

# Addenda Report to Phase I ESA, Old Wallgrove Road, Acquisition Lands



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## Addenda Report to Phase I ESA, Old Wallgrove Road, Acquisition Lands

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18-Dec-2014

Job No.: 60220882\_3.0

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## Quality Information

Document      Addenda Report to Phase I ESA, Old Wallgrove Road, Acquisition Lands

Ref              60220882\_3.0

Date             18-Dec-2014

Prepared by    Alex Latham

Reviewed by    Brad Eismen

### Revision History

Revision	Revision Date	Details	Authorised	
			Name/Position	Signature
A	18-Dec-2014	Draft for comment	Alex Latham Associate Director	

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**DRAFT****Glossary of Terms**

<b>General Terms</b>	
ACM	Asbestos Containing Material
AHD	Australian Height Datum
ASC NEPM	Assessment of Site Contamination NEPM (2013)
AST	Aboveground Storage Tank
BTEXN	Benzene, toluene, ethylbenzene, xylene, naphthalene
CoPC	Contaminants of Potential Concern
CRC CARE	Cooperative Research Centre for Contamination Assessment and Remediation of the Environment
DQI / DQO	Data Quality Indicators / Data Quality Objectives
EIL / ESL	Ecological Investigation Level / Ecological Screening Level
EPA (NSW)	Environment Protection Authority (formerly DEC, DECC, DECCW)
EPL	Environment Protection License
GPS	Goodman Property Services (Aust) Pty Ltd
HIL / HSL	Health Investigation Level / Health Screening Levels
LOR	Limit of Reporting
Metals	Suite of eight common heavy metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, zinc)
m bgs	Metres below ground surface
mg/kg	milligrams/kilogram
NATA	National Association of Testing Authorities
NEPM	National Environment Protection Measure (1999)
OCP	Organochlorine pesticides
OPP	Organophosphorus pesticides
PAH	Polycyclic aromatic hydrocarbons
PCB	Polychlorinated biphenyls
SAC	Soil Assessment Criteria
TRH	Total Recoverable Hydrocarbons
UST	Underground Storage Tank

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## Executive Summary

AECOM Australia Pty Ltd (AECOM) was engaged by Goodman Property Services (Aust) Pty Ltd (GPS) to complete an addenda report to the Phase I Environmental Site Assessment (PI ESA) of the Old Wallgrove Road Acquisition Lands (AECOM report reference: 60220882\_RPE\_22052014). This addenda report should be read in conjunction with the P1 ESA report (AECOM 2014).

The addenda report relates to land owned by Austral Bricks fronting Old Wallgrove Road, which is proposed for development. The proposed development entails construction of a new access driveway and car parking area. According to data supplied by GPS, the new access driveway will be located approximately 250 m to the south of the existing driveway. The development area is approximately 60 m wide by 250 m in length and is hereafter referred to as the Site.

This addenda report provides an assessment of Site history and contamination potential, based on review of the PI ESA report.

Based on the PI ESA data obtained:

- The potential for soil contamination to be present that would preclude Site suitability as a driveway and car park area is considered to be low.
- The potential for contaminated groundwater to be present that would preclude Site suitability as a driveway and car park area is considered to be low.

Given the apparent short duration of use of an above-ground storage tank (AST) for fuel storage, it is considered that there is a low potential for hydrocarbon contamination associated with this structure to be present. AECOM understands that this structure will be demolished and removed from Site. After removal of the structure, sampling and analysis of soils from the footprint of the AST for petroleum hydrocarbon related contaminants is recommended to confirm the conclusions of the P1 ESA.

Anecdotal information suggests that a visual barrier on the Site contains clay and crushed brick and tile sourced from the plant and as such, the potential for fragments of asbestos containing material (ACM) and/or other contaminants is considered to be low. It is recommended that an appropriate construction phase management plan is implemented for earthworks completed on the visual barrier, so that unexpected finds (if any) can be appropriately managed.

AECOM considers that completion of a detailed Phase II ESA on the Site is not required prior to the initiation of access driveway and car park development works. In the event that the proposed works generate spoil that is surplus to requirements of the development, the contamination status of the spoil should be assessed and disposed to an appropriate facility and/or be beneficially re-used, as appropriate.

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## 1.0 Introduction

### 1.1 Preamble

AECOM Australia Pty Ltd (AECOM) was engaged by Goodman Property Services (Aust) Pty Ltd (GPS) to complete an addenda report to the Phase I Environmental Site Assessment (PI ESA) of the Old Wallgrove Road Acquisition Lands (AECOM report reference: 60220882\_RPE\_22052014). This addenda report should be read in conjunction with the P1 ESA report (AECOM 2014).

The addenda report relates to land owned by Austral Bricks fronting Old Wallgrove Road and which subsequent to the issue of the Phase I ESA report in May 2014, is proposed for development. The proposed development entails construction of a new access driveway and car parking area. According to data supplied by GPS, the new access driveway will be located approximately 250 m to the south of the existing driveway. The development area is hereafter referred to as the Site.

This addenda report provides an assessment of Site history and contamination potential, based on review of the PI ESA report.

The location of the Old Wallgrove Road is shown on **Figure 1 (Appendix A)**. The Site is shown on **Figure 2 (Appendix A)** and comprises an approximate 60 m wide strip of land located between Old Wallgrove Road and the existing Austral quarry and brick making plant, between approximately Chainages 200 and 450 (refer Figure 2, Appendix A).

Data supplied by GPS relating to the proposed development is included in Appendix B. AECOM understands that any surplus soil material generated during the development would be re-used at the Austral property.

### 1.2 Project Objective

The project objective was to evaluate whether significant contamination is likely to have occurred from historical or current use that could affect future development of the proposed access driveway and car park area.

### 1.3 Scope of Work

To achieve the objective, AECOM completed the following scope of work:

- Review of the PI ESA report.
- A Site inspection on 21 May 2014, completed for the PI ESA.
- Data evaluation and preparation of this report.

### 1.4 Relevant Guidelines

AECOM completed works with reference to the following guidelines:

- National Environment Protection Council (NEPC) (1999). *National Environment Protection (Assessment of Site Contamination) Measure (NEPM)*.
- *NEPC, 1999 as amended in 2013* (ASC NEPM 2013).
- NSW DEC (2006) Guidelines for the NSW Site Auditor Scheme, 2<sup>nd</sup> Edition.
- NSW OEH (2011). *Guidelines for Consultants Reporting on Contaminated Sites*. NSW Government Office of Environment & Heritage (OEH).

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## 2.0 Site Background & History

The sections that follow provide a summary of the PI ESA data specific to the proposed development area (the Site).

### 2.1 Current Land Use

Current land use of the Site is summarised below:

Table 1 Current Land Use

Site Portion	Description / Comments
Austral Bricks owned land Lot 1 DP 843901	Car parking, landscaped areas, access driveway to main Plant.

### 2.2 Surrounding Land Use

Land uses surrounding the Site included:

- North: Austral Bricks, current car park and landscaped area.
- East: Austral Bricks, Main Plant area.
- South: Austral Bricks, landscaped area including visual barrier.
- West: Old Wallgrove Road.

### 2.3 Topography

The Site surface slopes gently down to the west, towards old Wallgrove Road.

### 2.4 Proximity to Local Sensitive Environments

The closest local sensitive environment is considered to be Ropes Creek. The potential for contamination to this identified receptor from current site activities is considered to be low, based on observations of Site conditions.

### 2.5 Geology and Hydrogeology

#### 2.5.1 Geology

PI ESA data indicated the following:

- Geology: the Site is expected to be underlain by the Wianamatta Group, which comprises shale, carbonaceous claystone, claystone laminate, fine to medium-grained lithic sandstone and rare coal and tuff.
- Soils: the Site is likely to comprise soil of Blacktown soil landscape, which typically include friable loams to clay loams with fine rounded iron-indurated shale gravel.

The potential for acid sulphate soil to be present was considered to be low.

#### 2.5.2 Hydrogeology

Bore search data from the PI ESA indicated that no registered bores were identified in close proximity to the Site. The PI ESA concluded that regional groundwater is expected to be present in the Wianamatta shales from approximately 80 m bgs.



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## 2.6 Historical Certificates of Title

PI ESA data indicated the following Site ownership history for the Site:

**Table 2 Summary of Certificates of Title**

Lot / DP	Dates	Owners	Possible Site Use
1 / 843901	1967 – to date	Austral Brick Company Pty Ltd	Quarrying and brick production
	1950 - 1967	Penfold's Wines Pty Ltd	Rural (grazing). Aerial photographs did not indicate presence of vineyards
	1919 - 1950	Frederick Bigg, farmer/grazier	Rural. Data indicates land may have been vacant between 1941 and 1950 (three executors of the Frederick Bigg estate)
	1912-1919	Charles Pocock, cordial manufacturer	Rural

In summary, the title information indicates that the Site has been utilised for rural activities prior to development of the Austral Bricks Plant.

## 2.7 Anecdotal Information

Anecdotal information obtained during the Site inspection and subsequent information received from Brickworks/Austral in December 2014 is summarised in the following table:

**Table 3 Anecdotal Information**

Source	Information
Rob Zvirgzdins (Austral Brickworks). Approximately 9 years of experience at the Plant	<ul style="list-style-type: none"> <li>- No known underground storage tanks (USTs) at the Site.</li> <li>- Along the western boundary area of Austral Plant, the northern portion has always been used for car parking purposes, whilst the southern portion (i.e. the Site) has remained undeveloped. Visual bunds were recently constructed to provide a 'screen' from Old Wallgrove Road. The bunds may contain clay and crushed brick and tiles sourced from the Plant.</li> <li>- Three in-ground septic tanks (concrete construction) are present near chainage 500 to 550. Treated effluent is used to irrigate the lawn area adjacent to the tanks. The septic tanks receive 'domestic' effluent (i.e. waste from bathrooms, kitchens etc.) not trade waste.</li> <li>- The Site was formerly powered by oil. A cylindrical above ground tank (AST) was formerly used to store oil however, this tank is empty and no longer used. The AST is located on the subject Site and no obvious indications of oil staining were observed in the vicinity of the structure.</li> <li>- The Plant is currently powered by natural gas although it will soon be replaced by landfill gas. A landfill gas pipeline was in the process of being installed from the Austral property to lands on the western side of Old Wallgrove Road. The pipe is some 350 mm in diameter and will require vertical boring beneath Old Wallgrove Road.</li> </ul>
Adam Davies (Brickworks [Austral], Property Development Manager)	<ul style="list-style-type: none"> <li>- The AST has not contained oil since 1980.</li> <li>- In the early 1990s, the AST was thoroughly cleaned (steam cleaned) in preparation for storing recycled water.</li> <li>- The AST is currently empty.</li> </ul>

## 2.8 Aerial Photographs

The following information was derived from reviewing historical aerial photographs from the PI ESA for the Site and the surrounding area. Selected aerial photographs are included on **Figure 3, Appendix A**. Copies of all reviewed aerial photographs are included in **Appendix B**.

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**Table 4 Aerial Photograph Review**

Year	Comments
Jan' 1947	Old Wallgrove Road is present, possibly dirt (i.e. not asphalt). Water pipeline easement is visible to the north of the Site and may be under construction. A small 'work-site like' feature is present on the southern side of the easement in what is currently the Austral Bricks Plant. No obviously visible areas of disturbed soil (i.e. excavations, stockpiles etc) adjacent to Old Wallgrove Road (i.e. the Site).
1961	Area surrounding Old Wallgrove Road appears to be rural (paddocks). No obviously visible areas of disturbed soil (i.e. excavations, stockpiles etc) at the Site.
Apr' 1978	Austral Bricks Plant is present, including the AST. Car park area in the northern portion and undeveloped land along eastern boundary of Austral Bricks are present. No development opposite the substation or opposite Austral Bricks. No obviously visible areas of disturbed soil (i.e. excavations, stockpiles etc) at the Site.
Aug' 1986	Austral Bricks Plant is present. No obvious changes to the layout of this property since the 1978 photograph. Site remains undeveloped. No development present opposite Austral Bricks.
Oct' 1994	No obvious changes from the 1986 photograph.
Dec' 2005	No obvious changes from the 1986 photograph.

In summary, no obviously significantly contaminating activities were noted on the photographs reviewed.

## 2.9 Dangerous Goods Records

The PI ESA data included a review of dangerous goods records for the Austral Bricks property. These records indicated the following:

- A 53.4 kL AST of diesel fuel was present at the Site.
- The WorkCover data indicates that 3 x USTs were removed from Austral Bricks in (circa) 2001 however, accompanying plans indicate these tanks were not at the Site and were located at the CSR-PGH facility at the southern end of Wallgrove Road.

## 2.10 NSW EPA Website

The PI ESA included a search of the NSW Environment Protection Authority (EPA) contaminated lands database to evaluate whether the Site or surrounding properties were listed under Section 58 of the Contaminated Land Management Act 1997. The EPA database indicated the following:

- There were no listings for the Site or properties in the immediate area.
- Four properties were listed in the Fairfield City Council Local Government Area (LGA). AECOM notes that the listed properties are not located in the vicinity of the Site.

## 2.11 Unexploded Ordnance

The PI ESA included a search of the Australian Department of Defence Unexploded Ordnance (UXO) Contamination database to evaluate whether the Site or surrounding properties were listed. The records indicated that no UXO risk lies within the Site or within 2 km.

## 2.12 Parish Maps

The PI ESA included a review of historical Parish Maps available on the NSW LPI website which indicated the following:

- 1938: Old Wallgrove Road is present and lands 'earmarked' for the substation were shown on the Map. Surrounding lands appeared to be broad acreage, likely rural/grazing
- Undated maps: show large rural land-holdings in the general area. Whilst the exact date of the maps is not known, the web-site information indicated that the maps were typically produced from the late 1820s and updated to the 1940s. Based on this, it appears possible that the Site has been utilised for rural purposes since the early to mid-1800s.

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## 2.13 Site Inspection Observations

An AECOM Associate Director completed a Site inspection on 21 May 2014 as part of the PI ESA to assess the current use and conditions of the Site. Detailed inspection of the visual barriers/berms was not possible due to the presence of thick grass cover and steep topography. Photographs taken at the time of the inspection are presented in Appendix C. Inspection observations are summarised below:

- Where exposed soil was observed, the profile appeared consistent with the Blacktown Soil Landscape Group, with shallow clay soils grading to weathered shale (refer Plate 1).
- The visual barrier (berm) at Austral Bricks was vegetated with grass and trees and surface soil appeared to comprise silt and clay with shale pieces (refer Plate 2).
- A gas pipeline was being installed at the Austral property (refer Plate 3). Limited observation of soils exposed in the trench did not indicate the presence of obviously contaminated soil materials.
- Some bricks were present in exposed clay soils near the current Austral Bricks car park area. No other anthropogenic inclusions were observed apart from some general litter such as plastic food wrappings/packages.
- Three septic tanks were present to the north of the current car park area. A small area of saturated soils was present on the grass verge immediately adjacent to Old Wallgrove Road, between the Austral fence and the road. This appeared to be seepage water from lawn irrigation activities.
- No evidence for the presence of USTs was observed at the Site.
- The AST was present near the eastern boundary area of the Site. The AST had no obvious visible perforations, or areas of discolouration to the ground surface in the immediate vicinity (refer Plate 4). The ground surface surrounding the AST was gravel and grass. No stressed or dying grass was observed.

## 2.14 Summary of Contamination Potential

Based on the PI ESA data obtained:

- The potential for soil contamination to be present that would preclude Site suitability as a driveway and car park area is considered to be low.
- The potential for contaminated groundwater to be present that would preclude Site suitability as a driveway and car park area is considered to be low. Furthermore, based on the expected depth of development works, the potential to intersect high-yielding groundwater is considered to be low.

Given the apparent short duration of use of the AST for fuel storage, it is considered that there is a low potential for hydrocarbon contamination associated with this structure to be present. AECOM understands that this structure will be demolished and removed from Site. After removal of the structure, sampling and analysis of soils from the footprint of the AST for petroleum hydrocarbon related contaminants is recommended.

Anecdotal information suggests that the visual barrier contains clay and crushed brick and tile sourced from the plant and as such, the potential for fragments of asbestos containing material (ACM) and/or other contaminants is considered to be low. It is recommended that an appropriate construction phase management plan is implemented for earthworks completed on the visual barrier, so that unexpected finds (if any) can be appropriately managed.

AECOM considers that completion of a detailed Phase II ESA is not required prior to the initiation of access driveway and car park development works. In the event that the proposed works generate spoil that are surplus to requirements, the contamination status of the spoil should be assessed and disposed to an appropriate facility and/or be beneficially re-used, as appropriate.

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## 3.0 Conclusions & Recommendations

The PI ESA of the proposed access driveway and car park area at the Austral property involved a review of historical data and a Site inspection to evaluate whether significant contamination is likely to have occurred from historical or current use that could affect future development activities.

Based on the PI ESA data obtained:

- The potential for soil contamination to be present that would preclude Site suitability as a driveway and car park area is considered to be low.
- The potential for contaminated groundwater to be present that would preclude Site suitability as a driveway and car park area is considered to be low.

Given the apparent short duration of use of the AST for fuel storage, it is considered that there is a low potential for hydrocarbon contamination associated with this structure to be present. AECOM understands that this structure will be demolished and removed from Site. After removal of the structure, sampling and analysis of soils from the footprint of the AST for petroleum hydrocarbon related contaminants is recommended to confirm the conclusions of the P1 ESA.

Anecdotal information suggests that the visual barrier contains clay and crushed brick and tile sourced from the plant and as such, the potential for fragments of asbestos containing material (ACM) and/or other contaminants is considered to be low. It is recommended that an appropriate construction phase management plan is implemented for earthworks completed on the visual barrier, so that unexpected finds (if any) can be appropriately managed.

AECOM considers that completion of a detailed Phase II ESA on the Site is not required prior to the initiation of access driveway and car park development works. In the event that the proposed works generate spoil that is surplus to requirements of the development, the contamination status of the spoil should be assessed and disposed to an appropriate facility and/or be beneficially re-used, as appropriate.

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## 4.0 References

AECOM (2007). *Phase I Environmental Site Assessment, Oakdale Concept Plan, Kemps Creek/Horsley Park NSW*. Ref: S4074201\_RptFinalRev02\_13Dec07.

AECOM (2014). *Phase I Environmental Site Assessment, Old Wallgrove Road, Acquisition Lands*. Ref: 60220882-3.0\_RPE\_22052014\_0.

NEPC (1999). *National Environmental Protection (Assessment of Site Contamination) Measure (NEPM)*. National Environment Protection Council (NEPC), as amended 2013(ASC NEPM 2013).

NSW DEC (2006). *Guidelines for the NSW Site Auditor Scheme (2nd Edition)*. Department of Environment and Conservation NSW (NSW DEC).

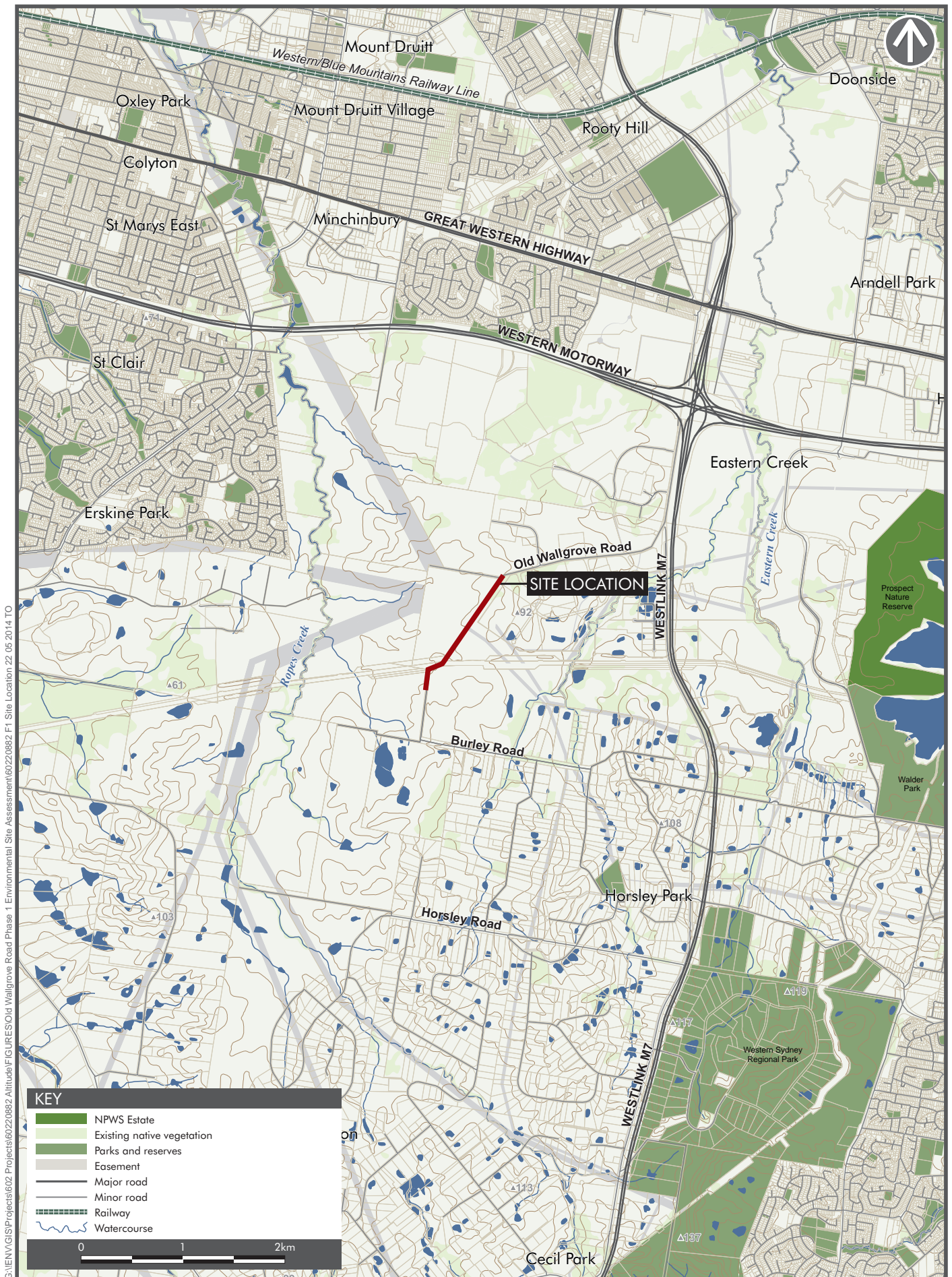
NSW OEH (2011). *Guidelines for Consultants Reporting on Contaminated Sites*. NSW Government Office of Environment & Heritage (OEH).

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## Appendix A

# Figures





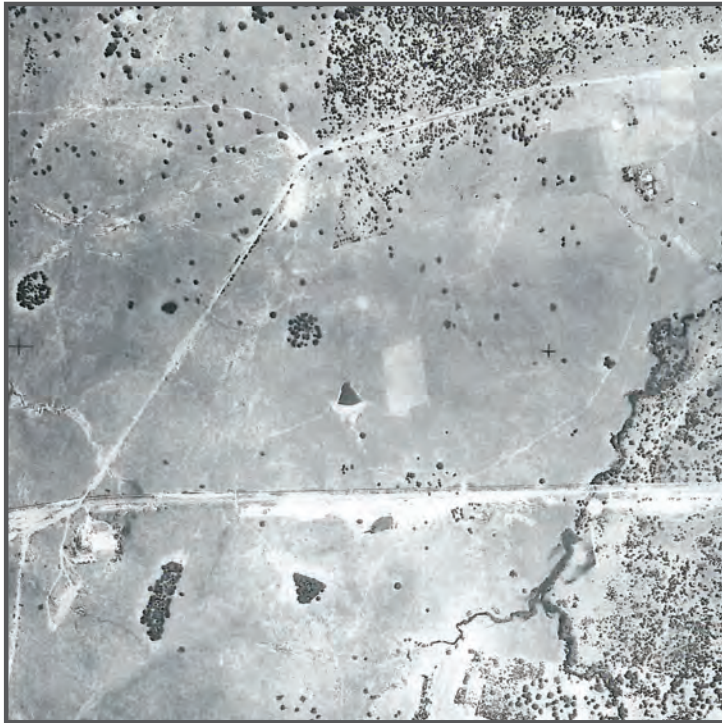
G:\ENV\GIS\Projects\602\Projects\60220882 Altitude\FIGURES\Old Wallgrove Road Phase 1 Environmental Site Assessment\60220882 F1 Site Location 22 05 2014.TIF





G:\ENV\GIS\Projects\602\Projects\60220882\Altitude\FIGURE5\Old Wallgrove Road Phase 1 Environmental Site Assessment\60220882 F2 Site Plan 22 05 2014 TO Rev C





Historical Aerial Photograph - 1947



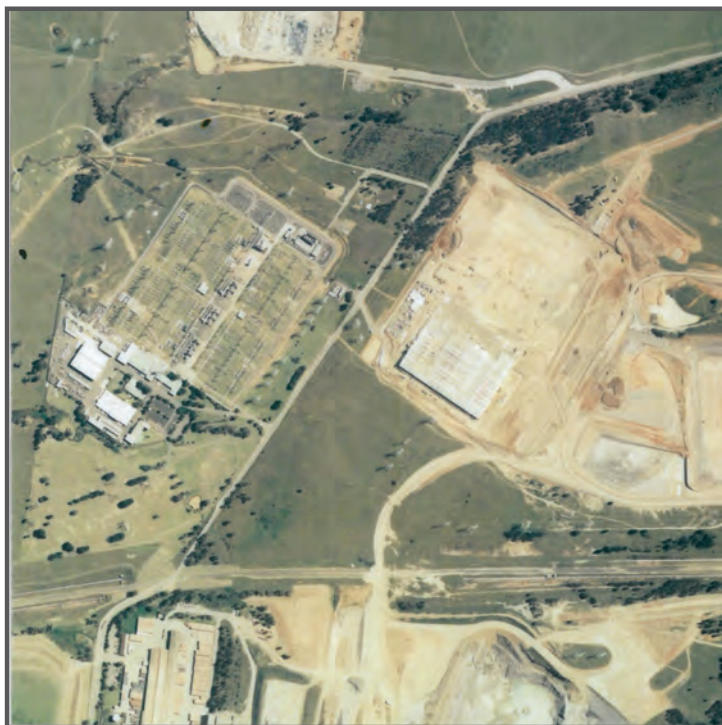
Historical Aerial Photograph - 1961



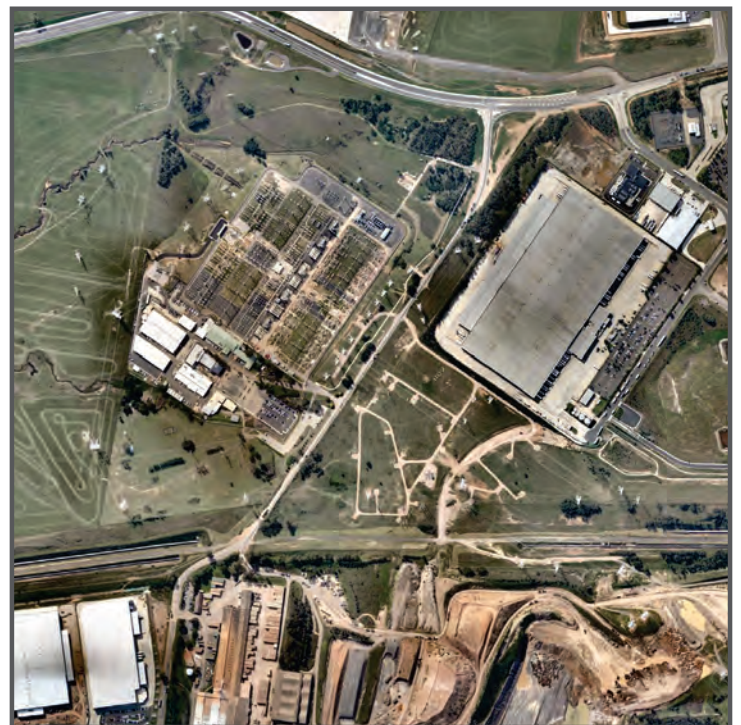
Historical Aerial Photograph - 1978



Historical Aerial Photograph - 1986



Historical Aerial Photograph - 2005



Aerial Photograph - 2014



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## Appendix B

# Background Data

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## Appendix B    Background Data

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## Appendix C

# Plates

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## Appendix C    Plates