEX						
Data Reference Number	Sample Number	Date Sampled	Sample Description	Benzene	Ethylbenzene	m&p-Xylenes	o-Xylene	Toluene	Xylenes - Total	
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
493579	SBA/2_0.3-0.4	17/3/16	Soil	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.3	
493579	SBD/3_0.4-0.5	17/3/16	Soil	< 0.1	< 0.1	< 0.2	< 0.1	< 0.1	< 0.3	
493579	TRIPA_17/3/16	17/3/16	Water	< 0.001	< 0.001	< 0.002	< 0.001	< 0.001	< 0.003	
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Guideline Concentrations										**Active = 1, Inactive = 0**
NEPM ESLs (urban residential & public open space - coarse)				**50**	**70**			**85**	**105**	1
NEPM ESLs (urban residential & public open space - fine)				**65**	**125**			**105**	**45**	1
NEPM HSL A & HSL B (	**NEPM HSL A & HSL B (Low-high density residential) (0m to <1m) - Sand**			**0.5**	**55**	**-**	**-**	**160**	**40**	1
NEPM HSL A & HSL B (Low-high density residential) (1m to <2m) - Sand				**0.5**	**NL**	**-**	**-**	**220**	**60**	1
NEPM HSL A & HSL B (Low-high density residential) (2m to <4m) - Sand				**0.5**	**NL**	**-**	**-**	**310**	**95**	1
NEPM HSL A & HSL B (Low-high density residential) (4m+) - Sand				**0.5**	**NL**	**-**	**-**	**540**	**170**	1
NEPM HSL A & HSL B (Low-high density residential) (0m to <1m) - Clay				**0.7**	**NL**	**-**	**-**	**480**	**110**	1
NEPM HSL A & HSL B (Low-high density residential) (1m to <2m) - Clay				**1**	**NL**	**-**	**-**	**NL**	**310**	1
NEPM HSL A & HSL B (Low-high density residential) (2m to <4m) - Clay				**2**	**NL**	**-**	**-**	**NL**	**NL**	1
NEPM HSL A & HSL B (Low-high density residential) (4m+) - Clay				**3**	**NL**	**-**	**-**	**NL**	**NL**	1
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Description				Acid Herbicides												
Data Reference Number	Sample Number	Date Sampled	Sample Description	2.4.5-T	2.4.5-TP	2.4-D	2.4-DB	Actril (loxynil)	Dicamba	Dichlorprop	Dinitro-o-cresol	Dinoseb	MCPA	MCPB	Mecoprop	
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
493579	SBA/2_0.3-0.4	17/3/16	Soil	-	-	-	-	-	-	-	-	< 20	-	-	-	
493579	SBD/3_0.4-0.5	17/3/16	Soil	-	-	-	-	-	-	-	-	< 20	-	-	-	
INTENTIONALLY LEFT BLANK																
Guideline Concentrations																**Active = 1, Inactive = 0**
NEPM HIL B (Residential)				**900**	**-**	**1600**	**-**	**-**	**-**	**-**	**-**	**-**	**900**	**900**	**900**	1
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Appendix F. Calibration certificate

Appendix G. EIL interactive calculation spreadsheet extracts

Inputs
Select contaminant from list below
Cu
Below needed to calculate fresh and aged ACLs
Enter cation exchange capacity (silver thiourea method) (values from 0 to 100 cmolc/kg dwt)
47
Enter soil pH (calcium chloride method) (values from 1 to 14)
8.4
Enter organic carbon content (%OC) (values from 0 to 50%)
2.1
Below needed to calculate fresh and aged ABCs
Measured background concentration (mg/kg). Leave blank if no measured value
or for fresh ABCs only
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background
or for aged ABCs only
Enter State (or closest State)
SA
Enter traffic volume (high or low)
high

Outputs		
Land use	Cu soil-specific EILs (mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	#NUM!	100
Urban residential and open public spaces	#NUM!	250
Commercial and industrial	#NUM!	360

Inputs
Select contaminant from list below
Ni
Below needed to calculate fresh and aged ACLs
Enter cation exchange capacity (silver thiourea method) (values from 0 to 100 cmolc/kg dwt)
47
Below needed to calculate fresh and aged ABCs
Measured background concentration (mg/kg). Leave blank if no measured value
or for fresh ABCs only
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background
or for aged ABCs only
Enter State (or closest State)
SA
Enter traffic volume (high or low)
high

Outputs		
Land use	Ni soil-specific EILs (mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	#NUM!	85
Urban residential and open public spaces	#NUM!	480
Commercial and industrial	#NUM!	820

Inputs
Select contaminant from list below
Cr_III
Below needed to calculate fresh and aged ACLs
Enter % clay (values from 0 to 100%)
53
Below needed to calculate fresh and aged ABCs
Measured background concentration (mg/kg). Leave blank if no measured value
or for fresh ABCs only
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background
or for aged ABCs only
Enter State (or closest State)
SA
Enter traffic volume (high or low)
high

Outputs		
Land use	Cr III soil-specific EILs (mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	#NUM!	240
Urban residential and open public spaces	#NUM!	710
Commercial and industrial	#NUM!	1200

Inputs
Select contaminant from list below
Zn
Below needed to calculate fresh and aged ACLs
Enter cation exchange capacity (silver thiourea method) (values from 0 to 100 cmolc/kg dwt)
47
Enter soil pH (calcium chloride method) (values from 1 to 14)
8.4
Below needed to calculate fresh and aged ABCs
Measured background concentration (mg/kg). Leave blank if no measured value
or for fresh ABCs only
Enter iron content (aqua regia method) (values from 0 to 50%) to obtain estimate of background
or for aged ABCs only
Enter State (or closest State)
SA
Enter traffic volume (high or low)
high

Outputs		
Land use	Zn soil-specific EILs (mg contaminant/kg dry soil)	
	Fresh	Aged
National parks and areas of high conservation value	#NUM!	390
Urban residential and open public spaces	#NUM!	1500
Commercial and industrial	#NUM!	2200

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C/- GE Group of Companies
PO Box 1142
North Adelaide SA 5006

Response to Jacob's letter 'Review and Consideration of Site Contamination Matters: 9 – 9A Stafford Street, Adelaide'

Our Reference
369514 L2

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mottmac.com

2 September 2016

Dear Mr Koukos

Introduction

MacDonald Australia Pty Ltd (MM) is pleased to provide the following response and comment to the letter provided by Jacobs dated 23 May 2016, titled: *'Review and Consideration of Site Contamination Matters: 9 – 9A Stafford Street, Adelaide',* addressed to Robyn Taylor, Planning – Development Assessment.

Jacobs were provided instructions by Council on 17 May 2016 to consider the '*Preliminary Environmental Soil Assessment: 9 – 9A Stafford Street Adelaide'* report prepared by MM on 11 May 2016 and a suite of Architectural Plans for Stafford Street Terraces (15.068 PL01.B, PL02.B and PL03.B) prepared by Proske Architects.

The Jacobs commentary relates to the presence of an underground fuel storage tank (UST) located 8m from the southern boundary of the site and reads: *'Neither Greencap or MM have been able to identify the operational status of the UST, the presence or absence of residual fuel within the tank and any soil and/or groundwater contamination in the vicinity of the UST'.*

We have conducted supplementary enquiries in relation to the UST and the current owner indicated that the site has not been operational for the past 20-30 years and he understood that it had been filled with concrete for at least 30 years. He indicated it was a small 500L diesel tank.

Hydrocarbons degrade with time. Therefore, even if there had a been a release of all contents whilst in operation over 25 years ago, it is considered unlikely that a significant volume of volatile contaminants would remain in the soils or groundwater at concentrations sufficient to create a soil vapour risk at the subject site given the nature of the proposed concrete slab on ground with vapour/moisture barrier beneath concrete.

Groundwater is expected to flow on a southerly to westerly direction away from the site.

It is considered that if the above is correct, the likelihood of risks associated with this are low.

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It is also noted that the subject site is already surrounded by residential properties with likely strip footings and floor boards with an air exchange space beneath.

Closure

If you require any further information, or if we can be of any assistance, please feel free to contact the undersigned at any time to discuss.

Kind regards,

Ashley Moule
ANZ Environmental Leader
T 08 7325 7355
Ashley.moule@mottmac.com

Attachments

Attachment 1 Important Information about your Environmental Assessment

Mott MacDonald Australia Pty Ltd (Mott MacDonald) has prepared this report based on generally accepted practices and standards in operation at the time that it was prepared. No other warranty is made as to the professional advice included in this report. All parties should satisfy themselves that the scope of work conducted and reported herein meets their specific needs before relying on this document.

Mott MacDonald believes that its opinions have been developed according to the professional standard of care for the environmental consulting profession at the date of this document. That standard of care may change as new methods and practices of exploration, testing, analysis and remediation develop in the future, which may produce different results.

Environmental conditions are created by natural processes and human activity, and as such may change over time e.g. groundwater levels may rise or fall, contamination may migrate and fill may be added to the site. This report therefore presents a point in time assessment of the site, and as such can only be valid for the time at which the investigation was undertaken.

Any investigation such as that contained in this report can examine only a fraction of the subsurface conditions at the site. There remains a risk that pockets of contamination or other hazards may not be identified as investigations are necessarily based on sampling at localised points. Certain indicators or evidence of hazardous substances or conditions may have been outside the portion of the subsurface investigated or monitored, and thus may not have been identified or their full significance appreciated. As such, the identified environmental conditions reported are only valid at the points of direct sampling and any derived or interpolated conditions may differ from these targeted locations and cannot be assumed to be indicative of the remainder of the site.

The methodology adopted and the sources of information used are outlined in this report. Mott MacDonald has limited its investigation to the scope agreed for this contract and it is possible that additional sampling and analysis could produce different results and/or opinions. Mott MacDonald has made no independent verification of this information beyond the agreed scope of works and assumes no responsibility for any inaccuracies or omissions.

This assessment assumes that the proposed development meets requirements as outlined in the Building Code of Australia and Australian Standards. If these recommendations are not met, there is potential for the exposure and therefore risk to building users to be higher than that presented in this assessment.

The soil descriptions contained in this report have not been prepared for engineering design purposes and the reinstatement of any sampling locations were not conducted in accordance with any supervised filling or geotechnical standard. The term suitable has been used in the context of a request from the planning authority and means that the concentrations reported did not exceed the guideline concentrations adopted for the proposed land use/exposure pathway.

This report does not include the assessment or consideration of hazardous building materials, including asbestos. Such materials should be assessed and managed by a qualified and licensed assessor/contractor. Mott MacDonald makes no warranty or representation as to the presence or otherwise of asbestos and/or asbestos containing materials (“ACM”) on the site. If fill has been imported on to the site at any time, or if any buildings constructed prior to 1970 have been demolished

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on the site or materials from such buildings disposed of on the site, the site may contain asbestos or ACM. Even if asbestos was tested for and those test results did not reveal the presence of asbestos at specific points of sampling, asbestos may still be present at the site if fill has been imported at any time, or if any buildings constructed prior to 1970 have been demolished on the site or materials from such buildings disposed of on the site.

In general, the available scientific information pertaining to contamination is insufficient to provide a thorough understanding of all of the potential toxic properties of chemicals to which humans may be exposed. The majority of the toxicological knowledge of chemicals comes from experiments with laboratory animals, where there may be interspecies differences in chemical absorption, metabolism, excretion and toxic response. There may also be uncertainties concerning the relevance of animal studies using exposure routes that differ from human exposure routes. In addition, the frequent necessity to extrapolate results of short-term or subchronic animal studies to humans exposed over a lifetime has inherent uncertainty. Therefore, in order to conduct an environmental assessment, it is necessary to take into account these inherent uncertainties and extrapolate information from the data that is available, considered current and endorsed as acceptable for the assessment of risks to human health. There is therefore inherent uncertainty in the process, and to compensate for uncertainty, conservative assumptions are often made that result in an overestimation rather than an underestimation of risk.

All advice, opinions or recommendations contained in this document should be read and relied upon only in the context of the document as a whole. This report does not purport to give legal advice as this can only be given by qualified legal practitioners. This document does not represent a Site Contamination Audit Report.

This report has been prepared on the following assumptions:

(a) all documents and materials disclosed to us are accurate, complete and without material omission;

(b) all documents supplied to us and reviewed by us are true and complete copies of the originals;

(c) all information and documentation supplied to and reviewed by us in connection with the preparation of this report remains true and complete as at the date of this report and is not misleading;

(d) all opinions and views expressed by those involved in the preparation of this report are based on reasonable assumptions and all statements of fact by any of those persons are true and not misleading;

(e) we assume that none of the parties to any document we have reviewed is, or will be, seeking to conduct any relevant transaction in a manner or for a purpose not evidenced on the face of the document which might render the document or any relevant transaction illegal, void or voidable;

(f) all relevant approvals and consents have been obtained and complied with in respect of any development, construction and occupation of the site

(g) the information on any public file or register which has been searched by us, and each search result, is complete, accurate and correct as at the date of conducting that search.

This report does not cover tax, commercial, employment, occupational health and safety, insurance, accounting or financial matters, matters of business judgement or technical, operational or planning matters.

We cannot comment on whether or not information provided as a result of our searches of the public registers may have changed between the date of our search of the various registers (which is indicated in this report) and the date of this report.

Our review has not been an audit. We have not applied a system of checks intended to uncover gaps, although we have noted where a document which we think is material has not been provided to us.

Mott MacDonald has tested only for those chemicals specifically referred to in this report. Mott MacDonald makes no statement or representation as to the existence (or otherwise) of any other chemicals.

No investigations have been undertaken into any off-site conditions, or whether any adjoining sites may have been impacted by contamination or other conditions originating from this site.

Investigations undertaken in respect of this report are constrained by the particular site conditions, such as the location of buildings, services and vegetation. As a result, not all relevant site features and contamination may have been identified in this report.

JACOBS

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22 September 2016

Attn: Robyn Taylor
Planner – Development Assessment
City Planning and Development
4th Floor 25 Pirie Street
Adelaide, SA, 5000

9 - 9A Stafford Street, ADELAIDE
IW109100 Work Package 5/2

Further Review and Consideration of Site Contamination Matters: 9 – 9A Stafford Street, ADELAIDE

Dear Robyn,

Thank you for your instructions of 7 September 2016. In accordance with your instructions we have reviewed the information that you provided which is identified as follows:

- *[Letter] Response to Jacob's letter 'Review and Consideration of Site Contamination Matters: 9 – 9A Stafford Street, Adelaide'* prepared by Mott MacDonald for GE Group of Companies, dated 2 September 2016

In consideration of the letter response provided by Mott MacDonald we are generally of the view that the proponent has made reasonable enquiries to determine the operational status of the underground storage tank (UST) and the presence or absence of any residual fuel within the UST. Assuming the information elicited from these enquires is correct it would appear reasonable as concluded by Mott MacDonald that the likelihood of any adverse risk (from any residual volatile petroleum hydrocarbon contamination) would be low. This is predicated on the accuracy of the information elicited by Mott MacDonald and has not been verified through the conduct of intrusive soil and groundwater investigations.

In light of the proposed development (which is to understood to include a vapour barrier[1]) we consider that it ought to be reasonable for the City of Adelaide to rely upon the findings and advice provided by Mott MacDonald without further intrusive soil and groundwater investigations but this should be conditioned such that the development includes a suitably designed and installed vapour barrier beneath the ground slab or equivalent vapour venting measures as part of the approved development. The alternative for the proponent is to undertake what would be relatively minor intrusive investigations to definitively confirm the absence of any site contamination. This is a cost – benefit matter for the proponent to consider.

[1] Refer fifth paragraph in Mott MacDonald letter of 2 September 2016.

22 September 2016
Further Review and Consideration of Site Contamination Matters: 9 – 9A Stafford Street, ADELAIDE

I trust the above advice is clear and meets you requirements. Should you require any further information or clarification please do not hesitate to contact me by way of the details below.

Yours sincerely

Stuart Taylor
Principal Environmental Scientist
Certified Practitioner (Site Assessment and Management) CP SAM
Jacobs Group (Australia)
(m) +61 419 257 131
(e) stuart.taylor@jacobs.com

-----Original Message-----
From: Rushforth, John (Housing) [mailto:John.Rushforth@sa.gov.au]
Sent: Wednesday, 13 March 2019 10:05:45 AM
To: City Email
Subject: Attn- -Rebecca Rutschack -public notification -DA /85/2016 - 9 Stafford street Adelaide

Dear Rebecca

Thank you for the opportunity to respond to this development application (DA /85/2016) . The South Australian Housing Authority (SAHA) responds on behalf of the South Australian Housing Trust (SAHT) with respect to abutting and affected SAHT Local Heritage places on Allotment 163 at 7 and 7A Stafford Street.

Kind Regards

John Rushforth

Comments

1. Building siting and overshadowing: Solar Panels are located on the rear roofs of SAHT dwellings 7 ad 7A and may be negatively affected by the proposed development. The Development Plan's **Micro Climate and Sunlight (page 51) - Council wide Objectives 14, 15, 33; and PDCs 23 , 25, 28 and pdcs 119, 120, 150** apply. Council (or relevant authority) is requested to ensure that any overshadowing impacts on the quantity of electrical generation is accurately calculated and any loss is kept to a reasonable levels for both winter and summer. Currently, given the north-south lot orientation and the low scale of abutting development, the SAHT solar panels receive of unobstructed sunlight throughout the day.

2. Overshadowing of private open space and amenity of SAHT properties 7 and 7A . **Council wide Objectives 33; and PDC 120** ; **Pdcs 6 and 7 of the City Living Zone apply**. Council (or relevant authority) is requested to ensure that the private open space to the rear of SAHT property 7 and 7a is not overshadowed especially in winter and that privacy from overviewing is ensured .

3. Massing/scale **Council wide Objectives 14 b, c ; and PDC, 23 a, b; 164** ; **Pdcs 6 and 7 of the City Living Zone apply**. The proposed scale and massing as viewed from the rear of SAHT properties 7 and 7A and from the street should be carefully assessed given the relative scale of the abutting SAHT properties and number 11 to the east. The proposed development will be unusually constrained in terms of massing and scale by being sandwiched between very low scaled, local heritage dwellings which cannot increase in scale / size over time.

4. Right of way: a right of way (pdf attached) exists in favour of the SAHT property , Allotment 163, from O'Halloran Place. This right of access must not be unreasonably affected by the proposed development or its consequences such as vehicular access egress.

5. Building on boundary : Due to the close proximity of the proposed building to the SAHT dwellings, the SAHA, on behalf of the SAHT, requires that the proponent provides a dilapidation report on these properties, specifically the dwelling immediately on the joint boundary i.e. unit 7A, prior to any works commencing.
In addition SAHA requires that you submit an engineering proposal on how to maintain the stability of the SAHT structures, in particular the boundary wall and footing of unit 7A, given the likely excavation on or near the boundary for the proposed footings.

The tenants in the SAHT properties will need at least a week's notice prior to the dilapidation report being instigated for which SAHA will arrange access.

Please be aware that the organising and paying for the dilapidation report is the applicants' responsibility. Please contact David Padgham BE (civil), Building Siteworks Consultant, Transaction and Property Services, SA Housing Authority, P: 08 8207 0307, M: 0434329229 Email: david.padgham@sa.gov.au should you require further information.

6. Other matters: Prior to commencing any building work or removing fencing on the common boundary with the abutting SAHT property the applicant or his/her building contractor is to ensure the following:

- Negotiate with the SAHT tenant the days and times which the building contractor requires access to SAHT property for the work to be undertaken (e.g. finishing boundary wall);
- Contact SAHT (SAHA) Maintenance Inspector, Adelaide, to arrange for inspection of the boundary building works adjoining the SAHT property prior to commencement and again prior to completion;

- The common property boundary should be surveyed by a qualified licenced surveyor to ensure that no part of the building works (including guttering and footings) to be built on the common boundary will encroach onto adjoining SAHT land;
- The stormwater management system and gutters are to be designed to prevent the adjoining SAHT property being affected by stormwater overflow during minor and major storms;
- Any boundary fencing removed and / or replaced is reinstated in a professional workman like manner at your cost;
- Arrange at your cost temporary fencing to secure the SAHT and/or the tenant's property including animals if the boundary fencing is temporarily removed;
- Ensure the area is clean, safe and free of obstructions to enable the SAHT tenant and their visitor's access and vehicle access to the SAHT property at all times;
- Make good any damage caused by your building contractor to SAHT, their tenant's and visitors property and landscaping or compensate for any costs incurred in repairing damage caused in undertaking the work; and
- Agree to release and indemnify the South Australian Housing Trust from and against any claim that may arise as a result of the building works including any personal injury or property damaged.

John Rushforth
John.Rushforth@sa.gov.au
Email received 13/03/2019

Carparking looks difficult given the one-way access from O'Halloran Lane and the other cars using it for office parking

Surname: Tsakonas

Given Names: Athanasios

Company Name: Tsakonas Holdings

Address Line 1: 6/32

Address Line 2: Walmer Street

Suburb: Kew

Postcode: 3101

Email Address: a.tsakonas@bigpond.com

From: Lachlan Rose <lachlan@proske.com.au>
Sent: Thursday, 9 May 2019 9:32 AM
To: Helen Dand
Cc: 'Elias Koukos'; Rolf Proske
Subject: HPRM: 9 - 9 a Stafford Street DA 0085 2016 - public notification
Attachments: Response to Cat 2 notification DA852016 A. Tsakonas.pdf; Response to Cat 2 notification- DA852016- John Rushforth.PDF; 17-043 190508 - 9-9a Stafford Street Townhomes DPC.pdf

Hi Helen,

Thanks for sending through the latest comments on this application. There are a few other emails with outstanding queries that I will try to consolidate below for you too.

Heritage Comments

In response to Therese's comments below, it sounds like we are almost there. With regards to the side walls, we have reviewed the finish and have amended this to a bagged blockwork with a Porters stone paint with a course texture. This will provide a matt finish with a readable block relief pattern. This has been updated on the attached revised drawing set.

Traffic

- *Any purchasers need to be aware that 3-point turn manoeuvres will be required to access the unit.*
  - This is correct and as identified on the traffic engineer's swept paths
- *The parking bays appear to only be 5.2 metres long, despite the notation of 6.4 metres being marked on the plans which includes manoeuvring areas identified in the swept path analysis.*
  - The park is actually a 2.4 x 5.4m standard park and has been clarified on the updated drawing with the swept path and clearances overlaid for clarity
- *The second car park would need to be limited to a vehicle matching or smaller than a B85 vehicle so as not to impinge on each other's access. Larger SUVs, 4WDs and vans would overhang into the manoeuvring area and hinder their neighbour's access.*
  - This is correct but we understand this is acceptable under the Australian Standard.

Waste

- *Kerbside waste collection will need to be presented in front of the property on Stafford street. O'Halloran Place is inaccessible for collection.*
  - We propose bins are wheeled to O'Halloran St or Stafford St for collection
- *Recommendation is for general waste, recycling and organics bins.*
  - Noted. There is sufficient space for a 140L waste bin and 240L recycling bin for each dwelling and a shared 240L organics bin as shown on the updated plans.
- *This site might be suitable for upsized bins to be shared, (240 L waste, 360 Litre Recycling and 140 -240 Litre organics)*
  - Refer point above

Response to Representations

Representation 01 – Athanasios Tsakonas

1. *Carparking looks difficult given the one-way access from O'Halloran Lane and the other cars using it for office parking*
    - We refer to the swept path analysis undertaken by Cirqa and provided as part of the application confirming that access in accordance with Australian Standards is achievable.

Representation 02 – John Rushforth

1. *Building Siting and Overshadowing*
    - Given the North South orientation of the site, the proposed dwellings will not cast shadow over the representor's property (located to the West) after midday providing for full afternoon access to direct sunlight.

2. *Overshadowing of POS and amenity of properties*
    - As per dot point 1 above for overshadowing concerns of POS.

3. *Massing / Scale adjacent local heritage properties*
    - We refer to the extensive pre-lodgement consultation undertaken with Council's heritage advisor and the evolution of the proposed design in response to feedback provided, to ensure the design is supported on a heritage level.

4. *Right of Way*
    - The proposal does not propose to affect the existing right of way.

5. *Building on Boundary*
    - Whilst the points raised are not considered a planning matter, it is intended that the applicant would undertake appropriate measures to ensure the structural integrity of all adjacent properties during construction works.

6. *Other Matters*
    - All matters raised in this point are considered relevant to construction and would be managed by the applicant at the appropriate time.

If you have any further queries in regards to these matters, please do not hesitate to contact me.

Kind Regards,

Lachlan Rose
Project Architect

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CITY OF ADELAIDE COUNCIL ASSESSMENT PANEL ON 17/6/2019

Item No: 5.1

From: Associate Director, Planning & Development

Subject: List of Recent Lodgment's for Planning Consent (2017/02505) [CAP]

PURPOSE

To provide Panel Members with a list of development applications lodged for planning consent for the period 17 May 2019 to 6 June 2019.

A total of 40 development applications with a total value of $13,927,593 have been lodged for planning consent for this period.

ATTACHMENTS

Lodged Applications for Planning Consent 1 - 4

RECOMMENDATION

That the report be received.

CITY OF ADELAIDE

Item No. 5.1 – Attachments 1 - 4 (List of Recent Lodgements for Planning Consent)

Pages 210 to 213

DEVELOPMENT PLANNING - Council Assessment Panel Report
Lodged Applications for Planning Consent from 17/05/2019 To 6/06/2019

Application Assessed on Merit

#	APPLICATION	ADDRESS	DESCRIPTION	LODGED	COST	NOTIFY CATEGORY
*1	DA/282/2008/A	Basement 106 Hindley Street ADELAIDE SA 5000	Vary previous authorisation alterations and change in use of basement from store to restaurant - VARIATION – change of use of basement/ground to restaurant/bar and removal of conditions 3 and 4	20/05/2019	TBA	Category 1
2	DA/336/2016/B	210 Archer Street NORTH ADELAIDE SA 5006	Vary previous authorisation demolish rear/side extension and garage and construct 2 storey addition, new garage and spa, new front verandah, reinstate front windows front door and fanlight, repair and new render of south and east walls - VARIATION - alter direction of louvre blades to upper level north facing window	27/05/2019	TBA	Category 2
3	DA/349/2019	250 Pulteney Street ADELAIDE SA 5000	Install blinds to front verandah	17/05/2019	$3,500	Category 1
4	DA/351/2019	39-47 Franklin Street ADELAIDE SA 5000	Establishment of cafe land use including internal fit-out	17/05/2019	$300,000	Category 1
5	DA/352/2019	20-28 Little Gilbert Street ADELAIDE SA 5000	Install air-conditioning unit	17/05/2019	$35,000	Category 1
6	DA/354/2019	79 McLaren Street ADELAIDE SA 5000	Change of use from office to dwelling, internal alterations, construction of new rear and new front door	20/05/2019	$5,000	Category 1
7	DA/355/2019	89 O'Connell Street NORTH ADELAIDE SA 5006	Change of use to office and associated signage	20/05/2019	$4,200	Category 1
8	DA/362/2019	2 McLaren Street ADELAIDE SA 5000	Construct new mezzanine extension to second storey of existing residence	20/05/2019	$30,000	Category 2
9	DA/363/2019	5 Bower Street NORTH ADELAIDE SA 5006	Undertake alteration to existing verandah in rear yard	21/05/2019	$2,000	Category 1
10	DA/364/2019	68 Childers Street NORTH ADELAIDE SA 5006	Construct new verandah and undertake internal alterations to existing dwelling	21/05/2019	$15,000	Category 1

DEVELOPMENT PLANNING - Council Assessment Panel Report
Lodged Applications for Planning Consent from 17/05/2019 To 6/06/2019

11	DA/365/2019	Level 1 120 Gouger Street ADELAIDE SA 5000	Repairs to balustrade to level 1 balcony	22/05/2019	$5,000	Category 1
12	DA/366/2019	38 Ward Street NORTH ADELAIDE SA 5006	Install one attached pergola and one freestanding pergola	22/05/2019	$15,297	To Be Determined
13	DA/367/2019	Level 1 Room 125-127 38 Gawler Place ADELAIDE SA 5000	Change the use from shop to educational establishment	22/05/2019	TBA	Category 1
14	DA/368/2019	QUEST ON KING WILLIAM 82-88 King William Street ADELAIDE SA 5000	Install signage on facade	22/05/2019	$80,000	Category 1
***15**	DA/369/2019	The Smith Family Ground 97 Pirie Street ADELAIDE SA 5000	Change of use to education facility and internal fit out	22/05/2019	$50,000	Category 1
***16**	DA/370/2019	COMMONWEALTH BANK BUILDING 94-106 King William Street ADELAIDE SA 5000	Facade upgrade at ground floor	22/05/2019	$30,000	Category 1
17	DA/371/2019	262-266 Pirie Street ADELAIDE SA 5000	Install new illuminated sign to front of building	23/05/2019	$4,680	Category 1
18	DA/373/2019	95A-97A Wright Street ADELAIDE SA 5000	Change of use to personal services establishment (beauty salon)	23/05/2019	TBA	Category 1
19	DA/375/2019	138-140 Rundle Mall ADELAIDE SA 5000	Facade alterations and install new canopy	23/05/2019	$600,000	Category 1
20	DA/377/2019	Level 1 279A Hindley Street ADELAIDE SA 5000	Install banner signage	23/05/2019	$685	Category 1
21	DA/378/2019	205-209 Pulteney Street ADELAIDE SA 5000	Installation of vinyl banner sign to northern wall	27/05/2019	$3,481	Category 1
22	DA/379/2019	30 Centenary Street NORTH ADELAIDE SA 5006	Installation of an air conditioning unit to the roof of existing dwelling	23/05/2019	TBA	Category 2
23	DA/381/2019	251-252 South Terrace ADELAIDE SA 5000	Install temporary hoarding	28/05/2019	$8,820,000	Category 1

DEVELOPMENT PLANNING - Council Assessment Panel Report
Lodged Applications for Planning Consent from 17/05/2019 To 6/06/2019

24	DA/383/2019	113 Kingston Terrace NORTH ADELAIDE SA 5006	Demolish existing dwelling and construct two (2) level detached dwelling	29/05/2019	$1,350,000	To Be Determined
25	DA/385/2019	McArthur Management Services Level 12 101 Grenfell Street ADELAIDE SA 5000	Internal fit out	30/05/2019	$260,000	Category 1
26	DA/386/2019	127 Sussex Street NORTH ADELAIDE SA 5006	Demolition of existing rear lean-to and construct carport, storage shed and part single/part two storey rear dwelling addition	27/05/2019	$500,000	Category 2
27	DA/388/2019	PRINCE HENRY GARDENS North Terrace ADELAIDE SA 5000	Install two (2) temporary freestanding banners for three weeks annually (three-year period 2019-2021)	31/05/2019	TBA	Category 1
28	DA/390/2019	Floor 3 3/225 East Terrace ADELAIDE SA 5000	Construct roof over upper level deck	31/05/2019	$12,000	Category 1
29	DA/391/2019	Level 9 68 Grenfell Street ADELAIDE SA 5000	Change of use to educational establishment with internal fit out	3/06/2019	$225,000	Category 1
30	DA/392/2019	Level 9 90 King William Street ADELAIDE SA 5000	Change of use of tenancy to educational facility	3/06/2019	TBA	Category 1
31	DA/394/2019	258-260 Carrington Street ADELAIDE SA 5000	Install solar panels on roof (retrospective)	3/06/2019	$23,000	Category 1
32	DA/395/2019	DARNLEY HOUSE 247 Currie Street ADELAIDE SA 5000	Construct two storey addition with garage at ground level	3/06/2019	$500,000	Category 1
33	DA/396/2019	231-233 Hutt Street ADELAIDE SA 5000	Change of use from shop to cafe with internal alterations	3/06/2019	$40,000	Category 1
34	DA/397/2019	ENGINEERING SOUTH BUILDING - H11 Frome Road ADELAIDE SA 5000	Internal alterations and modifications to window openings	4/06/2019	$1,000,000	Category 1
35	DA/398/2019	35 Archer Street NORTH ADELAIDE SA 5006	Salt damp repair	5/06/2019	$7,750	Category 1

DEVELOPMENT PLANNING - Council Assessment Panel Report
Lodged Applications for Planning Consent from 17/05/2019 To 6/06/2019

36	DA/4/2018/A	206 Jeffcott Street NORTH ADELAIDE SA 5006	Vary previous authorisation undertake internal and external alterations to existing dwelling - VARIATION - undertake alterations to kitchen, internal walls and addition of laundry and toilet	24/05/2019	TBA	Category 1
Non-Complying Development						
#	**APPLICATION**	**ADDRESS**	**DESCRIPTION**	**LODGED**	**COST**	**NOTIFY CATEGORY**
37	DA/356/2019	62-100 O'Connell Street NORTH ADELAIDE SA 5006	Installation of 4 temporary displays on footpath in various locations to promote the Umbrella Winter Music program.	20/05/2019	$6,000	Category 1 Non-Complying
Land Division						
#	**APPLICATION**	**ADDRESS**	**DESCRIPTION**	**LODGED**	**COST**	**NOTIFY CATEGORY**
38	LD/15/2019	Development Site 217-219 Gover Street NORTH ADELAIDE SA 5006	Strata Community division - 1 into 4	3/06/2019	Not Applicable	Category 1
39	LD/16/2019	Cottages 68-78 Wellington Square NORTH ADELAIDE SA 5006	Primary Community division - 1 into 3	4/06/2019	Not Applicable	Category 1
S49 Crown Development						
#	**APPLICATION**	**ADDRESS**	**DESCRIPTION**	**LODGED**	**COST**	**NOTIFY CATEGORY**
***40**	S49/8/2019	SUPREME COURT, 261-279 Victoria Square, ADELAIDE SA 5000	Pressure cleaning the north, west and east facade of the Adelaide Supreme Court Complex	20/05/2019	TBA	Category 1

Please Note: Category 1 (No Notification Required)
Category 2 (Adjacent Owners and Occupiers Notified Only)
Category 3 (As for Category 2, plus Other Owners and Occupiers Directly Affected to a significant degree)

*** Approved**

CITY OF ADELAIDE COUNCIL ASSESSMENT PANEL ON 17/6/2019

Item No: 6.1

From: Assessment Manager

Subject: Exclusion of the Public from attendance at the meeting to Consider Item 7.1 and Item 7.2 on a Confidential basis (2018/04291) [CAP]

Item 7.1 – ERD Court Consideration – DA/812/2018

Information relating to actual litigation, or litigation that the panel believes on reasonable grounds will take place

Item 7.2 – ERD Court Consideration – DA/3/2018

Information relating to actual litigation, or litigation that the panel believes on reasonable grounds will take place

PURPOSE

To exclude the public from attendance at this part of the meeting for the Panel to consider Item 7.1 and Item 7.2 in confidence

REPORT

Public Access to meetings

Regulation 13(1) of the *Planning, Development and Infrastructure (General) Regulations 2017 (SA),* states:

13(1) In connection with the conduct of the proceedings of an assessment panel, members of the public are entitled to attend a meeting of the panel other than as set out in Regulation 13(2) of the *Planning, Development and Infrastructure (General) Regulations 2017 (SA).*

Legislative Provision enabling the Council Assessment Panel to exclude the public from attendance

Regulation 13(2) of the Planning, *Development and Infrastructure (General) Regulations 2017 (SA)*, states:

13(2) An assessment panel may exclude the public from attendance at a meeting -

13(2)(a) during so much of a meeting as is necessary to receive, discuss or consider in confidence any of the following information or matters:

(i) information the disclosure of which would involve the unreasonable disclosure of information concerning the personal affairs of any person (living or dead);

(ii) information the disclosure of which –

(A) could unreasonably be expected to confer a commercial advantage on a person, or to prejudice the commercial position of a person; and

(B) would, on balance, be contrary to the public interest;

(iii) information the disclosure of which would reveal a trade secret;

(iv) commercial information of a confidential nature (not being a trade secret) the disclosure of which –

(A) could reasonably be expected to prejudice the commercial position of the person who supplied the information, or to confer a commercial advantage on a third party; and

(B) would, on balance, be contrary to the public interest;

(v) matters affecting the safety or security of any person or property;

(vi) information the disclosure of which could reasonably be expected to prejudice the maintenance of law, including by affecting (or potentially affecting) the prevention, detection or investigation of a criminal offence, or the rights to a fair trial;

(vii) matters that should be considered in confidence in order to ensure that the assessment panel, or any other entity, does not breach any law, or any order or direction of a court or tribunal constituted by law, any duty of confidence, or other legal obligation or duty;

(viii) legal advice;

(ix) information relating to actual litigation, or litigation that the panel believes on reasonable grounds will take place;

(x) information the disclosure of which –

(A) would divulge information provided on a confidential basis by or to a Minister of the Crown, the Commission, or another public authority or official; and

(B) would, on balance, be contrary to the public interest; or

13(2)(b) during so much of the meeting that consists of its discussion or determination of any application or other matter that falls to be determined by the assessment panel.

Meeting Conduct

To consider information or a matter in confidence, the Panel through a formal resolution is required to exclude the public from the meeting.

Conclusion

The Panel is requested to exclude the public from this part of the meeting.

RECOMMENDATION

That the public be excluded from this part of the meeting of the City of Adelaide Council Assessment Panel dated 17/6/2019, (except for members of Corporation staff and any person permitted to remain) to enable the Panel to consider on a confidential basis information relating to actual litigation, or litigation that the panel believes on reasonable grounds will take place for:

Item 7.1 – ERD Court Consideration – DA/812/2018

Section 13(2)(a) (ix) and 13(2)(b) of the *Planning, Development and Infrastructure (General) Regulations 2017 (SA)*

Item 7.2 – ERD Court Consideration – DA/3/2018

Section 13(2)(a) (ix) and 13(2)(b) of the *Planning, Development and Infrastructure (General) Regulations 2017 (SA)*]

Item No 7.1 – Matter for Consideration on a Confidential Basis

DA/812/2018
Land, 22A Moger Lane, Adelaide SA 5000 [CAP]

Section 13(2) (a) (ix) [*Planning, Development and Infrastructure (General) Regulations 2017 (SA)*]

Pages 216 - 286

Item No 7.2 – Matter for Consideration on a Confidential Basis

DA/3/2018
200 Hutt Street & 290 Halifax Street, Adelaide SA 5000 [CAP]

Section 13(2) (a) (ix) [*Planning, Development and Infrastructure (General) Regulations 2017 (SA)*]

Pages 287 - 414