

Attachment A8

Preliminary Contamination Review

**Mirvac Office Developments Pty Ltd
Preliminary Contamination Assessment**

55 Pitt Street, Sydney NSW

12 December 2019



Innovation is
finding answers
to questions
no one has
asked

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Preliminary Contamination Assessment

Prepared for
Mirvac Office Developments Pty Ltd

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Executive summary

Mirvac Office Developments Pty Ltd (Mirvac) proposes to redevelop the properties comprising 6-8 Underwood Street, 37-49 Pitt Street, 49A-57 Pitt Street Sydney, 6 Dalley Street (Telstra building) and 8-14 Dalley Street (Ausgrid Substation), Sydney, which are collectively referred to as 55 Pitt Street, Sydney (the 'Site'). This report was prepared in accordance with our fee proposal dated 4th July 2019.

Coffey Services Australia Pty Ltd (Coffey) was commissioned by Mirvac to undertake a Preliminary Contamination Review of the site. Coffey understands that the redevelopment will include:

- Demolition of the properties at 6-8 Underwood Street, 37-49 Pitt Street, and 49A-57 Pitt Street, and construction of a multi-storey commercial building (55 Pitt St commercial tower) with three basements (shown as the proposed development area on Figure 2).
- Cosmetic work including hard and soft landscaping, façade upgrades, minor internal works, and roof upgrades at the Telstra Building and Ausgrid Substation. Coffey understands that there is no intent to build or demolish any structures on these properties.

This preliminary contamination assessment was prepared to support a Planning Proposal submission for the proposed development. The objectives of this assessment were to:

- Assess the potential for land contamination on the site as a result of historical and current usage; and
- Provide recommendations for further contamination assessment (if required).

The scope of work included:

- A site walkover of accessible areas of the site.
- Review a selection of aerial photographs from 1951 onwards.
- Review of NSW EPA List of Notified Sites for Contamination and the NSW EPA Contaminated Land Public Record for Contamination.
- Review of previous contamination assessment reports listed in Section 3 Previous Contamination Assessments.
- Preparation of this report discussing the findings of the assessment.

Based on a review of readily available data and observations made during a site walkover, Coffey considers that potentially contaminating activities may have occurred on the site. Coffey has identified the following potential areas of environmental concern (AEC), which should be verified via further site assessment prior to construction:

- Potential soil and/or groundwater impacts from former underground storage tanks (USTs) and above-ground storage tanks (ASTs) on-site. The following USTs and ASTs are potentially present at the site:
 - A 3,000L AST used to contain diesel located within the upper basement of 37-49 Pitt St
 - A 400L AST used to contain diesel located within the roof of the plant room of 37-49 Pitt St (not sighted during the site walkover, but approximate location is provided in Figure 2)
 - A grease trap within the upper basement area of 37-49 Pitt St
 - A 10L diesel tank located in the plant room of 37-49 Pitt St associated with the hydrant pump (not sighted during the site walkover)

- A decommissioned 10,000L UST within the basement of 37-49 Pitt St (not sighted during the site walkover)
- A 400L AST used to contain diesel located within the roof of the plant room of 49A-51 Pitt St (not sighted during the site walkover)
- A decommissioned 5,000L UST within the basement of 49A-51 Pitt St (approximate location is shown in Figure 2)
- A 10L diesel tank located in the plant room of 49A-51 Pitt St associated with the hydrant pump (not sighted during the site walkover)
- A fuel fill / dip point observed in the northern footpath on Dalley Street (approximate location is shown in Figure 2)
- Fill of unknown origin within the site boundaries.
- Potential for acid sulfate soils associated with alluvium and the Tank Stream.
- Historical spills / leaks associated with equipment and/or tanks on the Ausgrid site (Coffey did not have access to the Ausgrid site at the time of the site walkover)

Furthermore, there is the potential for subsurface conduits/pits beneath the ground surface to contain asbestos. Coffey recommends that an unexpected finds protocol is prepared to provide processes and safeguards for any situations where ACM is unexpectedly encountered during redevelopment.

Coffey is of the opinion that the site can be made suitable for the proposed development, subject to carrying out further assessment, implementation of an unexpected finds protocol, and management/remediation (if required). In summary, the following aspects require further assessment:

- Potential subsurface impact in the vicinity of the abandoned USTs;
- Potential for contamination (if present) to migrate from the Ausgrid property to within the proposed development area.
- Characterisation of imported fill materials across the Site, including the Tank Stream area.
- Assessment of acid sulfate soils which may require management during redevelopment.

Coffey recommends that additional investigation of potential contamination be undertaken during the demolition and remediation works, or in conjunction with a geotechnical investigation prior to the demolition works (Phase 2 investigation), to clarify uncertainty in relation to the ground contamination status of the site, and assessment of site suitability considerations conforming with SEPP55 Managing Land Contamination Planning Guidelines (DUAP/EPA, 1998).

This report should be read in conjunction with "*Important Information about your Coffey Environmental Report*", which is attached to this report.

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Important Information about your Coffey Report

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1 Background and Objective

Mirvac Office Developments Pty Ltd (Mirvac) proposes to redevelop the properties comprising 6-8 Underwood Street, 37-49 Pitt Street, 49A-57 Pitt Street Sydney, 6 Dalley Street (Telstra building) and 8-14 Dalley Street (Ausgrid Substation), Sydney, which are collectively referred to as 55 Pitt Street, Sydney (the site). The site location and site layout are shown in Figure 1 and 2, respectively.

Coffey Services Australia Pty Ltd (Coffey) was commissioned by Mirvac to undertake a Preliminary Contamination Assessment of the site. This report was prepared in accordance with our fee proposal dated 4th July 2019. The redevelopment will include:

- Demolition of the properties at 6-8 Underwood Street, 37-49 Pitt Street, and 49A-57 Pitt Street, and construction of a multi-storey commercial building (55 Pitt St commercial tower) with three basements (shown as the proposed development area on Figure 2).
- Cosmetic work including hard and soft landscaping, façade upgrades, minor internal works, and roof upgrades at the Telstra Building and Ausgrid Substation. Coffey understands that there is no intent to build or demolish any structures on these properties.

This preliminary contamination assessment was carried out to support a Planning Proposal submission for the proposed development.

The objectives of this preliminary contamination assessment were to:

- Assess the potential for land contamination on the Site as a result of historical and current usage; and
- Provide recommendations for further contamination assessment (if required).

2 Objective and Scope of Work

The objective of the investigation was to assess potential contamination issues at the site.

The scope of work included:

- Review of a selection of aerial photographs from 1951 onwards;
- Review of the NSW EPA List of Notified Sites for Contamination and the NSW EPA Contaminated Land Public Record for contamination;
- Review of previous contamination assessment reports listed in Section 3 Previous Contamination Assessments;
- Site walkover; and
- Preparation of this report discussing the findings of the assessment.

3 Previous Contamination Assessments

The following reports were reviewed by Coffey:

- Golder (2006a) Phase 1 Environmental Site Assessment – 6-8 Underwood Street, Sydney NSW. Golder Associates, June 2006, ref: 06623078_001/02
- Golder (2006b) Phase 1 Environmental Site Assessment – 37 Pitt Street, Sydney NSW. Golder Associates, June 2006, ref: 06623078_002/01
- Golder (2006c) Phase 1 Environmental Site Assessment – 51 Pitt Street, Sydney NSW. Golder Associates, June 2006, ref: 06623078_003/01

Coffey also referred to the following Decommissioning Certificates provided by Mirvac:

- Metric (1998) Re: Underground Fuel Storage Tank located at 37-49 Pitt Street, Sydney. Metric Calibration Services Pty Ltd, 13 July 1998.
- Metric (1998) Re: Underground Fuel Storage Tank located at 51 Pitt Street, Sydney. Metric Calibration Services Pty Ltd, 13 July 1998.

Coffey also referred to the following hazardous materials reports:

- Noel Arnold (2011) Dangerous Goods & Hazardous Substances Risk Assessment Report – 6-8 Underwood Street, Sydney NSW, reference SG0087:91314, June 2011.
- Noel Arnold (2011) Hazardous Materials Re-Inspection Survey and Asbestos Management Plan – 6-8 Underwood Street, Sydney NSW, reference SG0087:91314, June 2011.
- Noel Arnold (2011) Dangerous Goods & Hazardous Substances Risk Assessment Report – 37-49 Pitt Street, Sydney NSW, reference SG0087:91314, June 2011.
- Noel Arnold (2011) Hazardous Materials Re-Inspection Survey and Asbestos Management Plan – 37-49 Pitt Street, Sydney NSW, reference SG0087:91314, June 2011.
- Noel Arnold (2011) Dangerous Goods & Hazardous Substances Risk Assessment Report – 51 Pitt Street, Sydney NSW, reference SG0087:91314, June 2011.
- Noel Arnold (2011) Hazardous Materials Re-Inspection Survey and Asbestos Management Plan – 51 Pitt Street, Sydney NSW, reference SG0087:91314, June 2011.

4 Site Identification

The Site is identified as:

Street Address:	6-8 Underwood Street, 37-49 Pitt Street, 49A-57 Pitt Street, 6 Dalley Street (Telstra building) and 8-14 Dalley Street (Ausgrid Substation).
Property Identification:	<p>The site is defined as:</p> <ul style="list-style-type: none"> • Lot 2 and 3 in DP1092; • Lot 7 in DP110046; • Lot 1 and 2 in DP1112308; • Lot 1 in DP513109; • Lot 4 in DP524306; • Lot 501 in DP714847; • Lot 6 in DP75338; • Lot A and B in DP104160 (Ausgrid Substation); and • Lot 1 in DP787946 (Telstra Building).
Zoning:	B8 Metropolitan Centre – Pursuant to City of Sydney Local Environmental Plan (LEP) 2012
Current Land use:	<p>Current uses of the site comprise:</p> <ul style="list-style-type: none"> • Multi-storey commercial office buildings: 6-8 Underwood Street, 37-49 Pitt Street, and 49A-57 Pitt Street Sydney • Telstra building: 6 Dalley Street • Ausgrid Substation: 8-14 Dalley Street
Adjoining Site Uses:	<ul style="list-style-type: none"> • North: Underwood Street and Current demolition/construction site (Lendlease redevelopment for multi-storey commercial office, public open space, and basement carparking). • East: Pitt Street and commercial buildings beyond • South: Dalley Street and commercial buildings beyond • West: Underwood Street and commercial buildings beyond • Surrounding land uses are generally commercial, with some mixed commercial/residential buildings.

4.1 General Site Description

A site walkover was carried out in 2016. The is approximately square-shaped and comprises three multi-storey commercial/retail buildings (6-8 Underwood Street, 37-49 Pitt Street, 49A-57 Pitt Street), an Ausgrid substation (8-14 Dalley Street) and a Telstra Building (6 Dalley Street) as shown in Figure 2. There are two existing basement levels at 37-49 Pitt Street and one existing basement level at 49-57A Pitt Street. The general topography of the site and surrounding area appears to be generally flat with a very slight slope down towards the north east, in the direction of Circular Quay. The NSW Department of Lands Spatial Imagery Exchange (<http://maps.six.nsw.gov.au>) indicates that the site lies at an elevation of approximately 5 m Australian Height Datum (AHD).

The Ausgrid substation is housed in a multi-storey red brick and concrete building. Coffey could not gain access to the Ausgrid property during the site walkover, however, main access is via a roller door off

Dalley Street. Three separate single doors are also present off Dalley Street, two of which have “high voltage” signage and the third has “fire alarm panel” signage on it. There is another door off Queens Court.

The Telstra building was not accessed during the site walkover.

4.2 Geology and Hydrogeology

Review of the 1:100,000 Sydney Series Geological Sheet (9130) indicates that the Site is situated in the vicinity of the boundary between fill, estuarine alluvium and Hawkesbury Sandstone, described on the geological sheet as follows:

- Fill: dredged estuarine sand and mud, demolition rubble, industrial and household waste
- Alluvium/marine deposits: silty to peaty quartz sand silt and clay with common shell layers
- Sandstone: medium to coarse grained with minor shale and laminite lenses.

A 2m to 4m wide dyke (igneous intrusion) runs roughly east-west in the vicinity of Dalley Street. Such dykes are often deeply weathered to low soil-strength materials and may also have changed the surrounding sandstone. It is possible that the dyke or altered sandstone may extend under the southern site boundary beneath 51Pitt Street.

Based on the topography and hydrology of the local area and the nearest surface water body, it is considered likely that groundwater underlying the site would flow in a general northerly direction, discharging into Sydney Harbour, approximately 200m north east of site. The Tank Stream, a former fresh water course and now an enclosed storm water drain that discharges to Sydney Harbour, is located to the east of the site.

Groundwater bore licenses were searched using the NSW Department of Primary Industries, Office of Water website (<http://allwaterdata.water.nsw.gov.au/water.stm>) on 9 November 2016 and again on 9 August 2019. No groundwater bores were identified within 500m of the site. A copy of the search results is provided in Appendix A.

4.3 Acid Sulfate Soils

Review of the acid sulfate soils maps available on the Australian Soils Resource Information System (ASRIS) website (<http://www.asris.csiro.au>) indicates that there is a very low probability for the presence of acid sulfate soils beneath the site. However based on the proximity of the site to the tank stream, and Coffey's experience in the area, Coffey considers that there is moderate potential for acid sulfate soils to be present within alluvium at the site. The Geotechnical Desk Study Report prepared separately for the site by Coffey (Ref 754-SYDEN221350-R02, 9 August 2019) indicates that the alluvium reduces in thickness at the north western boundary of the site and is between approximately 0 m and 3 m thick.

5 Site History Review and Aerial Photographs

5.1 Review of Aerial Photographs

Golder (2006) reported that the site appears to have been surrounded by commercial buildings, and does not appear to have changed significantly since 1951. The current building at 6-8 Underwood is visible in the aerial photograph from 1991. Based on title certificates, the site at 6-8 Underwood appears to have been historically used by a variety of companies and individuals, for residential and light commercial use. The current buildings at 37-49 Pitt Street and 49A-57 Pitt Street are visible in the aerial photograph from 1978 and 1961, respectively. Based on a review of certificate title searches, the original Tank Stream was reported to flow under the buildings located on Pitt Street. The stream is now culverted and part of the Sydney stormwater system and is understood to be located under Pitt Street and outside the site curtilage.

Aerial photographs and title search reviewed prior to the existing site development indicate that the all or portions of the site appeared to have been historically used for commercial or residential land uses.

5.2 Summary of Review of Previous Environmental Site Assessments

The following sections provide a summary of review of the Golder (2006a, 2006b, & 2006c) ESAs, which are relevant to land contamination.

5.2.1 6-8 Underwood Street (Golder, 2006a)

- Building was built circa 1986 and was constructed on slab with reinforced concrete.
- No basement is present.
- A generator is present on the roof, which was reported to contain an internal diesel tank (20L). Concrete within the vicinity of the generator was reported to be in good condition with no evidence of staining.
- Hazardous materials (such as asbestos (associated with the sprinkler booster and brake linings to lift motors), PCB containing materials, and refrigerant R22) were observed within the buildings during hazardous material compliance survey.
- Small amounts of chemicals associated with cleaning chemicals were present.

5.2.2 37-49 Pitt Street (Golder, 2006b)

- Building was built circa 1963 and was constructed on concrete slab with reinforced concrete and brick with a glass facade.
- It has two basement areas, which are mainly used for car parking. A sub-basement area is present under the lower basement which contains the stormwater sump.
- One aboveground storage tank (AST) containing diesel is located in the upper basement for a back-up generator. The AST is constructed of steel with approximate volume of 3,000L and is located on bunded concrete containment. Based on Golder (2006b), this AST was considered to be associated with the historic oil-fired boilers that were located within the roof of the plant room and was likely to feed the smaller 400L diesel AST (see below) in the plant rooms. Both boilers had been decommissioned with new gas-fired boilers (2005) and therefore Golder (2006b) considered it unlikely that the AST was still in use.
- A second diesel AST (400L) was present within the plant room located within the roof of the plant room. This AST was reported to have been decommissioned and was reported to have been suspended 1m above the ground on a metal spill tray.
- Grease from the cafes travel through pipework to an AST located in the upper basement area adjacent to the Building Manager's office. The AST is constructed of steel. Minor staining was

observed around the base of the grease trap (Golder, 2006b). Based on the information by the cafes' owners, the grease trap was cleaned monthly.

- An additional diesel tank (10L) was present in the plant room for powering hydrant pump, which was reported to have been decommissioned.
- One UST was present in the car park basement at 37-49 Pitt Street, which was reported to be decommissioned in-situ in 1998. The UST had a capacity of 2000 gallons (approximately 10,000L) and used to contain diesel oil. The method of abandonment comprised filling with Petrol Fill (an expanding foam like substance). Golder (2006b) noted that no decommissioning certificate had been obtained through WorkCover NSW. It is unknown if this has been obtained.
- Hazardous building materials such as asbestos (associated with insulation), PCB containing materials, and refrigerant R22 were observed within the buildings during hazardous material compliance survey.
- Small amounts of chemicals associated with cleaning chemicals were present.

5.2.3 49A-51 Pitt Street (Golder, 2006c)

- The building was built circa 1959 and was refurbished in 1993 and 2004/2005. The building was constructed on concrete slab with reinforced concrete with a glass facade.
- It has one basement level used for carpark.
- A sump is present within the lower basement.
- A diesel AST (400L) was present within the plant room located on the roof and had been decommissioned. The AST was observed to be present on concrete bund with no evidence of staining (Golder, 2006c).
- A diesel tank (10L) was present on the plant room associated with hydrant pump.
- One UST (approximately 5,000L) was observed within the cleaners area in the basement. The UST was reported to have contained diesel and had been decommissioned. The fill point was observed to be located along Dalley Street, along the southern wall of the building. The method of abandonment comprised filling with 'Petrol Fill' (an expanding foam like substance). Golder (2006b) noted that no decommissioning certificate had been obtained through WorkCover NSW. It is unknown if this has been obtained.
- Hazardous building materials such as asbestos, PCB containing materials, and refrigerant R22 were observed within the buildings during hazardous material compliance survey.
- Small amounts of chemicals associated with cleaning chemicals were present.

5.2.4 8-14 Dalley Street (Ausgrid Substation)

According to Energy Australia's Sydney CityGrid Project Concept Environmental Assessment Report (web reference: <http://www.ausgrid.com.au/~media/Files/Network/Network%20Projects/Sydney%20CBD/SCGvol1ch4pdf.pdf>), the Dalley Street Zone Substation (No. 263) was commissioned in 1969 and supply is fed via four oil-filled cables (feeders) running from Lane Cove. Two of the four feeders between Lane Cove and Dalley Street required replacement or retirement by 2012. The remaining feeders have been prioritised for retirement by 2017. It is unknown if the oil filled feeder cables have been removed or remain in-situ.

5.3 Review of NSW EPA Records

Review of NSW EPA List of Notified Sites for Contamination and the NSW EPA Contaminated Land Public Record on the 9 August 2019 indicates that there are no notified sites, records, licenses, applications, or notices for the site or properties within 250m of the site.

6 Site Walkover

A site walkover was undertaken on 14 March 2014 and 27 October 2016 by an experienced Coffey environmental scientist. Site photographs illustrating features of interest are included in Appendix C.

Observations made during the site walkover are summarised below:

- The site comprises three multi-storey buildings, with two existing basement levels at 37-49 Pitt Street and one existing basement level at 49A-51 Pitt Street. The site is bounded by Underwood Street to the north and west, Pitt Street to the east, and Dalley Street to the south.
- Access to the basement car park beneath 37-49 Pitt Street is via Underwood Street.
- Access to the basement car park beneath 49A-51 Pitt Street is via Queens Court.
- The concrete surface of both car parks appears to be in generally good condition with some minor cracks observed.
- The 3,000L AST (used to contain diesel) was observed on the upper level of the basement car park beneath 37-49 Pitt Street. The AST was empty and appeared to be in generally good condition with no rust or holes observed on the tank. There was no indication of spills or leaks observed on the concrete beneath the tank. The transfer pipes from the AST appear to lead to fire extinguisher pumps that are no longer in use. The location of the AST is shown in Figure 2.
- A diesel databox was observed on the western wall at the entrance to the car park beneath 37-49 Pitt Street, which appeared to no longer be in use as the wiring had been cut.
- The building manager's office is located on the upper level of the basement car park at 37-49 Pitt Street.
- An AST associated with the grease trap (size is unknown) was located adjacent to the building manager's office at 37-49 Pitt Street. The AST was made of steel and minor staining was observed around the base of the grease trap. The location of this is not shown in Figure 2.
- Evidence of a UST was present in the north east corner of the basement beneath 49A-57 Pitt Street, behind a locked fence, in an area being used to store cleaning equipment. The location of the UST is shown in Figure 2.
- The UST on the 37-49 Pitt Street was not sighted, but the location is shown in Figure 2, as documented in previous report.
- A fuel fill / dip point was observed in the northern footpath on Dalley Street (approximate location is shown in Figure 2).
- The 400L ASTs or the 10L diesel tanks associated with the hydrant pumps in the plant rooms of 37-49 and 49A-51 Pitt Streets were not sighted.
- A stormwater sump is located in a sub-basement below the lower car park level at 37-49 Pitt Street. Based on information provided by the building manager, this sump is for excess stormwater and it is discharged into the sewer. It is not known if this is an oil water separator.
- Coffey could not gain access to the Ausgrid property or the Telstra Building. Main access to the Ausgrid substation, which is a multi-story, red brick and concrete building, is via a roller door off Dalley Street. Three separate single doors are also present off Dalley Street, two of which have "high voltage" signage and the third has "fire alarm panel" signage on it. There is another door off Queens Court.

7 Preliminary Conceptual Site Model

A preliminary conceptual site model (CSM) was developed based on the information reviewed and visual observations made during the site walkover. A CSM is a representation of site-related information regarding potential sources of contamination, receptors and exposure pathways.

Contamination, if not managed appropriately could pose a potential risk to human health if the site is redeveloped in the future for commercial uses. For an unacceptable risk to exist, there must be a plausible pollutant linkage between the source and a receptor by means of a transport mechanism (pathway).

7.1 Areas of Environmental Concern

Review of available historical data and observations made during the site walkover indicate a number of areas of environmental concern (AECs) and contaminants of potential concern (COPCs), specific to the context and objective of this assessment. These AECs and COPCs are presented in Table 7.1.

Table 7.1 AECs and COPCs

Area of Environmental Concern	Contaminants of Potential Concern
Potential soil and/or groundwater impacts from previously abandoned USTs on-site – 37-49 Pitt Street and 49A-51 Pitt Street	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAH), and phenols
Potential soil and/or groundwater impacts from ASTs on-site - however, it is considered that the potential of significant impact (if any) is unlikely as the ASTs on-site appear to be in good condition and the area in the vicinity of the ASTs appears to be in good condition.	Petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAH), and phenols
Fill of unknown origin brought to the site during site development, generally across or adjacent to the site	Petroleum hydrocarbons, PAH, metals, organochlorine pesticides, polychlorinated biphenyls, asbestos-containing materials
Accidental spills or leaks from oil filled transformers or feeder cables associated with the Ausgrid substation and/or oil interceptor tanks and waste oil tanks (if present). No as-built plans for the Ausgrid property and/or previous environmental reports have been provided to Coffey.	Petroleum hydrocarbons, PAH, metals and PCBs
Acid Sulfate Soils	Alluvium is likely to be present on site. Some of the Alluvium may have been removed as part of previous developments, particularly where basement car parks exist.

Coffey notes that the timing of likely filling activity around the Tank Stream to the east of the site pre-dates the use of asbestos containing fill material (ACM). Therefore, the likelihood of the fill around the Tank Stream containing ACM is considered to be low.

Furthermore, there is also the potential for subsurface conduits/pits beneath the site to contain asbestos.

Based on the review of readily available information to describe the current and historic uses of the site, it is assessed that there is a low likelihood that Per- and polyfluoralkyl substances (PFAS) to be encountered on the site because the commercial introduction of PFAS in Australia in the 1960s post-dated uses of the site by light industry, automotive garages and building materials suppliers.

7.2 Potential Receptors and Exposure Routes

Based on the objectives of this investigation, potential receptors to contamination, if present, were considered to comprise:

- Future commercial users of the site from:
 - Vapour intrusion and inhalation of volatile contaminants.
 - Direct contact (dermal contact and ingestion).
 - Inhalation of asbestos fibres.
- Future construction workers and shallow maintenance workers from:
 - Dermal contact (dermal contact and ingestion).
 - Vapour inhalation.
 - Inhalation of asbestos fibres.
- Adjacent site users from incidental ingestion of potentially impacted wind-blown dust and asbestos fibres migrating from site during construction.
- Terrestrial ecosystems (particularly transitory wildlife) from direct uptake and diffusion of potential contaminants in soil.
- Aquatic Ecosystems of Sydney Harbour from off-site migration of impacted groundwater.

8 Conclusions and Recommendations

Based on a review of readily available data and observations made during a site walkover, Coffey has identified the following sources that may have potentially resulted in contamination. These potential sources of contamination shall be further assessed via site testing prior to construction:

- Potential soil and/or groundwater impacts from former USTs and ASTs on-site. The following USTs and ASTs are potentially present at the site:
 - A 3,000L AST used to contain diesel located within the upper basement of 37-49 Pitt St
 - A 400L AST used to contain diesel located within the roof of the plant room of 37-49 Pitt St (not sighted during recent site walkover, but approximate location is provided in Figure 2)
 - A grease trap within the upper basement area of 37-49 Pitt St
 - A 10L diesel tank located in the plant room of 37-49 Pitt St associated with the hydrant pump (not sighted during recent site walkover)
 - A decommissioned 10,000L UST within the basement of 37-49 Pitt St (not sighted during recent site walkover)
 - A 400L AST used to contain diesel located within the roof of the plant room of 49A-51 Pitt St (not sighted during recent site walkover)
 - A decommissioned 5,000L UST within the basement of 49A-51 Pitt St (approximate location is shown in Figure 2)
 - A 10L diesel tank located in the plant room of 49A-51 Pitt St associated with the hydrant pump (not sighted during recent site walkover)
 - Potential fuel fill / dip point observed in the northern footpath on Dalley Street (approximate location is shown in Figure 2)
- Fill of unknown origin within the general site surface
- Acid sulfate soils within alluvium soils beneath the site
- Historical spills / leaks associated with equipment and/or tanks in the Ausgrid site (Coffey did not have access to the Ausgrid site at the time of the site walkover)

A number of the ASTs and the UST at 37-49 Pitt St were not sighted during site walkover. It is recommended that the presence of these be confirmed prior to demolition work. It is considered that potential impact from ASTs is considered to be low as ASTs and the areas surrounding them appear to be in condition. It is recommended that AST removal is undertaken appropriately to minimise impact to surrounding area.

In summary, the following aspects require further assessment within the proposed development area:

- Potential for subsurface impact in the vicinity of the abandoned USTs;
- Potential for contamination (if present) to migrate from the Ausgrid property to within the proposed development area.
- Characterisation of imported fill materials across the Site, including the Tank Stream area.
- Assessment of acid sulfate soils which may require management during redevelopment.

Furthermore, there is the potential for subsurface conduits/pits beneath the ground surface to contain asbestos. Coffey recommends that an unexpected finds protocol is prepared to provide processes and safeguards for any situations where ACM is unexpectedly encountered during redevelopment.

Coffey is of the opinion that the site can be made suitable for the proposed development, subject to carrying out further assessment, implementation of an unexpected finds protocol, and management/remediation (if required). Coffey recommends that additional investigation of potential contamination be undertaken during the demolition and remediation works, or in conjunction with a geotechnical investigation prior to the demolition works (Phase 2 investigation), to clarify uncertainty in relation to the ground contamination status of the Site, and assessment of site suitability considerations conforming with SEPP55 Managing Land Contamination Planning Guidelines (DUAP/EPA, 1998).

These conclusions and recommendations are made within the limitations of the work which has been undertaken. This report should be read in conjunction with "*Important Information about your Coffey Environmental Report*", which is attached to this report.

7 Limitations

This preliminary contamination assessment was conducted, and this report has been prepared, to identify potential contaminant sources to support a Planning Proposal, based on a desktop analysis and site walkover of accessible areas at the time as outlined in this report and in reliance, within reason, on certain data and information made available to Coffey. Further testing to verify any areas of potential contamination will be required prior to construction.

The analyses, evaluations, opinions and conclusions presented in this report are based on those instructions, requirements, data or information, and they could change if such instructions etc. are in fact inaccurate or incomplete. Environmental reporting relies on interpretation of factual information based on judgement and opinion and has an inherent level of uncertainty.

Important information about your **Coffey** Environmental Report

Introduction

This report has been prepared by Coffey for you, as Coffey's client, in accordance with our agreed purpose, scope, schedule and budget.

The report has been prepared using accepted procedures and practices of the consulting profession at the time it was prepared, and the opinions, recommendations and conclusions set out in the report are made in accordance with generally accepted principles and practices of that profession.

The report is based on information gained from environmental conditions (including assessment of some or all of soil, groundwater, vapour and surface water) and supplemented by reported data of the local area and professional experience. Assessment has been scoped with consideration to industry standards, regulations, guidelines and your specific requirements, including budget and timing. The characterisation of site conditions is an interpretation of information collected during assessment, in accordance with industry practice.

This interpretation is not a complete description of all material on or in the vicinity of the site, due to the inherent variation in spatial and temporal patterns of contaminant presence and impact in the natural environment. Coffey may have also relied on data and other information provided by you and other qualified individuals in preparing this report. Coffey has not verified the accuracy or completeness of such data or information except as otherwise stated in the report. For these reasons the report must be regarded as interpretative, in accordance with industry standards and practice, rather than being a definitive record.

Your report has been written for a specific purpose

Your report has been developed for a specific purpose as agreed by us and applies only to the site or area investigated. Unless otherwise stated in the report, this report cannot be applied to an adjacent site or area, nor can it be used when the nature of the specific purpose changes from that which we agreed.

For each purpose, a tailored approach to the assessment of potential soil and groundwater contamination is required. In most cases, a key objective is to identify, and if possible quantify, risks that both recognised and potential contamination pose in the context of the agreed purpose. Such risks may be financial (for example, clean up costs or constraints on site use) and/or physical (for example, potential health risks to users of the site or the general public).

Limitations of the Report

The work was conducted, and the report has been prepared, in response to an agreed purpose and scope, within time and budgetary constraints, and in reliance on certain data and information made available to Coffey.

The analyses, evaluations, opinions and conclusions presented in this report are based on that purpose and scope, requirements, data or information, and they could change if such requirements or data are inaccurate or incomplete.

This report is valid as of the date of preparation. The condition of the site (including subsurface conditions) and extent or nature of contamination or other environmental hazards can change over time, as a result of either natural processes or human influence. Coffey should be kept apprised of any such events and should be consulted for further investigations if any changes are noted, particularly during construction activities where excavations often reveal subsurface conditions.

In addition, advancements in professional practice regarding contaminated land and changes in applicable statutes and/or guidelines may affect the validity of this report. Consequently, the currency of conclusions and recommendations in this report should be verified if you propose to use this report more than 6 months after its date of issue.

The report does not include the evaluation or assessment of potential geotechnical engineering constraints of the site.

Interpretation of factual data

Environmental site assessments identify actual conditions only at those points where samples are taken and on the date collected. Data derived from indirect field measurements, and sometimes other reports on the site, are interpreted by geologists, engineers or scientists to provide an opinion about overall site conditions, their likely impact with respect to the report purpose and recommended actions.

Variations in soil and groundwater conditions may occur between test or sample locations and actual conditions may differ from those inferred to exist. No environmental assessment program, no matter how comprehensive, can reveal all subsurface details and anomalies. Similarly, no professional, no matter how well qualified, can reveal what is hidden by earth, rock or changed through time.

The actual interface between different materials may be far more gradual or abrupt than assumed based on the facts obtained. Nothing can be done to change the actual site conditions which exist, but steps can be taken to reduce the impact of unexpected conditions.

For this reason, parties involved with land acquisition, management and/or redevelopment should retain the services of a suitably qualified and experienced environmental consultant through the development and use of the site to identify variances, conduct additional tests if required, and recommend solutions to unexpected conditions or other unrecognised features encountered on site. Coffey would be pleased to assist with any investigation or advice in such circumstances.

Recommendations in this report

This report assumes, in accordance with industry practice, that the site conditions recognised through discrete sampling are representative of actual conditions throughout the investigation area. Recommendations are based on the resulting interpretation.

Should further data be obtained that differs from the data on which the report recommendations are based (such as through excavation or other additional assessment), then the recommendations would need to be reviewed and may need to be revised.

Report for benefit of client

Unless otherwise agreed between us, the report has been prepared for your benefit and no other party. Other parties should not rely upon the report or the accuracy or completeness of any recommendation and should make their own enquiries and obtain independent advice in relation to such matters.

Coffey assumes no responsibility and will not be liable to any other person or organisation for, or in relation to, any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report.

To avoid misuse of the information presented in your report, we recommend that Coffey be consulted before the report is provided to another party who may not be familiar with the background and the purpose of the report. In particular, an environmental disclosure report for a property vendor may not be suitable for satisfying the needs of that property's purchaser. This report should not be applied for any purpose other than that stated in the report.

Interpretation by other professionals

Costly problems can occur when other professionals develop their plans based on misinterpretations of a report. To help avoid misinterpretations, a suitably qualified and experienced environmental consultant should be retained to explain the implications of the report to other professionals referring to the report and then review plans and specifications produced to see

how other professionals have incorporated the report findings.

Given Coffey prepared the report and has familiarity with the site, Coffey is well placed to provide such assistance. If another party is engaged to interpret the recommendations of the report, there is a risk that the contents of the report may be misinterpreted and Coffey disowns any responsibility for such misinterpretation.

Data should not be separated from the report

The report as a whole presents the findings of the site assessment and the report should not be copied in part or altered in any way. Logs, figures, laboratory data, drawings, etc. are customarily included in our reports and are developed by scientists or engineers based on their interpretation of field logs, field testing and laboratory evaluation of samples. This information should not under any circumstances be redrawn for inclusion in other documents or separated from the report in any way.

This report should be reproduced in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties.

Responsibility

Environmental reporting relies on interpretation of factual information using professional judgement and opinion and has a level of uncertainty attached to it, which is much less exact than other design disciplines. This has often resulted in claims being lodged against consultants, which are unfounded. As noted earlier, the recommendations and findings set out in this report should only be regarded as interpretive and should not be taken as accurate and complete information about all environmental media at all depths and locations across the site.

Appendix A

Groundwater Bore Search Results



[help](#) · [contact](#) · [customise](#)

State Overview

[State Overview](#)

Rivers and Streams

[favourites](#) · [search](#) · [download sites](#) · [find a site](#)
[Real Time Data - Rivers And S...](#)

Daily River Reports

[Daily River Reports](#)

Dams

[favourites](#) · [search](#) · [download sites](#) · [find a site](#)
[Real Time Data - Major Dams](#)

Groundwater (Telemetered data)

[favourites](#) · [search](#) · [download sites](#) · [find a site](#)
[Real Time Data - Bores](#)

All Groundwater Site details

[search](#) · [download sites](#) · [find a site](#)
[All Groundwater Map](#)

Meteorology

[favourites](#) · [search](#) · [download sites](#) · [find a site](#)
[Real Time Data - Weather Stat...](#)

Hunter Integrated Telemetry System

[Hunter Integrated Telemetry S...](#)

[bandwidth](#) high low

[glossary and metadata](#)

All Groundwater Site Details

All Groundwater Map

All data times are Eastern Standard Time

Map **Info**

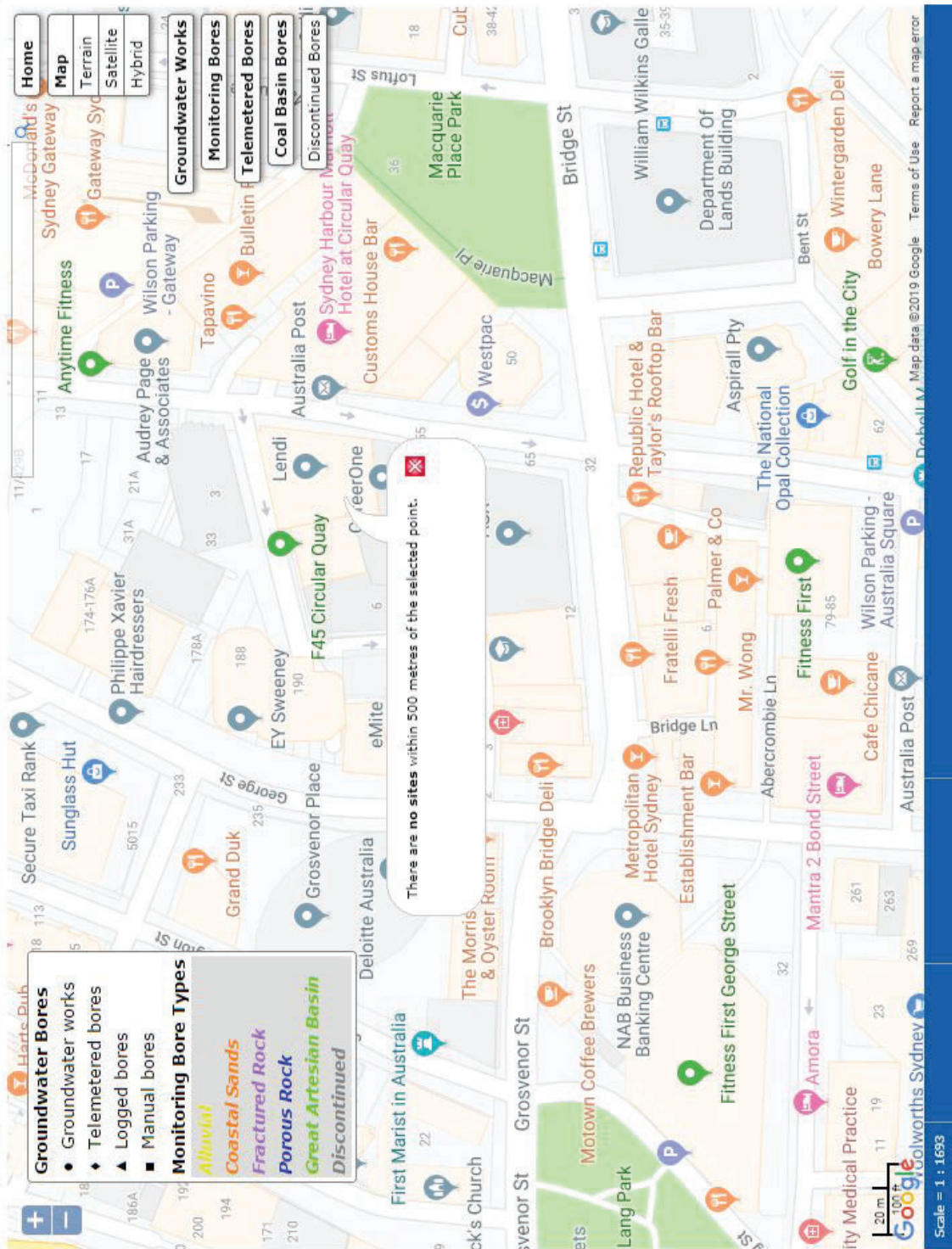
Groundwater Bores

- Groundwater works
- ◆ Telemetered bores
- ▲ Logged bores
- Manual bores

Monitoring Bore Types

- Alkalinia
- Coastal Sands
- Fractured Rock
- Porous Rock
- Great Artesian Basin
- Discontinued

There are no sites within 500 metres of the selected point.



Appendix B

Figures



SYDNEY HARBOUR



Scale (metres) 1:10000

IMAGERY SOURCE: WORLD STREET MAP
SOURCES: ESRI, HERE, GARMIN, USGS, INTERMAP, INCREMENT P, NRCAN, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), ESRI KOREA, ESRI (THAILAND), NGCC, © OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

DRAFT

drawn	AC / AW
approved	-
date	09/08/2019
scale	AS SHOWN
original size	A4



client:	MIRVAC OFFICE DEVELOPMENTS PTY LTD		
project:	PRELIMINARY CONTAMINATION REVIEW 55 PITT STREET, SYDNEY, NSW		
title:	SITE LOCATION PLAN		
project no:	311754-SYDEN221350	figure no:	FIGURE 1
		rev:	A

PLOT DATE: 09/08/2019 11:13:15 AM DWG FILE: E:\1-PROJECTS\1. SYDNEY\2019\SYDEN221350_MIRVAC_55_PITT_ST110_CAD\3454-SYDEN221350.DWG



DRAFT

client:	MIRVAC OFFICE DEVELOPMENTS PTY LTD
project:	PRELIMINARY CONTAMINATION REVIEW 55 PITT STREET, SYDNEY, NSW
title:	SITE LAYOUT PLAN
project no:	754-SYDEN221350
figure no:	FIGURE 2
rev:	A



drawn	AC / AW
approved	-
date	09/08/2019
scale	AS SHOWN
original size	A3



AERIAL IMAGE SOURCE: GOOGLE EARTH PRO 7.3.2
AERIAL IMAGE ©: IMAGE @ 22/08/2017

no.	description	drawn	approved	date
A	ORIGINAL ISSUE			

- LEGEND**
- PROPOSED DEVELOPMENT AREA
 - SITE BOUNDARY

Appendix C

Site Photographs

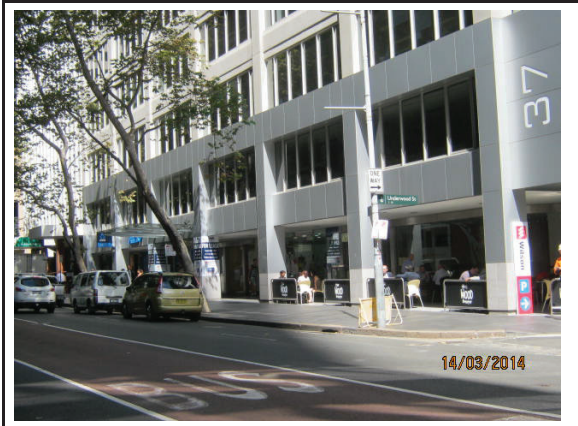


Photo 1: Looking south down Pitt Street and the buildings at 37 and 51 Pitt Street

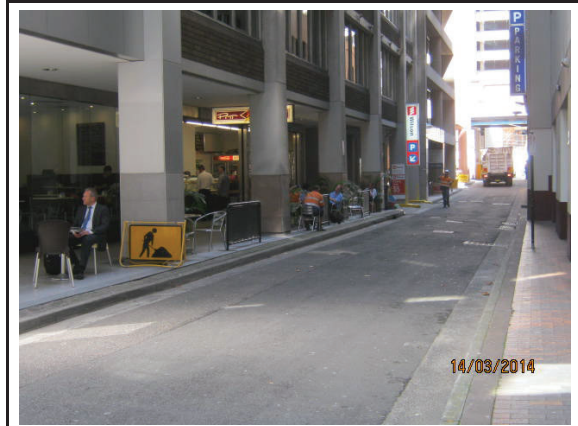


Photo 2: Looking west up Underwood Street and at the building at 6-8 Underwood

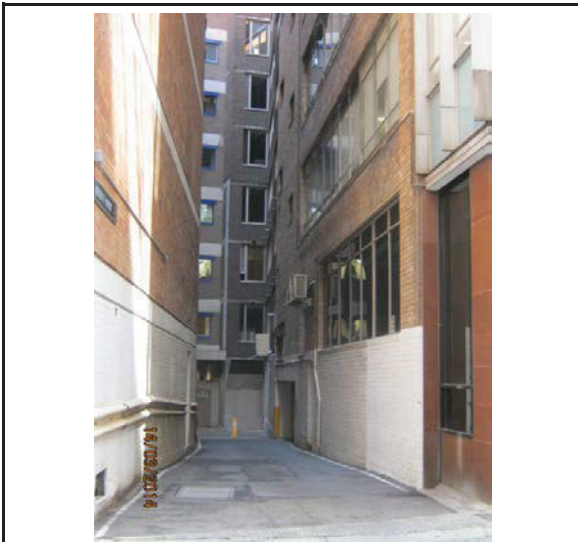


Photo 3: Looking at Queens Court and entry to the basement car park beneath 51 Pitt Street



Photo 4: Looking West up Dalley Street



Photo 5: Potential dip/fill point on northern footpath of Dalley Street



Photo 6: Entrance to car park at 51 Pitt Street



Photo 7: Location of UST in basement car park at 51 Pitt Street



Photo 8: AST location on upper basement car park at 37 Pitt Street



Photo 9: Disconnected power box to diesel AST

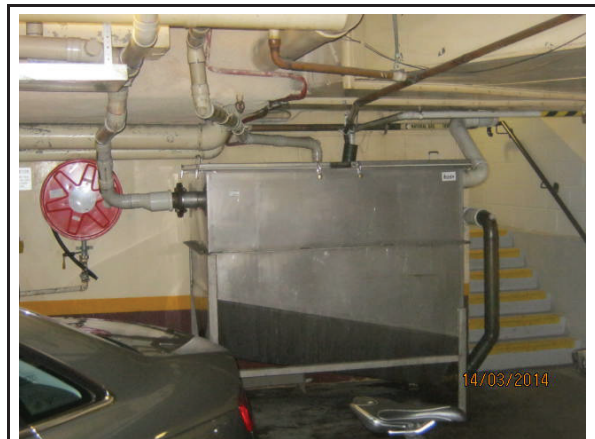


Photo 10: Grease trap AST located on lower basement level car park at 37 Pitt Street

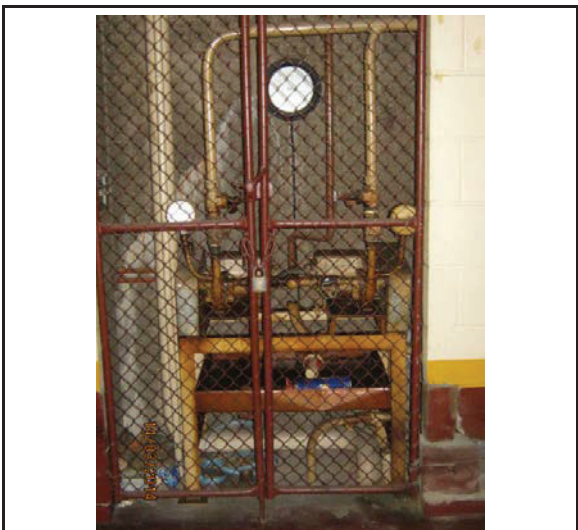


Photo 11: Decommissioned fire hydrant pumps located on lower level car park at 37 Pitt Street



Photo 12: Sump pump room located on lower basement car park at 37 Pitt Street