

IPSG

Preliminary Site Investigation

BRUCE HALL PRECINCT,
ACTON

NOVEMBER 2016

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BRUCE HALL PRECINCT,
ACTON


IPSG

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EXECUTIVE SUMMARY

Parsons Brinckerhoff Australia Pty Ltd trading as WSP | Parsons Brinckerhoff (WSP | PB) was commissioned by Integrated Property Services Group (IPSG) to undertake a Preliminary Site Investigation (PSI) for a site located on Block 1, Section 63, Bruce Hall Precinct (Bruce Hall, Packard Wing and surrounding areas), Australian National University (ANU), Acton, Canberra, ACT (the site).

The site is currently used for student accommodation. It is understood that this accommodation has reached end of life, will be demolished and new student accommodation constructed.

WSP | PB understands that a PSI is a condition of development approval and is required to provide evidence that the site has been assessed for possible contamination to the satisfaction of the Environment Protection Authority (EPA) and the Environment and Planning Directorate (EPD).

This report summarises the desktop review of the site history, current site condition and any potential soil or groundwater contamination associated with historical or existing site activities.

Historical records searches and a preliminary site inspection were undertaken to assess for any current or historical potentially contaminating activities.

Several current and historical potentially contaminating activities were identified on site, and WSP | PB recommends a further detailed site investigation be undertaken. The areas of potential environmental concern include:

- Potential fill material throughout the site
- A photographic laboratory
- Historical underground storage tanks used for storing fuels for building heating

Based on a review of the site history data and observations made during the site walkover, WSP | PB makes the following conclusions:

- The potential for contamination to be present on the site as a result of past and present land use activities is considered to be moderate.
- WSP | PB has identified three areas of environmental concern, however, more data is required to adequately assess the risks associated with these. Further investigations and a targeted Phase 2 investigation is recommended after demolition occurs.

1 PROJECT BACKGROUND

1.1 Introduction

Parsons Brinckerhoff Australia Pty Ltd trading as WSP | Parsons Brinckerhoff (WSP | PB) was commissioned by Integrated Property Services Group (IPSG) to undertake a Preliminary Site Investigation (PSI) for a site located on Block 1, Section 63, Bruce Hall Precinct (Bruce Hall, Packard Wing and surrounding areas), Australian National University (ANU), Acton, Canberra, ACT (the site).

The site is currently used for student accommodation. It is understood that this accommodation has reached end of life, will be demolished and new student accommodation constructed.

WSP | PB understands that a PSI is a condition of development approval and is required to provide evidence that the site has been assessed for possible contamination to the satisfaction of the Environment Protection Authority (EPA) and the Environment and Planning Directorate (EPD).

This report summarises the desktop review of the site history, current site condition and any potential soil or groundwater contamination associated with historical or existing site activities.

1.2 Objectives

The objectives of this assessment were:

- Assess the potential for contamination to be present on the land as a result of past and present land use activities;
- Provide advice on the suitability of the land (with respect to contamination) for student accommodation; and,
- Provide preliminary advice on additional investigations or preliminary recommendations on contamination management and/or remediation (if required).

1.3 Scope of Works

To achieve the above objectives, the following scope of works was undertaken:

- Desktop review of available information pertaining to the site;
- A site walkover; and
- Data assessment and reporting

2 SITE IDENTIFICATION

2.1 Site Information

Pertinent site details are provided in **Table 2.1**. **Figure 1** presents the site location and regional setting. A detailed site layout, derived from the information outlined in this section, is presented in **Figure 2**.

Table 2.1 Site Details

Site Details	Bruce Hall Precinct, 40 Daley Road, ACTON, ACT, 2601
Legal Description	Block 1, Section 63, ACTON
Area	Block/Section area: 443,229m ² Bruce Hall Precinct area:
Current Zoning	Territory Plan - Land Use Zone: DES: DESIGNATED
Current Site Use	University resident accommodation
Surrounding Land Use	<ul style="list-style-type: none"> • North – car park, then Barry Drive followed by Residential Dwellings • East – University buildings (science facility) • South – car park followed by University residential buildings (Burton and Garran Hall) • West – Clunies Ross Street then CSIRO research facilities

2.2 Physical Setting

Details of the site physical setting is provided in **Table 2.2** below.

Table 2.2 Physical Setting

Topography and Drainage	<p>The site is situated at approximately 568 metres above the Australian Height Datum (m AHD). The regional topography slopes from Northwest to Southeast. The building areas, have been levelled out, however there is a gradual 5m (estimated) slope from Clunies Ross Street on the north west side of the site to Daley Road on the south east.</p> <p>The site would be expected to drain south eastward towards Sullivans Creek, which then flows to Lake Burley Griffin to the south.</p>
Soil Landscape and Geology	<p>The Canberra 1:100,000 Soil Landscape Sheet Map (Jenkins 2000) indicates that the site is likely to be located on the Luxor soil landscape which predominantly consists of colluvium.</p> <p>The Canberra 1:100,000 Geological Sheet 8727 indicates that the site is located on fanglomerate and poorly cemented conglomerate, gravel and sand colluvium</p>
Acid Sulfate Soils	<p>A search of the Australian Soil Resource Information System (ASRIS) (www.asris.csiro.au) conducted on 30 May 2016 indicated that there is a low to extremely low probability of occurrence of acidsulfate soils. Acid sulfate soils will therefore no longer be considered in this assessment.</p>
Sensitive Receptors	<p>Sensitive receptors include:</p> <ul style="list-style-type: none"> • underlying groundwater • future site users • users of the neighbouring residential properties/university residences
Surface Water Bodies	<p>The nearest surface water body is Sullivans Creek, approximately 400m to the south east.</p>

2.3 Groundwater

A search of the licensed borehole register from the Environment Protection and Water Regulation Department of ACT government was conducted on 23 May 2016 indicated that there are no registered groundwater bores located within a 1km radius of the site. The groundwater bores search report is presented in **Appendix A**. The potential depth to groundwater below the site was not able to be determined from the available information.

Based on WSP I PB knowledge of groundwater in the Canberra region, groundwater is likely to be found in the bedrock at depths greater than 10 below ground level. Groundwater yields are likely to be very low.

2.4 Site History

2.4.1 Aerial photograph review

A review of historical aerial photographs was undertaken. There were no historical aerial photographs available prior to 1951. A summary of observations is provided in **Table 2.4.1**. Copies of historical photographs that were reviewed as part of the investigation are provided in **Appendix B**.

Table 2.3 Aerial Photography Review

Year	Site Use	Surrounding Use
1952	Cleared pastoral land, no buildings present.	ANU buildings not yet present to east of Bruce Hall, mostly cleared pastoral land to the south and east. Some buildings and what seems to be horticultural plantings of the CSIRO are present to the west of the site. Open land with an outline of an oval and residential properties to the North.
1961	Current Bruce Hall buildings present. Unsealed carpark where Packard Wing currently exists. Daley Road visible.	Development of ANU Campus to east of Bruce Hall and an oval to the north east of the site. Tree planting to the north. Current CSIRO Discovery Centre building present to the west.
1972	Extensions to north of main building as well as new buildings to north. Western wing of Bruce Hall has changed with an extension added.	Further development of ANU campus to east. Oval to the north is no longer present with new road constructed. Unsealed carpark to the North of the site has been vegetated, a small sealed carpark developed to the south of the site.
1981	Small section added to western extension. No major change since 1972	New building to the north.
1991	No change since 1972	Small carpark to the south has been expanded.
2002 (Google Earth)	No change since 1972	Building to the north that was present in 1981-1991 has been demolished.
2016 (Google Earth)	Site is in current form and usage, Packard Wing building present.	Large carpark to the North of Packard wing has been built.

The aerial photograph review did not suggest a potential for widespread historical land contaminating activities to have occurred on or surrounding the site.

2.4.2 Heritage Records

A review of the ACT Heritage sites using ACTmapⁱ showed that the site contained no registered Heritage buildings/objects or sites.

2.4.3 Lease Conveyancing Request and Records Search

A search of lease conveyancing records held by the ACT Planning and Land Authority (ACTPLA) was undertaken on 20 May 2016.

No records were detailed that suggest a potential for widespread historical land contaminating activities to have occurred on the site.

A copy of the search records is presented in **Appendix C**.

2.4.4 Asbestos Search

A Hazardous Materials Survey and Register was conducted for the Bruce Hall buildings in 2015. These report identified hazardous materials present on site, including asbestos and asbestos containing materials. This report is presented in **Appendix D**.

2.4.5 ACT Worksafe Dangerous Goods Search

A search of records pertaining to the storage of dangerous goods and licencing of underground storage tanks held by ACT WorkSafe was conducted on 23 May 2016. Historical underground storage tanks under 50,000L containing Diesel will not be present on the record.

No records for the site were identified in the Dangerous Goods database. A copy of the search record is provided in **Appendix E**.

2.4.6 Contaminated Land Search

A search of the ACT EPA contaminated sites database conducted on 18 May 2016 showed the ANU Campus is listed on the contaminated sites management database or geographic information system. The records show a portion of the campus was previously occupied by the ANU Horticultural Centre and a Construction Environmental Management Plan for the centre was created in September 2013. The centre was located on Dickson Road, approximately 350m south west from the Bruce Hall building. The risk of contamination impacting the Bruce Hall site from this historic horticultural centre is considered to be low.

EPA records also indicate that there is a historic uncontrolled landfill located within the ANU Campus. The historic landfill site is located 350m to the south of the site. This distance indicates that the historic landfill is unlikely to be a source of contamination for the subject site.

The Contaminated Land Search is provided in **Appendix F**.

2.4.7 Previous Contamination Assessments

No previous contamination assessments were available for WSP | PB to review.

3 SITE INSPECTION

A detailed site inspection was undertaken by WSP | PB on 2 May 2016, photographs taken during the site inspection are presented in **Appendix G**.

The key observations from site inspection are detailed below.

3.1 Staining

There was no evidence of staining across the site.

3.2 Wastes

There was a waste storage skip located on site, which stored mostly kitchen waste. The wastes were stored on hardstand areas.

3.3 Fill Material

It appears that some levelling of the site has occurred to facilitate the construction of the buildings. There was evidence of some cut occurring into the upgradient (western) side of the site to level the building platforms and it could not be established whether this cut material was fully utilised in the building surrounds and as to whether some fill was imported to the site. Further investigation of fill contents and potential contamination is recommended.

3.4 Under Ground and Above Ground Storage Tanks

There was no direct visual evidence of underground or above ground storage tanks being present at the site. However given the buildings were originally constructed during the 1960s, it was common practice in Canberra during the 1960s and 1970s to have buildings containing heating system that utilised heating oil or diesel as a fuel source. There is a high probability that underground storage tanks associated with an old heating system were or may be present on site. A detailed site investigation should aim to gain further understanding of the previous heating system and the likelihood and location of any underground storage tanks. An unexplained Finds Protocol should be developed to manage this risk during the demolition process.

3.5 Plant rooms

There were several rooms containing plant equipment on site, not all of which could be accessed during the site inspection. The risk of potential contamination from any inaccessible plant room could not be adequately assessed.

3.6 Chemical Storage and disposal

A photography processing laboratory is present on the site. It is not known how any chemicals associated with the laboratory were stored or disposed of throughout the life of the lab. There is a risk that contamination of underlying soils may have occurred from the chemicals being disposed of in the sewer system or external to the building. Photographic chemicals may contain a number of environmentally hazardous substances including silver, acids, and boron. Further investigation of this area is warranted.

3.7 Phytotoxicity

Garden plants, bushes, grasses and trees are present on site and in surrounding areas. All plants appear to be healthy.

3.8 Odours

No odours relating to possible site contamination were observed during the site walkover.

4 AREAS AND CHEMICALS OF ENVIRONMENTAL CONCERN

A review of the available site history data, observations made during the site walkover and data gaps indicated two areas of environmental concern (AEC) and a number of contaminants of potential concern (COPC) that may be present on the site. These AEC and COPC are presented in Table 4 below.

Table 4.1 Areas of Environmental Concern and Contaminants of Potential Concern

AEC	POTENTIALLY CONTAMINATING ACTIVITY	LIKELIHOOD OF CONTAMINATION	COPC
AEC 02	Fill material of unknown origin	Moderate	General environmental suite including, general builders rubble, heavy metals, petroleum hydrocarbons, pesticides, PAHs, and asbestos containing materials
AEC 01	Historic storage and disposal of photographic chemicals	Moderate	Heavy metals and metalloids such as silver and boron, acids
AEC 03 (unknown locations)	USTs associated with fuel storage for heating	Moderate	Petroleum Hydrocarbons

The AECs are illustrated on Figure 5.1.

Figure 4.1 AECs on site



5 CONCLUSION

Based on a review of the site history data and observations made during the site walkover, WSP | PB makes the following conclusions:

- The potential for contamination to be present on the site as a result of past and present land use activities is considered to be moderate.
- WSP | PB has identified three areas of environmental concern, however, more data is required to adequately assess the risks associated with these. Further investigations and a targeted Phase 2 investigation is recommended after demolition occurs.

This report must be read in conjunction with the attached statement of limitations.

6 STATEMENT OF LIMITATIONS

This Report has been prepared by WSP Parsons Brinckerhoff Australia Pty Limited ("*WSP – Parsons Brinckerhoff*") for the benefit of Integrated Property Services Group ("*IPSG*"), the registered proprietor or tenant of the site requested to be investigated by WSP – Parsons Brinckerhoff ("*Site*").

The nature and extent of the environmental consulting and remediation works at the Site detailed in the Report reflects the scope of the Services set out in the Request for Proposal under the Agreement and the Scope of Works set out in section 1.2 of Schedule 1 of the Agreement ("*Scope of Works*").

A potential purchaser (but not including a purchaser's successor in title) of the Site may rely on the findings contained in the Report for the purpose of considering the possible (but not actual) level of contamination of or at that Site at the time of the contamination assessment of the Site was undertaken ("*Permitted Purpose*").

The registered proprietor of the land to which the report relates at the time of writing the report (but not including any proprietor's successor in title) may rely on the findings contained in the Report for the purpose of assessing the possible level of contamination of that Site ("*Permitted Purpose*") and subject to the limitations set out in the Scope of Works.

The findings contained in the Report are subject to the qualifications, assumptions and limitations set out in the Report or otherwise communicated to, or by, IPSG. To the extent of any inconsistency between this Limitation Statement and the qualifications, assumptions and limitations in the Report, this Limitation Statement shall prevail.

The Report may contain information provided by others. Except as otherwise stated in the Report, WSP - Parsons Brinckerhoff has not verified the accuracy or completeness of this information. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the Report ("*Conclusions*") are based in whole or in part on this information, those Conclusions are contingent upon the accuracy and completeness of that information. WSP - Parsons Brinckerhoff accepts no responsibility for the reliability, accuracy, completeness or adequacy of information provided by others.

WSP - Parsons Brinckerhoff has prepared the Report without regard to any special or particular interest of any person (including that of a potential purchaser), other than IPSG when undertaking the Services or setting out its findings in the Report.

The Report can only be relied upon for the Permitted Purpose and may not be relied upon for any other purpose and does not purport to recommend or induce a decision to make (or not make) any purchase, disposal, investment, divestment, financial commitment or otherwise in relation to the Site ("*Investment Decision*").

Matters material to a potential purchaser, may have been omitted from the Report, or may not have been investigated because of the scope of the Services. It follows that a potential purchaser should be cognisant of the restrictions inherent in or otherwise set out in the Report and should commission the preparation of a contamination assessment of the Site that caters for its own interests and scope of services, and which will provide findings in relation to the level of contamination of or at the Site at the time the potential purchaser is making an Investment Decision.

The Report has not and will not be updated for events occurring after the date of the Report or any other matter which may have a material effect on its contents which come to light after the date of the Report. WSP - Parsons Brinckerhoff will not be obliged to inform a potential purchaser of any matter arising or coming to its attention after the date of the Report, which may affect or qualify the Report.

WSP - Parsons Brinckerhoff is not liable to a potential purchaser in respect of errors or omissions in the Report which a potential purchaser knows of, or ought to be aware of, from:

its own actual knowledge and inquiries

inquiries made by its advisers; or

matters which a potential purchaser should have been aware of by making reasonable inquiry (including the inquiries recommended at Item 9 above).

To the fullest extent permitted at law, WSP - Parsons Brinckerhoff, its related bodies corporate, its officers, employees and agents assume no liability and will not be liable to any potential purchaser for, or in relation to, any losses, damages or expenses (including any indirect, consequential or punitive losses or damages or any amounts for loss of income or profit, revenue or loss of opportunity to earn profit, loss of production, loss of contract, increased operational costs, loss of business opportunity, business interruption and pure economic loss) of any kind (and whether arising in contract, tort (including negligence), under statute, in equity or otherwise, suffered or incurred by a potential purchaser (or any other third party) arising out of or in connection with any matter outside the ambit of the Permitted Purpose in relation to the Report or findings expressed in the Report.