

LIVERPOOL HEALTH AND ACADEMIC PRECINCT – MULTI-STOREY CARPARK

Archaeological Research Design and Excavation Methodology



PR143932
DRAFT v1
5 February 2021

REPORT

Document status

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Approval for issue

Susan Kennedy



5 February 2021

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1 INTRODUCTION

ADCO Constructions on behalf of NSW Health Infrastructure commissioned RPS Australia East Pty Ltd (RPS) to provide an Archaeological Research Design in response to the State Significant Development (SSD) Approval Conditions for the Liverpool Health and Academic Precinct (LHAP) Multi-storey Carpark (MSCP) (SSD-10388) (see Figure 1.1).

1.1 Project background

Liverpool Hospital is the district hospital for local catchment areas of Liverpool and Fairfield and is a tertiary referral hospital for all South Western Sydney Local Health District (SWSLHD). In June 2018, the NSW Government announced \$740 million of funding for the development of a health, research and academic precinct in Liverpool. The redevelopment would increase the inpatient numbers, in addition to expanding tertiary and quaternary services.

On 30 November 2020 the Acting Executive Director Infrastructure Assessments, as delegate of the Minister for Planning and Public Spaces granted approval for the Major Works for the LHAP MSCP project located at Lot 501 in DP 1165217. All documents relating to this consent can be found on the Major Project website.

1.2 Purpose of this report

The aim of this document is to prepare an Archaeological Research Design and Excavation Methodology (ARD&EM) in response to:

Schedule 2 Part B Prior to the Commencement of Construction

Archaeological Salvage – Historic Archaeology

- B25. Prior to the commencement of construction, except demolition works, a suitably qualified and experienced historical archaeologist, who meets Heritage Council of NSW's Criteria for assessing Excavation Directors, must be nominated to manage a historical archaeological program.
- B26. Prior to the commencement of construction, except demolition works, an Archaeological Research Design and Excavation Methodology must be prepared to the satisfaction of the Planning Secretary to guide the historical archaeological program. It must be prepared in accordance with Heritage Council of NSW guidelines and prepared in consultation with Heritage NSW. The final approved Archaeological Research Design and Excavation Methodology must be provided to Council.

Part C During Construction

Archaeological Salvage – Historic Archaeology

- C9. The historical archaeological program is to be undertaken in accordance with the approved Archaeological Research Design and Excavation Methodology under condition B26.
- C10. A final archaeological excavation report must be prepared within 12 months of the completion of archaeological excavation. The report must include details of any significant artefacts recovered, where they were located and details of their ongoing conservation and protection in perpetuity. Copies of the final excavation report must be provided to the Planning Secretary, Heritage NSW and Liverpool Council's local studies unit.

Unexpected Find Protocol – Historic Archaeology

- C30. If any unexpected archaeological relics are uncovered during the work, then all works must cease immediately in that area and Heritage NSW contacted. Depending on the possible significance of the relics, an archaeological assessment and management strategy may be required before

further works can continue in that area. Works may only recommence with the written approval of Heritage NSW.

1.3 Report Outline and Limitations

This ARD&EM responds to specific conditions as set out in the Development Consent (SSD-10388). The objectives of this report is to determine the strategies that will be implemented to manage archaeological resources that may remain within the LHAP MSCP prior to or during the redevelopment of the site (the “methodology”) as well as identifying outcomes of the programme in terms of the information that may be acquired from it (“research design”).

It is noted that neither the Heritage Council of NSW nor a delegate commented on the Statement of Heritage Impact (RPS, 2020) (SOHI) submitted as supporting documentation for project approval. As a result, it has been assumed that the SOHI provides sufficient supporting information to this ARD&EM. However, a summary of the findings as outlined in the SOHI (RPS, May 2020) has been provided. No additional historical research, no additional significance assessment, assessment of archaeological potential and/or impact assessment has been undertaken in preparing this report.

This report should be read in conjunction with:

- RPS, May 2020. *Liverpool Health and Academic Precinct – Multi-storey Carpark: Statement of Heritage Impact*. Report prepared for Johnstaff on behalf of NSW Health Infrastructure.

This report outlines potential impacts of the LHAP MSCP works on areas of archaeological potential to identify the level of future archaeological management and investigation required. It is noted that the summary impact assessment has confirmed that the approved works would not impact areas identified as having high and/or moderate potential for archaeological remains. As a result, this ARD&EM outlines the unexpected finds procedure and associated investigation methodology only. No specific research framework, historical themes and/or research questions have been prepared as part of this ARD&EM as no areas of moderate or high archaeological potential will be impacted by the works.

In accordance with Schedule 2 Part B – Prior to the Commencement of Construction - Archaeological Salvage – Historic Archaeology B26, this ARD&EM has been prepared in accordance with the relevant Heritage NSW Guidelines:

- Assessing Significance for Historical Archaeological Sites and ‘Relics’ (Heritage Council, 2009).

On 19 January 2021 ARD&EM was submitted to HNSW for comment. On 29 January 2021 a response was received from HNSW (see Attachment 1).

Legend

Project Area

Campbell Street

Goulburn Street

Elizabeth Street



0 20 40 60 80 100 m
SCALE 1:2,500 AT A4 SIZE

Figure 1.1: LHAP MSCP SSD Project Area

LOCATION: LIVERPOOL,
NSW

PURPOSE: HERITAGE
Technician: Natalie Wood Date: 17/12/2020

Path: F:\Sydney Working Files\PR143935 - Liverpool
Hospital\MXD\SSD\Fig1 LHAP MSCP SSD Project
Area.mxd

VERSION (PLAN BY): AA4

DATUM: GDA2020
PROJECTION: MGA Zone 56

Data Sources:
RPS
Land and Property 2020

CLIENT: JOHNSTAFF
JOB REF: PR143932

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2 SUMMARY OF PREVIOUS FINDINGS

This Section provides a concise summary of the findings presented in the *Liverpool Health and Academic Precinct – Multi-storey Carpark: Statement of Heritage Impact* (RPS, May 2020). The information presented below is related specifically to the LHAP MSCP SSD project area.

2.1 Historical context

The LHAP MSCP SSD project area is located across three historical Lots as identified on the 1890 Map of the Town of Liverpool Section 43, Section 44 and Section 45 (Figure 2.1).

Section 43

The 1827 *Plan of the Town of Liverpool* establishes that James Meehan was granted the northern portion Section 43 (Figure 2.2) which appears to be subdivided into five Lots, the northern two partially located in the LHAP MSCP project area. No structures appear within the boundary.

On the 1890 Map of the Town of Liverpool (Figure 2.1), the lot is shown as belonging to George Waltham. No structures appear within the boundary.

In 1902 Drummond Street between Campbell and Elizabeth Streets was closed and in 1926, Forbes Street between Campbell and Elizabeth Streets was closed, combining Sections 42, 43, and 44. In 1917, the entirety of Section 43 was resumed by the NSW State Government for the purpose of extending Liverpool State Hospital (Figure 2.3, Figure 2.4). Between 1930 and 1943 an additional building was constructed in Section 43 as shown in Figure 2.5. These buildings are not located within the LHAP MSCP project area.

Section 44

The 1827 *Map of the Town of Liverpool* establishes that the Section 44 was granted to John Lucas and Solomon Levey, two early entrepreneurs of NSW. No structures appear within the boundary. Levey would also collaborate with Daniel Cooper, a former convict and entrepreneur and establish the Cooper and Levey Co. The Company continued to operate the Mills set up by Lucas after Lucas' bankruptcy, Cooper would continue the operation of the Mills after the death of Levey until at least 1939.

It appears that Cooper retained the lands in Liverpool after the settlement of affairs in 1843 with Levey's son John Levey-Roberts. By 1851 Section 44 was incorporated into The Liverpool Benevolent Asylum. In 1862 the Government Asylums Board established gardens and pig farming, utilising refuse from the institution in the location of the current LHAP MSCP area.

Plans from 1900 to 1939 show a structure along the south western portion of the area. The structure has been interpreted as a building associated with the asylum piggery. The 1943 aerial indicates that the structure identified on the 1915 and 1939 (revised 1900 plan) plans is not located within the LHAP MSCP SSD area but directly south.

Section 45

The 1827 Plan of the Town of Liverpool (see Figure 2.2) does not list an owner of the northern allotment of Section 45. By 1827 the town plan had been constructed and a 'J. Horsley' owned the southern allotment. By 1890 (see Figure 2.1), the allotment has been reserved for public recreation, excluding the railway which had been constructed by this stage. The railway isolated the north western portion of the lot, encompassing the eastern most section of the LHAP MSCP SSD project area.

By 1943 LHAP MSCP SSD project area this portion of the lot appears to have been used for agricultural purposes, with no structures evident.

General

A drain running east-west along the northern boundary and then turning on a north-south axis in what is now the car park was first recorded on an 1890 town map of Liverpool (see Figure 2.1).

Historical evidence suggests that the current area was predominantly open and utilised as part of the gardens and piggery. There is no evidence to suggest that the area was not an open area without structures in the historical record prior to the development of the Liverpool Hospital from the mid to late Twentieth century onwards.

2.2 Relevant archaeological summary

2.2.1 Previous archaeological assessment relevant to the current LHAP MSCP SSD project area

In 2007 AHMS undertook archaeological test excavations and a programme of archaeological monitoring along Elizabeth Street directly south of the current LHAP MSCP SSD project area (AHMS 2009) (Plate 2.1 below).

The 2007 excavations uncovered a truncated portion of a sandstone box drain approximately 1.2 metres below the ground surface south east of the current LHAP MSCP SSD project area. It is noted that the sandstone box drain is not located in proximity to the drain marked on the 1890s Map of the Town of Liverpool.

AHMS noted that the drain likely extended further to the east, in its initial form, to drain the soils across the area to the line of Georges River. Its fullest extent to the west probably included Moore's, Allan's and Levey's land in Sections 42-44 of the early township (AHMS, 2009).

Characteristically drains of this type are referred to as Box Drains and are typically built of brick or dressed stone but examples of wood and rubble are also known. As is the case of the example at Liverpool Hospital they can be covered with capstones and backfilled. Box drains reflect an early colonial attempt at providing subsurface urban infrastructure and were generally replaced by the mid-Nineteenth Century with brick oviform drains. The box drains, due to their design were commonly resulted in their complete blockage and they were therefore normally large enough for a person to crawl through to clear the debris (AHMS, 2009).

Plate 2.1 Location of archaeological investigations and remains identified by AHMS (AHMS 2009)

Arial view of the western campus of the Liverpool Hospital precinct outlined in dark red. The lighter red lines indicate the position of the initial test trenches while the green lines indicate the position of the bulk excavation monitoring trenches. The blue zone indicates total area monitored subsequent to contamination removal. The position and alignment of the recorded section of the stone drain is shown as a yellow line adjacent to the eastern edge of the campus.

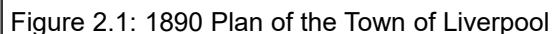
**2.2.2 Summary of archaeological potential of the LHAP MSCP SSD project area**

The LHAP MSCP SSD project area was largely undeveloped from the early-Nineteenth century to the mid-late Twentieth century when the area was developed as part of the Liverpool District Hospital expansion. Based on the lack of early development there is low to no potential for archaeological remains associated with the early development of the town precinct within LHAP MSCP SSD project area.

As such the archaeological potential of the LHAP MSCP SSD project area is identified as low with moderate localised potential for evidence of a network of drains, at depth, that extended across the LHAP MSCP SSD project area. The results of the SOHI did not identify potential for relics across the LHAP MSCP SSD area.

Based on the findings of the SOHI (RPS, May 2020) an unexpected finds procedure was recommended. However, as part of the Development Consent an ARD&EM was conditioned. This condition has been addressed in Section 4.

 Project Area



VERSION (PLAN BY): AA4

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Figure 2.2: 1827 Plan of the Town of Liverpool, R Hoddle (State Library of NSW)

LOCATION: LIVERPOOL, NSW PURPOSE: HERITAGE Technician: Luke Gliganic	Path: N:\Projects\Conics_Sydney\PR 143932 - Liverpool Hospital\GISMXD\SSD\Figure_SSD_template.mxd	DATUM: GDA94 PROJECTION: MGA Zone 56
	Date: 3/12/2019 VERSION (PLAN BY):	Data Sources: RPS Land and Property 2015



Legend

Project Area

Figure 2.3: 1900 Liverpool Sheet Number 3 revised 1939

LOCATION: LIVERPOOL, NSW	Path: F:\Sydney Working Files\PR143935 - Liverpool Hospital\MXD\SSD2\Fig3 1900 Project Area.mxd	DATUM: GDA2020 PROJECTION: MGA Zone 56
PURPOSE: HERITAGE Technician: Natalie Wood Date: 17/12/2020	VERSION (PLAN BY): AA4	Data Sources: RPS Land and Property 2020



Figure 4: 1915 Liverpool Benevolent Asylum Site Plan'		LOCATION: LIVERPOOL, NSW	Path: F:\Sydney Working Files\PR143935 - Liverpool Hospital\MXD\SSD2\Fig4 1915 Project Area.mxd	DATUM: GDA2020 PROJECTION: MGA Zone 56
		PURPOSE: HERITAGE		Data Sources: RPS
		Technician: Natalie.Wood	Date: 17/12/2020	VERSION (PLAN BY): AA4 Land and Property 2020

Legend

 Project Area

N


0 20 40 60 80 100 m
SCALE 1:2,500 AT A4 SIZE

Figure 5: 1943 aerial photograph. Note that there is no evidence of the structures on earlier plans in this aerial – there are structures directly south, west and south west of the LHAP MSCP SSD area not shown on earlier plans.

LOCATION: LIVERPOOL,
NSW

PURPOSE: HERITAGE
Technician: Natalie Wood

Date: 17/12/2020

Path: F:\Sydney Working Files\PR143935 - Liverpool
Hospital\MXD\SSD2\Fig5 1943 Project Area.mxd

VERSION (PLAN BY): AA4

DATUM: GDA2020
PROJECTION: MGA Zone 56

Data Sources:
RPS
Land and Property 2020

3 SUMMARY OF IMPACTS

This Section provides a concise summary of the findings presented in the *Liverpool Health and Academic Precinct – Multi-storey Carpark: Statement of Heritage Impact* (RPS, May 2020). The information presented relies on construction data presented in Figure 3.1.

The LHAP MSCP SSD project requires a series of landscape modification works including 'cutting' (excavation) and 'capping' (filling). Works would also include the demolition of the existing multi-storey car park and the Ron Dunbier building. The existing carpark and road surface would also be removed.

As identified in Section 2.2.2, there is low to moderate potential for the remains of the nineteenth century drain running on an east-west axis at a depth of approximately 1.2 metres below the existing surface. Further, there is low to no potential for archaeological remains associated with the early development of the town precinct within LHAP MSCP SSD project area.

As identified in Figure 3.1 below, works in the vicinity of the drain alignment include landscape modifications in the form of 'capping' with one area, approximately five metres in length, excavated to a depth of 200 millimetres. As such, the proposed works in the area of low-moderate archaeological potential would not result in exposure or impact.

The works would not impact the drain network identified in the 1890 Plan of the Town of Liverpool.

The works would not impact areas of low-moderate archaeological potential across the LHAP MSCP SSD project area.

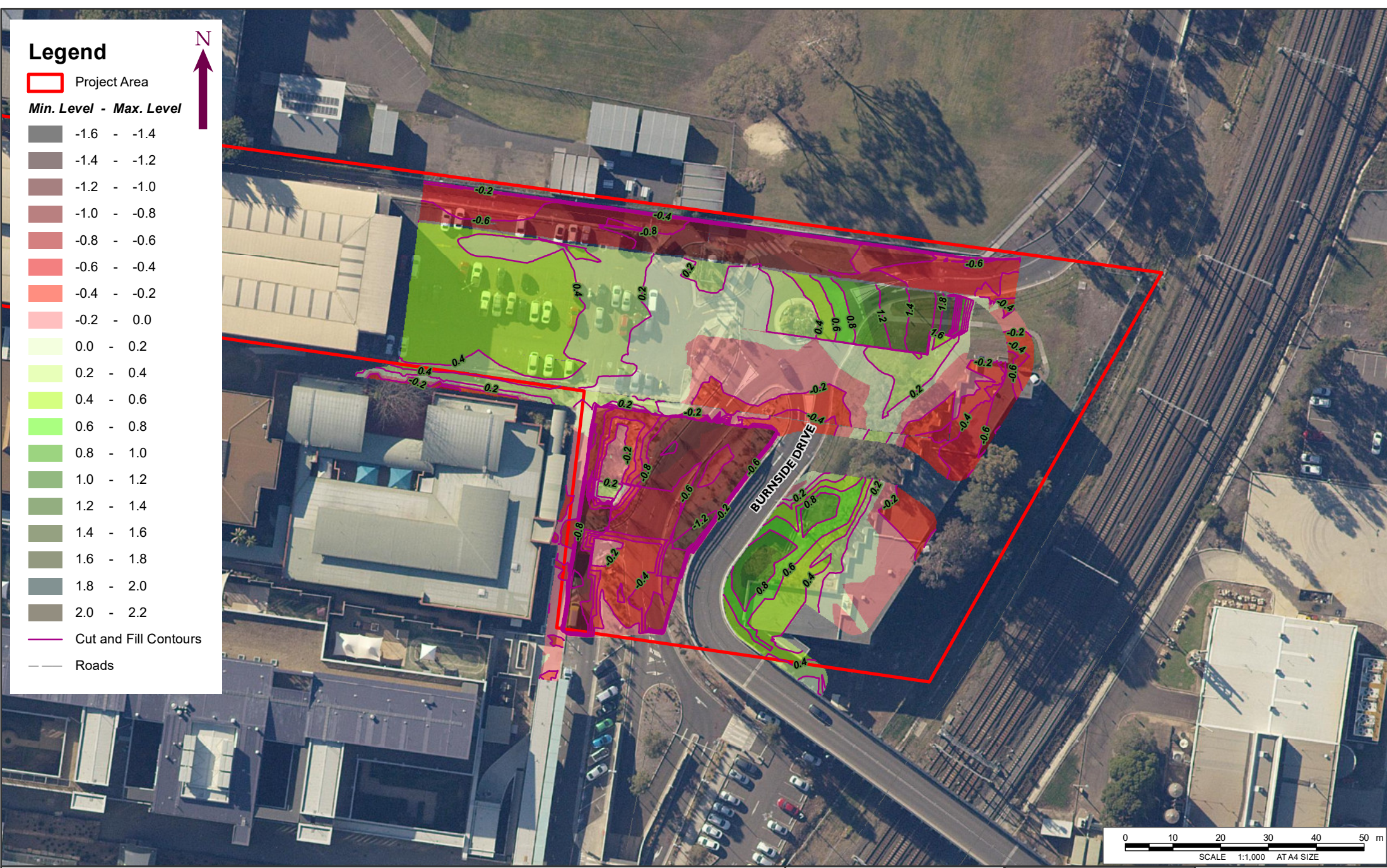


Figure 3.1: Locations of Cut and Fill

LOCATION: LIVERPOOL, NSW	Path: F:\Sydney Working Files\PR143932 - Liverpool Hospital\MXD\SSD2\Figure 3.1 New Figure\Cut_Fill test excavations.mxd	DATUM: GDA2020 PROJECTION: MGA Zone 56
PURPOSE: HERITAGE	VERSION (PLAN BY): AA4	Data Sources: RPS Land and Property 2020
Technician: Natalie Wood Date: 15/01/2021		

4 ARCHAEOLOGICAL RESEARCH DESIGN & EXCAVATION METHODOLOGY

4.1 Unexpected Finds Procedure

In accordance with Schedule 2, Part C: Condition 30 of the Development Consent an Unexpected Finds procedure will be implemented for the LHAP MSCP SSD project area.

Where a suspected relic is identified, the area would be cordoned off with at least a 20-metre buffer. The Excavation Director would be notified immediately. The Excavation Director would attend site to assess the find.

The Excavation Director would undertake archaeological investigations in accordance with the below methods.

4.2 Archaeological Investigation

If relics are identified the following archaeological investigations would include the comprehensive identification and excavation which would be undertaken and overseen by the Excavation Director and the appropriately qualified archaeologists in accordance with best practice standards.

Prior to archaeological investigation the suspected relic and immediate surrounds would be archaeologically recorded and surveyed. Upon completion of the initial recording manual excavation, with support of an appropriately sized mechanical excavator, would be undertaken to identify and expose the suspected relic.

The archaeological investigations would be recorded as follows:

- each stratigraphic unit would be given a context number for the appropriate recording of the archaeological investigation area;
- scale photographs would be taken;
- each context would be recorded on individual recording sheets with associated contexts identified;
- the recordings would also include a mud map and a Harris matrix of each context; and
- all archaeological remains (whether a cut, fills, feature or relics etc) would be defined, manually excavated, recorded and given either an appropriate feature or context number as outlined below:
 - all archaeological remains would be recorded on individual recording sheets;
 - all archaeological remains would be drawn to scale with scaled plan and section drawings also produced across each Phase 2 excavation area and across the archaeological investigation area;
 - a photographic record would be undertaken across the study area with a focus on all archaeological relics and features identified. All photographs associated with each context, cut, feature and/or relic would also be recorded on the corresponding record sheet;
 - a Harris matrix would be developed incorporating all context, cut, fill, feature, relic and surfaces identified and recorded;
 - all surfaces contexts, cuts, fills, features and relics would be recorded by a surveyor providing accurate spatial and temporal data across the study area;
 - all recovered artefacts would be cleaned, bagged and archived according to the contexts from which they were recovered; and
 - as part of the potential public interpretation of the archaeological excavation information can be made available within the proposed building redevelopment and/or the local library.

- Depending on the nature and integrity of the deposits and features revealed, the scope of excavation may range from exposure and recording of extant structural elements such as walls, piers, cisterns and wells to more detailed investigations of ephemeral elements such as yard surfaces, rubbish deposits or post holes.
- All archaeological excavations would be surveyed in by an RPS surveyor in consultation with the RPS Excavation Director. Survey data would incorporate the spatial and temporal extent of archaeological investigations, the location of separate features, contexts, works and relics identified.

In the unlikely event potential State significant relics are exposed discussions would be held with Heritage NSW with regards to the appropriate management of such relics.

Excavation Director

The proposed excavation director for the archaeological programme is Joshua Madden (RPS, Senior Heritage Consultant). Joshua has previously been identified by HNSW as a primary and secondary excavation director for Section 140 permits and as Excavation Director for s139 Exceptions and s57 Exemptions.

The Excavation Director would be supported by appropriately qualified archaeologists.

Post Excavation Reporting

The Excavation Director would provide a short summary report at the end of each unexpected finds procedure detailing the initial recording of the suspected relic, the archaeological investigations (undertaken in accordance with the abovementioned methodology), any relevant additional historical information required to make an assessment of the find, an analysis of the results of the investigations and if required an assessment of significance.

Each summary report would be prepared within one month of the completion of each unexpected finds investigation. Where relics are identified this report would be submitted to Heritage NSW.

Artefact Cataloguing and Storage

All recovered artefacts would be recorded within their context and, discrete and well stratified assemblages such as sub-floor units, pits etc. All artefacts would be cleaned on-site.

All recovered artefacts from the Project Area would be catalogued with reference to the *Guide to the EAMC Archaeology Database* (Penny Crook and Tim Murray). All artefacts would be catalogued and recorded by appropriately qualified and experienced specialists.

Where appropriate the artefact specialists would subject significant artefacts to materials conservation.

Once cataloguing and analysis is completed, the Proponent will be required to provide a repository in perpetuity for the storage of all artefacts from this excavation.

Notification of Relics

If during the archaeological investigations a relic is identified, the Excavation Director would notify the Heritage Council of the relic in accordance with Section 146 of the Heritage Act 1977.

Heritage Interpretation Strategy

Upon the completion of the archaeological investigations a heritage interpretation strategy and plan (HISP) should be developed. The HISP should incorporate the history of the LHAP area and the results of all archaeological investigations.

REFERENCES

AHMS, 2007, *Liverpool Hospital, Liverpool, NSW, Historical archaeological assessment, research design, and excavation methodology*, Report prepared for Capital Insight Pty Ltd.

AHMS, 2009, *Liverpool Hospital test excavation and monitoring final report*, Report prepared for Capital Insight Pty Ltd.

Higginbotham, E, 1993, *Report on the Archaeological Excavation of Test Trenches on the site of 'Moore Hall', Liverpool Hospital, Elizabeth & Goulburn Streets, Liverpool, NSW*, Report prepared for Capworks Management Pty Ltd.

Higginbotham, E, 1995. *Report on the Archaeological Excavation of 'Moore Hall' & College on the Proposed Extension of Liverpool Hospital, Elizabeth Street, Liverpool, NSW*, Report prepared for Capworks Management Pty Ltd.

RPS, 2020. *The Liverpool Health and Academic Precinct – Multi-storey Carpark: Statement of Heritage Impact*. Report prepared for Johnstaff.

RPS, 2020. *The Liverpool Health and Academic Precinct – Integrated Services Building and Refurbishment of the Clinical Service Building: Statement of Heritage Impact*. Report prepared for Johnstaff.

Attachment 1: Evidence of consultation with Heritage NSW (In response to DPIE comment e.)



File: SF21/8135
Our ref: DOC21/23767

Mr Josh Madden
RPS
Level 13, 255 Pitt Street
Sydney NSW 2000
Email: josh.madden@rpsgroup.com.au

Dear Mr Madden

Re: Archaeological research design and excavation methodology for Liverpool Hospital Multi-storey Carpark SSD-10388

Thank you for your correspondence received by Specialist Services on 19 January 2021, referring *Liverpool Health and Academic Precinct- Multi-storey Carpark: Archaeological Research Design and Excavation Methodology* (RPS, 2021) for comment in relation to SSD-10388 conditions of consent B25 and B26.

As delegate of the Heritage Council of NSW, I provide the following comments:

- The proposed archaeological research design and excavation methodology are sufficiently comprehensive in their approach to the management of Unexpected Finds.
- It is noted in the archaeological research design that the Excavation Director would notify the Heritage Council of the discovery of a relic on site in accordance with section 146 of the *Heritage Act 1977*. This is a practical approach, however please note that under section 146 any person who is aware or believes that they have uncovered or located a relic can notify the Heritage Council of the discovery, and that all notifications must be done within a reasonable timeframe.
- Excavation Director.

We note that Condition B25 refers to nomination of an historical archaeologist who meets the Heritage Council Criteria for assessing Excavation Directors. For approvals under the NSW Heritage Act, 1977, a formal submission against the Criteria must be lodged in order for the nominated Excavation Director to be assessed and approved for a Permit. As this approval is managed by DPIE, the Heritage Council has no role in 'approving' a nominated person and no submission against the Criteria was received. Heritage NSW can advise that we are aware you (Mr Joshua Madden) have previously held approvals under the Heritage Act 1977 as a Primary and Secondary Excavation Director for sites of local significance.

Inquiries on this matter may be directed to Dr Hana Lewis, Senior Historical Archaeologist, Specialist Services at Heritage NSW, Department of Premier and Cabinet, on (02) 9585 6323 or via email at hana.lewis@environment.nsw.gov.au.

Yours sincerely

A handwritten signature in black ink, appearing to read "S. Lavelle".

29 January 2021

Dr Siobhan Lavelle OAM
Senior Team Leader, Specialist Services
Heritage NSW, Community Engagement
Department of Premier and Cabinet
As Delegate of the Heritage Council of NSW

Attachment 2: Supporting documentation for the Primary Excavation Director (In response to DPIE comment b.)

Joshua Madden Response to Excavation Director Criteria

A. Essential Qualifications/Experience

1. A tertiary honours (or Masters/PhD) degree or graduate diploma in archaeology and three years relevant and cumulative professional experience* in historical archaeology or a related archaeological field.

Qualifications:

- Bachelor of Arts (Archaeology) (Honours), The University of Sydney.
- Graduate Certificate in Environmental Management and Sustainability (current), The University of Newcastle.

Experience:

- Over 10 years in heritage and archaeological management.
- Current role: Senior Heritage Consultant.

Committees :

- Liverpool City Council Heritage Advisory Committee – Technical Specialist (2019 – Present).
- CAA International: Computer Applications and Quantitative Methods in Archaeology (2016-2018).

Memberships:

- International Council of Monuments and Sites (M.ICOMOS).
- Australasian Society for Historical Archaeology (ASHA) – NSW Regional Representative (Metro).
- Interpretation Australia (IA).

With over 10 years' experience in archaeological and heritage management in New South Wales, I have directly managed numerous heritage approvals and historical archaeological assessments, heritage impact statements, excavation programmes and post-excavation reporting for a wide range of historical archaeological sites.

I have considerable experience in undertaking heritage and archaeological assessments and excavations for local and state significant sites in accordance with Conditions of Approval. I have been recognised by Heritage New South Wales as both a primary and secondary excavation director on Section 140 Excavation Permits with most of my Excavation Director experience in the Newcastle CBD (including for the current project area).

I have managed integrated archaeological projects and multidisciplinary teams of archaeologist, surveyors, geomorphologists and members of Aboriginal community stakeholder organisations. See responses to item 3 for specific projects.

2. A demonstrated understanding of NSW heritage legislation assessing heritage significance criteria and relevant archaeological guidelines/best practice methods and standards including, but not limited to, relevant archaeology publications issued by the Heritage Council of NSW.

During my professional archaeological career, I have focused on historical archaeology and have prepared numerous archaeological assessments. I have been responsible for assessing significance of archaeological sites and heritage more broadly by applying relevant Commonwealth and NSW state government criteria for assessing heritage significance including;

- Heritage Branch, 2009, *Assessing Significance for Historical Archaeological Sites and 'Relics'*, Heritage Branch, Department of Planning.
- Heritage Council of NSW, 2001, *New South Wales Historical Themes*.
- Heritage Office and DUAP, 1996, *Archaeological Assessments* (from the 1996 Heritage Manual).
- Heritage Office, 2001, *Assessing Heritage Significance*, NSW Heritage Office.
- Heritage Office, 2006, *Historical Archaeology Code of Practice*, Heritage Office, Department of Planning.
- Australia ICOMOS, 2013, *The Burra Charter* (The Australia ICOMOS Charter for Places of Cultural Significance).

Joshua Madden_Response to Excavation Director Criteria

An item must meet one or more of the Heritage Significance Criteria as outlined in the Assessing Heritage Significance guide (above) in order to be listed as an item of local, State, National or Commonwealth heritage significance.

3. Demonstrated experience in the investigation of comparable or relevant historical archaeological sites (especially Australian Historical Archaeology) project management and preparing written archaeological assessments/site management recommendations.

I have excavated, supervised, managed and directed the monitoring and salvage excavations of sites containing relics and works of local and state significance. As part of the management of archaeological investigations I have managed integrated archaeological projects and multidisciplinary teams of archaeologist, surveyors, geomorphologists and members of Aboriginal community stakeholder organisations. As part of the project management of archaeological assessments and excavations I undertake numerous tasks including; the scoping of projects, liaising with the clients, project teams including construction contractors and government organisations, preparation of historical archaeological assessments and research design and archaeological methodologies, coordinating and managing archaeological field programmes including recording and post excavation analysis and reporting.

Heritage NSW Approved Excavation Director Projects

Conditions of Approval S140/2019/019:

Archaeological Monitoring, recording and salvage at 147-153 Hunter Street; 15 Wolfe Street; 14 Thorn Street; 98-104 and 108-110 King Street, Newcastle

I was approved as Secondary Excavation Director to manage the monitoring, recording and salvage programme in accordance with the existing s140 approval and the ARD&EM prepared by Umwelt.

I was responsible for identifying the disturbances across the area of investigation and informed HNSW as soon as it became apparent that a breach of the s140 conditions of approval and ARD&EM occurred. I also provided input and review into the monitoring and recording report prepared for and submitted to HNSW.

Conditions of Approval 2017/s140/10:

Newcastle East End, archaeological monitoring of service provision and roadworks sections of Wharf Road, Watt, Zara and Scott Streets

I provided input into the historical archaeological assessment, research design and methodology for the proposed works.

I was approved as secondary excavation director for a monitoring and salvage programme.

I led a team of up to three archaeologists for the monitoring and excavation works in accordance with the s140. Most of the findings included road surfaces, footings and foundations and historical services.

All recordings and photographs were collated into an excavation summary. The excavation report has been submitted to Heritage NSW.

Conditions of Approval 2017/s140/13

Former Empire Hotel 643-651 Hunter Street Newcastle West archaeological monitoring and salvage

I managed and prepared the historical archaeological assessment, research design and methodology for the proposed works.

I was approved as secondary excavation director for a monitoring and salvage programme.

I led a team of between three and five archaeologists and up to eight members of the Registered Aboriginal Parties for the monitoring and excavation works in accordance with the S140 – prior to February 2019.

This permit is currently being overseen by primary excavation director Tim Adams (Umwelt).

Conditions of Approval 2017/S140/17:

Archaeological monitoring, recording and salvage of locally significant relics, Swan Street

I managed and prepared the historical archaeological assessment, research design and methodology for the proposed works. I was approved as secondary excavation director for the monitoring and salvage and recording programme.

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I was responsible and present for monitoring and salvage excavation works and all archaeological recording in accordance with the Section 140 – prior to February 2019.

All recordings and photographs were collated into an excavation summary.

This permit is currently being overseen by primary excavation director Tim Adams (Umwelt). The excavation report is currently being prepared in accordance with the approval conditions

Conditions of Approval 2018/s140/007

30 Swan Street Morpeth archaeological monitoring and excavation

I managed and prepared the historical archaeological assessment, research design and methodology for the proposed works.

I was approved as primary excavation director for the monitoring and salvage excavation programme. I was responsible and present for all monitoring and excavation works and all archaeological recording in accordance with the Section 140 – prior to February 2019.

The final monitoring and excavation report has been submitted to Heritage NSW.

Excavations as Supervisor/Team Member

Newcastle East End Stage 1, Iris Capital 2018 – 2019

The NEES1 project area is located directly west of this project and is part of the re-development programme being undertaken by Iris Capital.

I was part of the excavation team responsible for undertaking the archaeological monitoring, salvage excavations and recording in accordance with permit conditions.

Newcastle Light Rail Project*, Transport for NSW, 2016 – 2020

I project managed and supervised archaeological components of the Newcastle Light Rail project for Downer on behalf of Transport for NSW. I was responsible for managing up to 10 people and supervised and managed the archaeological monitoring, salvage excavations and recording in accordance with permit conditions.

I prepared numerous historical heritage and archaeological impact assessments for the project. I was also responsible for providing archaeological monitoring and salvage excavation summaries to Downer and Transport for NSW during the programme. I was one of a small heritage team that prepared the post-excavation reports in accordance with the conditions of approval.

Relevant Experience: Excavation Relating to Exemptions and Exceptions

Griffith Park Stockton*, City of Newcastle, 2017-2019

I was responsible for preparing the archaeological assessment and methodology for the South Stockton Playground and Skate Park Archaeological Assessment.

I managed the archaeological monitoring for the redevelopment works undertaken in accordance with the Section 139(4) Exception 1B to the Heritage Act 1977 prior to February 2019. The monitoring was undertaken to ensure that the works did not impact the cultural material identified in the Ballast Ground archaeological site.

The archaeological monitoring report was prepared and submitted post archaeological works. The NSW Heritage Division were provided with a summary of the works and findings.

Wollongong Harbour Precinct*, NSW Department of Industry, 2019-2020

I was responsible for managing the archaeological works within the state heritage listed Wollongong Harbour precinct in accordance with Section 57(2) Exemption (endorsed under Standard Exemption 7 Heritage Division reference: DOC/1938887) to the Heritage Act 1977 and the historical archaeological methodology.

The archaeological monitoring works were undertaken to support the service and mains relocations for the utilities and mains upgrade within the precinct. The archaeological monitoring report was prepared and submitted post archaeological works.

4. Ability to demonstrate that work under any approvals previously granted by the Heritage Council has been completed in accordance with the conditions of that approval and the final report has been submitted to the Heritage Council.

The following reports have been undertaken in accordance with relevant conditions of approval.

Project Name	Project Conditions	Role	Report Submitted
Archaeological Monitoring, recording and salvage at 147-153 Hunter Street; 15 Wolfe Street; 14 Thorn Street; 98-104 and 108-110 King Street, Newcastle	Section 140: s140/2019/19 and Section 144: s144/2020/11	Secondary Excavation Director Report input and review	Submitted
Newcastle East End, archaeological monitoring of service provision and roadworks sections of Wharf Road, Watt, Zara and Scott Streets	Section 140: 2017/s140/10	Authored by Primary Excavation Director Tim Adams	Submitted
30 Swan Street Morpeth archaeological monitoring and excavation	Section 140 2018/s140/007	Review and endorsement of content Author –Tim Adams	Submitted
Archaeological monitoring, recording and salvage of locally significant relics, Swan Street	Section 140 2017/S140/17	Review Authored by Primary Excavation Director Tim Adams	In Prep.
Toronto Hotel historical archaeological investigations.	Section 140 2016/s140/33	Co-author	Submitted
Archaeological report Wagga Wagga Court House	Section 140 2013/S140/32	Co-author	Submitted
Millers Point Telecommunications Programme	Section 57 Exemption Conditions	Author	Submitted
Wollongong Harbour Precinct*, NSW Department of Industry	Section 57 Exemption Conditions	Author	Submitted to applicant for submission to HNSW
The New Tweed Valley Hospital Stage 2	State Significant Development – Planning Secretary Environmental Assessment Requirements	Author of multiple assessments and reports and responsible for South Sea Islander stakeholder consultation prior to February 2020	Submitted
Portland Cement Works Precinct (SHR 01739) and Raffan's Mill and Brick Bottle Kilns Precinct (SHR 01738)	CMP – Major Project Conditions of Approval	Co-author and review	Submitted and endorsed by Heritage Council
Rathmines SHR 01740 CMP	Council requirements	Co-author	Submitted and endorsed by Heritage Council

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Project Name	Project Conditions	Role	Report Submitted
Hamilton Rail Depot, Hamilton	Section 139 Exception Conditions	Author	Submitted
549 Princes Highway, Tempe	Section 140 2009/S140104	Co-author	Submitted

B. Historical Archaeological Fieldwork Experience

Test Excavations

An archaeological test excavation is undertaken to determine if areas of archaeological potential contain features and/or deposits within the footprint of a proposed development. Test excavations are small in nature, non-destructive and are designed to inform; the understanding of the nature and level of archaeological remains, the archaeological integrity and the subsequent archaeological management procedures required prior to development.

Test excavations can also elucidate historical development phases or 'site formation processes' through the identification and analysis of features, remains and the stratigraphy identified and recorded. I have considerable experience in identifying and analysing stratigraphic profiles and soils. As part of this identification and analysis I have been responsible for; the collection of samples for dating (and have managed the reporting undertaken by geomorphologists), the preparation of scaled drawings of sections, profiles and archaeological features and remains, managed site geo-spatial recording (undertaken by surveyors), 3D recording (undertaken by laser scanning specialists) and photogrammetry recording.

I am experienced in excavating historical assemblages, features, relics and works of local and State significance. Through excavation, research and analysis I have gained considerable experience in the identification of various fabric including artefacts and building materials. I have experience in identifying, sorting, cataloguing and analysing historical archaeological assemblages both under supervision of experienced professionals and as Excavation Director. Key significant and relevant examples include;

- The Former Empire Hotel redevelopment (Secondary Excavation Director);
- Newcastle East End, archaeological monitoring of service provision and roadworks sections of Wharf Road, Watt, Zara and Scott Streets (Secondary Excavation Director);
- Archaeological monitoring, recording and salvage of locally significant relics, Swan Street (Secondary Excavation Director);
- Newcastle Light Rail project (Site supervisor and project management);
- Newcastle East End Stage 1;
- East End Stage 2 archaeological monitoring recording and salvage at 147-153 Hunter Street, 15 Wolfe Street, 14 Thorn Street, 98-104 and 108-180 King Street, Newcastle (Secondary Excavation Director);
- Toronto Hotel historical archaeological investigations (Site supervisor and project manager);
- 30 Swan Street Morpeth archaeological monitoring and excavation (Primary Excavation Director); and
- Hamilton Rail Depot (Project manager).
- Carlton United Brewery, Melbourne;
- Wagga Wagga Court House;
- 7-9 Victoria Road, Parramatta;
- Blighton Precinct Pitt Town;
- Newcastle East End, archaeological monitoring of service provision and roadworks sections of Wharf Road, Watt, Zara and Scott Streets;
- Newcastle Light Rail project; and
- Toronto Hotel historical archaeological investigations.

The above examples have allowed me to gain experience in identifying archaeological assemblages, remains ('relics' and works) and features (ephemeral remains such as timber post holes and trenches).

I have attended numerous artefact workshops facilitated by the Australian Society for Historical Archaeology with presentations from key experts in the field. I have experience in differentiating ceramics, glass, leather, bone, timber, metal, building materials and various miscellaneous artefacts. I draw upon specialist information presented in books, 'common type' guides, papers and presentations to support in the accurate analysis and identification of artefact assemblages which supports an accurate analysis of the site

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investigated. Analysis of assemblages is not only required post excavation but also during, to support the continual analysis of the site in general.

I also understand that in general and where appropriate, specialists in artefact analysis should be engaged to support in the analysis of the assemblage.

I have experience in preparing post archaeological excavation reports including summary of works documentation. At a minimum, an excavation report should:

- Describe the project, approval pathway and associated archaeological permits;
- Provide a history of the site and its local setting;
- Outline the archaeological methodology for the site;
- Comprehensively describe the results of the excavation programme;
- Provide an in-depth inter and intra-site analysis and interpretation of the results and artefact assemblage including any specialist analysis employed for the project (including artefact specialist, geomorphologist, scanning specialists etc.);
- Present a context catalogue;
- Present a Harris matrix;
- Present annotated survey plans and scaled plan and profile drawings;
- Provide an artefact catalogue; and
- Present recommendations for future management including interpretation strategies/plans.

Monitoring

I have undertaken numerous archaeological monitoring programmes as part of development projects. My monitoring experience has included targeted archaeological excavations in localised zones and for exploratory investigations. I also have considerable experience in undertaking monitoring programmes as part of large-scale salvage excavations. The essence of monitoring is the constrained mechanical removal of one phase of occupation evidence to expose an earlier phase. Relevant examples of projects where I have managed archaeological monitoring programmes include:

- East End Stage 2 archaeological monitoring recording and salvage at 147-153 Hunter Street, 15 Wolfe Street, 14 Thorn Street, 98-104 and 108-180 King Street, Newcastle (Secondary Excavation Director);
- Newcastle East End, archaeological monitoring of service provision and roadworks sections of Wharf Road, Watt, Zara and Scott Streets (Secondary Excavation Director);
- Newcastle Light Rail project (Site supervisor and management);
- Former Empire Hotel 643-651 Hunter Street Newcastle West archaeological (Secondary Excavation Director);
- Archaeological monitoring, recording and salvage of locally significant relics, Swan Street (Secondary Excavation Director);
- 30 Swan Street Morpeth archaeological monitoring and excavation (Primary Excavation Director);
- Toronto Hotel historical archaeological investigations (Site supervisor and Project Manager);
- Hamilton Rail Depot, Hamilton (Project manager);
- Wollongong Harbour Precinct, Wollongong (endorsed as a suitably qualified excavation director by Heritage Division);
- Carlton United Brewery, Melbourne (Site and area supervisor);
- 7-9 Victoria Road, Parramatta;
- Dame Edith Walker Hospital, Non-Aboriginal Archaeological Investigation, Concord;
- 200 George Street, Sydney;

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- Puckeys Salt Works: North Wollongong Surf Lifesaving Club;
- Barangaroo North, Early Works.

An archaeological monitoring programme requires an appropriately experienced and confident archaeologist to effectively communicate with the excavator operator. This is pivotal in ensuring that the differing nature of deposits and occupation phases across a site are excavated with appropriate archaeological care. This in turn facilitates the comprehensive and archaeological best practice recording and if endorsed, manual excavations of remains and features identified.

Monitoring programs require appropriate machinery for the site and equipment that ensures the least harm possible. This includes ensuring an appropriately sized excavator is used, that an appropriately sized 'bucket' is used as well as the appropriate type of 'bucket' (flat/mud bucket, toothed bucket, plated – toothed bucket with metal plates attached) and that, if required and practicable rubber tracks are used. Additionally, the location and movability of the excavator is essential in mitigating impacts to yet un-exposed archaeological remains and assemblages. A clear monitoring 'progression plan' is essential to minimise impacts to both previously exposed remains and potential archaeological remains yet uncovered across the site.

Mechanical excavations have inherent safety risks and as such there are minimum safe work methods required when undertaking works in proximity to an excavator including archaeological monitoring. Effective communication is essential when working around machinery, key communication signals should be established prior to monitoring works such as appropriate hand signals and if used, all site two-way radio codes and acronyms need to be known by all involved in the monitoring works. Line of site is essential to ensure that excavator operator and archaeologist can communicate and to allow safe movement around the site. When required, an excavator operator should ensure that the bucket is resting on the ground surface, that the excavator is stable, and the engine is shut down prior to the archaeologist undertaking recording or manual excavations. Safe distancing from the arm of the excavator should always be adhered to with appropriate distancing prescribed in each site Safe Work Method Statement.

The site-specific Safe Work Method Statement must always be adhered to whilst on any site.

Large Scale / Complex Excavation

Large scale / open area excavation is often identified as a suitable archaeological strategy for areas:

- identified as having high potential for significant archaeological relics;
- assessed as having high archaeological research potential;
- assessed as being able to contribute and build on our understanding of the history/historical development of the site, the region and/or the State and respond to research questions developed as part of the ARD.

The nature of the potential archaeological remains can only be realised upon undertaking the appropriate archaeological investigations as outlined and prepared in the ARD. The nature of archaeology is inherently destructive and where remains are unable to be preserved *in situ* open area excavation should involve salvage excavations with appropriate conservation and interpretation as outlined in the ARD.

Salvage excavations are designed to archaeologically excavate a large/open area to:

- understand phases of development across the site by identifying the temporal and spatial relationships between remains, deposits and features;
- ensure that the available site information is recorded to make certain appropriate information can be gleaned from the site and effectively interpreted and disseminated to the public.

I have been involved in a number of archaeological investigations that employed large scale/open area/salvage excavations across NSW as an archaeologist, site supervisor/manager and Excavation Director. Key examples include:

- Newcastle East End, archaeological monitoring of service provision and roadworks sections of Wharf Road, Watt, Zara and Scott Streets (Secondary Excavation Director);
- Former Empire Hotel 643-651 Hunter Street Newcastle West archaeological (Secondary Excavation Director);

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- Archaeological monitoring, recording and salvage of locally significant relics, Swan Street (Secondary Excavation Director);
- 30 Swan Street Morpeth archaeological monitoring and excavation (Primary Excavation Director);
- Newcastle Light Rail project (Project/Site Supervisor);
- Toronto Hotel historical archaeological investigations (Site Supervisor); and
- Carlton United Brewery, Melbourne (Area/Site supervisor).

Where archaeological works are complete, the excavation reports have either been submitted or are 'In prep.' for submission in accordance with relevant conditions. I have authored and co-authored a number of archaeological reports in accordance with the relevant approval conditions (as seen in the table in Criteria A – Question 4 above) including the below significant large-scale excavation projects:

- Toronto Hotel historical archaeological investigations.
- Wagga Wagga Court House;
- Carlton United Brewery, Melbourne (including co-presenting the results of the excavations at ASHA 2013);

I have considerable experience in managing and/or supervising integrated archaeological programmes of both historical archaeology and Aboriginal cultural heritage and archaeological excavations where I have managed and implemented both s140 permit conditions and the Aboriginal Heritage Impact Permit (AHIP) conditions, including managing the Aboriginal stakeholder consultation. Former Empire Hotel 643-651 Hunter Street Newcastle West archaeological (Secondary Excavation Director);

- Newcastle Light Rail project (Project/Site Supervisor); and
- Toronto Hotel historical archaeological investigations (Site Supervisor);

I have considerable experience in managing community interest and in managing and supervising projects requiring or that have conditions requiring consultation with the wider community and/or certain stakeholders with cultural knowledge of a site.

- The New Tweed Valley Hospital, Tweed Valley (Conditions of Consent)
- Rathmines SHR 01740 CMP;
- Toronto Hotel, Toronto (AHIP & community interest);
- Newcastle East End, archaeological monitoring of service provision and roadworks sections of Wharf Road, Watt, Zara and Scott Streets.

I have been responsible and/or provided input into public and academic dissemination of results of heritage programmes, site specific interpretation material, interpretation strategies and interpretation plans and have been part of the team responsible for the implementation of progress archaeological info-video's. Key examples include:

- Toronto Hotel, Toronto
 - Interpretation material
- Former Empire Hotel 643-651 Hunter Street Newcastle West
 - Interpretation material
- Swan Street, Newcastle archaeological programme
 - Interpretation material
- Newcastle Light Rail project
 - Archaeology progress info-video's
- 157-163 Cleveland Street, Redfern Heritage Interpretation Strategy
 - Heritage Strategy, 2014 (endorsed by Heritage Division)
 - Heritage Interpretation Plan

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- Carlton United Brewery, Melbourne archaeological programme
 - ASHA Conference Paper 2013: La Trobe Uni. - Steam and Dominance: Industrial Brewing in the City of Melbourne.
- Woolgoolga to Ballina Pacific Highway Upgrade: Woolgoolga to Iluka Road;
 - Australian Archaeological Association Conference, 2016 - Interwoven: Indigenous and Western Knowledge in Archaeology and Heritage.
 - Australian Archaeological Association Conference, 2015 – Effects of the loss of place and the effectiveness of mitigation measures for the Pacific Highway Upgrade in the Corindi Region.
 - Australian Archaeological Association Conference, 2015 – Consistency of approach in archaeological consulting: the assessment of the Aboriginal cultural landscape between Woolgoolga and Ballina.

I also volunteer my time as a Community Representative - Heritage Expert, assisting Liverpool City Council to support the conservation and promotion of heritage within the Liverpool Local Government Area and as the NSW Metro representative for the Australasian Society for Historical Archaeology.

Yours sincerely,
for RPS Australia East Pty Ltd

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Joshua Madden Curriculum Vitae

Experience

I have over 10 years' experience in archaeological and heritage management in New South Wales, providing expert heritage and archaeological management advice to clients. He is experienced in managing large complex linear and urban projects with key experience in Newcastle CBD and East End.

I have a highly developed understanding of the legislative frameworks and approval pathways within which projects operate. I am experienced in the delivery of heritage and archaeological assessments, managing fieldwork and excavation programs and the delivery of post fieldwork reporting to a high standard and within project timeframes.

I have considerable experience in undertaking heritage and archaeological assessments and excavations for local and state significant sites in accordance with Conditions of Approval. I have been recognised by Heritage New South Wales as both a primary and secondary excavation director on Section 140 Excavation Permits with most of my Excavation Director experience in the Newcastle CBD.

I have managed integrated archaeological projects and multidisciplinary teams of archaeologist, surveyors, geomorphologists and members of Aboriginal community stakeholder organisations. See responses to item 3 for specific projects

KEY ACHIEVEMENTS:

- Full International Member of the International Council on Monuments and Sites (MICOMOS).
- Liverpool Heritage Advisory Committee member.
- ASHA Regional Representative – NSW (Metro).
- CAA Australia Committee/Advisory Group member (2016-2018).
- Leading a small team of historical heritage professionals.
- Named Section 140 Excavation Director for site of local significance and approved Excavation Director named as part of Section 139 Exceptions and Section 57 Exemptions
- Development of key public and academic interpretation and heritage engagements.
- Developing interpretation strategies and plans for heritage sites.
- Conducting and leading stakeholder engagement for large and complex heritage projects of State and National significance.

RELEVANT EMPLOYMENT HISTORY:

RPS GROUP (AUSTRALIA EAST) – SENIOR HERITAGE CONSULTANT: APRIL 2014 – JULY 2016 & FEBRUARY 2020 – PRESENT

As a Senior Heritage Consultant in the RPS Group, I provide high level heritage project management and high-quality heritage advice assisting clients in negotiating best practice heritage solutions for complex projects. In this role I provide technical expertise for the delivery of various project approvals. The position involved the following:

- Managing large scale Aboriginal and non-Aboriginal cultural heritage projects.
- Managing Aboriginal and non-Aboriginal excavation and field work programs.
- Understanding and implementing both Aboriginal and historical heritage legislation.
- Reporting on Aboriginal cultural heritage and historical archaeological investigations within the various state and federal legislative frames and guidelines.
- Tendering for Aboriginal, non-Aboriginal and interpretive heritage works programs of various scope and size.
- Developing heritage interpretation plans and strategies.
- Convening and leading consultation meetings and focus groups with clients, government organisations and community stakeholders.

NICHE ENVIRONMENT AND HERITAGE – TEAM LEADER HISTORIC HERITAGE: FEBRUARY 2019 – FEBRUARY 2020

As the Historical Heritage Team Leader, I was responsible for managing a team of historical heritage consultants, providing high level and strategic heritage advice to key clients. With a strong understanding of Commonwealth, state and local legislation, I am responsible for the management of major projects including projects that require approvals under the Environment Protection Biodiversity and Conservation Act 1999 and Heritage Act 1977, State Significant Development and Infrastructure projects and projects that require management of heritage at a local level. This role also involved the managing revenue targets and team scheduling and developing a strategic direction for the historical heritage team at Niche. The position involved the following:

- Managing a small team of historical heritage consultants.
- Managing team scheduling and revenue targets.
- Business development and tendering for historical heritage projects of various scope and size.
- Point of contact for key clients.
- Managing and providing strategic advice on large scale historical heritage projects.
- Managing historical archaeological programs including archaeological monitoring, testing and open area excavation.
- Developing heritage interpretation plans and strategies.

UMEWELT (AUSTRALIA) PTY LTD – SENIOR ARCHAEOLOGIST: JULY 2016 – JANUARY 2019

As a Senior Archaeologist at Umwelt I provided high level heritage advice and managed sensitive heritage projects. In this role I was primarily responsible for the application of historical archaeological permits as part of infill developments and infrastructure developments. The role also involved the implementation of both historical archaeology DA conditions and Director General Requirements. The position involved the following:

- Managing large scale historical archaeological projects.
- Managing and directing historical archaeological excavations.
- Understanding and implementing historical heritage legislation.
- Reporting on various heritage investigations in accordance with the various state legislative frameworks and guidelines.
- Tendering for historical archaeological works programs of various scope and size.
- Developing both Aboriginal cultural heritage and historical archaeological heritage interpretation plans and strategies.
- Developing both Aboriginal cultural heritage and historical archaeological heritage management plans.
- Convening and leading consultation meetings and focus groups with clients, government organisations and community stakeholders.

ARCHAEOLOGY CONSULTANT – ARTEFACT: JULY 2013 – APRIL 2014

The position allowed me to focus on Aboriginal cultural heritage assessments. This role offered the opportunity to work within a boutique archaeological firm and reinforced the need for effective and best practice project strategies to ensure high quality best practice reports are produced whilst meeting the requirements of a consultancy framework. The position involved:

- Managing Aboriginal archaeological consulting projects.
- Undertaking Aboriginal archaeology surveys and excavations.
- Reporting on archaeological, Aboriginal cultural heritage historic and built heritage investigations in accordance with NSW state legislative frameworks and for projects with DA conditions of approval.

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- Understanding and implementing both Aboriginal and historical heritage legislation.
- Providing lead community consultation services.

GRADUATE CONSULTANT – GML HERITAGE: NOVEMBER 2011 – JULY 2013

As a graduate consultant at GML I worked closely with industry experts and developed my understanding of heritage best practice. I developed an understanding of how to effectively develop methodologies and strategies for the most appropriate outcome for the heritage and the client. This role included:

- Writing and winning fee proposals for competitive and sole sourced projects.
- Interacting and being a point of call for clients, community groups and government organisations.
- Managing Aboriginal archaeological projects.
- Supervising areas of historical excavations.
- Undertaking both Aboriginal and Historical archaeology surveys/site inspections and excavations.
- Undertaking archaeological and heritage significance and impact assessments.

STUDENT ARCHAEOLOGIST – COMBER CONSULTANTS: 2009 – 2011

As a student archaeologist for Comber Consultants my main role was undertaking field excavations and site works whilst providing office support to the Comber Consultants team. The role included:

- General administrative duties.
- Report research and background writing.
- Interacting with both government agencies and individuals involved with archaeological investigations
- Undertaking various Aboriginal and historical archaeology investigations.

Project Experience

Project	Role	Summary of Project Works	Date
The New Tweed Valley Hospital*, TSA Management on behalf of Health Infrastructure. State Significant Development – Conditions of Approval	Managed the Stage 1 State Significant Development conditions relating to heritage. Documents & role for Stage 2 Submission: (Niche Environment & Heritage)	Statement of Heritage Impact, Archival Recording, Interpretation Strategy, Archaeological monitoring and recording programme, South Sea Islander Community Consultation Programme	2019 – 2020
Millers Point Telecommunications Programme, VisionStream Multiple Section 57 Exemptions for Millers Point and Dawes Point Village Precinct State Heritage Registered conservation areas Conditions of Approval	Managed the post-archaeological investigation works. (RPS)	Prepared: Authored the final test excavation report in accordance with the Section 57 Exemption(s) conditions.	2020
Wollongong Harbour Precinct (SHR) Section 57 Exemption	Managed s57 conditions as Excavation Director (approved by Heritage Division)	Managed the archaeological programme in accordance with the ARD and conditions.	2019-2020

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Project	Role	Summary of Project Works	Date
		Prepared the s57 archaeological investigation report	
Brimbin Heritage Strategy, Brimbin, Roche Group	Managed the preparation of the heritage strategy for the proposed development of a new suburb in the mid-coast LGA. (Niche Environment & Heritage)	Prepared and prepared the heritage strategy in accordance with the relevant heritage significance, historical archaeological and Aboriginal cultural heritage guides and codes. The strategy was prepared in accordance with the ICOMOS Burra Charter and the relevant LEP and DCP.	2019
Hill 60 Reserve – Port Kembla CMP, Wollongong City Council	Managed the preparation of the CMP (Niche Environment & Heritage)	Prepared and reviewed the CMP documentation in accordance with the relevant heritage significance, historical archaeological and Aboriginal cultural heritage guides and codes. The strategy was prepared in accordance with the ICOMOS Burra Charter and the relevant LEP and DCP. Relevant components include: Historical context, review of previous investigations, the built environment, Landscape and views, historical archaeological period, significance assessments, constraints and opportunities and the development of the conservation policies.	2019
Portland Cement Works Precinct (SHR 01739) and Raffan's Mill and Brick Bottle Kilns Precinct (SHR 01738) AWJ Civil	Managed the preparation of the CMP (Niche Environment & Heritage)	Prepared and reviewed the CMP documentation in accordance with the relevant heritage significance, historical archaeological and Aboriginal cultural heritage guides and codes. The strategy was prepared in accordance with the ICOMOS Burra Charter. Relevant components include: Historical context, review of previous investigations, physical evidence, significance assessments, constraints and opportunities, conservation policies, schedule of works and maintenance schedule. Endorsed by Heritage Council.	2019
Mountbatten Group CMP South 32	Managed the historical heritage and archaeological assessments for the Mountbatten Group (Niche Environment & Heritage)	Prepared and reviewed the CMP documentation in accordance with the relevant heritage significance, historical archaeological and Aboriginal cultural heritage guides and codes. The strategy was prepared in accordance with the ICOMOS Burra Charter. Relevant components include: Historical context, review of previous investigations, physical evidence, significance assessments, constraints and opportunities, conservation policies, schedule of works and maintenance schedule. Prepared an archival record of components of the Group in accordance	2019

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Project	Role	Summary of Project Works	Date
		with conditions of approval. Prepared an archaeological investigation methodology, undertook the archaeological monitoring and recording of works and prepared the monitoring report.	
Velyama Site Complex CMP Whitehaven Coal	Managed and reviewed the preparation of the CMP (Niche Environment & Heritage)	I reviewed and submitted the CMP in accordance with the conditions of approval.	2019
Newcastle East End, archaeological monitoring of service provision and roadworks sections of Wharf Road, Watt, Zara and Scott Streets Section 140 2018/s140/010	Secondary Excavation Director (Umwelt)	Co-authored pre-approval documentation and managed the archaeological programme of works	2018 - 2019
30 Swan Street Morpeth archaeological monitoring and excavation Section 140 2018/s140/007	Project Manager and Primary Excavation Director (Umwelt)	Managed the project and prepared the Historical Archaeological assessment & ARD Managed the archaeological programme Reviewed and endorsed the archaeological excavation report	2018-2020
Archaeological monitoring, recording and salvage of locally significant relics, Swan Street Section 140 2017/S140/17	Project manager and Secondary Excavation Director (Umwelt)	Managed the project and prepared the Historical Archaeological assessment & ARD Managed the archaeological programme	2017-2020
Former Empire Hotel 643-651 Hunter Street Newcastle West Section 140 2017/s140/13	Project manager and Secondary Excavation Director (Umwelt)	Managed the project and prepared the Historical Archaeological assessment & ARD Managed the archaeological programme in accordance with the s140 permit conditions and AHIP conditions (the project is ongoing)	2017-2019
Newcastle East End Stage 1, Iris Capital (ADJACENT TO THE CURRENT PROJECT)	Archaeologist and Site Supervisor (Umwelt)	Supervised site excavations and the members of the Registered Aboriginal Parties	2018-2019
Newcastle Light Rail Project	Project supervisor (Umwelt)	Managed archaeological investigations in accordance with the conditions of approval for both historical archaeology and Aboriginal archaeology and cultural heritage. Authored and prepared numerous historical heritage and archaeological impact assessments for the project and summary or works documents.	2016-2020

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Project	Role	Summary of Project Works	Date
Griffith Park, Stockton S139 Exception	Managed the Project and approved Excavation Director (Heritage Division) (Umwelt)	Managed the project and prepared the Aboriginal objects due diligence assessment and the Historical Archaeological Assessment Managed the archaeological monitoring programme	2017- 2019
Rathmines SHR 01740 CMP	One of two authors (Umwelt)	Part of the team that prepared the CMP in accordance with the relevant heritage significance, historical archaeological and Aboriginal cultural heritage guides and codes. The strategy was prepared in accordance with the ICOMOS Burra Charter. Relevant components of: Physical evidence, Environmental context Historical context, Aboriginal Cultural Heritage, Historical archaeology, Assessment of Heritage significance, Conservation policies. Endorsed by Heritage Council	2018- 2019
Toronto Hotel historical archaeological investigations. Section 140 application 2016/s140/33	Managed and prepared the pre- approval assessment. Supervised historical archaeological and Aboriginal cultural heritage excavation programme. Toronto Hotel, Toronto NSW upgrade. (Umwelt)	Prepared: archaeological assessment, research design and methodology for the s140 application. Supervised: The archaeological monitoring, salvage excavations and recording as site supervisor for much of the excavation programme. One of three authors of the Excavation report.	2016 – 2018
Archaeological report Wagga Wagga Court House Excavation Permit 2013/S140/32	One of two authors (Umwelt)	Provided input into the final excavation report of the excavation of the Wagga Wagga Courthouse including undertaking the analysis of the artefact assemblage. Prepared in accordance with the conditions of approval.	2018
Great North Road SOHI & s139 exception Telstra nbn	Managed the preparation of the SOHI and s139 application (Umwelt)	Prepared the Statement of heritage Impact, archaeological assessment and s.139 ARD for the nbn works.	2016.
Hamilton Rail Depot, Hamilton	Managed the preparation of the SOHI and s139 application (RPS)	Prepared the Statement of Heritage Impact and archaeological assessment for the site and prepared the Section 139 Excavation Exception Application. Managed the archaeological monitoring and recording of the site. Prepared and submitted the exception report in accordance with the conditions of approval.	2015

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Project	Role	Summary of Project Works	Date
157-163 Cleveland Street, Redfern Heritage Interpretation Strategy	Managed the Heritage Interpretation Strategy and Interpretation Plan (RPS)	Prepared the post archaeological excavation heritage interpretation strategy and interpretation plan in accordance with the conditions of approval. Endorsed by the Heritage Division	2014
549 Princes Highway, Tempe s140 excavations	One of a small team of archaeologists (GML)	One of two archaeologists that excavated the site and one of two authors that prepared the excavation report in accordance with the conditions of approval.	2013

Additional projects where part of the excavation and recording team / excavation supervisor

Blighton Precinct Pitt Town: Historical excavation report. Archaeological monitoring, salvage excavation and recording. Excavation report in prep. (2016) (Excavation Director: Ian Stuart – RPS).

7-9 Victoria Road, Parramatta. Archaeological monitoring, salvage excavation and recording (2011-2012) (Excavation Director: Anita Yousif – GML)

Vehicle Access and Pedestrian Safety Project, Sydney Opera House. Archaeological salvage excavation and recording (2012), (Anita Yousif, Director – GML)

Carlton United Brewery, Carlton. Managed a small team in the archaeological monitoring, open area excavation and recording of the state significant boilers and flues (2012-2013) (Geoff Hewitt, Director – GML & La Trobe). Co-authored and presented the results of the project at ASHA 2013.

Dame Edith Walker Hospital, Non-Aboriginal Archaeological Investigation, Sydney South West Area Health Service care of Blue Visions Management Pty Ltd. Archaeological monitoring and recording. (2012-2013) (Excavation Director: Anita Yousif - GML).

Tank Stream Way, Sydney CBD. Archaeological monitoring and recording (2014-2015 - RPS).

200 George Street, Sydney. Archaeological monitoring, open area excavation and recording (2013) (Excavation Director: Wendy Thorp – on behalf of GML)

SCG MA Noble & Bradman Stands Redevelopment, Sydney NSW. Archaeological monitoring and recording (2012) (Excavation Director: Anita Yousif - GML).

Puckeys Salt Works: North Wollongong Surf Lifesaving Club. Archaeological monitoring, salvage excavation and recording. (2011) (Excavation Director: Gillian Comber – Comber Consultants).

Barangaroo North, Early Works. Archaeological monitoring and recording (2011 – Austral Archaeology).

'Small Miserable Hut' - Belgenny Farm, Elizabeth Macarthur Avenue, Camden, NSW. Archaeological open area excavation and recording (2010 – Edward Higginbotham and Associates).