



# Planning Approval Consistency Assessment Form

SM 17 00000111

Metro Body of Knowledge (MBoK)

<b>Assessment name:</b>	Callan Park Geotechnical Investigations
<b>Prepared by:</b>	AFJV
<b>Prepared for:</b>	Sydney Metro
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<b>Applicable to:</b>	Sydney Metro
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The Planning Approval Consistency Assessment Form should be completed in accordance with [SM-17-00000103 Planning Approval Consistency Assessment Procedure](#).

## 1. Existing Approved Project

Planning approval reference details (Application/Document No. (including modifications)):

- CSSI 10038 Sydney Metro West Concept and Stage 1 (11 March 2021)
- Administrative Modification 1 (28 July 2021)
- Modification 2 Clyde stabling and maintenance facility (03 June 2022)
- Administrative Modification 3 (04 July 2022).

Date of determination:

11 March 2021

Type of planning approval:

CSSI, Critical State Significant Infrastructure

Description of existing approved project you are assessing for consistency:

### **Sydney Metro West (the Concept)**

Sydney Metro West (the Concept) would involve the construction and operation of a metro rail line around 24 kilometres long between Westmead and Hunter Street in the Sydney CBD. The key components are expected to include (as described in Chapter 6 of the Environmental Impact Statement (EIS)):

- Construction and operation of new passenger rail infrastructure between Westmead and the central business district of Sydney, including:
  - Tunnels, stations (including surrounding areas) and associated rail facilities
  - Stabling and maintenance facilities (including associated underground and overground connections to tunnels)

- Modification of existing rail infrastructure (including stations and surrounding areas)
- Ancillary development.

**Sydney Metro West - all major civil construction works between Westmead and The Bays (the approved project)**

The Sydney Metro West Project Concept; and all major civil construction works between Westmead and The Bays, including station excavation and tunnelling was determined on 11 March 2021. The scope of Stage 1 of the planning approval process for Sydney Metro West (the approved project) is described in Chapter 9 of the EIS, with the key features including:

- Tunnel excavation including tunnel support activities between Westmead and The Bays
- Station excavation for new metro stations at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock and The Bays
- Shaft excavation for services facilities
- Civil work for the stabling and maintenance facility at Clyde.

To construct the above, the Sydney Metro West Stage 1 is divided into multiple packages, each with their own design and construction scope. The package relevant to this Consistency Assessment is the Central Tunnel Package (CTP) which has an overall design and construction timeframe of approximately three years, from July 2021 to Q4 2024.

This consistency assessment relates to proposed geotechnical investigations at Callan Park, Lilyfield, and has been prepared to ensure the proposed investigations are consistent with the impacts assessed for the approved project. Section 9.4.1 stated that additional geotechnical and contamination investigations and remediation would be undertaken as part of the project's enabling works. A description of the site and its environmental characteristics is provided in Section 4 and Section 5.

Relevant background information (including EA, REF, Submissions Report, Director General's Report, MCoA):

- Sydney Metro West Concept and Stage 1, Environment Impact Statement, April 2020
- Sydney Metro West Concept and Stage 1, Amendment Report, November 2020
- Sydney Metro West Concept and Stage 1, Submissions Report, November 2020

- Sydney Metro West Concept and Stage 1 - Assessment Report (SSI 10038), March 2021
- Sydney Metro West Concept and Stage 1, Conditions of Approval (CoA), released on 11 March 2021 and updated on 28 July 2021.

## 2. Description of proposed development/activity/works

Describe ancillary activities, duration of work, working hours, machinery, staffing levels, impacts on utilities/authorities, wastes generated or hazardous substances/dangerous goods used.

### Introduction

Geotechnical investigations would involve the drilling of two boreholes within Callan Park. The indicative location of the investigations is shown in Appendix A - Geotechnical Site Investigation Plan. Regarding AF\_BH14, there were two options being explored as part of the CA, with both options having similar characteristics. However, a conclusion ascertained from the Statement of Heritage Impact produced by Artefact for the proposed works (Appendix D – Statement of Heritage Impact), determined that AF\_BH14 (Option 1) rather than (Option 2) is preferable as the location of Option 2 is considered too close to exceptionally significant landscape elements within Callan Park. If Option 2 was chosen, the impacts of the work could increase above the little to no impact threshold. Consequently, AFJV will proceed with Option 1 for AF\_BH14.

### Methodology

Localised environmental controls would be installed to capture any of the drilling water and a vacuum truck would also be on site. ATF fencing will be installed to delineate the site. The boreholes would be drilled using a small track or truck mounted drilling rig. The drilling would be completed to a depth of up to approximately 45-60m below the existing surface level. Following borehole installation all residual waste will be disposed of and the surrounding work area will be restored to its original condition prior to drilling.

Samples of rock and soil/fill would be collected for laboratory testing. The boreholes would be back filled with a cementitious grout on the completion of drilling. The cementitious grout would be made on site using a small cement mixer. The borehole would also be made flush with ground level.

### Plant and Equipment

- Light vehicles

- Track mounted drill rig
- Concrete cutting equipment
- Portable toilet
- Small cement mixer
- Vacuum truck
- Hand tools
- ATF fencing.

### 3. Timeframe

When will the proposed change take place? For how long?

The proposed investigations would indicatively take up to about one week and is expected to take place between July-August 2022. No change is proposed to the indicative construction program as outlined in Figure 9-31 of the Stage 1 EIS. The proposed works would be undertaken during standard construction hours.

### 4. Site description

Provide a description of the site on which the proposed works are to be carried out, including, Lot and Deposited Plan details, where available. Map to be included here or as an appendix. Detail of land owner.

The location of Callan Park is shown in Appendix A - Geotechnical Site Investigation Plan. It is located in the suburb of Lilyfield, in the Inner West Local Government Area. It is managed by Greater Sydney Parklands.

## 5. Site Environmental Characteristics

Describe the environment (i.e., vegetation, nearby waterways, land use, surrounding land use), identify likely presence of protected flora/fauna and sensitive area.

Callan Park is a recreational area with parklands and sporting facilities. The park also provides health, education and not-for-profit community services in various buildings across the park including Ambulance NSW, Sydney Local Health District, University of Tasmania Rozelle campus, and Writing NSW.

Callan Park is listed on the State heritage register as item 818. It is also listed under its own act, the *Callan Park (Special Provisions) Act 2002* (Callan Park Act). Callan Park is identified as a heritage item in the EIS Technical Paper 5 (Landscape and Visual) and the projects Submissions Report (Section 6.12.1). It is a 61-hectare parkland, renowned for its landscape and heritage buildings. It is most importantly known for its history as the former grounds of the Callan Park Hospital for the Insane. It holds current social significance, historic, associative, and aesthetic significance, as well as research potential.

The nearest waterbody or watercourse the proposed works is Iron Cove, with the ultimate receiving waterway being Sydney Harbour.

## 6. Justification for the proposed works

Address the need for the proposed works, whether there are alternatives to the proposed works (and why these are not appropriate), and the consequences with not proceeding with the proposed work.

There is limited geotechnical information available in the vicinity of the area subject to this CA. The proposed works involve geotechnical investigation within Callan Park, which will inform the detailed design of the Sydney Metro West tunnel alignment at this location. The alternative would be not to complete the geotechnical investigations. However, this would result in a geotechnical data gap which could impact the project design and delivery.

## 7. Environmental Benefit

Identify whether there are environmental benefits associated with the proposed works. If so, provide details:

There are no anticipated environmental benefits as a result of these works.

## 8. Control Measures

Will a project and site specific EMP be prepared? Are appropriate control measures already identified in an existing EMP?

The works will be managed under the project Construction Environment Management Plan (CEMP). Appropriate control measures are already identified in the CEMP that will accommodate the changes proposed in this assessment.

## 9. Climate Change Impacts

Is the site likely to be adversely affected by the impacts of climate change? If yes, what adaptation/mitigation measures will be incorporated into the design?

The effects of climate change on the Sydney Metro West Stage 1 project were discussed in the EIS Chapter 26. The proposed change is expected to result in a negligible change to that assessed in the EIS.



## 10. Impact Assessment – Construction

Attach supporting evidence in the Appendices if required. Make reference to the relevant Appendix if used.

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Flora and fauna	<p>A review of Chapter 19 (Biodiversity) of the EIS, the Bionet Atlas of NSW Wildlife and Protected Matters Search Tool identified a number of areas of threatened ecological communities and threatened species have been identified in areas surrounding the proposed works. All works would be confined to previously modified areas, eg existing street surface and would not involve the removal of any vegetation. As such, threatened species and ecological communities would not be impacted as a result of the works.</p> <p>Given the scope of works and that no vegetation removal is required it is considered unlikely that the proposed works would have any biodiversity impacts.</p>	No additional measures	Y	Y	
Water	<p>The nearest waterbody or watercourse the proposed works is Iron Cove, with the ultimate receiving waterway being Sydney Harbour. The proposed works involve negligible levels of ground disturbance and if not managed appropriately could potentially result in erosion and sedimentation impacts. Erosion and sediment control measures would be installed in accordance with the Soil and Water Management Sub-plan.</p>	No additional measures	Y	Y	
Air quality	<p>The proposed works would result in negligible ground disturbance. As a result air quality impacts are expected to be negligible.</p>	No additional measures	Y	Y	

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Noise vibration	<p>As the works would be undertaken during standard construction hours only, an assessment of the potential noise impacts with reference to the highly noise affected level has been undertaken. A highly noise affected receiver is defined in the Interim Construction Noise Guideline as when a receiver experiences noise above a LAeq, 15-minute noise level of 75 dB(A).</p> <p>The noise assessment used the RMS construction and maintenance noise estimator. For the purposes of the assessment, and to provide a conservative assessment, a vacuum truck was assessed as it is the noisiest equipment proposed to be used and it was assumed that there is a direct line of sight to receivers. The assessment predicted that any receiver within 15m of the proposed works would be highly noise affected (where there is a direct line of sight to the receiver). As a result, given that the nearest receivers are located a minimum of 55m from the proposed works, it is considered unlikely that any receivers would be highly noise affected by the proposed works. It should also be noted that these receivers do not have a direct line of site to the proposed works, further mitigating any noise impacts.</p> <p>The output of the RMS construction and maintenance noise estimator is included in Appendix A.</p>	No additional measures	Y	Y	

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Indigenous heritage	<p>An extensive search of the Aboriginal Heritage Information System (AHIMS) database was completed on 5 October 2021 by Artefact. The aim of the AHIMS site register search was to identify Aboriginal sites registered within, or in the vicinity of, the proposed borehole locations. no registered sites within the proposed location of the boreholes or within 150m of the boreholes. Please refer to Appendix C – AHIMS Site Locations for a figure depicting these site locations.</p> <p>Furthermore, the Statement of Heritage Impact concluded that no registered Aboriginal sites or identified areas of Aboriginal archaeological sensitivity would be impacted by the proposed boreholes.</p>	<p>Purely as a precautionary measure that if Aboriginal objects or intact and significant non-Aboriginal archaeological remains are unexpectedly encountered during works, the borehole location should be moved, and further archaeological management and investigation should be undertaken.</p>	Y	Y	

<p>Non-indigenous heritage</p>	<p>As described in Section 5, Callan Park is listed on the State heritage register as item 818. It is also listed under its own act, the <i>Callan Park (Special Provisions) Act 2002</i> (Callan Park Act).</p> <p>The outcomes of the statement of heritage assessment for the proposed works, included within Appendix D – Statement of Heritage Impact, are listed below:</p> <ul style="list-style-type: none"> <li>• As the proposed works will not impact significant archaeology and consist of a single 100mm borehole in each location, archaeological monitoring is not warranted for these works.</li> <li>• As the works have been assessed as having little to no impact on the identified historical archaeology of the site there is no requirement for an archaeologist to review or assess the bore logs.</li> <li>• No further historical archaeological assessment is required for the proposed works.</li> <li>• As impacts the landscape and historical archaeological heritage of Callan Park have been assessed to be little to none against the Material Threshold Policy, works can proceed under a consistency assessment against the CoA.</li> </ul> <p>No archaeological remains have been identified at the proposed borehole locations at Callan Park, and there would be no adverse impacts to significant archaeological remains. These boreholes may be excavated with care. As archaeological remains are not anticipated to be impacted, the Sydney Metro Unexpected Finds Procedure would be implemented for the proposed works.</p>	<p>Based on the information outlined above it is considered that If the works are undertaken in accordance with the recommendations listed below, they will not impact the listed state heritage values of Callan Park and can proceed under a consistency assessment against the CoA:.</p> <ul style="list-style-type: none"> <li>• Plant and vehicle movement on the grassed landscape must be kept to a minimum.</li> <li>• Only vehicles with rubber tyres should be used on the grassed landscape, and protective track mats must be utilised.</li> <li>• Plant movement must be minimised on soft areas during wet conditions. Any damage to the landscape from plant movement must be repaired immediately following the completion of works.</li> <li>• The grass surface within the impact footprint of the boreholes must be removed by hand and then reinstated immediately following the completion of the work to ensure there are no longer</li> </ul>	<p>Y</p>	<p>Y</p>	
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Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
	<p><b>Impacts to listed heritage items:</b></p> <p>The proposed boreholes work at Callan Park have been assessed against this policy and the works have been found to meet the definition of 'Little or no impact' as defined in the Material Threshold Policy (Heritage NSW, 2020), consistent with CoA D13. This assessment has determined that the works are so minor that any impact is considered negligible. They will not impact the state heritage listed values of Callan Park.</p>	term visual impacts to the landscape of Callan Park.			
Community and stakeholder	Due to the limited scope of works proposed, it is anticipated that the impact of the works would be limited. Community consultation would be undertaken in accordance with the Community Communication Strategy. Other stakeholders such as Inner West Council and Greater Sydney Parklands will be consulted with as required.	No additional measures	Y	Y	
Traffic	The proposed works are located within Callan Park. There would therefore not be any traffic or transport impacts as a result of carrying out the works. Similarly, there would be no public or active transport impacts. However, workers onsite would utilise surrounding public/street parking temporarily. Given the limited number of workers (approximately 3-4 workers) and the availability of public street parking in the local street area, it is anticipated that public parking impacts would be limited.	No additional measures	Y	Y	
Waste	No change from the approved project	No additional measures	Y	Y	
Social	No change from the approved project	No additional measures	Y	Y	

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Economic	No change from the approved project	No additional measures	Y	Y	
Visual	The proposed plant and equipment required to construct the boreholes would result in a temporary minor visual impact. Noting that this impact would be limited to only a few days, landscape character and visual impacts are considered to be consistent with that assessed in the Stage 1 EIS.	No additional measures	Y	Y	
Urban design	No change from the approved project	No additional measures	Y	Y	
Geotechnical	No change from the approved project	No additional measures	Y	Y	
Land use	No change from the approved project	No additional measures	Y	Y	
Climate Change	No change from the approved project	No additional measures	Y	Y	
Risk	No change from the approved project	No additional measures	Y	Y	

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed/activity, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Other (Contamination)	<p>A search of the NSW EPA contaminated land record for the suburb of Lilyfield was undertaken in October 2021. No registered contaminated sites were identified within Lilyfield. As such it is considered unlikely that contamination would be encountered.</p> <p>Regardless, waste material would be classified and managed in accordance with Waste Classification Guidelines (NSW EPA, 2014) and any unexpected contamination would be managed in accordance with the unexpected finds procedure to mitigate the risk of encountering significant contamination.</p> <p>A review of the acid sulfate soil mapping included in Chapter 19 (Contamination) of the EIS identified that the proposed investigation areas are not located in areas at risk of encountering acid sulfate soils. If contaminated material is encountered it would be managed in accordance with the projects unexpected finds procedure. If acid sulfate soils are encountered, they would be managed in accordance with the Projects Acid Sulfate Soils Management Procedure.</p>	No additional measures	Y	Y	
Management and mitigation measures	No change except for those identified in the non-Aboriginal heritage section.	No additional measures	Y	Y	

## 11. Impact Assessment – Operation

Attach supporting evidence in the Appendix if required. Make reference to the relevant Appendix if used.

Stage 1 of the planning application for Sydney Metro West (subject of this Consistency Assessment) is for major civil construction work for Sydney Metro West between Westmead and The Bays. At this stage, measures to avoid or minimise impacts have been developed only for major civil construction work for Sydney Metro West between Westmead and The Bays –which involves construction only. Impacts applicable to the operational aspects of Sydney Metro West including operation stage environmental mitigation measures would be developed when planning

approval applications are made for future stages. As such, operational impacts of the proposal are not applicable, and therefore there are no changes from the approved project are anticipated.

Aspect	Nature and extent of impacts (negative and positive) during operation (if control measures implemented) of the proposed activity/works, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Flora and fauna	No change from the approved project	No additional measures	Y	Y	
Water	No change from the approved project	No additional measures	Y	Y	
Air quality	No change from the approved project	No additional measures	Y	Y	
Noise vibration	No change from the approved project	No additional measures	Y	Y	
Indigenous heritage	No change from the approved project	No additional measures	Y	Y	
Non-indigenous heritage	No change from the approved project	No additional measures	Y	Y	
Community and stakeholder	No change from the approved project	No additional measures	Y	Y	
Traffic	No change from the approved project	No additional measures	Y	Y	
Waste	No change from the approved project	No additional measures	Y	Y	
Social	No change from the approved project	No additional measures	Y	Y	
Economic	No change from the approved project	No additional measures	Y	Y	
Visual	No change from the approved project	No additional measures	Y	Y	



Aspect	Nature and extent of impacts (negative and positive) during operation (if control measures implemented) of the proposed activity/works, relative to the Approved Project	Proposed Control Measures in addition to project COA and REMMs	Minimal Impact Y/N	Endorsed	
				Y/N	Comments
Urban design	No change from the approved project	No additional measures	Y	Y	
Geotechnical	No change from the approved project	No additional measures	Y	Y	
Land use	No change from the approved project	No additional measures	Y	Y	
Climate Change	No change from the approved project	No additional measures	Y	Y	
Risk	No change from the approved project	No additional measures	Y	Y	
Other	No change from the approved project	No additional measures	Y	Y	
Management and mitigation measures	No change from the approved project	No additional measures	Y	Y	

## 12. Consistency with the Approved Project

Based on a review and understanding of the existing Approved Project and the proposed modifications, is there is a transformation of the Project?	No. The proposed change would not transform the project. The project would continue to provide Stage 1 of the Approved Project between Westmead and The Bays as described in the EIS. The proposed change would facilitate the detailed design and delivery of the project.
Is the project as modified consistent with the objectives and functions of the Approved Project as a whole?	Yes. The proposed change would be consistent with the objectives and functions of the Approved Project as a whole.
Is the project as modified consistent with the objectives and functions of elements of the Approved Project?	Yes. The proposed change would be consistent with the objectives and functions of elements of the approved project.
Are there any new environmental impacts as a result of the proposed works/modifications?	No. There are no new environmental impacts. All risks identified for the approved project and the proposed change would be adequately addressed through the application of the mitigation measures provided in the Environmental Impact Statement, Submissions Report, Amendment Report and the conditions of approval.
Is the project as modified consistent with the conditions of approval?	Yes. The proposed change is consistent with the conditions of approval.
Are the impacts of the proposed activity/works known and understood?	Yes. The impacts of the proposed change are understood.
Are the impacts of the proposed activity/works able to be managed so as not to have an adverse impact?	Yes. The impacts of the proposal are understood and will be accounted for by implementing the existing mitigation measures provided in the Environmental Impact Statement, Submissions Report, Amendment Report and the Instrument of Approval for the approved project.

### 13. Other Environmental Approvals

Identify all other approvals required for the project:

Nil. No additional environmental approvals are required.

## Author certification

To be completed by person preparing checklist.

I certify that to the best of my knowledge this Consistency Checklist:

- Examines and takes into account the fullest extent possible all matters affecting or likely to affect the environment as a result of activities associated with the Proposed Revision; and
- Examines the consistency of the Proposed Revision with the Approved Project; is accurate in all material respects and does not omit any material information.

Name:	Oliver Gilroy-Sarkies	Signature:	
Title:	Environmental Graduate		
Company:	AFJV	Date:	19/07/2022

This section is for Sydney Metro only.

### Application supported and submitted by

Name:	Yvette Buchli	Date:	19/07/2022
Title:	Associate Director Planning Approvals	Comments:	Only Option 1 for borehole AF_BH14 is endorsed
Signature:			



Based on the above assessment, are the impacts and scope of the proposed activity/modification consistent with the existing Approved Project?

- Yes        The proposed activity/works are consistent and no further assessment is required.
  
- No         The proposed works/activity is not consistent with the Approved Project. A modification or a new activity approval/ consent is required. Advise Project Manager of appropriate alternative planning approvals pathway to be undertaken.

Endorsed by			
Name:	S Hodgson	Date:	19 July 2022
Title:	Director Environment, Sustainability & Planning, West	Comments:	
Signature:			

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## Appendix A - Geotechnical Site Investigation Plan







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## Appendix B - RMS Construction and Maintenance Noise Estimator

# Noise assessment output



Please pick from drop-down list in orange cells

Noise area category		R2
RBL or Late Background level (dB(A))	Day	45
	Evening	40
	Night	35
LAeq(15minute) Noise Management Level (dB(A))	Day	55
	Day (OOHW)	50
	Evening	45
	Night	40
Noisiest plant	Vacuum Truck	
Is there line of sight to receiver?	Yes	

## Distanced Based Assessment (Noisiest Plant)

### Steps for Assessment:

- Schedule noisy works to occur in standard hours where possible or before 11pm and implement Standard Measures.
- Select the representative noise area category. The worksheet titled "Representative Noise Environ." provides a number of examples to help select the noise area category.
- Select the noisiest plant. If not found in drop-down list, refer to "Source List" and select a representative plant with equivalent sound power level.
- Is there line of sight to receiver? Select the appropriate scenario from the drop down list.

Identify and implement standard mitigation measures where feasible and reasonable. Include any shielding implemented as part of the standard mitigation measures by changing the selection in the "Is there line of sight to receiver" drop-down list. Solid barriers can be in the form of road cutting, timber lapped and capped fence, shipping container, site office, etc. Substantial solid barriers are barriers greater than 5 metres in height or multiple rows of houses or a sound barrier specifically designed to mitigate construction noise. Please note that vegetation and trees are not considered to be a form of solid barrier and any gaps would compromise the acoustic integrity of the solid barrier.

5. Determine if there are any receivers (both residential and non-residential receivers) within the affected distance for each relevant time period. Consider background LA90 noise measurements to check assumption in Step #2 if:

(a) there are many affected receivers and the impact duration at any one receiver is more than 3 weeks; or

(b) there are a few affected receivers and the impact duration at any one receiver is more than 6 weeks.

Note that consideration need to be given to the construction staging plan when determining impact duration.

7. Identify if there are any receivers within the additional mitigation measures distances and identify feasible and reasonable measures at each receiver.

8. Where night works are involved, identify sleep disturbance affected distance.

9. Document the outcomes of these steps.

(Note that suitable noise management levels for other noise-sensitive businesses not identified in the Construction Noise Estimator should be investigated on a project-by-project basis. Please contact a Roads and Maritime noise specialist for more information)

Abbreviation	Measure
N	Notification
SN	Specific notifications
PC	Phone calls
IB	Individual briefings
RO	Respite offer
R1	Respite period 1
R2	Respite period 2
DR	Duration respite
AA	Alternative accommodation
V	Verification

Note that spot check verification of noise levels and individual briefings are not required for projects with less than 3 weeks impact duration

Residential receiver		Affected distance (m)	LAeq(15minute) noise level above background (LA90)														
			5 to 10 dB(A)			10 to 20 dB(A)			20 to 30 dB(A)			> 30 dB(A)			LAeq(15minute) 75 dB(A) or greater (Highly affected)		
			Noticeable			Clearly audible			Moderately intrusive			Highly intrusive					
			Measures	Within distance (m)	Mitigation level (dB(A))	Measures	Within distance (m)	Mitigation level (dB(A))	Measures	Within distance (m)	Mitigation level (dB(A))	Measures	Within distance (m)	Mitigation level (dB(A))	Measures	Within distance (m)	Mitigation level (dB(A))
Undeveloped green fields, rural areas with isolated dwellings	Day	95							N	30	65	N, PC, RO	15	75	N, PC, RO	15	75
	Day (OOHW)	140				N, R1, DR	95	55	N, R1, DR	30	65	N, R1, DR, PC, SN	15	75	N, PC, RO	15	75
	Evening	200				N, R1, DR	140	50	N, R1, DR	55	60	N, R1, DR, PC, SN	25	70	N, PC, RO	15	75
	Night	290	N	290	40	N, R2, DR	200	45	N, PC, SN, R2, DR	95	55	AA, N, PC, SN, R2, DR	30	65	N, PC, RO	15	75
Developed settlements (urban and suburban)	Highly Affected	15															
	Day	105				N	35	65	N, PC, RO	15	75	N, PC, RO	15	75	N, PC, RO	15	75
	Day (OOHW)	155				N, R1, DR	105	55	N, R1, DR	35	65	N, R1, DR, PC, SN	15	75	N, PC, RO	15	75
	Evening	240				N, R1, DR	155	50	N, R1, DR	60	60	N, R1, DR, PC, SN	25	70	N, PC, RO	15	75
Propagation across a valley / over water	Night	360	N	360	40	N, R2, DR	240	45	N, PC, SN, R2, DR	105	55	AA, N, PC, SN, R2, DR	35	65	N, PC, RO	15	75
	Highly Affected	15															
	Day	115				N	45	65	N, PC, RO	15	75	N, PC, RO	15	75	N, PC, RO	15	75
	Day (OOHW)	190				N, R1, DR	115	55	N, R1, DR	45	65	N, R1, DR, PC, SN	15	75	N, PC, RO	15	75
Propagated across a valley / over water	Evening	310				N, R1, DR	190	50	N, R1, DR	70	60	N, R1, DR, PC, SN	25	70	N, PC, RO	15	75
	Night	485	N	485	40	N, R2, DR	310	45	N, PC, SN, R2, DR	115	55	AA, N, PC, SN, R2, DR	45	65	N, PC, RO	15	75
	Highly Affected	15															

Non-residential receiver Developed settlements (urban and suburban)		LAeq(15minute) noise level above NML											
		Standard hours			<10 dB(A)			10 to 20 dB(A)			LAeq(15minute) 75 dB(A) or greater (Highly affected)		
		Period	NML	Affected distance (m)	Measure	Within distance (m)	Mitigation level (dB(A))	Measure	Within distance (m)	Mitigation level (dB(A))	Measure	Within distance (m)	Mitigation level (dB(A))
Classroom at schools and other educational institutions		Day	55	105				N	35	65	N, PC, RO	15	75
Hospital wards and operating theatres		Day	65	35							N, PC, RO	15	75
Place of worship		Day	55	105				N	35	65	N, PC, RO	15	75
Active recreation		Day	65	35							N, PC, RO	15	75
Passive recreation		Day	60	60				N	25	70	N, PC, RO	15	75
Industrial premise		Day	75	15							N, PC, RO	15	75
Offices, retail outlets		Day	70	25							N, PC, RO	15	75

Highly noise affected distance for non-residential receivers

# Appendix C – AHIMS Site Locations



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## Appendix D – Statement of Heritage Impact

# Statement of Heritage Impact

## Sydney Metro West Borehole investigations – Callan Park

Report to Acciona  
Ferrovial Joint Venture

July 2022



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## EXECUTIVE SUMMARY

Sydney Metro West is a critical step in the delivery of Future Transport Strategy 2056. It would provide fast, reliable and frequent rail service, doubling rail capacity between Greater Parramatta and the Sydney CBD, transforming Sydney for generations to come.

The once-in-a-century infrastructure investment will have a target travel time of about 20 minutes between Parramatta and the Sydney CBD, link new communities to rail services and support employment growth and housing supply. Stations have been confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street (Sydney CBD).

The works assessed in this report relate to the Central Tunnelling Package portion of Metro West Stage 1 (the project) and will be undertaken at Callan Park. The works relate to minor enabling works that are to be undertaken prior to the construction phase of the project. The impacts are:

- Two geotechnical bore holes – borehole excavation to significant (excess of 20m) depth using a 100mm machine auger

This Statement of Heritage Impact and Historical Archaeological Assessment looks at the impact of these works to the heritage of Callan Park and provides recommendations for the management of any impacts.

### Overview of findings

- The proposed borehole locations will not directly impact any significant heritage buildings or landscape elements within Callan Park.
  - The proposed location for AF\_BH14 (Option 2) is approximately 5m from the location of the significant landscape elements of the Sunken Garden and Balmain Road Entry Pathway site (the Carriage Way).
- The proposed locations for the two boreholes at Callan Park related to the Metro West Stage 1 Project are in Zones 1, 2 (Option 1) and 3 (Option 2). The proposed borehole locations will not directly impact any known historical archaeological site within Callan Park.
  - The proposed location for AF\_BH14 (Option 2) is approximately 5m from the archaeological site of the Carriage Way.
- If the works are undertaken in accordance with the Recommendations listed in the report, the works are assessed against the Material Threshold Policy<sup>1</sup> as having little to no impact on the state heritage values of Callan Park.

### Recommendations

#### Specific Heritage and Historical Archaeological Recommendations

- It is recommended that the applicant proceed with AF\_BH15 and AF\_BH14 (Option 1).

---

<sup>1</sup> NSW Heritage 2020. Material Threshold Policy.

It is considered that AF\_BH14 (Option 1) rather than (Option 2) is preferable, as the location of Option 2 is considered too close to exceptionally significant landscape elements within Callan Park. If Option 2 was chosen the impacts of the work could increase above the little to no impact threshold.

- As the proposed works will not impact significant archaeology and consist of a single 100mm borehole in each location, archaeological monitoring is not warranted for these works.
- As the works have been assessed as having little to no impact on the identified historical archaeology of the site there is no requirement for an archaeologist to review or assess the bore logs.
- No further historical archaeological assessment is required for the proposed works.
- However, it is recommended purely as a precautionary measure that if Aboriginal objects or intact and significant non-Aboriginal archaeological remains are unexpectedly encountered during works, the borehole location should be moved, and further archaeological management and investigation should be undertaken.
- As impacts the landscape and historical archaeological heritage of Callan Park have been assessed to be little to none against the Material Threshold Policy, works can proceed under a consistency assessment against the CoA.

#### General Heritage Recommendations

- Plant and vehicle movement on the grassed landscape must be kept to a minimum.
- Only vehicles with rubber tyres should be used on the grassed landscape, and protective track mats must be utilised.
- Plant movement must be minimised on soft areas during wet conditions. Any damage to the landscape from plant movement must be repaired immediately following the completion of works.
- The grass surface within the impact footprint of the boreholes must be removed by hand and then reinstated immediately following the completion of the work to ensure there are no longer term visual impacts to the landscape of Callan Park.

## Document history and status

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## 1.0 INTRODUCTION

### 1.1 Project Background

Sydney Metro West is a critical step in the delivery of Future Transport Strategy 2056. It would provide fast, reliable and frequent rail service, doubling rail capacity between Greater Parramatta and the Sydney CBD, transforming Sydney for generations to come.

The once-in-a-century infrastructure investment will have a target travel time of about 20 minutes between Parramatta and the Sydney CBD, link new communities to rail services and support employment growth and housing supply. Stations have been confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street (Sydney CBD).

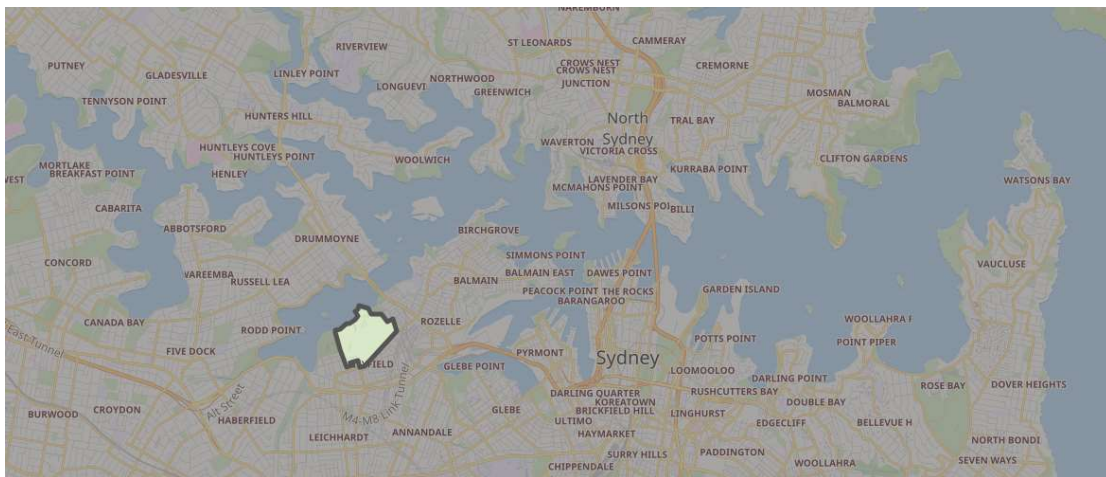
To inform this project two boreholes are required to be excavated within the heritage site of Callan Park.

#### 1.1.1 Study Area

The study area is located within Callan Park, Lilyfield. Callan Park is situated in the Municipality of Leichhardt within the Inner West Local Government Area and is part of the Metropolitan Local Aboriginal Land Council. The Park is located at Balmain Road, Lilyfield in NSW.

Callan Park is 61 hectares in size and is located on the foreshore of the Parramatta River. Part of the site (38 hectares) is managed by Greater Sydney Parklands with the remaining 22 hectares being owned by NSW Health.

Callan Park is most importantly known for its history as the former grounds of the Callan Park Hospital for the Insane. It holds current social significance, historic, associative, and aesthetic significance, as well as research potential.



**Figure 1: location of Callan Park in relation to Sydney CBD.**



**Figure 2: Map of Callan Park showing current precinct locations. Source: NSW Department of Environment & Planning.**

### 1.1.2 Authorship

This report has been authored by Katrina Stankowski, Principal, Artefact Heritage and reviewed by Sandra Wallace, Managing Director at Artefact Heritage.

### 1.1.3 Limitations

This assessment is limited to a desk top study. No site visits were undertaken to inform or confirm the information provided in this document.

## 2.0 LEGISLATIVE CONTEXT

### 2.1 Overview

This section discusses the heritage management framework, notably legislative and policy context, applicable to the proposed development and study area.

The planning process for Sydney Metro West is being managed as a staged infrastructure application under section 5.20 of the *Environment Planning and Assessment Act 1979* (EP&A Act).

The Sydney Metro West Concept and major civil construction for Sydney Metro West between Westmead and The Bays (Stage 1 of the planning approval process for Sydney Metro West), application number SSI-10038, was approved on 11 March 2021.

However, the borehole works which are the subject of this report did not commence prior to the Construction Environment Management Plan endorsement under the SSI conditions of approval and a consistency assessment of the works needs to be undertaken against the conditions of Assessment.

### 2.2 Summary of Legislation

There are several items of legislation that are relevant to the current study area. These are detailed below.

#### 2.2.1 New South Wales Heritage Act 1977

The Heritage Act is the primary State legislation affording protection to items of environmental heritage (natural and cultural) in NSW. Under the Heritage Act, items of environmental heritage include places, buildings, works, relics, landscapes, items of natural heritage, Aboriginal heritage, moveable objects, and precincts identified as state significant based on their historical, scientific, cultural, social, archaeological, architectural, natural, or aesthetic values.

The Heritage Act also provides protection for local or state significant archaeological 'relics' across NSW, which includes archaeological material or deposits.

##### 2.2.1.1 State Heritage Register

The State Heritage Register (SHR) was established under Section 22 of the Heritage Act and is a statutory list of places and objects of particular significance to the people of NSW, including archaeological sites.

The SHR is administered by Heritage NSW, and includes a diverse range of over 2000 items, in both private and public ownership. To be listed, an item must be deemed to be of state heritage significance (of significance to the whole of NSW). Items assessed as being of state significance are listed on the SHR and cannot be demolished, altered, moved, or damaged, or their significance altered without approval from the Heritage Council of NSW.

**The study site is listed on the State Heritage Register as Callan Park Conservation Area & Buildings which was gazetted on the State Heritage Register (No. 00818).**

##### 2.2.1.2 Heritage & Conservation (Section 170) register

All government agencies are required to identify, conserve, and manage heritage items in their ownership or control. Section 170 of the Heritage Act (s170) requires all NSW government agencies to maintain a Heritage and Conservation Register that lists all their local or state significant heritage

assets (including an assessment of the significance for each asset). They must also ensure that all items inscribed on its list are maintained with due diligence in accordance with State Owned Heritage Management Principles approved by the Government on advice of the NSW Heritage Council. These principles serve to protect and conserve the heritage significance of items and are based on NSW heritage legislation and guidelines.

**Parts of the study site used by NSW Department of Health are listed on their Heritage & Conservation Register.**

### 2.2.1.3 Conservation Management Plans

Under Section 38A of the Heritage Act, a Conservation Management Plan (CMP) should be prepared for items listed on the State Heritage Register. The CMP should identify the state heritage significance of the item, set out policies and strategies for the retention of its significance and be prepared in accordance with the guidelines outlined by the Heritage Council.

Callan Park is the subject of a 2011 site wide Conservation Management Plan by Tanner Architects<sup>2</sup> (not endorsed by the NSW Heritage Council) undertaken for Leichhardt Council. A 2020 Conservation Management plan was prepared by GML Heritage specifically for the Kirkbride Block & Convalescent Cottages within Callan Park for Property NSW. This CMP was endorsed by the NSW Heritage Council in July 2020<sup>3</sup>. The works have been assessed against policies in both these documents.

### 2.2.2 Environmental Planning and Assessment Act 1979 (NSW)

The EP&A Act establishes the framework for cultural heritage values to be formally assessed in the land use planning, development consent and environmental impact assessment processes. The EP&A Act requires that environmental impacts are considered prior to land development; this includes impacts on cultural heritage items and places as well as archaeological sites and deposits.

The EP&A Act also requires that local governments prepare planning instruments (such as Local Environmental Plans [LEPs] and Development Control Plans [DCPs]) in accordance with the EP&A Act to provide guidance on the level of environmental assessment required. The study area falls within the boundaries of the City of Sydney local government area (LGA). Schedule 5 of the *Sydney Local Environmental Plan 2012* includes a list of items/sites of heritage significance within this LGA.

### 2.2.3 Callan Park (Special Provisions Act) 2002

Callan Park is also listed under its own act, the *Callan Park (Special Provisions) Act 2002* (Callan Park Act). The curtilage of the listing is identified as Lot 1 DP 1043540 in Lilyfield. The purpose of the Callan Park Act is to 'preserve the public ownership of Callan Park; to protect its current features and restrict its future use; and for other purposes'<sup>4</sup>.

Whilst the *Callan Park Act* functions as a protective act, it does not supersede the requirements of the Heritage Act.

<sup>2</sup> Tanner Architects, 2011, *Callan Park, Rozelle Conservation Management Plan* (Callan Park CMP).

<sup>3</sup> GML Heritage, 2020, *Kirkbride Block and Convalescent Cottages, Callan Park Conservation Management Plan*.

<sup>4</sup> Callan Park Act 2002: <https://legislation.nsw.gov.au/view/whole/html/inforce/current/act-2002-139#>

## 2.3 Identification of Heritage items

Heritage listed items were identified through a search of relevant state and federal statutory and non-statutory heritage registers:

- Commonwealth Heritage List (CHL)
- National Heritage List (NHL)
- State Heritage Register (SHR)
- Section 170 Heritage and Conservation Registers
- NSW State Heritage Inventory database
- Register of the National Estate (RNE)
- National Trust of Australia (NSW) register.

Items listed on these registers have been previously assessed against the NSW Heritage Assessment guidelines. Assessments of heritage significance as they appear in relevant heritage inventory sheets or conservation management documents are provided in this assessment.

The proposed boreholes fall within the listed heritage curtilages of the items provided in **Error! Reference source not found.** and illustrated in Figure 3.

**Table 1: Summary of heritage listings for Callan Park.**

Heritage item	Register listings	Significance	Statutory / Non Statutory
Callan Park Conservation Area and Buildings	State Heritage Register (item no. 00818)	State	Statutory
Callan Park	Callan Park (Special Provisions) Act 2002 No. 139	State	Statutory
Ward 14 and 15 (Convalescent Cottages), Ward 14X, Cottage part Ward 15, Kirkbride Block, and Hospital Grounds and Gardens	NSW Health Section 170 Heritage & Register	State	Statutory
Rozelle Hospital Precinct Industrial Therapy Unit, Rozelle Hospital Precinct the Lodge, Rozelle Hospital Precinct Callan Park House, Bonny View, Rock carvings by patients	NSW Health Section 170 Heritage & Register	State	Statutory
Former Callan Park Hospital Wharf	Sydney Regional Environmental Plan (Sydney Harbour Catchment) 2005	N/A	Statutory
Register of the National Estate	Callan Park Conservation Area ID 1674	State	Non-statutory



Heritage item	Register listings	Significance	Statutory / Non Statutory
National Trust of Australia Register	Callan Park Conservation Area No. 6912	State	Non-statutory



Figure 3: Heritage Council Gazetted curtilage for Callan Park Conservation Area & Buildings.  
Source: <https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=5051544>

## 3.0 HISTORIC BACKGROUND

### 3.1 Historical Context

The history contained within Chapter 3 is predominantly taken from the State Heritage Register listing for Callan Park Conservation Area & Buildings and augmented with other sources to provide additional detail as required.

### 3.2 Pre-Contact History

Callan Park is part of the lands of the Wangal clan who lived at the site, and whose territory extended along the Parramatta River from about Petersham westward. The Wangal were part of the Eora or Dharug tribes. Due to a smallpox epidemic between 1789 and 1790 and European land development, only about 50 people from Dharug families were living in the Sydney area by 1900.<sup>5</sup>

Phillip Gidley King recorded in 1793 that<sup>6</sup>:

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*The tribe of Cadi inhabit the south side, extending from the south head to Long-Cove; at which place the district of Wanne, and the tribe of Wangal, commences, extending as far as Par-ra-mata, or Rose-Hill.*

---

The Aboriginal people who lived in the Sydney region were part of the Eora Nation. The word Eora, meaning 'here' or 'of this place', is not a term traditionally used by Aboriginal community's pre-contact but arose during the first encounters with non-Aboriginal settlers.<sup>7</sup> It is now accepted as an appropriate term for the coastal Aboriginal peoples in the broader Sydney area.

The Aboriginal people of the area utilised the wide range of animals native to the region for food and tool making. Mammals such as kangaroo and wallabies, as well as arboreal mammals such as possums were in plentiful supply, with cultural burning used to facilitate hunting. Ethnographic observations by early non-Aboriginal colonists noted that Aboriginal people used a variety of tools and non-utilitarian functions. Plant products like gums and sap were used for binding and hafting stone hatchets and plant fibres were woven into baskets, nets, ropes, and hammocks. Locally sourced plants were also used in the manufacture of shelters, shields, and coolamons used to carry food and water.

When European settlers arrived in the area of Callan Park, the land was very rugged and highly timbered. Wildlife was plentiful and the topography featured flat ridge tops with steep slopes down to the water.<sup>8</sup>

### 3.3 Post-Contact History

The Municipality of Leichhardt was established from a total of 15 original land grants given between 1789 and 1821. The last four land grants to be issued would go on to spur European settlement around what now is Callan Park. Between 1819 and 1821, Francis Lloyd and Luke Ralph both

---

<sup>5</sup> Heritage NSW State Heritage Register record – Callan Park Conservation Area and Buildings: <https://www.hms.heritage.nsw.gov.au/App/Item/ViewItem?itemId=5051544>

<sup>6</sup> Dominic Steele Consulting Archaeology, 2002. *The KENS Site, Sydney Aboriginal Heritage Assessment. A Report prepared for Leighton Properties*, 35.

<sup>7</sup> City of Sydney, Sydney Barani 2013. 'Aboriginal People and Place'. *Barani Sydney's Aboriginal History*. Accessed 13 September 2021: <https://www.sydneybarani.com.au/sites/aboriginal-people-and-place/>.

<sup>8</sup> Tanner Architects, 2011, *Callan Park CMP*, 9

received 50 acres each along Iron Cove and Rozelle Bay. To the west of these adjoining lots was Lawrence Butler's property of 100 acres. Further west and adjoining with Butler's property were 100 acres owned by John Austen named Spring Cove estate, which would later be known as Austenham estate.

### **Early development**

In 1835, Austenham estate was sold to the Deputy Surveyor General, Samuel Augustus Perry. He built two houses and named them both Austenham. The first house was located near present day Orange Grove Public school and was demolished in 1883. The second house, which later was renamed to Kalouan, was built during the depression of the 1840s and was situated further north, overlooking Iron Cove. To fund the construction of Kalouan, Perry subdivided a portion of his property under the name of the township of Broughton, however the subdivision was deemed unsuccessful.

In 1839, solicitor John Ryan Brenan purchased Butler's 100-acre property and the following year purchased the adjoining 50-acre property from Ralph. He built a two-story house and name the property the Gary Owen Estate. By 1854, he acquired part of Lloyd's adjoining land. In 1854, Brenan decided to offer a large portion of his property to be subdivided for the Western Hamlet of Balmain. He retained just the Gary Owen house and estate, including its waterfront allotment and orangery. However, this subdivision was unsuccessful.

The estates of Perry and Brenan serve as rare survivors of the estates representing the public and professional men who shaped Sydney's inner suburbs between the 1830s to the 1840s<sup>9</sup>.

### **Later Development**

The construction of the Pyrmont Bridge in the 1857 and the Iron Cove Bridge in the 1880s brought an influx of change and development in the Rozelle area.

In 1864, Broughton House was purchased by Sydney businessman John Keep. In the 1870s Keep purchased the surrounding allotments, including the one containing Perry's two houses: Austenham and Kalouan.

In 1865 the Gary Owen Estate was purchased by businessman John Gordon. Gordon later went on to purchase most of Brenan's property on the northern side of Balmain Road. He then re-subdivided the land and auctioned it under the name: Callan Park estate in 1873. The land was given to the highest bidder – the New South Wales Government – for the purpose of developing a new hospital for the insane.

Keep died in 1905. The house was sold to the Langdon family in 1912 however, after World War One broke out the family offered the property to the government. By the end of the war the Commonwealth Government resumed the entire property for the hospital for the insane.

### **Callan Park Mental Hospital**

Up until 1811, the insane were confined in the old Parramatta goal, along Parramatta River. From here various other mental asylums were built around the Cumberland region. It was not until the 1867 when naval surgeon, Dr Frederick Norton Manning came to new South Wales, after studying overseas about asylum administration that a paradigm shift occurred for Sydney mental asylums. Manning promoted 'moral therapy', centered on good surroundings, work, and religion. This spurred many reforms which were supported politically. Manning is renowned for his achievement developing a government funded new purposed built mental hospital, in Callan Park.

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<sup>9</sup> Tanner Architects, 2011, *Callan Park CMP*, 13

Architecture and landscape were a key component of the mental asylum reforms, as it was considered important for medical therapies. The architecture of Callan Park Mental Hospital was based off plans Manning brought from England. Kirkbride was the first building erected under the 'moral therapy' reform, and many of its elements reflect such philosophies.

The First World War demanded change in the mental health system. The war resulted in a high influx of shellshock and mentally traumatized soldiers. However, the private mental health care was primitive, and the public health system was limited. Langdon and Broughton were converted into accommodation for mentally ill soldiers. By 1918 Broughton Hall was the largest psychiatric military hospital in Australia.

Complaints about abuse within the Callan Park Mental Hospital spurred a Royal Commission into Lunacy Laws and Administration in 1923. During these interwar years, mental illness was viewed as a physical problem, which required physical treatment. Some of these treatments were archaic forms of mechanical and surgical treatments.

An Inquiry by the Public Service Board into conditions at Callan Park was launched in 1948 over media allegations of disrepair of the buildings; the inadequacy of food in quality and quantity; insufficiency of clothing for patients; misuse of patient labour; lack of or improper treatment of patients; and ill-treatment of patients and neglect of duty by staff<sup>10</sup>. A further Royal Commission of Inquiry into the Callan Park Mental Hospital commencing in 1961.<sup>11</sup>

As a result of the Royal Commission the institution was restructured in 1976, bringing Callan Park Hospital and Broughton Hall together to make Rozelle Hospital.

In 1991 construction of a new psychiatric complex to the southwest of the Kirkbride Block commenced and the use of the Kirkbride Block as a psychiatric care unit was ended. In 1992 a feasibility study was undertaken to decide whether the Kirkbride Block would be suitable to accommodate the Sydney College of the Arts. At the 1992, the area was re-zoned, and the College moved in. Around the same time, the Garry Owen House was restored for the use of the NSW Writers Centre. By 1998, an increased concern and awareness for the protection of former Callan Park Mental Hospital, resulted in the formation of the lobby group: Friends of Callan Park. From this the *Callan Park (Special Provisions) Act 2002* was formed by State Parliament, to protect the heritage site.

In October 2020: a combined agency, the Greater Sydney Parklands Authority was formed to bring together staff and local park management experience from Centennial Parklands, Western Sydney Parklands, Parramatta Park, Callan Park and Fernhill Estate. In December 2020 Callan Park (a 38-hectare part of the estate) was transferred to the Greater Sydney Parklands Trust. On 16/12/2020 the Governor of NSW signed a proclamation vesting Precinct 1 'Callan Park'. The remaining 22 hectares is managed by NSW Health under the *Callan Park (Special Provisions) Act 2002*.

### 3.3.1 Assessment of historical Archaeological Potential

The following summary of archaeological potential has been informed by Section 3.5 of the 2011 CMP. This section outlines that:

---

*'The primary archaeological resource is seen as the standing buildings and sites of demolished buildings and outbuildings and their capacity to provide information about their original configuration and their associated archaeological deposits such*

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<sup>10</sup> Cummins, CJ 2003. *A History of Medical Administration in NSW 1788-1973*, 115.

<sup>11</sup> Cummins, 2003, *A History of Medical Administration*, 115.

*as underfloor and yard area deposits. Changing building configuration is particularly relevant to the changing nature of the care for the mentally ill<sup>12</sup>.*

---

Section 3.5.2 of the 2011 CMP identifies the potential archaeological resource within each zone of Callan Park. The study area for the borehole AF\_BH15 falls within Zone 1 in the Oval Carpark while there are two proposed locations for AF\_BH14: Option 1 is within Zone 2 and Option 2 is within Zone 3.

#### **Zone 1 – The Waterfront and Callan Point Precinct<sup>13</sup>**

The waterfront zone is the flat area at the base of the slopes edged by a sandstone seawall. It is largely the product of land reclamation and reflects little of the natural character of the landform except in the sharp definition of its boundary with the slopes which formed the original shoreline. Early photographs suggest that until the 1920s a Eucalypt woodland persisted on natural areas of the foreshore. At the western end of the waterfront excessive landfilling over the original reclaimed cove has produced a highly intrusive landform with high, steep, grassed embankments close to the water's edge.

The potential archaeological sites in Zone 1 are the Sea wall & Canal (early 1900s) and European rock engravings<sup>14</sup>.

**The proposed location of AF\_BH15 is not within or near these two archaeological sites.**

#### **Zone 2- Manning Street Precinct<sup>15</sup>**

The zone occupies a former shallow creek valley enclosed on the southern and western edges by ridgelines but open towards Iron Cove to the north. It contains the Main Gates and Gate House to Callan Park on Balmain Road, and the sandstone Original Gate Lodge built in 1878 proceeding commencement of the building of the main Callan Park Block. To the north along the Manning Street alignment is another sandstone residence, the former attendant's cottage, also part of the Callan Park scheme.

The potential archaeological sites in Zone 2 are the Original Gate Lodge (1878) and the Attendants' Cottage (1879).<sup>16</sup>

**The proposed location of AF\_BH14: Option 1 is not within or near these two archaeological sites.**

#### **Zone 3- Kirkbride Entrance Garden and Embankment to King George Park Precinct<sup>17</sup>**

The Kirkbride entrance garden is a designed Victorian parkland with a prominent public address to Balmain Road. The original grand entrance gates in the Manning Street Precinct (Zone 2) give access to a modern driveway which leads through established parkland to the Kirkbride Block (Zone 4). The CMP considers Zone 3 as having only one area containing potential archaeological remains - the 'Carriageway.'

**The proposed location of AF\_BH14: Option 2 is not within the carriage way archaeological site; however, it is located within 5m of it.**

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<sup>12</sup> Tanner Architects, 2011, *Callan Park CMP*, 109

<sup>13</sup> Tanner Architects, 2011, *Callan Park CMP*, 66

<sup>14</sup> Tanner Architects, 2011, *Callan Park CMP*, 109

<sup>15</sup> Tanner Architects, 2011, *Callan Park CMP*, 70

<sup>16</sup> Tanner Architects, 2011, *Callan Park CMP*, 110

<sup>17</sup> Tanner Architects, 2011, *Callan Park CMP*, 74 & 110

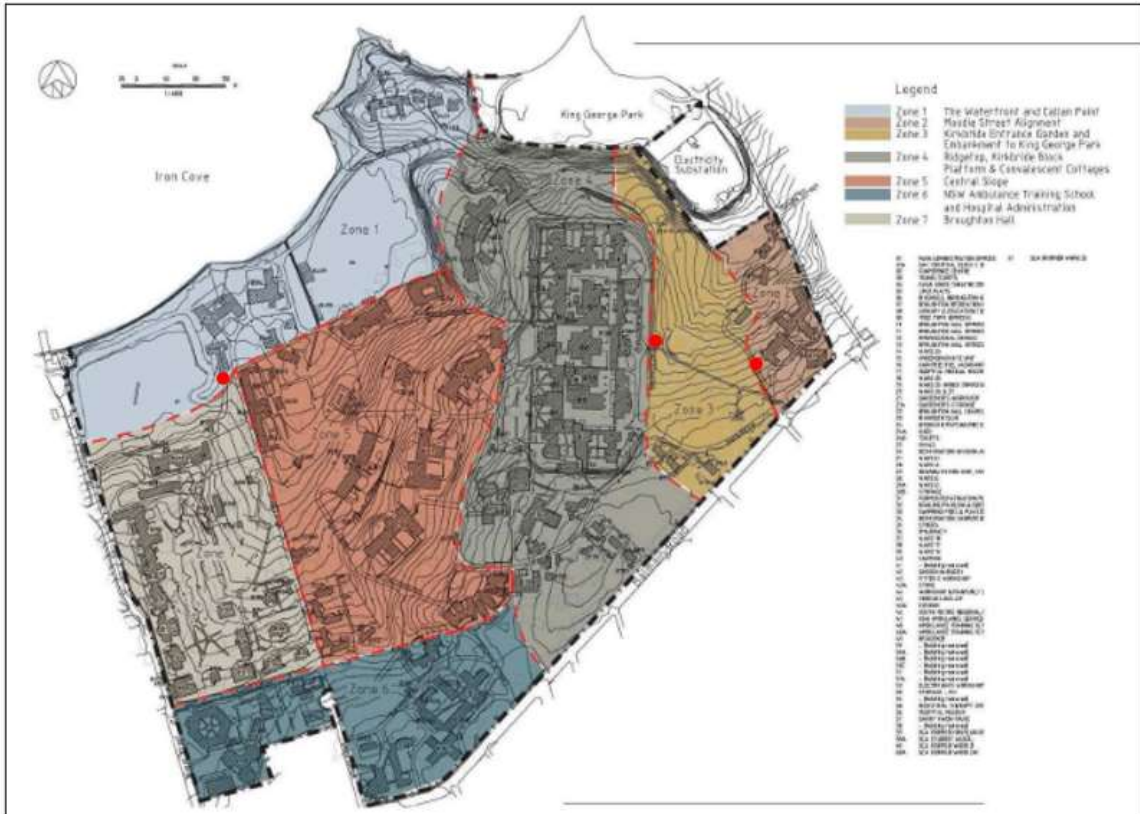


Figure 4: Site Plan with CMP Study Zones from 2011 CMP (page 63) with approximate locations of proposed boreholes included (red dots) by Artefact Heritage. These boreholes can be identified being in the southwest corner of Zone 1 (AF\_BH15), the southwestern edge

## 4.0 SIGNIFICANCE ASSESSMENT

### 4.1 Statement of Significance

#### 4.1.1 State Heritage Register

The gazetted statement of significance for the SHR listing for Callan Park Conservation Area & Buildings states:

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*Rozelle Hospital site, created as one unit in 1976, comprises two major mental health facilities, each of which was developed using an existing mansion house set within expansive landscaping. As a whole, and as two component parts, Rozelle Hospital can demonstrate it has heritage significance to the people of NSW.*

*The Rozelle Hospital site contains the fabric of two grand Victorian gentlemen's estates and is able to demonstrate the pastoral character of the period. The original relationship between Callan Park Conservation Area and Buildings' Garry Owen House (later Callan Park) and Broughton Hall has been retained and their grounds are still interpretable and intact. These grounds became the sites of the mental health institutions that adopted their respective names.*

*Rozelle Hospital demonstrates two major changes in mental health in NSW. It contains original architecture and landscaping of both hospitals. The buildings associated with the former Callan Park mental hospital are of exceptional significance, in particular the Kirkbride Block.*

*Its landscaped spaces and landmark buildings have contributed visually and socially to the local area for over 100 years. The foreshore areas of the site are significant as rare open space elements. Callan Point is considered to be the most important Aboriginal archaeological site remaining on the southern shores of Sydney Harbour. Callan Point also contains rare examples of pre-European vegetation and unique European rock carvings.*

*The site as a whole has very high levels of social significance and has special associations for the local and broader community both as an open space resource and for its cultural and aesthetic value. (Tanner & Associates, 2002)*

*Kirkbride Block is significant as the collaborative work of three prominent figures in the late 19th century, James Barnet, Charles Moore and Frederick Norton Manning, as the largest remaining mental institution in NSW and as the first to be designed as a curative and therapeutic environment. The landscape design and setting of Kirkbride is vital and paramount to the design and philosophy of 'moral therapy' treatment evidenced in the intimate design of courtyards through to the long vistas over the hospital grounds and surrounding country. The landscape cannot be separated from the buildings and performs an equal and active function in the creation of the therapeutic environment. It is highly significant that much of the original fabric, character and setting for this major Victorian period design remain intact within a highly developed inner-city locality.*

*Callan Park House (former Garry Owen House), as an impressive early and mid-Victorian residence is one of the oldest remaining houses in the district. It has*

*strong associations with the early history of the Rozelle area. It is an important visual landmark element within the hospital.*

*Rozelle Hospital grounds are of historic and social significance at a state level in their association with the establishment of two hospitals, Callan Park and Broughton Hall, demonstrating two major changes in mental health in NSW. These changes, and changing ideas in garden design, are reflected in the grounds. The grounds are of historic and social significance in their evidence of patient involvement.*

*The grounds of the former Callan Park area of Rozelle Hospital are of historic significance on a national level as an integral element of the first hospital for the insane which was designed based on moral therapy principles and built in the one campaign. They are a direct application of the moral therapy principles of psychiatric care in the landscape. They are associated with: Dr Frederick Norton Manning, Inspector General for the Insane; James Barnet, Colonial Architect; and Charles Moore, Director of the then Botanic Gardens, Sydney.*

*Broughton Hall Psychiatric Clinic gardens are of historic significance on a regional level in their demonstration of the views of Dr Sydney Evan Jones on the value of gardens in the care of the mentally ill. The form and character of the original garden setting for Broughton Hall, noted in its time, is still evident.*

*Rozelle Hospital is of historic significance on a regional level in that it contains rare surviving 19th century gentlemen's estates, associated with the development of the area. Garryowen House and surrounds demonstrate, in part, the pastoral character of the estate period.*

*Rozelle Hospital grounds are of aesthetic significance on a regional level in that they demonstrate a high level of creative achievement. The former Callan Park Mental Hospital is an accomplished work of architecture and landscape design. Broughton Hall grounds exhibit a combination of structures of oriental inspiration with horticultural richness, and some rare plant species such as rose apple, durobby or watermelon tree, *Syzygium moorei*.*

*Rozelle Hospital grounds are of aesthetic significance in that they reflect the natural landform which was the setting for the original development of the site and surrounding suburbs and contain rare examples on a local level of remnant natural areas and Aboriginal cultural sites. It is of both aesthetic and social significance because it contributes visually and socially to the local identity and sense of place.*

*Rozelle Hospital grounds are of social significance on a regional level in that they provide public recreational and open space within an intensively developed urban environment.*

*Rozelle Hospital grounds are of scientific significance on a regional level for their horticultural significance. They are of scientific significance for their archaeological value of their rock engravings and Aboriginal middens.*

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#### 4.1.2 2011 CMP

The following summary statement of significance has been derived from the 2011 CMP<sup>18</sup>.

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*Callan Park has a high level of heritage significance for the people of New South Wales:*

*Callan Park contains the fabric of two grand Victorian gentlemen's estates and is able to demonstrate the pastoral character of this period. The original relationship between Garry Owen House (later Callan Park) and Broughton Hall has been retained and their grounds are still interpretable and intact. These grounds became the sites of the mental health institutions that adopted their respective names.*

*Callan Park demonstrates two major changes in mental health care in NSW. It contains original architecture and landscaping of both hospitals. The buildings associated with the former Callan Park mental hospital are of exceptional significance, in particular the Kirkbride Block:*

*“The Kirkbride complex has a unique place in the history of mental hospitals in New South Wales. It is the only mental hospital which fully represented the ideal and classic ‘moral therapy’ style of institution. In the twentieth century it became one of the major examples of the modern custodial institutions. Although now seen as inappropriate for a modern mental health care system, it stands as a significant reminder, undoubtedly the most significant in New South Wales, of two major developments in the history of mental health care.”*

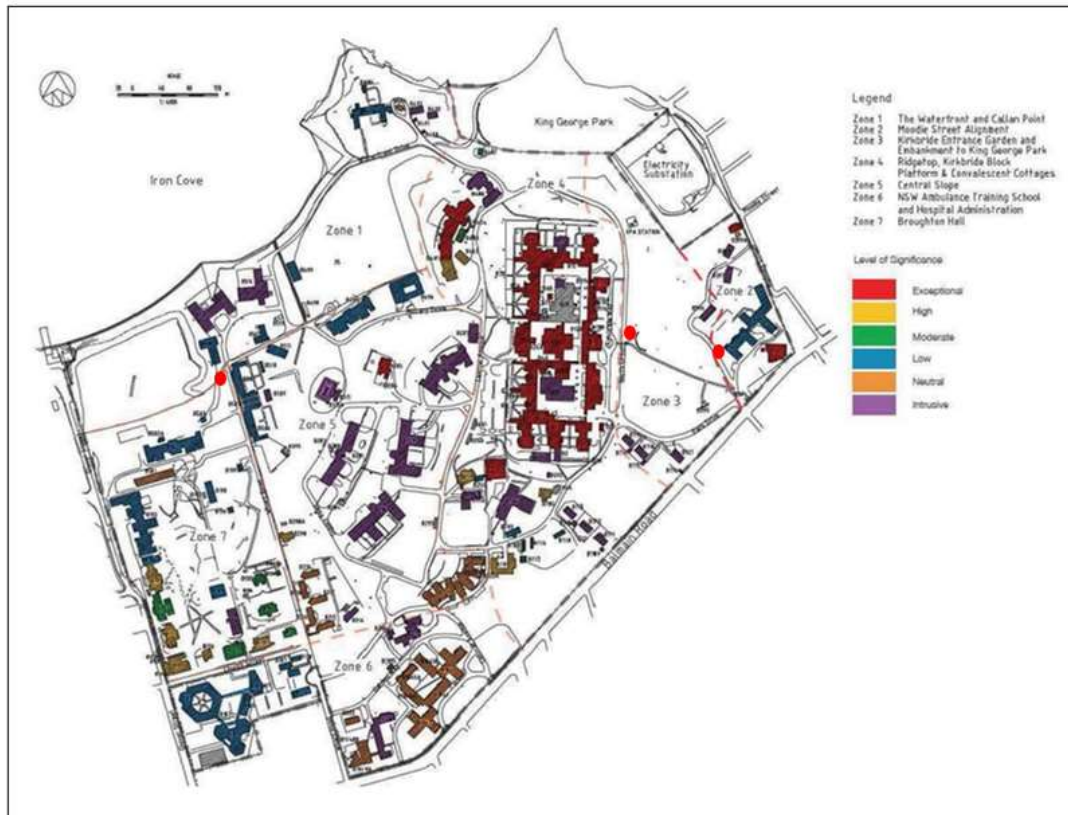
*The Broughton Hall Psychiatric Clinic, also unique in the history of mental health care in NSW, is still in operation. While most of its facilities are outdated for contemporary patient care its fabric reflects the institution's pioneering methods in voluntary patient care. The Clinic's buildings, while not all of high significance are consistent in character and material and are mostly grouped around a unique inter war garden of outstanding aesthetic quality. The garden's links with the earlier Keep period and use in patient care make it a landscape of exceptional significance. These aspects of the Broughton Hall Psychiatric Clinic were continued with the construction of an integrated rehabilitation clinic during the first half of the 1960s.*

*Callan Park's landscaped spaces and landmark buildings have contributed visually and socially to the local area for over 100 years. The foreshore areas of the site are significant as rare open space elements. Callan Point is considered to be the most important Aboriginal archaeological site remaining on the southern shores of Sydney Harbour. Callan Point also contains rare examples of pre-European vegetation and unique European rock carvings.*

*The site as a whole has very high levels of social significance and has special associations for the local and broader community both as an open space resource and for its cultural and aesthetic value.*

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<sup>18</sup> Tanner Architects, 2011, *Callan Park CMP*, 143.



**Figure 5: Callan Park showing development zones and the grading of significance of buildings. Note the approximate locations of the proposed borehole locations are shown by red dots within Road corridors. Source: Tanner Architects, 2020. Amended by Artefact.**

## 4.2 Historical Archaeological Assessment

### 4.2.1 Assessment of historical archaeological significance

The 2011 CMP notes in its assessment of significance for the site under Criteria E (an item has the potential to yield information that will contribute to an understanding of NSW's cultural or natural history) that:

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*'The archaeology on the site has the potential to contribute evidence from the 1840s into the twentieth century. In particular there is the potential to reveal evidence connected with the use and original internal layout of the existing buildings, and the details of the development of the site. Evidence of the water supply systems (i.e., the underground tanks) in the Kirkbride group and aspects of long-term institutional life can reasonably be expected. Through archaeological analysis and interpretation, it might be possible to reconstruct aspects of the conditions in which the patients lived, and the staff worked.'*

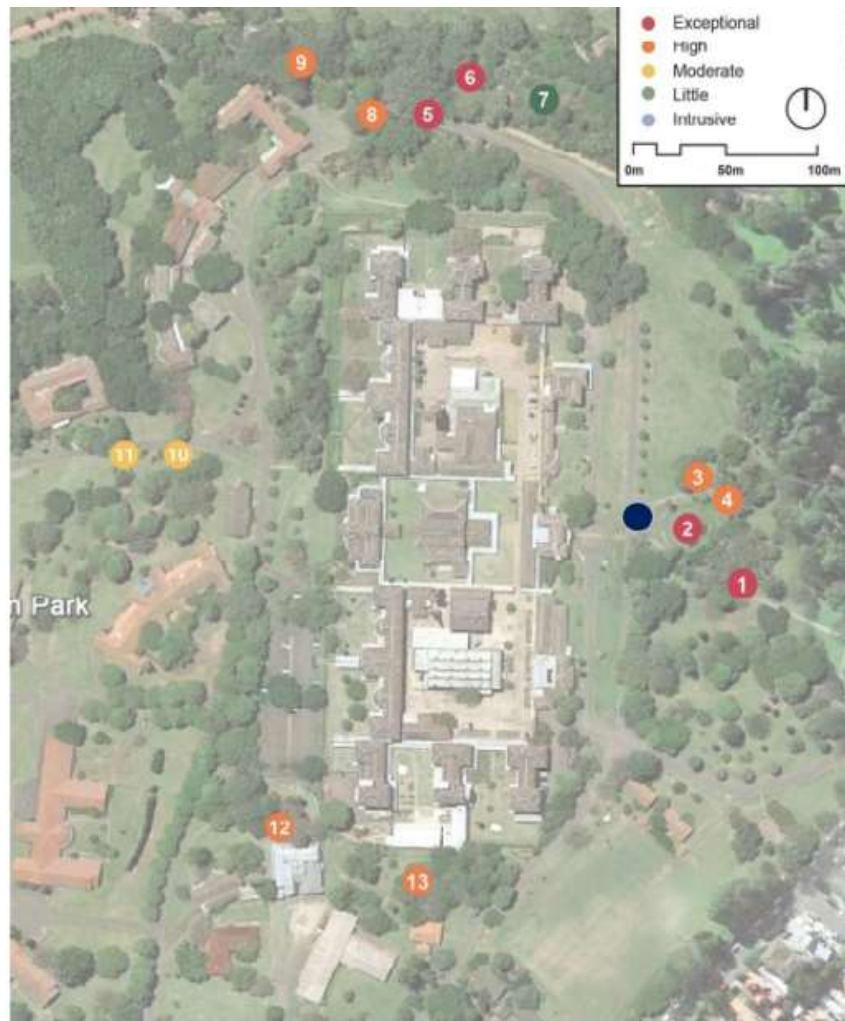
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However, the assessment does not provide a level of significance for any archaeology against this criterion.<sup>19</sup> Given that the site is on the state heritage register, and in the absence of any other endorsed assessment, it is considered that all archaeology related to the sites outlined in Chapter 3 is of state significance.

### 4.3 Assessment of Landscape Elements

The 2020 GML CMP for the Kirkbride Block and Convalescent Cottages identifies several landscape items which are located close to the potential location of AF\_BH14 Option 2:

The Pathway from the Balmain Road entry (Item No. 1) and the Sunken Garden sandstone walls and edges (Item no. 2) are both assessed as being of exceptional significance (Figure 6 below).<sup>20</sup>



**Figure 6: Assessed levels of significant for landscape elements abutting the Kirkbride Block and Convalescent Cottages Study Area: Source GML Heritage 2020, page 25. Amended by Artefact Heritage to show location of AF\_BH14 Option 2 on map as blue dot.**

<sup>19</sup> 2011, Tanner Architects, *Callan Park CMP*, 141.

<sup>20</sup> GML Heritage, 2020, *Kirkbride Block and Convalescent Cottages CMP*, 25.

## 5.0 IMPACT ASSESSMENT

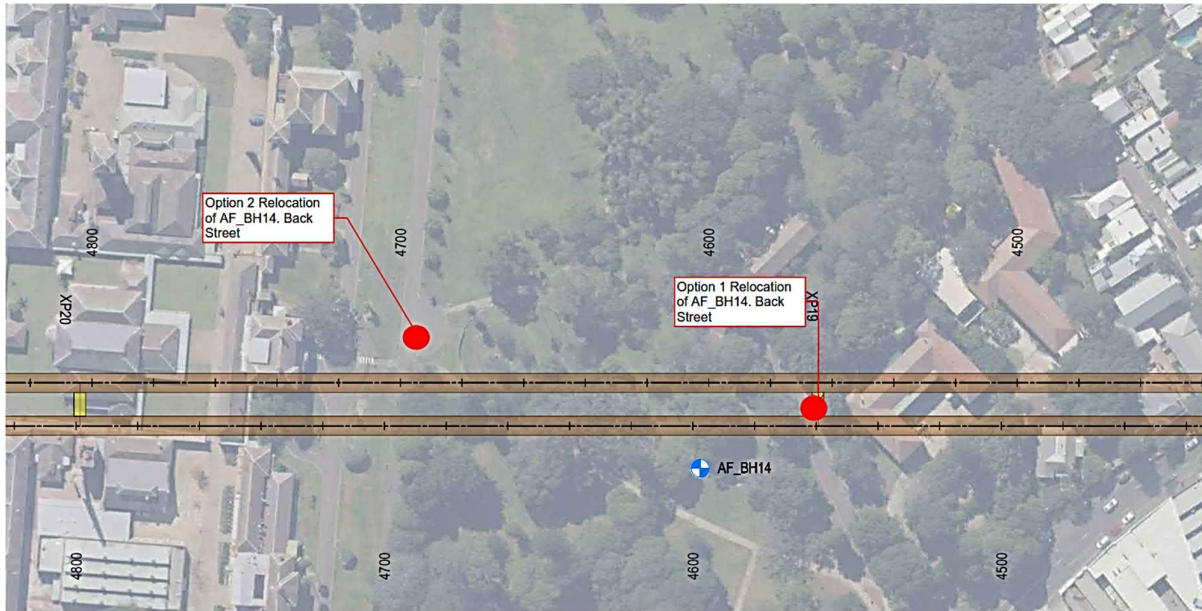
### 5.1 Proposed Works

The impacts addressed in this memo are limited to excavation works for borehole testing that need to be undertaken. In detail, the impacts include:

- 2 x geotechnical bore holes – borehole excavation to significant (excess of 20m) depth using a 100mm machine auger within road corridors within Callan Park site.
- The study area for the borehole AF\_BH15 falls within Zone 1 in the Oval Carpark (Figure 7) while there are two proposed locations for AF\_BH14: Option 1 is within Zone 2 and Option 2 is within Zone 3 (Figure 8).



Figure 7: Location of proposed borehole AF\_BH15 within Callan Park. Images supplied by afJV.



**Figure 8: Option 1 & 2 for location of proposed borehole AF\_BH14 within Callan Park. Images supplied by afJV.**

## 5.2 Impact to landscape features

As outlined in Section 4.3, the location of bore hole AF\_BH14 (option 2) is within 5m of both the apex of the original Carriage Way (also known as the Balmain Road Entry Pathway) and the Sunken Garden. While the borehole itself is only 100mm wide and its excavation will not impact these landscape elements, the plant and equipment related these works may unintentionally impact either site during the equipment bump in and bump out.

Borehole AF\_BH14 (Option 1) and AF\_BH15 are not in the vicinity of any significant landscape elements and will not impact the landscape heritage of Callan Park.

## 5.3 Impacts to Historical Archaeology

Section 4.2 notes that the significant historical archaeological elements identified within Callan Park relate to the buildings constructed prior to 1900, and to several landscape elements, including the Carriage Way (Balmain Road Entry Pathway). The location of bore hole AF\_BH14 (Option 2) is within 5m of the apex of this element. As outlined above, while the borehole itself is only 100mm wide and its excavation will not impact this archaeological element, the plant and equipment related these works may unintentionally impact the site during the equipment bump in and bump out.

Borehole AF\_BH14 (Option 1) and AF\_BH15 are not in the vicinity of any significant historical archaeological elements and will not impact the landscape heritage of Callan Park.

## 5.4 Compliance with CMP policies

The proposed works have been assessed against the policies in both the 2011 Tanner Architects CMP and the 2020 GML Heritage CMP. The works comply with all relevant policies.

**Table 2: Compliance with CMP Policies.**

2011 CMP Policies	Discussion on how this will be addressed
<b>Policy 10:</b> Significant buildings and their landscaped settings should be maintained to the minimum standard	The boreholes will not be located in close proximity to any significant building fabric or landscape.
<b>Policy 11:</b> All work done to the historic fabric of the significant building and their setting should be done in accordance with the principles of the Burra Charter	The borehole procedure will adhere to the minimal intervention and cautious approach advocated by the Burra Charter.
<b>Policy 14:</b> All changes to Callan Park should be carefully recorded	All changes incurred to the landscape due to the borehole procedure should be recorded.
<b>Policy 17:</b> An excavation permit must be obtained from the NSW Heritage Council, in accordance with the relics provisions of the Heritage Act, 1977, prior to the commencement of works in any area identified as having archaeological potential	The works are being undertaken under a consistency assessment with the CoA.
<b>Policy 46:</b> Conserve the significant fabric and elements of Callan Park and its landscape setting	The boreholes will have no impact on the significant buildings or landscape elements within Callan Park.
<b>Policy 67:</b> Any work proposed in close proximity to a significant tree should be carried out in consultation with an experienced and qualified arborist.	The works are not in proximity to any significant trees.
2020 CMP policies	Discussion
<b>Policy 30</b> – All contractor and subcontractor contracts should include clauses to ensure that project personnel are aware of their obligations with respect to the site’s archaeological resources, including provisions for potential delays related to discovery of unexpected archaeological remains.	This policy should be considered prior to works, to mitigate damage to any archaeological resources.
<b>Policy 46:</b> Minimal intervention is the recommended approach to introducing change. The significance of the place requires a cautious approach of changing as much as necessary but as little as possible. Work to fabric graded as being exceptional or high significance must be of a minor nature and have little or no adverse impact on the heritage significance of the place.	Refer to discussion on Policy 11 of the 2011 CMP policies.
<b>Policy 47:</b> Intervention and change should be targeted at spaces of lesser significance.	The boreholes have specifically been proposed in the location of modern road alignments which are areas not identified as significant within the Callan Park Landscape.

## 5.5 Compliance with the Material Threshold Policy

As part of their package of guidance documents to assist people undertaking works to a State Heritage Listed site, in 2020 the Heritage NSW released the ‘Material Threshold Policy’. This policy aims to help site owners and managers determine the level of harm their works might have to the

heritage values of that site. In this policy ‘the word ‘material’ relates to the degree of impact to the State heritage significance of an SHR listed place’.<sup>21</sup>

The proposed boreholes work at Callan Park have been assessed against this policy and the works have been found to meet the definition of ‘Little or no impact’.

This assessment has determined that the works are so minor that any impact is considered negligible. They will not impact the state heritage listed values of Callan Park.

## 5.6 Recommended Management

Based on the information outlined above it is considered that If the works are undertaken in accordance with the Recommendations listed below, they will not impact the listed state heritage values of Callan Park and can proceed under a consistency assessment against the CoA.

### 5.6.1 Specific Heritage and Historical Archaeological Recommendations

- It is recommended that the applicant proceed with AF\_BH15 and AF\_BH14 (Option 1).
- It is considered that AF\_BH14 (Option 1) rather than (Option 2) is preferable as the location of Option 2 is considered too close to exceptionally significant landscape elements within Callan Park. If Option 2 was chosen the impacts of the work could increase above the little to no impact threshold.
- As the proposed works will not impact significant archaeology and consist of a single 100mm borehole in each location, archaeological monitoring is not warranted for these works.
- As the works have been assessed as having little to no impact on the identified historical archaeology of the site there is no requirement for an archaeologist to review or assess the bore logs.
- No further historical archaeological assessment is required for the proposed works.
- However, it is recommended purely as a precautionary measure that if Aboriginal objects or intact and significant non-Aboriginal archaeological remains are unexpectedly encountered during works, the borehole location should be moved, and further archaeological management and investigation should be undertaken.
- As impacts the landscape and historical archaeological heritage of Callan Park have been assessed to be little to none against the Material Threshold Policy, works can proceed under a consistency assessment against the CoA.

### 5.6.2 General Heritage Recommendations

- Plant and vehicle movement on the grassed landscape must be kept to a minimum.
- Only vehicles with rubber tyres should be used on the grassed landscape, and protective track mats must be utilised.

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<sup>21</sup> Heritage NSW 2020, ‘Material Threshold Policy’, 3.

- Plant movement must be minimised on soft areas during wet conditions. Any damage to the landscape from plant movement must be repaired immediately following the completion of works.
- The grass surface within the impact footprint of the boreholes must be removed by hand and then reinstated immediately following the completion of the work to ensure there are no longer term visual impacts to the landscape of Callan Park.



## 6.0 REFERENCES

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NSW Legislation: Callan Park Special Provisions Act 2002:  
<https://legislation.nsw.gov.au/view/whole/html/inforce/current/act-2002-139#>: accessed 06/07/2022.



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