



artefact

██████████

Project Manager, Liberty Industrial
95-99 Bridge Road
Glebe NSW 2037

2 May 2018

Dear ██████████

Re: Summary of excavation results and future management of potential archaeological resources within the Moorebank Precinct East (MPE) PADs V and W

This document has been prepared to summarise the results of archaeological test excavations and monitoring within PADs V and W between 19-21 March 2018. It also provides advice for future management of potential archaeological resources within the Moorebank Precinct East (MPE) site.

PADs V and W were identified as having potential to contain the archaeological remains of a small cluster of structures associated with the Defence National Storage and Distribution Centre (DNSDC) in *Non-Indigenous Heritage Assessment: SIMTA Part 3A Concept Plan Application* and *MPE Stage 2 Non-Aboriginal Heritage Assessment* prepared by Artefact Heritage in 2012 and 2016 respectively.

These structures were extant prior to 1951 and it is likely they were used as administration facilities. The potential remains were assessed as having local significance, primarily related to their research potential as the function of the structures could not be confirmed by documentary records.

This document should be read in conjunction with the *Moorebank Precinct East, Stage 2: Archaeological Method Statement (AMS) for PAD V and W* prepared by Artefact Heritage in March 2018, attached in Appendix A. The AMS provides a contextual background to the project and history of the site and outlines the archaeological methodology followed throughout the testing and monitoring program.

It should be noted that this summary of results does not provide a detailed analysis and discussion of test excavations and monitoring results or include plans, photo logs, context registers, plans, section drawings or artefact analysis

Introduction

Archaeological excavations were carried out for the MPE Stage 2 development (SSD 7628) to comply with Development Consent Condition B94:

B94: Prior to the commencement of Early Works and Fill Importation, archaeological monitoring and recording must be undertaken at potential archaeological deposits (PADs) V and W in accordance with the Non-Indigenous Heritage Assessment (Artefact 2016) by a suitably qualified and experienced archaeologist with Excavation Director Criteria qualifications.

All archaeological monitoring and recording was undertaken in accordance methodologies outlined in an Archaeological Method Statement (AMS) prepared by Artefact Heritage in March 2018 (Appendix A). This was developed in accordance with Condition B93:

*B93: The **Heritage Management Plan** must include:*

- a) plans/strategies to monitor, mitigate and manage the effects of the development on identified PADs;*
 - c) a program and description of measures/procedures to be implemented for:
 - (i) undertaking surface surveys and archaeological investigations (where subsurface disturbance is proposed) or any items of heritage significance*
 - (iii) managing any new heritage items discovered during the development; and*
 - (iv) additional archaeological excavation and recording of any significant heritage deposits uncovered during the demolition.**
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Under Condition B95, an archaeological report outlining results of the excavation and recommendations for future management of the site must be reported to the Secretary with one month of completion:

B95: The results must then be reported to the Secretary within one month of completion of monitoring and recording at PADs V and W, along with recommendations for further monitoring at additional sites, if significant archaeological deposits are encountered.

If the outcome of Condition B95 includes recommendations for further monitoring of additional sites, the results of the further monitoring and additional management measures must be included in an updated Heritage Management Plan.

As no further monitoring of additional sites is recommended, Condition B96 has not been triggered:

*B96: Fill importation must not commence within 10 metres of PADs V and W until the results of any further monitoring and recording, along with any additional Non-Indigenous Heritage management measures, are submitted to the Secretary and included in an updated **Heritage Management Plan** to the satisfaction of the Secretary.*

The location of test trenches and monitoring locations within PADs V and W are shown in Figure 1.

Summary of Excavation Results and Future Management
Moorebank Precinct East (MPE) PADs V and W

Figure 1. Location of test trenches and monitoring locations (outlined in blue) within PADs V and W. Source: [REDACTED] Surveyor, March 2018.



Methodology

The below archaeological methodology (as outlined in the AMS prepared by Artefact Heritage in March 2018 and attached in Appendix A) was followed throughout the archaeological program. The AMS was prepared to comply with the Historical Archaeology Code of Practice (OEH 2009) and meet Condition B93.

Test excavations and monitoring within PADs V and W were directed by Senior Heritage Consultant [REDACTED] is experienced in investigations of locally significant archaeology and meets the Excavation Director Criteria qualifications (OEH, 2011).

Historical archaeological monitoring of concrete slab/road base removal and subsurface excavations (PAD W)

Concrete slab and road base

The removal of an existing concrete slab and roadway within PAD W was monitored in order to prevent inadvertent impacts to potential archaeological remains below the slab.

Subsurface excavations

Archaeological monitoring of subsurface excavations within PAD W was monitored by a qualified archaeologist to the depth of impact or once sterile natural soils were encountered.

Soils were removed in 100mm spits. When intact archaeological remains or features were identified, works ceased to allow the archaeologist to fully record and salvage the remains.

Where hazardous materials or contaminants were identified during archaeological monitoring, ground excavation ceased until appropriate controls or remediation were conducted by Liberty.

Historical archaeological test excavations (PAD V)

A total of four test trenches were excavated in areas identified as having moderate or high potential to contain archaeological remains within PAD V (see overview plan, Figure 2). Test trenches measured approximately 2 – 6 metres in width and up to 20 metres in length. Trenches were widened or extended when archaeological remains requiring further investigation were identified.

Archaeological test excavations involved the use of a machine excavator (5 to 7 tonne) with a 1.2 to 1.6 metre flat bucket to remove fills and overburden. Trenches were excavated to depth of impact or sterile soil horizons in 100mm spits under the direction of an archaeologist. Manual excavation was conducted with hand tools when potential archaeological remains were encountered.

All trenches were covered in geofabric and backfilled upon completion of the test excavation program.

Excavation recording methodology

The recording methodology included the following:

- A site datum was established;
- Survey and scaled plans of the trench locations and any significant archaeological features uncovered in the test and salvage program were recorded by Guy Hazell, Surveyor. All plans included elevations recorded with a dumpy level;
- Scaled section drawings were prepared with all PAD V test trenches;
- Digital photography, in RAW format, using photographic scales and photo boards was carried out. A photographic record of all phases of the work was also undertaken;

- A standard context recording system was employed. This included the locations, dimensions and characteristics of all archaeological features and deposits on a sequentially numbered context register.
- Artefact collection was carried out by context. Large or redundant artefactual materials from individual contexts were sample collected. Hazardous materials were not collected.

Unexpected Aboriginal archaeology

The excavations were carried out under Unexpected Finds Procedures for Aboriginal archaeological remains. For example, if archaeological remains associated with Aboriginal occupation of the site were identified during the testing or monitoring program, works would cease and the Office of Environment and Heritage (OEH) was to be notified.

No archaeological remains associated with Aboriginal occupation of the site were identified during testing or monitoring works within PADs V and W.

Archaeological team

The archaeological team comprised of:

- Primary Excavation Director, [REDACTED] (Senior Heritage Consultant, Artefact Heritage)
 - [REDACTED] has 8 years' experience in archaeology and cultural heritage management. Throughout her career [REDACTED] has gained extensive fieldwork experience through work on industrial and domestic urban sites and rural town and mine sites both in Australia and in the UK at a supervisory level. [REDACTED] has prepared statements of heritage impact, heritage assessments, research documents, specialist artefact reports and technical reports on archaeological excavations and monitoring projects.
- Supervising Archaeologist, [REDACTED] (Senior Heritage Consultant, Artefact Heritage)
- [REDACTED] has worked as a Heritage Consultant in Australia and the USA since 2014. She has extensive experience in supervising large open area salvage excavations, archaeological monitoring, planning and carrying out site surveys and interpreting archaeological sites.
- Field Archaeologists [REDACTED] and [REDACTED]
 - Archaeologist with the equivalent of Honours or Masters degree in archaeology.

Significance assessment

All archaeological remains identified during archaeological test excavations and monitoring were assessed for significance under the following criteria:

Heritage Act 1977

The *Heritage Act* also provides protection for 'relics', which includes archaeological material or deposits. Section 4 (1) of the *Heritage Act* (as amended in 2009) defines a relic as:

...any deposit, artefact, object or material evidence that:

- (a) relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and*
- (b) is of State or local heritage significance¹*

The *Heritage Act* defines 'works' as being in a separate category to archaeological 'relics'. Works refer to past evidence of infrastructure. Works may be buried, and therefore archaeological in nature, however, exposure of works does not trigger reporting obligations under the *Heritage Act*. The following examples are commonly considered to be works: former road surfaces or pavement, kerbing, evidence of former infrastructure (such as drains or drainage pits where there are no relics in association) and building foundations.

Bickford and Sullivan 1984

Bickford and Sullivan (1984) developed three questions which can be used to assess the research potential of an archaeological site:

- *Can the site contribute knowledge that no other resource can?*
- *Can the site contribute knowledge that no other site can?*
- *Is this knowledge relevant to:*
 - *General questions about human history?*
 - *Other substantive questions relating to Australian history?*
 - *Other major research questions?²*

New South Wales Heritage Branch 2009

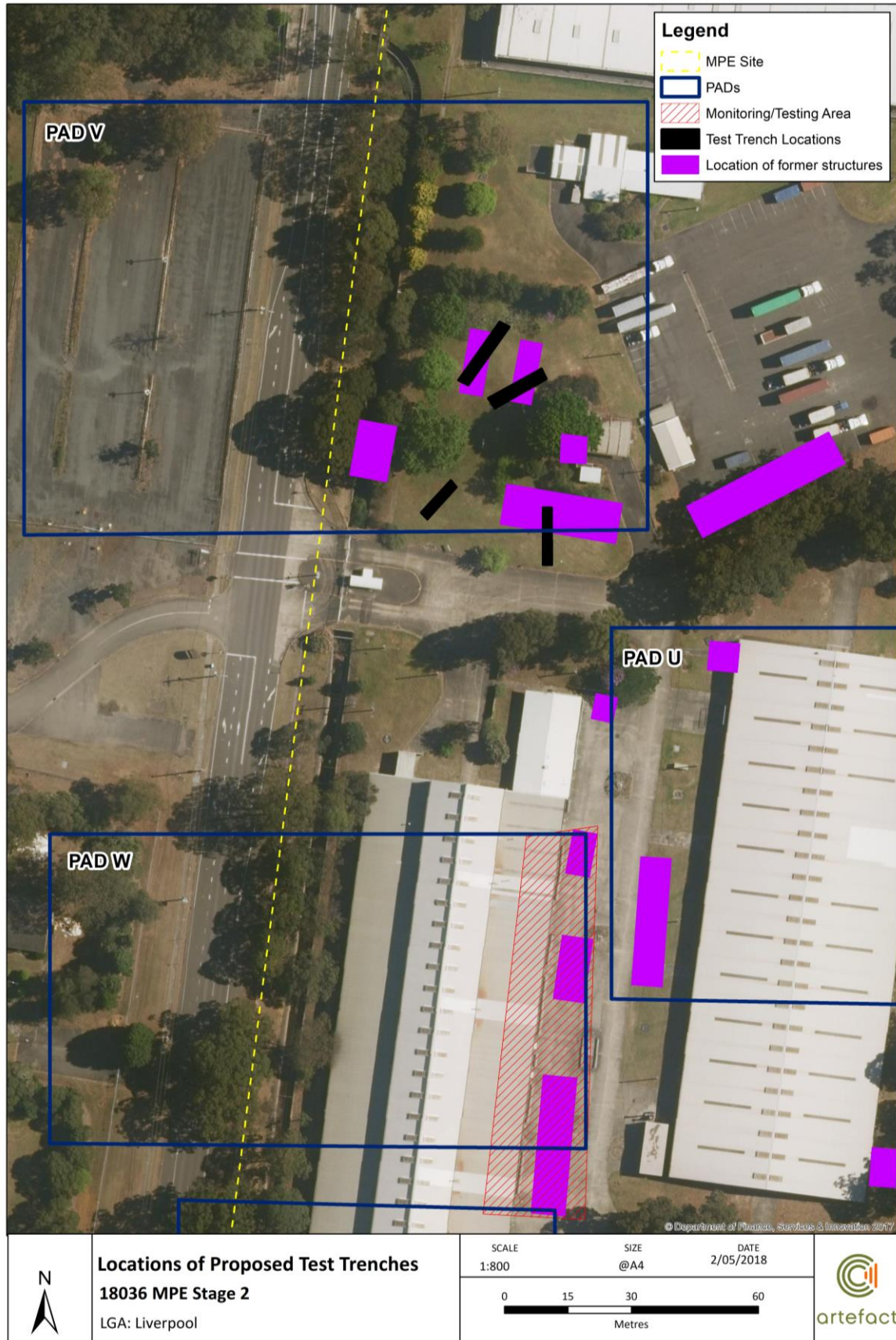
In its guidelines for Assessing Significance for Historical Archaeological Sites and 'Relics', the NSW Heritage Branch provided a broader approach to assessing the archaeological significance of sites, which includes consideration of a site's intactness, rarity, representativeness, and whether many similar sites have already been recorded, as well as other factors.³

¹ NSW Government, 1997 [2016]. *Heritage Act 1977 No. 136*. Accessed: <https://www.legislation.nsw.gov.au/#/view/act/1977/136> (09/08/2017).

² Bickford, A and Sullivan, S 1984, 'Assessing the research potential of historic sites', in Sullivan, S & Bowdler, S (eds) *Site surveys and significance assessment in Australian archaeology*, Department of Prehistory, Research School of Pacific Studies, Australian National University, Canberra: 19-26.

³ NSW Heritage Branch 2009, *Assessing Significance for Historical Archaeological Sites and 'Relics'*.

Figure 2. Location of proposed archaeological testing and monitoring locations as per AMS (Artefact, 2018).



Summary of Results

PAD V

The AMS (Artefact, 2018) recommended archaeological test excavations with PAD V to investigate the nature of subsurface remains within the area. A total of four test trenches (Test Trench 1-4) were excavated within PAD V (Figure 3, Figure 5, Figure 7 and Figure 9). Their location within the MPE site is shown in Figure 1. The location of their associated features is shown in Figure 13.

Test trenches contained archaeological remains in the form of modern demolition waste deposits (asbestos, cement, glass, plastic, brick and timber), shown in Figure 8 and Figure 12, decommissioned services (PVC, steel [Figure 10], asbestos and earthenware) and remains of service cuts and post holes (ranging in size from approximately 300-600mm in diameter). Examples of the latter are shown in Figure 4, Figure 6 and Figure 11. Some post holes were roughly aligned with previous structures shown in a pre-1951 plan of the Defence National Storage and Distribution Centre (DNSDC) – see Appendix A.

No artefacts or remains considered to fall under the definition of a ‘relic’ under Section 4(1) of the *Heritage Act* (as amended in 2009) were identified in association with post holes or other features.

Figure 3. Test Trench 1 showing associated cut and fill features, view south.



Figure 4. Example of former service cut and fill within Test Trench 1.



Figure 5. Test Trench 1 showing cut and fill features and asbestos pipes, view south.



Figure 6. Example of former post cut and fill within Test Trench 2.



Figure 7. Test Trench 3. Fill deposit located in far end of trench. View northeast.



Figure 8. Modern concrete refuse found in Test Trench 3.



Figure 9. Test Trench 4 showing former service cut and fill in foreground, view northeast.



Figure 10. Example of metal pipe found within Test Trench 4.



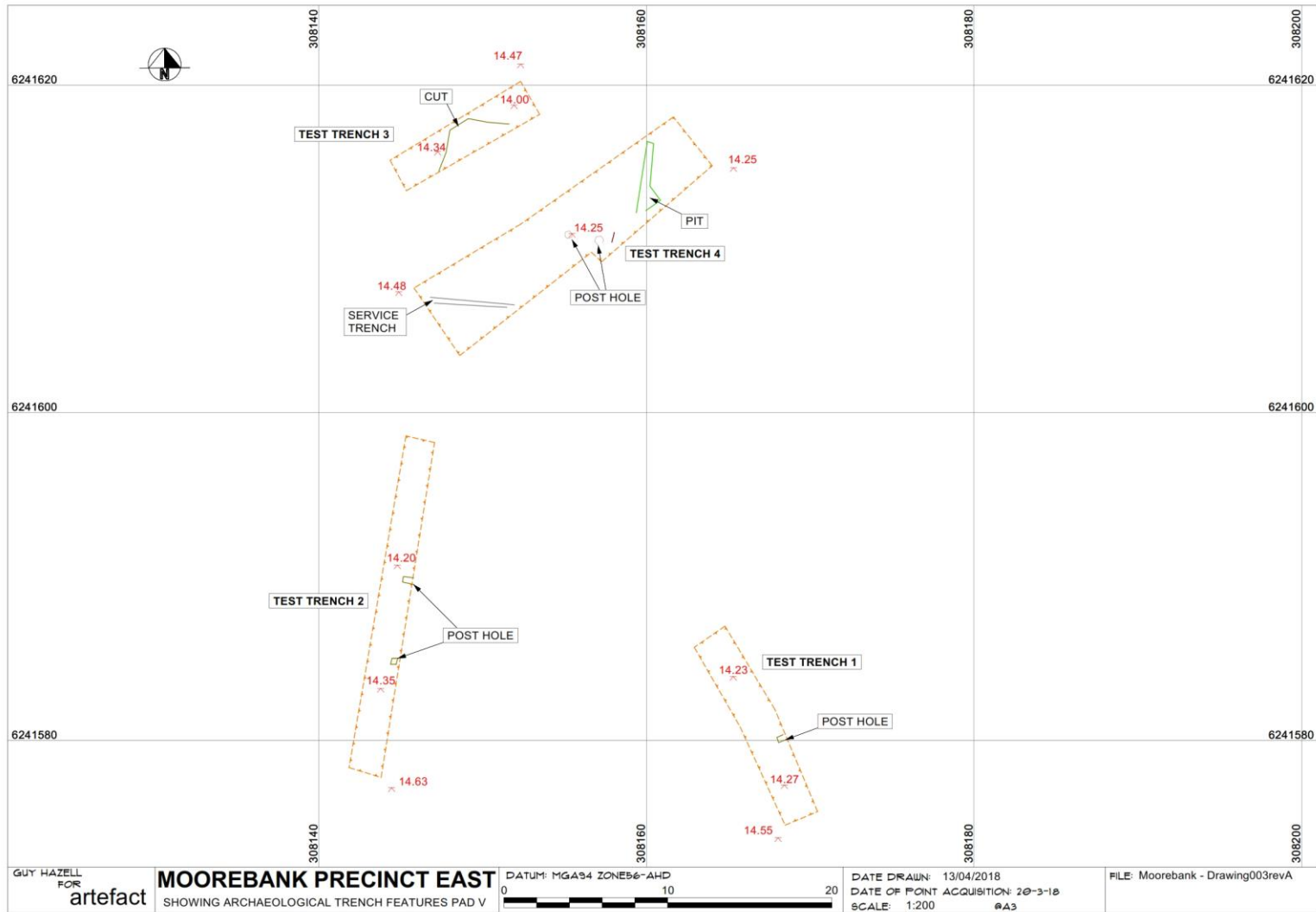
Figure 11. Example of former post cut and fill found within Test Trench 4.



Figure 12. Example of linear refuse deposit found within Test Trench 4.



Figure 13. Plan of PAD V showing location of test trenches and associated features. Source. Guy Hazell, surveyor, March 2018.



PAD W

The location of PAD W within the MPE site is shown in Figure 1. The AMS prepared by Artefact Heritage in March 2018 recommended monitoring within PAD W to investigate the nature of subsurface remains within the limitations of the MPE project's 'depths of impact'. However, on Tuesday 20 March, Artefact Heritage was informed by geotechnical specialist [REDACTED] (Golder) that deep excavations for Stage 2 development were unlikely to occur.

Therefore, monitoring works within PAD W were limited to Warehouse 80 slab and road removal. The extent of these monitoring works is shown in Figure 1. No archaeological remains were identified below these items during the monitoring program. The nature of the site prior to slab removal is shown in Figure 14. An illustration of fill material found below the slab is shown in Figure 15.

In order to investigate the nature of soils and/or potential archaeological remains below the concrete slab and road base, a 3 x 3 metre test pit was excavated within PAD W. This revealed that approximately 400mm of modern fill material sat between the concrete slab and a natural clay B-horizon.

The natural clay B-horizon contained two linear features (possibly earlier service cuts and fills) and one post hole (approximately 550mm in diameter), all shown in Figure 16. A sondage of the post hole and service cut/fill revealed each feature had been cut into natural clays (Figure 17). The post hole had been cut to a depth of approximately 700mm. These features were located in close proximity to a structure shown in a pre-1951 plan of the DNSDC.

The location of the test pit and its associated features is shown in Figure 1 and Figure 19. Examples of fill material found below the concrete slab are shown in Figure 15 and Figure 18.

No artefacts or remains considered to fall under the definition of a 'relic' under Section 4(1) of the *Heritage Act* (as amended in 2009) were identified in association with post holes or other remains.

Figure 14. PAD W prior to concrete slab removal and archaeological investigations, view northwest.



Figure 15. PAD W during slab removal monitoring works, view southwest.



Figure 16. Post hole and two linear service cuts found during test excavations in PAD W, view west.



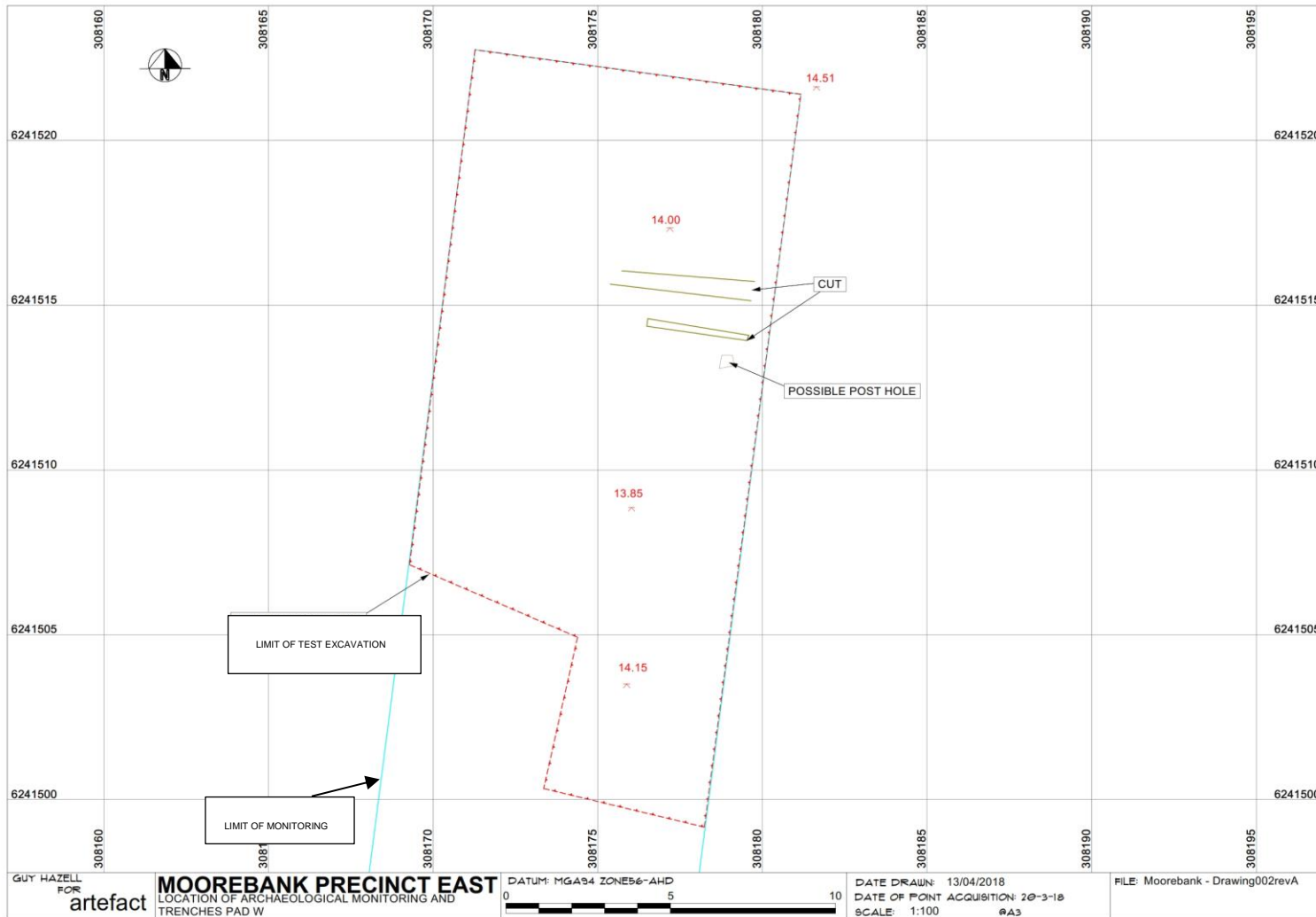
Figure 17. Sondage of post hole and service cut/fill found in PAD W, view south.



Figure 18. PAD W after slab removal and archaeological monitoring and testing. The lighter soil deposit to the left represents fill below the Warehouse 80 concrete slab (outside of PAD W). Darker soil deposits to the right represent fill below the adjoining roadway and associated concrete slabs (PAD W). View northeast towards PAD V.



Figure 19. Location of testing area and associated features within PAD W. The monitoring area is partially shown and outlined in blue. Source: Guy Hazell, surveyor, March 2018.



Significance Assessment

Although archaeological evidence for early structures and/or activities including post holes, evidence of early services were recorded within PADs V and W, these were often associated with modern refuse deposits and found in disturbed contexts. These remains were not able to provide evidence for significant or early land use and occupation within the DNSDC site prior to 1951. In addition, not intact archaeological occupation deposits were identified within the testing or monitoring areas.

As a result, no artefacts or deposits considered to fall under the definition of a 'relic' under Section 4(1) of the *Heritage Act* (as amended in 2009) or to contain research potential were identified during the archaeological program (as outlined in the Archaeological Significance section of this document).

Therefore, archaeological remains were unable to yield information not readily available within existing plans, archival material and photographs for the DNSDC and the remains do not contain research potential.

Findings and Recommendations

As a result of archaeological test excavation and monitoring within PADs V and W, the following findings and recommendations are made:

Findings

- Archaeological evidence for early structures and/or activities including post holes, evidence of early services and modern refuse deposits were recorded within PADs V and W during the archaeological testing and monitoring program;
- However, no artefacts or deposits considered to fall under the definition of a 'relic' under Section 4(1) of the *Heritage Act* (as amended in 2009) or to contain research potential were identified;
- The majority of impacts associated with the MPE Stage 2 works would be limited to the importation of fill materials and some localised trenching for services and footings; and
- No additional archaeological works are required within PADs V and W or the remainder of the MPE site unless an Unexpected Archaeological Find is identified during the construction and demolition program.

Recommendations

- If archaeological 'relics' such as artefact bearing deposits directly linked to early occupation of the site were identified encountered during the construction of the MPE Stage 2 project, these may be considered to contain research potential and would thus trigger the Unexpected Finds Protocol.
- This document has found that no additional archaeological works are required within PADs V and W or the remainder of the MPE site and works may proceed under the Unexpected Finds Protocol outlined in Development Consent Condition B97:

Before commencement of construction, the Applicant must prepare an Unexpected Finds Protocol for the development in consultation with the Registered Aboriginal Parties, OEH and the NSW Heritage Division and must implement the Protocol in accordance with its terms.

Please do not hesitate to contact me if you require any further information.

Warm regards,

[Redacted signature]

[Redacted name]

Senior Heritage Consultant
Artefact Heritage

[Redacted contact information]

1.1 Appendix A – Archaeological Method Statement for Pads V and W.



Moorebank Precinct East, Stage 2: Archaeological Method Statement for PAD V and W

Project: Moorebank Precinct East: Stage 2	Date: 7 March 2018 (updated 2 May 2018)
Project site: Moorebank Precinct East: PAD V and W	Author: [REDACTED] (Senior Heritage Consultant) [REDACTED] (Director)
Contractor: Arcadis and Liberty	Document No. 4

Background

This Archaeological Method Statement (AMS) outlines the archaeological approach and methodology for test excavations and archaeological monitoring within previously identified Potential Archaeological Deposits (PAD) V and W at the Moorebank Precinct East (MPE) Stage 2 site, Moorebank.

It has been developed based on findings within the *Non-Indigenous Heritage Assessment: SIMTA Part 3A Concept Plan Application* and *MPE Stage 2 Non-Aboriginal Heritage Assessment* prepared by Artefact Heritage in 2012 and 2016 respectively.

In addition, it has been prepared accordance with, and to meet the conditions of, Development Consent Conditions B93, B94 and B95 for MPE Stage 2 development (SSD 7628):

*B93- The **Heritage Management Plan** must include:*

- a) plans/strategies to monitor, mitigate and manage the effects of the development on identified PADs;*
- c) a program and description of measures/procedures to be implemented for:
 - (i) undertaking surface surveys and archaeological investigations (where subsurface disturbance is proposed) or any items of heritage significance*
 - (iii) managing any new heritage items discovered during the development; and*
 - (iv) additional archaeological excavation and recording of any significant heritage deposits uncovered during the demolition.**

B94- Prior to commencement of Early Works and Fill Importation, archaeological monitoring and recording must be undertaken at potential archaeological deposits (PADs) V and W in accordance with the Non-Indigenous Heritage Assessment (Artefact 2016) by a suitably qualified and experienced archaeologist with Excavation Director Criteria qualifications

B95- The results must be reported to the Secretary within one month of completion of monitoring and recording at PADs V and W, along with recommendations for further monitoring at additional sites, if significant archaeological deposits are encountered.

The methodology has been informed by, and is in accordance with, the following documents:

- State significant development (SSD) Consent SSD 16-7628
- Moorebank Precinct East – Stage 2 – Environmental Impact Statement (Arcadis Australia Pacific Pty Limited, December 2016)
- Moorebank Precinct East – Stage 2 – Response to Submissions (Arcadis Australia Pacific Pty Limited, July 2017)
- Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act) Approval (No. 2011/6229) granted on March 2014.
- MPE Stage 2 Non-Aboriginal Heritage Assessment. Report to Arcadis (Artefact Heritage 2016)
- Non-Indigenous Heritage Assessment: SIMTA Part 3A Concept Plan Application (Artefact Heritage 2012)

Where required this AMS should be updated to account for revised impacts, or in response to unexpected finds. This AMS does not include management for other PADs within the project site which would be managed under the project's Unexpected Finds Procedure in accordance with the recommendations of the heritage assessment (Artefact 2016). It is noted that consultation on this AMS is not required.

Previous Assessments

In their *Non-Indigenous Heritage Assessment: SIMTA Part 3A Concept Plan Application* and *MPE Stage 2 Non-Aboriginal Heritage Assessment* Artefact identified two PADs (V and W) as containing a small cluster of structures shown in an early aerial photograph and plans of the site (shown in Figure 3). The structures were part of the Defence National Storage and Distribution Centre (DNSDC) and were extant prior to 1951.

These have since been demolished and the nature of their use is not known; however, it is likely they were administration facilities. The potential remains were assessed as having local significance, primarily related to their research potential as the function of the structures could not be confirmed by documentary records.

No significant disturbance activities are considered to have occurred in the area and the potential for locally significant archaeological remains to survive is moderate to high. PAD W is currently located below an extant warehouse (Warehouse 80) and access road to its east (also shown in Figure 3).

Testing and archaeological monitoring is therefore required to mitigate impacts to these potential archaeological remains that may occur as a result of the project.

Site Inspection

An inspection of the MPE site (specifically PADs V and W) was carried out on 21 February 2018 by Senior Heritage Consultant, [REDACTED] (Artefact Heritage) and Project Manager, [REDACTED] (Liberty Industrial). The aim of the inspection was to confirm accessibility to Pads V and W for the proposed archaeological testing and monitoring requirements.

It was concluded that archaeological testing within PAD V could be carried out without the demolition of existing structures or removal or established trees. However, the likelihood that unknown services exist within proposed test trench locations could not be confirmed.

In regard to PAD W, the site inspection concluded that the proposed location for archaeological monitoring and testing is presently confined to areas below a concrete slab (associated with Warehouse 80) and road surface. Therefore, archaeological works within the PAD cannot commence until Warehouse 80 has been demolished. The DP&E provided approval to demolish building 80 on 22 February 2018.

Proposed Construction Activities Which May Impact PAD V and W

Building demolition, slab and road surface removal

PAD W is currently occupied by an existing warehouse (Warehouse 80) and roadway. As there is potential for archaeological remains to survive below these items, archaeological monitoring may be required during the removal of the warehouse's concrete slab, existing road surface and any subsequent subsurface (location shown in Figure 4). Monitoring activities would occur after the existing warehouse has been demolished and area cleared of building materials. Archaeological monitoring is not required while the warehouse structure is being demolished.

In order to adequately carry out archaeological monitoring within PAD W, contractors will remove the existing concrete slab and road base using hydraulic hammers and a machine excavator. A machine excavator will then remove soils in 100mm spits to a depth of impact and/or natural sterile soils under the direction of an archaeologist. If archaeological remains are identified during these works, archaeological testing and/or recording may be required.

Utility services excavation

Stormwater drainage services would be installed across the site. These stormwater services, involving drainage lines and drainage tanks, would be excavated in trenches and pits from between 2 and 3.5 metres in depth.

Road pavement

An internal road network and connection of the MPE site to the surrounding public road network will be incorporated across the site. Ground disturbing works would likely involve subsurface excavations between 200 millimetres and 1,000 millimetres in depth.

Levelling

The proposed works will involve bulk excavations and grading works across the site to an approximate depth of 100-1000mm. This will be carried out to accommodate new structures across the facility.

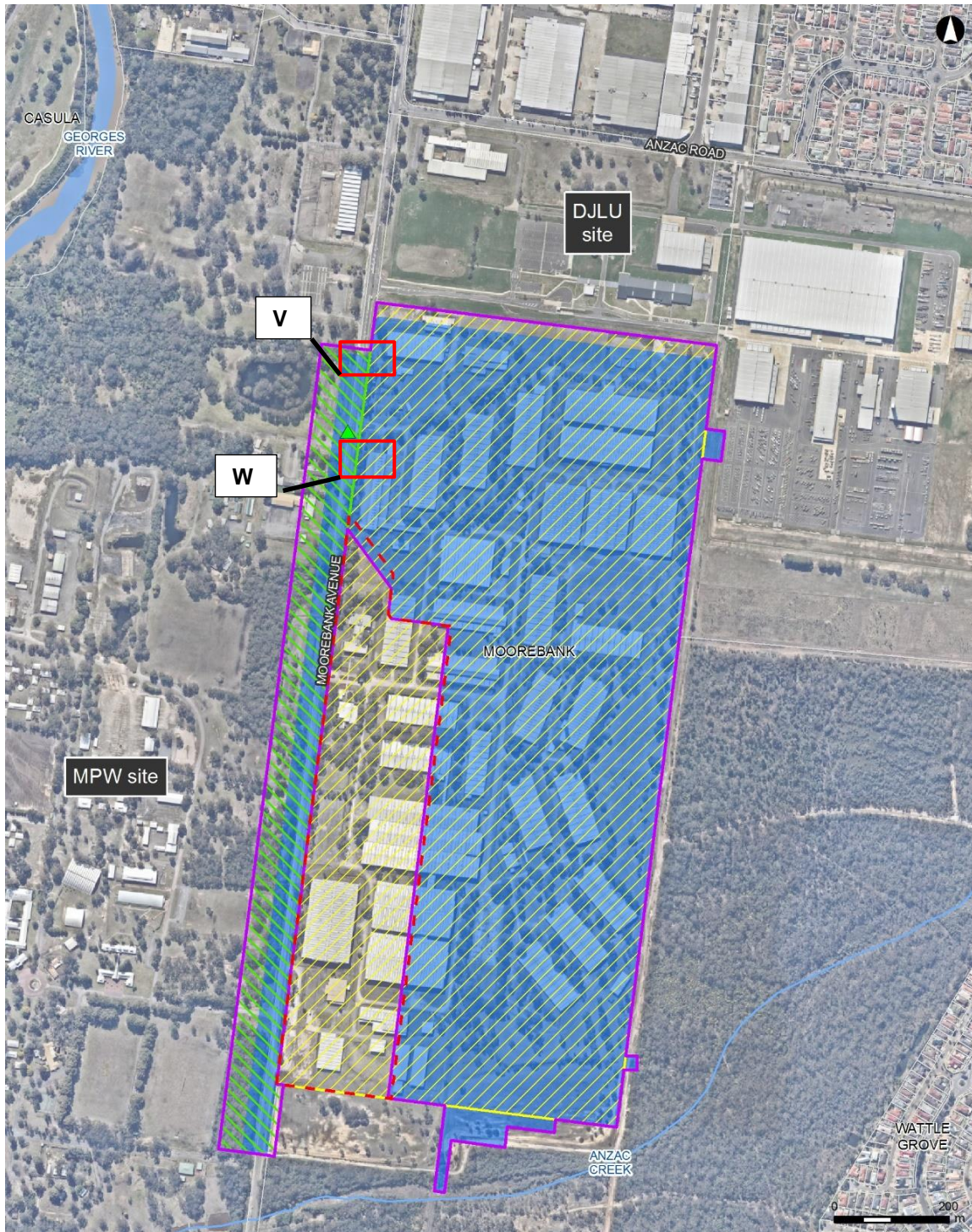
Building construction

The construction of warehouses and associated structures will involve subsurface excavations to a depth of 600 mm for footing and services. These works will be carried out by machine excavators.









The location of proposed works is shown in Figure 1.

Both PADs V and W would be directly impacted by the proposed works.

Figure 1: Overview of the MPE Stage 2 Construction and Operational Boundary and locations of PADs V and W. Source: Arcadis



LEGEND

-  MPE site
-  MPE Stage 1 operational area
-  MPE Stage 2 operational area
-  MPE Stage 2 construction area
-  Moorebank Avenue Upgrade
-  Site access
-  Lot boundary
-  Watercourse

ARCADIS AUSTRALIA PACIFIC PTY LTD
 ABRN 76 104 465 269
 Level 5, 141 Walker St | North Sydney NSW 2060
 P: +61 (0) 2 8907 9000 | F: +61 (0) 2 8907 5001

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Non-Aboriginal Archaeological Resources

Land within the study area was used for military activities from the early 1900s, and land near PAD V and W was utilised for training camps in 1907. By 1913, the Liverpool camp accommodated 2000 troops in tents and became the main training centre in New South Wales. Plans dating to this period show Liverpool camp located between the Georges River and Moorebank Avenue. To the east of the camp was an area marked 'stores' that included the northern portion of the MPE site. The camp was further developed in the lead up to WWI, including the development of huts, kitchens, and mess buildings (Artefact 2012).

In September 1943, it was proposed that Ordnance Stores be established at Moorebank and a plan was developed by December that year. Approval was subsequently granted in February 1944 that formed the first construction phase of the DNSDC site. Structures built in the area during this period are shown in Figure 2 and included the following:

- 17 stores (400' x 150' in size).
- Two crane served stores (400' x 150').
- 19 offices attached to each store (40' x 20').
- One transit store (500' x 83'4").
- Office acc. inside transit store.
- One cinematograph store (60' x 40').
- Two inflammables stores (100' x 50'). 20, 000 square feet of equipment shelters.
- One traffic control building (18' x 17'8").
- One strong room (50' x 50').
- One Depot Administration building in three blocks (135'4" x 111' combined size).
- One combined garage, service station, fire station, P.O.L store, Tpt office (97' x 25').
- One SW guard house (60' x 20').
- One case making building (3,750 square feet).
- Seven men's latrines.
- Three AWAS latrines.
- Three AWAS latrines and rest rooms (NAA: SP459/1, 420/7/1153) (Artefact 2012)

Figure 2: 1951 aerial photograph. MPE site outlined in red.

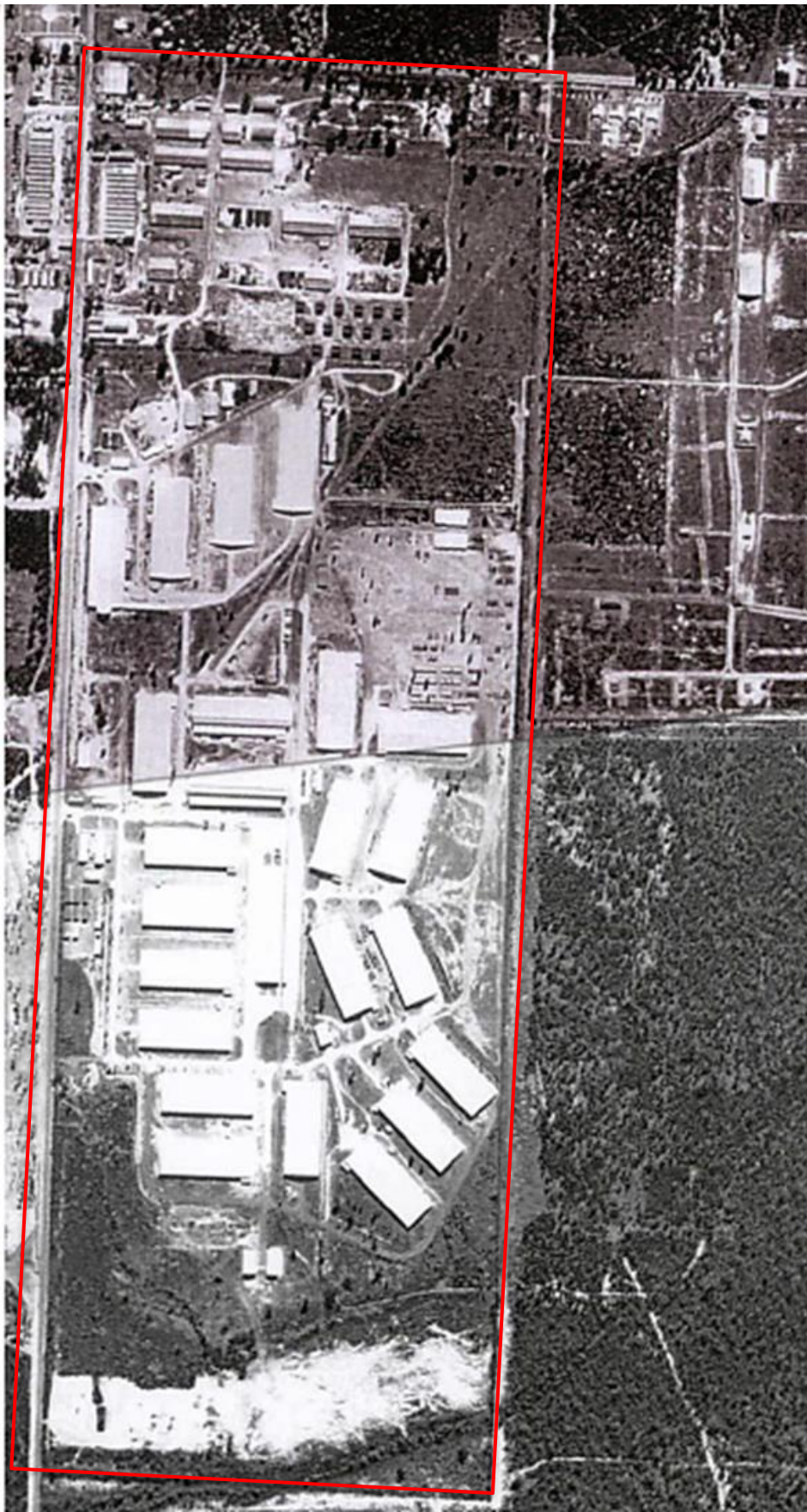
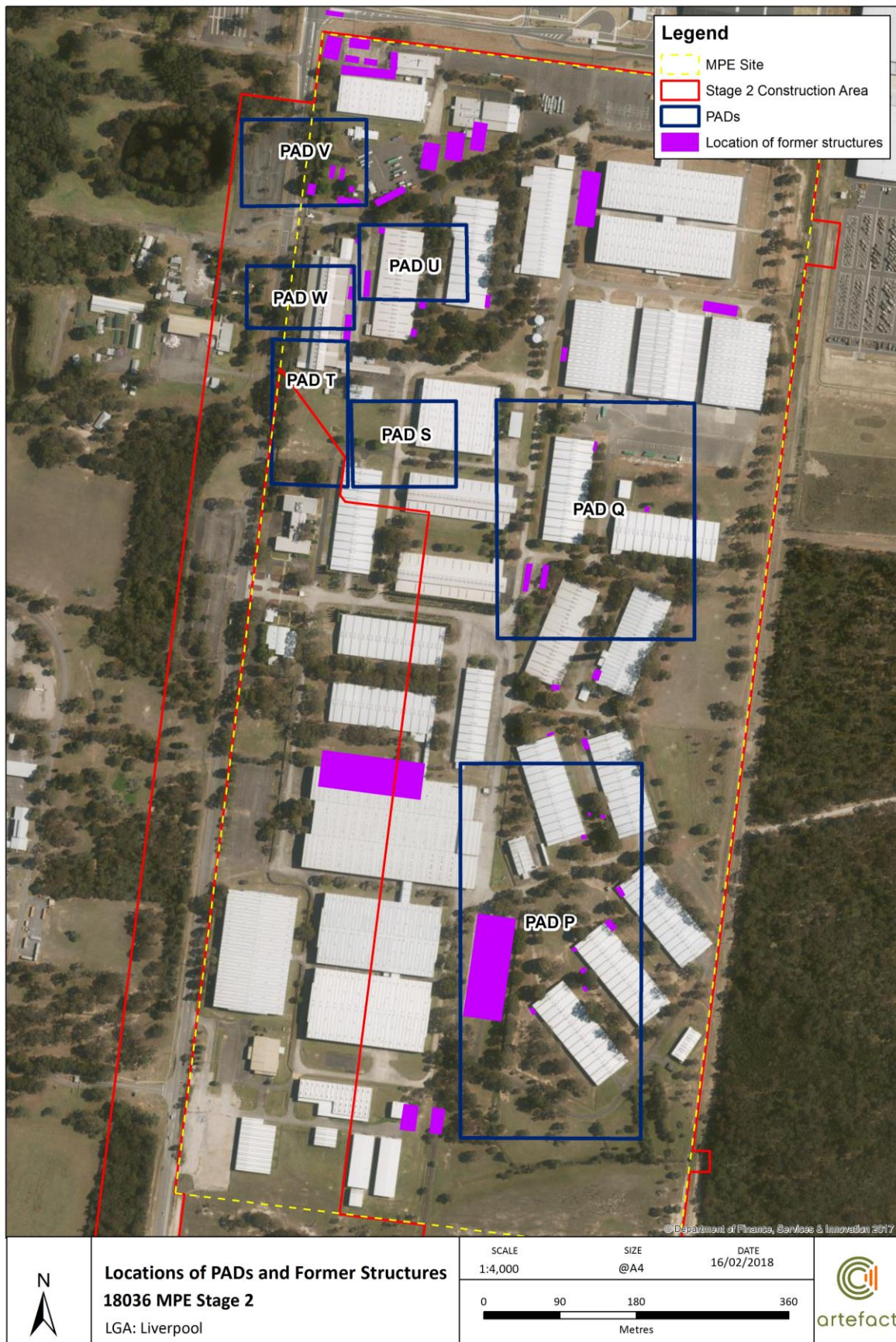


Figure 3: MPE site showing location of PADs and former structures.



Work Stage Specific Archaeological Methodology

This AMS has been prepared to meet the Historical Archaeology Code of Practice (OEH 2009). Monitoring and testing of PADs V and W will be directed by an Excavation Director, Jenny Winnett, experienced in investigations of locally significant archaeology.

Contractor

The contractor (Liberty) would operate under the direction of this AMS and archaeologists prior to and during archaeological investigations. This would involve:

- The demolition of Warehouse 80 (archaeological monitoring not required);
- Removal of existing concrete slab below Warehouse 80 and road base to east of warehouse, within PAD W (some archaeological monitoring required, see Figure 4);
- Set out and secure the work area for the construction and archaeological team;
- Provide machine plant to assist the removal of fill where required under the supervision of the archaeological team;
- Provision of erosion and sediment controls in accordance with an erosion and sediment control plan; and
- Provide a site induction to contractors in consultation with the Excavation Director or supervising archaeologist.

Historical archaeological monitoring and testing of concrete slab/road base removal and subsurface excavations (PAD W)

Demolition of Warehouse 80

It is understood that the existing structure within PAD W (Warehouse 80) will be demolished and demolition materials removed prior to the commencement of archaeological monitoring/testing.

Concrete slab and road base

The removal of an existing concrete slab and roadway within PAD W will involve the use of a hydraulic hammer and machine excavator. Although significant subsurface impacts associated with these works are unlikely, archaeological monitoring in areas illustrated in Figure 4 may be required. This would occur in consultation with the nominated Excavation Director. Areas outside of the nominated monitoring zone would go ahead under the Unexpected Finds Procedure.

In order to prevent inadvertent impacts to potential archaeological remains below the slab, the removal of concrete should be limited to the existing slab level only. Removing excess soil profiles below the slab would be avoided where possible.

Subsurface excavations

Archaeological monitoring of subsurface excavations within a portion of PAD W are required to prevent inadvertent impacts to intact archaeological remains. In order to mitigate these impacts, machine excavations in the PAD would be monitored by a qualified archaeologist to depth of impact or once sterile natural soils are encountered.

Areas within PAD W requiring archaeological monitoring are primarily focusing on the predicted location of the former structures. This area is shown in Figure 4. Works outside of the monitoring area would proceed under the Unexpected Finds Procedure as determined by the Excavation Director, or supervising archaeologist during or after monitoring/testing works have commenced.

This would be dependent on presence or significance of archaeological remains within the monitoring area.

During the monitoring program, the machine operator would remove soils in 100mm spits under the direction of an archaeologist. If intact archaeological remains are uncovered during the monitoring program, works would cease. This would allow the archaeologist to fully record and salvage the remains. If significant archaeological remains are identified within the PAD, a program or archaeological test excavations may be required (discussed below).

Should hazardous materials or contaminants be identified during archaeological monitoring, ground excavation would cease until appropriate controls or remediation is conducted by Contamination / Remediation specialists contracted by Liberty Industrial.

Archaeological testing

If significant archaeological remains are identified during monitoring works associated with the concrete slab, road base removal and/or underlying soil removal in PAD W, a program of archaeological test excavations may commence. This will be determined by the Excavation Director, or supervising archaeologist. The methodology for archaeological test excavations is outlined in the 'Historical archaeological test excavations (PAD V)' section below.

Historical archaeological test excavations (PAD V)

It is proposed that four test trenches be excavated in areas identified as having moderate or high potential to contain archaeological remains within PAD V (see overview plan, Figure 4). Test trenches would measure approximately 1.5 metres in width and 15 metres in length, dependant on the location and ground conditions. If archaeological remains requiring further investigation are identified, trenches may be widened or extended, and additional trenches may be excavated.

Archaeological test excavation would involve the use of a machine excavator (5 to 7 tonne) with a 1.2 to 1.6 metre flat bucket to remove fills or overburden within proposed test trench locations. Trenches would be excavated to the depth of impact or sterile soil horizons in 100mm spits under the direction of an archaeologist. Should archaeological remains be encountered, manual excavation would be conducted with hand tools and archaeological remains recorded.

Should the location of any test trench be found to be unsuitable due to the presence of unexpected underground services, hazardous contaminants, tree roots or other practical reasons, trenches may be moved to a more appropriate location.

Trenches would be backfilled upon completion of the test excavation program.

Archaeological Research Questions

General – Descriptive Questions

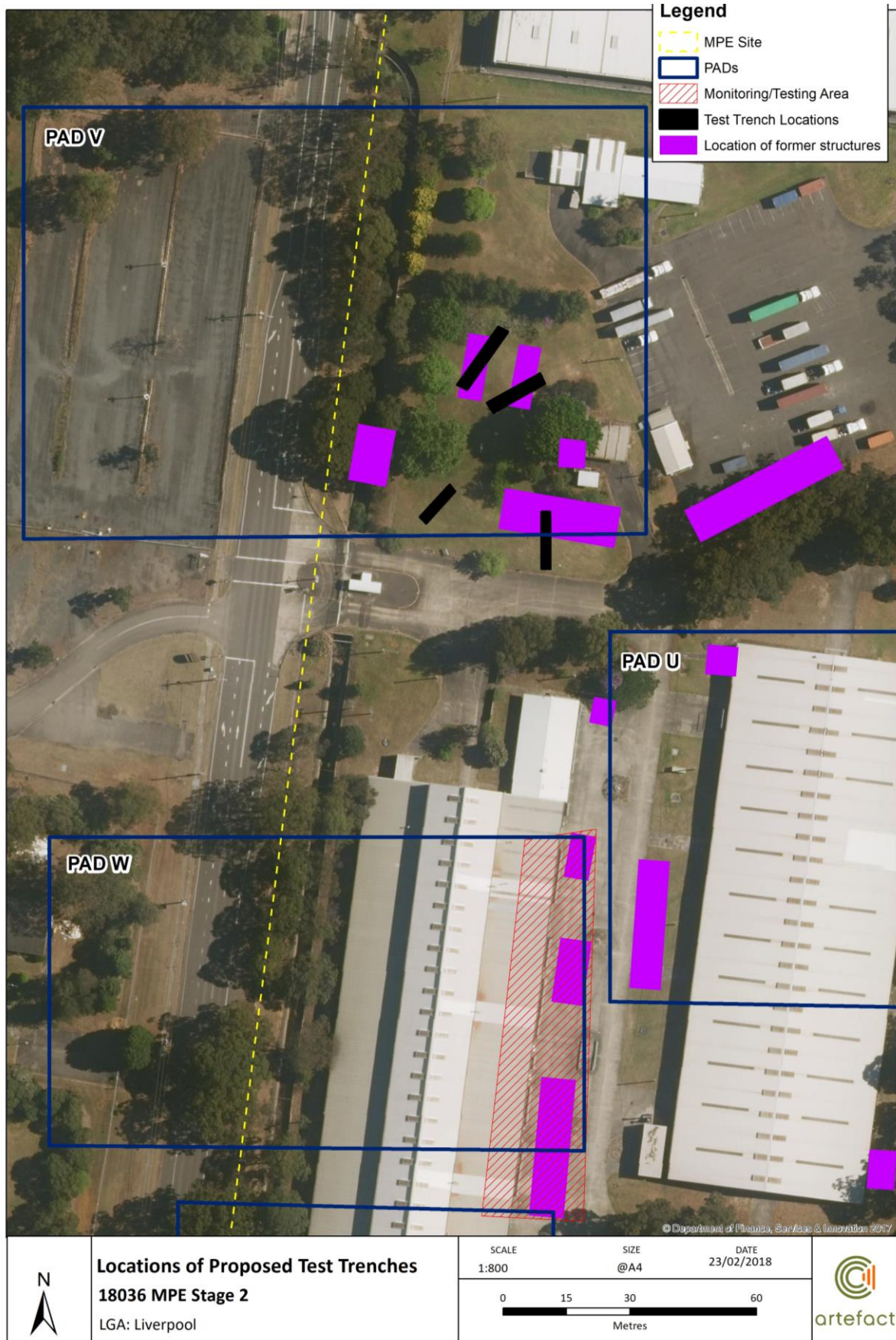
- What physical evidence of former activities and structures within PAD V and W associated with the army camp and DNSDC survives on the site? What is the extent of these features?
- What contexts, phases, and activity areas are evident, within the constraints of the test excavation, and how are these demonstrated by the various excavation units (trench/square/context/feature)?
- What is the nature and extent of the archaeological fabric of the site? Can structural remains yield information about materials used to construct former buildings and/or construction methodologies?

- Are there archaeological remains associated with any intact artefact bearing deposits, such as yard scatters or refuse pits? Can these remains provide information regarding the use of former buildings and individuals who occupied them?
- What natural and cultural taphonomic processes have contributed to the archaeological site and its associated deposits?
- Were fill materials introduced to the site before or after former structures were demolished? If so, what do these comprise of and can they be linked to significant activities in the area?

Analytical Questions

- What happened at the site(s) and what is the location and extent of preservation for these archaeological remains?
- Can the use of former buildings associated with the DNSDC site be interpreted through their archaeological remains?
- What can potential archaeological remains of the army camp and tell us about military training and storage activities that have not been recorded previously?
- How do potential archaeological remains associated with the army camp and DNSDC compare to similar site across NSW, or Australia?

Figure 4. Location of proposed test trenches in PAD V and proposed archaeological monitoring and testing area in PAD W.



Excavation Methodology

Excavation recording

A record of archaeological investigation would be made in accordance with the Historical Archaeology Code of Practice (OEH 2009). The recording methodology includes the following:

- A site datum would be established;
- Survey and scaled plans of the open area, trench locations and any significant archaeological features uncovered in the test and salvage program. The plans would include elevations recorded with a dumpy level;
- Scaled section drawings where appropriate;
- Digital photography, in RAW format, using photographic scales and photo boards where appropriate. A photographic record of all phases of the work on site would be undertaken;
- A standard context recording system will be employed: The locations, dimensions and characteristics of all archaeological features and deposits will be recorded on a sequentially numbered context register. This documentation will be supplemented by preparation of a Harris matrix showing the stratigraphic relationships between features and deposits;
- Should a large amount of archaeological resources be identified during open area excavation, the site would be digitally surveyed and recorded; and
- Artefact collection by context. Large or redundant artefactual materials from individual contexts would be sample collected. Hazardous material would not be collected.

Human remains

Discovery of suspected human remains would be managed under the project Unexpected Finds Procedure for skeletal remains as detailed within the Early Works Heritage Management Plan.

Unexpected Aboriginal archaeology

If archaeological remains associated with Aboriginal occupation of the site are identified during the testing or monitoring program, the Office of Environment and Heritage (OEH) would be notified in accordance with the Unexpected Finds Procedure.

If Aboriginal objects or areas of intact soil profile were to be identified, this AMS would be updated to outline an appropriate methodology for the works in accordance with the Code of Practice for Archaeological Excavation of Aboriginal Objects in NSW (National Parks and Wildlife Act 1974). Any excavation and analysis would be undertaken in accordance with the code. Reporting of newly discovered sites must be prepared in accordance with statutory requirements and best practice professional standards.

Reporting

An archaeological report will be submitted to the Secretary within one month of the completion of the archaeological testing and monitoring program within PADs V and W, as per the Minister's Condition of Consent B94.

This report would comprehensively describe and interpret the findings of the excavation program, outline the main results, reassess the heritage significance of the site, and identify if further archaeological work would be required. It would include photographs and plans of the site and

contexts. Recovered artefacts would be catalogued, assessed and analysed by material specialists as required, depending on the nature of the finds. These records and analyses would be developed in response to research questions. The report would recommend whether further archaeological excavation was required during construction.

Artefact storage

Upon the completion of artefact analysis and submission of final excavation report, all collected artefacts would be returned to the primary developer (Qube Holdings). Qube Holdings is responsible for storing artefacts within a permanent and secure storage facility.

Team and Timing

Archaeological team

A team of up to three archaeologists will carry out archaeological test excavations and monitoring, depending on the scale of proposed works.

The archaeological team would comprise:

- Primary Excavation Director – [REDACTED] (Senior Heritage Consultant, Artefact Heritage)
 - [REDACTED] has 8 years' experience in archaeology and cultural heritage management. Throughout her career [REDACTED] has gained extensive fieldwork experience through work on industrial and domestic urban sites and rural town and mine sites both in Australia and in the UK at a supervisory level. [REDACTED] has prepared statements of heritage impact, heritage assessments, research documents, specialist artefact reports and technical reports on archaeological excavations and monitoring projects.
- Supervising Archaeologist – [REDACTED] (Senior Heritage Consultant, Artefact Heritage)
 - [REDACTED] has worked as a Heritage Consultant in Australia and the USA since 2014. She has extensive experience in supervising large open area salvage excavations, archaeological monitoring, project management, planning and carrying out site surveys, interpreting archaeological sites, undertaking primary and secondary source historical research, preparing heritage impact statements, written histories, photographic archival recordings, heritage interpretation plans and liaising with Government and commercial clients.
- Field Archaeologist
 - Archaeologist with the equivalent of Honours or Masters degree in archaeology.

The Excavation Director meets the criteria under Condition B94.

Excavation timing

It is anticipated that the archaeological testing, monitoring and recording program within PAD V would take place over three days.

The proposed timing for archaeological monitoring, testing and recording works within PAD W would be negotiated with Arcadis and the contractor would take place over three days following access to the site and removal of concrete slabs and road surface.