Addendum Archaeological Impact Statement

SYDNEY FOOTBALL STADIUM, REDEVELOPMENT—STAGE 1
SSDA 4.55 MODIFICATION

MAY 2019

Prepared by Curio Projects for Infrastructure NSW

FINAL REPORT

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Curio *noun* cu·rio \kyur-ē-ˌō\: any unusual article, object of art, etc., valued as a curiosity

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This report has been prepared based on research by Curio Projects specialists. Historical sources and reference material used in the preparation of this report are acknowledged and referenced at the end of each section and/or in figure captions.

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Executive Summary

Curio Projects Pty Ltd was commissioned by Infrastructure NSW to prepare an Addendum Archaeological Impact Statement (AIS) to support a Section 4.55 Modification Application to the NSW Department of Planning and Environment (DPE) for the approved Stage 1 State Significant Development Application (SSD 9249) for the redevelopment of the Sydney Football Stadium (SFS), located at 40–44 Driver Avenue, Moore Park (the subject site).

The modification proposes removal and disposal of the ground slabs, pavements, footings, and piles from the former Stadium, and therefore requires an Addendum AIS to be prepared in order to assess any potential impact these additional ground works may have on the archaeological potential and significance of the subject site (both Aboriginal and historical).

This report functions as an addendum to the Archaeological Assessment prepared by Curio Projects for the Stage 1 SSDA (May 2018), and reassesses the archaeological impact of the Stage 1 development with reference to the proposed modification works. The purpose of this Addendum AIS is to provide a succinct reassessment of the potential archaeological impact of the modification works, and as such, does not reproduce all the details and context provided in the Stage 1 AA and HIS reports.

The s4.55 Modification works have been divided into two different categories of ground impacts: those that will only impact upper fill layers (i.e. removal of the concrete slabs, footings and paving); and those that will have a deeper subsurface impact (i.e. excavation of existing piles, trenching works for the stormwater diversion). The lesser impacts (i.e. removal of the concrete slab, paving and building footings) will have no to very low to impact on any potential historical archaeological resource, and no potential to impact on potential Aboriginal archaeology.

Generally, all existing piles fall within an area assessed to have no historical archaeological potential, and therefore the removal of the piles is unlikely to have any historical archaeological impact, and works can proceed following the developed 'Unexpected Finds' protocol. A small section of the trenching required for the diversion of the stormwater main is located within an area of Low to Moderate archaeological potential, and will therefore require archaeological mitigation in the form of targeted archaeological monitoring, following the 'Supervision' protocol as developed through this report.

Modification development works that will only impact upper fill layers have no potential to impact potential Aboriginal archaeological deposits, however, excavation of existing piles and trenching for the stormwater diversion in the northwest of the site has potential to impact Aboriginal archaeology, if present, within select locations. Therefore, excavation of the existing piles located within the zone of potential impact to natural soil profiles, and trenching for the stormwater diversion, should be subject to Aboriginal archaeological monitoring, as per the methodology presented in the relevant sections above.

Should natural sands be identified within development impact zones, opportunity should be made (to be discussed with the project RAPs) to commence test excavation in these locations, in accordance with the Aboriginal archaeological excavation methodology as presented above.

While the removal of the existing piles and stormwater diversion trenching works will not impact Busby's Bore, it is still recommended that archaeological mitigation measures be implemented during the concrete slab removal, and pile excavation in the general vicinity of Busby's Bore (i.e. in the northeast of the subject site), and trenching works in the vicinity of stormwater pit 'W1', in order to ensure that the development works will not impact the State significant heritage item.

An archaeological induction should be prepared for all on site contractors involved in the below-ground works relating to this s4.55 Modification works (as described within this report), in order to familiarise them with the contents and recommendations of this Addendum AIS, and the process should they encounter an unexpected archaeological resource.

1.0 Introduction

1.1 Purpose of this Report

Curio Projects Pty Ltd was commissioned by Infrastructure NSW to prepare an Addendum Archaeological Impact Statement (AIS) to support a Section 4.55 Modification Application to the NSW Department of Planning and Environment (DPE) for the approved Stage 1 State Significant Development Application (SSD 9249) for the redevelopment of the Sydney Football Stadium (SFS), located at 40–44 Driver Avenue, Moore Park (the subject site).

The Modification proposes removal and disposal of the ground slabs, pavements, footings, and piles from the former Stadium, and will also include the diversion of an existing Sydney Water stormwater main through the site. Therefore, the modification requires an Addendum AIS to be prepared in order to assess any potential impact these additional ground works may have on the archaeological potential and significance of the subject site (both Aboriginal and historical).

This report functions as an addendum to the Archaeological Assessment prepared by Curio Projects for the Stage 1 SSDA (May 2018), and reassesses the archaeological impact of the Stage 1 development with reference to the proposed modification works. The purpose of this Addendum AIS is to provide a succinct reassessment of the potential archaeological impact of the modification works, and as such, does not reproduce all the details and context provided in the Stage 1 AA and HIS reports. Should additional detail be required, reference should be made to the following reports in their totality as required:

- *Archaeological Assessment for Sydney Football Stadium, Stage 1 Concept Design*. Prepared for Infrastructure NSW by Curio Projects, 28 May 2018 (AA)
- *Heritage Impact Statement for Sydney Football Stadium, Stage 1 Concept Design SSDA*. Prepared for Infrastructure NSW by Curio Projects, 5 June 2018 (HIS)

1.2 Site Identification

The Sydney Football Stadium Redevelopment site is located at 40-44 Driver Avenue, Moore Park within the Sydney Cricket Ground Precinct. It is bound by Moore Park Road to the north, Paddington Lane to the east, the existing SCG stadium to the south and Driver Avenue to the west. The site is located within the City of Sydney local government area.

The site is legally described as Lots 1528 and 1530 in Deposited Plan 752011 and Lot 1 in Deposited Plan 205794. In a broader context, the site is largely surrounded by Centennial and Moore Parks, the Fox Studios and Entertainment Quarter precincts and the residential suburb of Paddington. Located approximately 3km from the Sydney CBD and approximately 2km from Central Station, the site is connected to Sydney's transport network through existing bus routes and will benefit from a dedicated stop on the soon to be completed Sydney CBD and South East Light Rail. The locational context of the site is shown in Figure 1.1 and Figure 1.2.

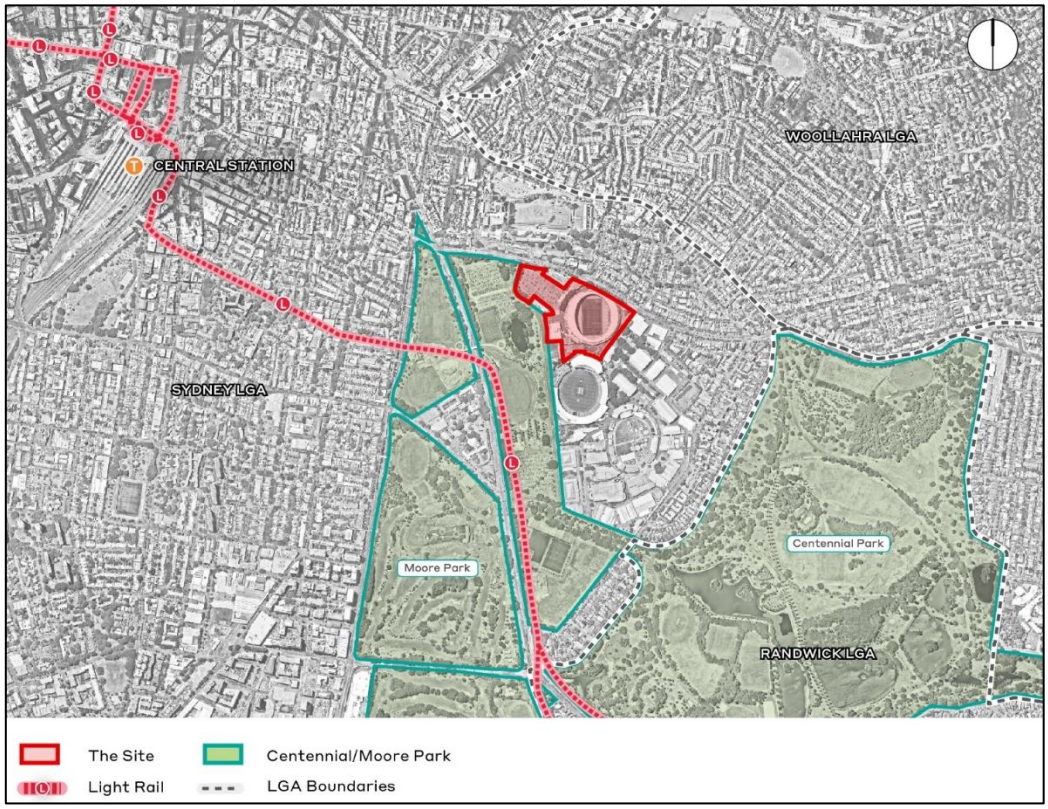

Figure 1.1: Regional Site Context (Source: Ethos Urban 2019)

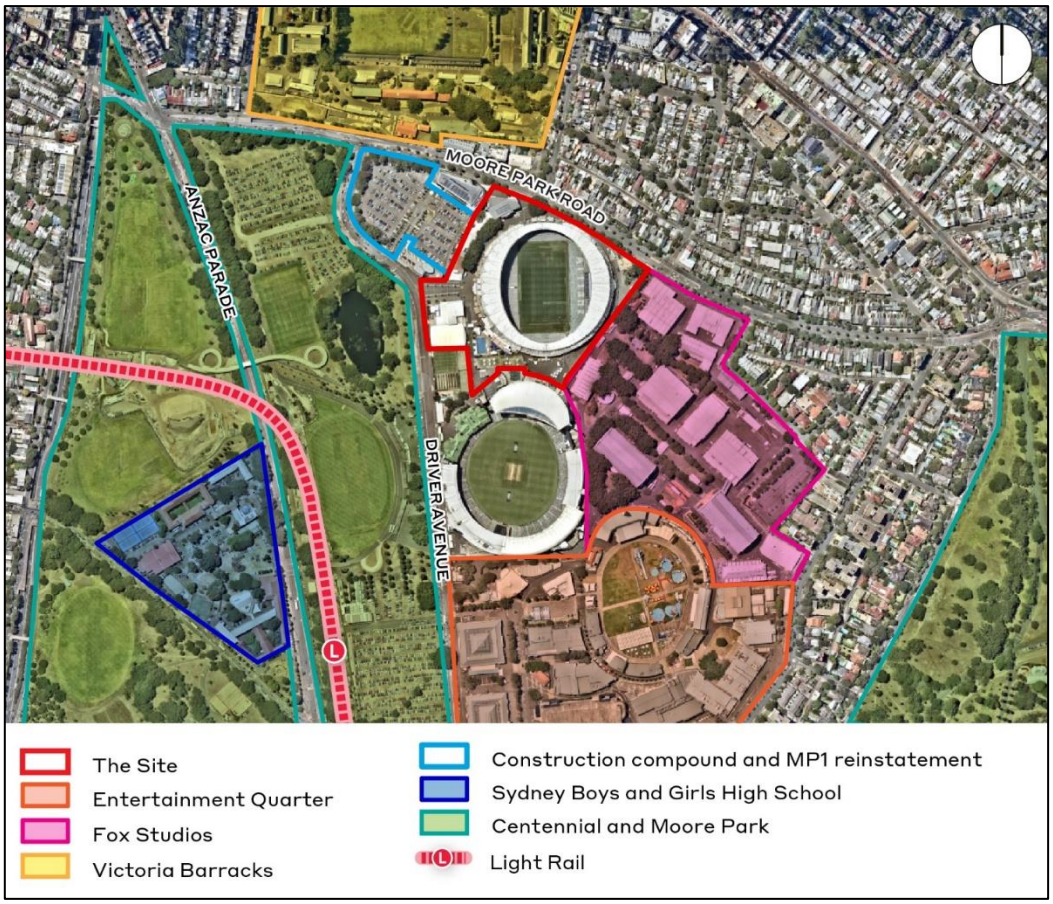

Figure 1.2: Local Site Context and Surrounds (Source: Ethos Urban 2019)

Figure 1.3: Subject Site Boundary Area (Source: Curio 2019)

1.3 Project Background

The Sydney Football Stadium (SFS) is a significant component of the sports facilities that comprise the Sydney Cricket and Sports Ground (SC&SG). Completed in 1988, the SFS has hosted numerous sporting events in its 30 years of operation for a number of sporting codes including football (soccer), rugby league and rugby union as well as occasional music concerts.

In 2012, the NSW Government announced the NSW Stadia Strategy 2012 which provided a vision for the future of stadia within NSW, prioritising investment to achieve the optimal mix of venues to meet community needs and to ensure a vibrant sports and event environment in NSW. A key component of the strategy included development of master plans for Tier 1 stadia and their precincts covering transport, integrated ticketing, spectator experience, facilities for players, media, corporate and restaurant and provision for entertainment. SFS is one of three Tier 1 stadia within NSW, the others being Stadium Australia (Olympic Park) and the Sydney Cricket Ground.

In order to qualify for Tier 1 status, a stadium is required to include:

- Seating capacity greater than 40,000;
- Regularly host international sporting events;
- Offer extensive corporate facilities, including suites, open-air corporate boxes and other function/dining facilities; and
- Be the home ground for sporting teams playing in national competitions.

On 6 December 2018, development consent was granted for the Concept Proposal and Early Works/ Demolition stage of the SFS redevelopment (SSD 18_9249). This consent permitted the completion of demolition works on the site (to ground slab) and established the planning and development framework through which to assess this subsequent Stage 2 application. Specifically, State Significant Development Consent SSD 18_9249 encompassed the following relating to early works:

- The demolition of the existing SFS and ancillary structures, including the existing Sheridan, Roosters, Waratahs and Cricket NSW buildings down to existing slab level.
- Site and construction management, including use of the existing MP1 car park for construction staging, management and waste processing, and provisions for temporary pedestrian and vehicular access management.
- The protection and retention of Tree 125 (Moreton Bay Fig adjacent to Moore Park Road) and Tree 231-238 cluster (Hills Weeping Fig and others near Paddington Lane) and all existing street trees located outside of the site boundary, with the removal of all other vegetation within the proposed future building footprint.
- Works to make the site suitable for the construction of the new stadium.

This addendum AIS is designed to relate specifically to the additional early demolition works required for the development (as per the Modification application), namely removal and disposal of the ground slabs, pavements, footings, and piles from the former Stadium

1.4 Relevant Statutory Context

Archaeology is governed in NSW by three principles pieces of legislation:

- *NSW Heritage Act 1977* (Heritage Act)—Historical Archaeology;
- *NSW National Parks and Wildlife Act 1974* (NPW Act)—Aboriginal Archaeology; and
- *Environmental Planning and Assessment Act 1979* (EP&A Act).

Generally speaking, the purpose of the Heritage Act (as amended) is to conserve the environmental heritage of the State, and provides protection for archaeological 'relics' under Division 9, which includes the requirement for excavation permits under Section 140 of the Act (or Section 60 in the case where 'relics' are situated within sites or places on the State Heritage Register).

The NPW Act, administered by the NSW Office of Environment and Heritage (OEH), is the primary legislation that provides statutory protection for all 'Aboriginal objects' (Part 6, Section 90) and 'Aboriginal places' (Part 6, Section 84) within NSW. The NPW Act establishes penalties for 'harm' to Aboriginal objects, as well as the avenues for defence under this legislation, through the acquisition of an Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the NPW Act.

However, where a project is assessed to be a State Significant Development (SSD), the process of development approval with regards to archaeological permits (both Aboriginal and historical) differs. Notably, the requirement for an AHIP in accordance with Section 90 of the NPW Act is removed (EP&A Act, Section 89J), as well as no longer requiring excavation permits under the Heritage Act. Although, the requirement to report the discovery of a 'relic' in accordance with Section 146 of the Heritage Act is still applicable for SSD projects.

The Sydney Local Environmental Plan 2012 (LEP) is also relevant to this project, as it sets out objectives and planning controls for the conservation of heritage in the City of Sydney. The subject site is subject to the Sydney LEP and is zoned SP1 Special Activities–Recreation Facility (major). The site is also located within a Heritage Conservation Area (Sydney Cricket Ground) under the Sydney LEP.

1.5 Heritage Listings

While the SFS itself is not individually listed on any statutory heritage register, the subject site includes part of the State Heritage Register (SHR) listed Busby's Bore (SHR #00568, Database #5045164, LEP #I1) (also listed on Sydney Water S170 Heritage and Conservation Register) and is located within the curtilage of the Sydney Cricket Ground Heritage Conservation Area (HCA) (Sydney LEP 2012, HCA C37).

The State heritage listed 'Sydney Cricket Ground Members Stand and Lady Members Stand' (SHR 00353, Database #5045563) is located immediately to the south of the subject site. Other adjacent heritage items and HCAs include:

- Victoria Barracks Group—75 Oxford Street/Moore Park Road (LEP Heritage Item #I1086)
- Victoria Barracks HCA (LEP C49)
- Paddington South HCA (LEP C48)
- Moore Park HCA (LEP C36)
- Terrace house "Verulam" including interior and front fence—284 Moore Park Road (LEP Heritage Item #I1078)
- Olympic Hotel including interior—308 Moore Park Road (LEP Heritage Item #I1079)

1.6 Limitations and Constraints

This report is an Addendum AIS only, and only relates to modification works. The information given here can be found in more detail in the previous reports from which this report is drawn.

The description of impacts of the modifications relates only to additional ground disturbing works. As the modification relates only to below ground works, archaeological impacts are the only heritage considerations for this modification, and this report does not therefore discuss impact to built heritage (which remain the same as assessed and presented through the Stage 1 HIS). This report assesses Aboriginal archaeological impact only, and does not include an assessment of Aboriginal cultural or social values and significance.

1.7 Authorship

This report has been prepared by Andrew Brown and Kieren Watson, Archaeologists, with input and senior review by Sam Cooling, Senior Archaeologist, all of Curio Projects. Archaeological overlays and GIS mapping have been prepared by Kieren Watson.

2.0 Historical Timeline

This chapter provides a brief timeline summary of the historical phases of use that occurred at the SFS Redevelopment site, provided for context and easy reference (Table 2.1). For a full historical overview, reference should be made to the Stage 1 HIS.

The Moore Park area of Sydney is part of the traditional lands of the Gadigal people, which stretches along the southern side of Sydney Harbour from South Head, west to approximately Darling Harbour, and south towards Botany Bay. The Sydney region has two main language groups: Darug–with two main dialects, one spoken along the coast, and another in the hinterland/Cumberland Plain region of western Sydney; and Tharawal–spoken to the south of Botany Bay. Within the Darug language group, people belonged to smaller family/territorial groups or clans, through which they were connected to, and occupied, different areas of land across Sydney, of which the Gadigal people are one.

At the time of arrival of the First Fleet and Captain Arthur Phillip in January 1788, it is estimated that at least 1500 Aboriginal people would have lived along the coastal region between Broken Bay and Botany Bay. While there is limited ethnographic records of the use of the Moore Park area by Aboriginal people upon arrival of colonists in the late 1700s, the dune and wetlands of the Botany Basin in this area would have provided the local Aboriginal people with a rich and diverse resource zone to utilise. Elders from the La Perouse community have provided personal accounts of the collection of food and camping in Centennial Park in the 1930s, due to the presence of the Lachlan Swamps and the resources this landscape provided.

Table 2.1: General Historical Timeline for SFS Site

Historical Phase	Year	Description
Phase 1	**1811**	'Sydney Common' was dedicated by Governor Macquarie
Sydney Common and Victoria Barracks (1811-1849)	**1841**	Northern part of Sydney Common allocated for Victoria Military Barracks
	1841-1846	Victoria Military Barracks constructed
Phase 2	**1827**	Commencement of construction of Busby's Bore
Busby's Bore (1827-1859)	**1837**	Completion of Busby's Bore
	1837-1859	Busby's Bore as Sydney's sole fresh water source
	1859	Busby's Bore supplemented by Botany Swamps scheme, completely superseded by 1890
Phase 3	**1849**	Additional land from the Sydney Common was set aside for a professional military rifle range, related to the Victoria Barracks.
Rifle Range (1849-1892)	**1852**	Additional 25 acres from Sydney Common dedicated for a 'military garden and cricket ground' (the location of which eventually became Sydney Cricket Ground)

Historical Phase	Year	Description
	1862	Additional seven acres was converted into a rifle range for volunteer forces, adjacent to the professional range
	1866	Establishment of Moore Park
	1892	Closure of Rifle Range
Phase 4 *Engineers and Military Depot (1892-1986)*	**1892**	Former Rifle Range converted to headquarters of NSW Field Engineer Corps
	c1910s	Use as training facility for electrical and signal engineers prior to WW1.
	1914	Use of military reserve/depot by School of Military Engineering during WW1.
	1918	School of Military Engineering disbanded
	1920	Reduction of size of original land area granted to Engineer Corp to 9 acres, eastern part of land transferred to Royal Agricultural Society. Transfer of Central Training Depot to Casula, transition from Military School to division headquarters of field units.
	1939	Development during WW2, erection of a series of pre-fabricated huts, the establishment of the National Emergency Service and the construction of anti-aircraft trenches in Moore Park and other surrounding parklands.
	1970s	Removal of prefabricated huts and gradual reduction of Military Depot facilities.
	1986	Transfer of Military Depot to NSW Government, all structures demolished for construction of SFS.
Phase 5 *Sydney Sports Ground (1899-1987)*	**1899**	Part of the former rifle range and military depot (fronting Moore Park Road) was rededicated as an 'Athletic Sports Ground'
	1901	Survey and fencing of the boundaries in 1901, followed by partial filling of the site to level the playing field area, and form an embankment along the Moore Park Road frontage and along the eastern boundary.
	1902	Came to be known as 'Sydney Sports Ground'

Historical Phase	Year	Description
	1907	Initial facilities present including, grandstand, cycle track, dressing shed for players, rooms for trustees and office support. Capacity of 20,000
	1908	Second grandstand constructed.
	1914	Frequent use of temporary military encampments and use as a place of enlistment during WW1.
	Early 1930s	Removal of cycle track, construction of new main stand (Turner Stand), press box, scoreboard, floodlight towers, turnstile building, and public bar. Slight enlargement of land and rededication and for 'Athletic Sports and Public Amusements'
	1951	Administrative control of SCG and SSG brought under newly created Sydney Cricket and Sports Ground Trust
	1955	Closure of use of SSG as 'Sydney Speedway'- major racetrack in Australia at the time.
	1970s	Discussions begin about upgrade of sporting facilities at Moore Park
	1987	Sydney Sports Ground closed and demolished for SFS construction
Phase 6 *Sydney Football Stadium (1988-Present)*	**1988**	Sydney Football Stadium Opened
	1997	NSW Cricket Centre Constructed
	2007	Waratahs and Rooster Building constructed
	2008	Sheridan Building constructed
	2019	Former SFS demolished to allow for construction of new stadium

3.0 Revised Archaeological Assessment

This section of the report outlines the main results, conclusions, and recommendations arising from previous archaeological assessments for the SFS Redevelopment project that have relevance to this Addendum AIS; namely the Stage 1 *Archaeological Assessment*, and then provides an updated archaeological assessment in relation to the proposed modification works. For more detailed discussion regarding the potential and significance for Aboriginal and historical archaeological values for the SFS site, refer to the Stage 1 AA report.

3.1 Aboriginal Archaeology

In relation to Aboriginal archaeology, the Stage 1 AA concluded that:

- Prior to 1788, the subject site would have been a rich resource zone for exploitation by the local Gadigal people, due to its presence along the edge of the Botany Aquifer and Wetlands system, providing numerous freshwater resources including fishing and hunting grounds, as well as potentially appropriate ground for short term campsites for use of the landscape resources.
- The subject site is located on Tuggerah Soil Landscape, which is generally characterized by deep quartz sands (2m in depth) overlying interbedded clays and Quaternary marine sands.
- Previous archaeological investigations in the region, notably those associated with the construction of the Sydney Light Rail, had also indicated that Aboriginal archaeological deposits can survive intact beneath modern development, both within deeper subsurface deposits as well as potentially within historically disturbed contexts.
- As a consequence of the known soil landscape identified through previous boreholes, the entire SFS subject site has potential for the presence of intact natural sand profiles at depth. This translated into a low to moderate level of potential for Aboriginal archaeological deposits to be present across the site within deeper natural sands that exist beneath the layers of historical fill. Therefore, the SFS site has been registered as a Potential Archaeological Deposit (PAD) on the OEH AHIMS database ('SFS PAD', AHIMS #45-6-3645).
- Potential impacts to Aboriginal archaeology would normally require an Aboriginal Heritage Impact Permit (AHIP) in accordance with Section 90 of the NPW Act, however once the project is approved as SSD, the requirement for this permit will be removed.
- While early Aboriginal archaeological test excavation is not possible at the site (due to the developed nature of the site and demolition works), a program of Aboriginal archaeological test excavation/monitoring should be developed in direct association with the main development ground works, i.e. any areas of bulk excavation, piling etc.
- Any works involving Aboriginal Cultural Heritage management should be undertaken in close consultation with the local Aboriginal community.
- There is a need to consider safety and stability issues in the development of any Aboriginal archaeological test excavation (Botany sands profile are known to be unstable to excavate), which should be addressed through the development of future Aboriginal archaeological methodologies.

Overall, the Stage 1 Archaeological Assessment concluded that the Stage 1 works held very little potential to impact upon Aboriginal archaeology (as the Stage 1 works related to excavation to ground slab only), however that the Stage 2 development works (i.e. bulk excavation etc) had the potential to impact Aboriginal archaeological deposits, if present within the subject site.

3.1.1 Aboriginal Community Consultation—Introduction

Aboriginal community consultation in accordance with OEH statutory guidelines *Aboriginal cultural heritage consultation requirements for proponents 2010*, was initiated for the overall SFS Redevelopment project in April 2018, approached with the intent to apply the one process of consultation to subsequent development stages going forward for the project.

Aboriginal people are recognised as the determinants of their own heritage. Therefore, the ongoing process of Aboriginal community consultation for the SFS Redevelopment project seeks to identify social and cultural values of the subject site and its surrounds to the local Aboriginal community and will incorporate the assessment and acknowledgement of this significance into any future development stages and mitigation measures for the project.

The Aboriginal Community Consultation process in accordance with OEH Guidelines consists of four main stages:

Stage 1—Notification of project proposal and registration of interest

Stage 2—Presentation of Information about the Proposal Project

Stage 3—Gathering Information about Cultural Significance

Stage 4—Review of Draft Cultural Heritage Assessment Report

This process will be detailed in full within the future Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Stage 2 SSDA, however a summary of this consultation process has been included here, including Stages 1-3 (Stage 4 relates directly to the future ACHAR, relating to the future Stage 2 SSDA).

3.1.2 Stage 1—Notification of project proposal and registration of interest

The first step in undertaking the Aboriginal Cultural Heritage Assessment process for the subject site, is the identification of the Aboriginal community members who can speak for Country in the area of the project (Stage 1).

On behalf of Infrastructure NSW, Curio Projects initiated a process of Aboriginal Community Consultation in accordance with OEH in April 2018. In accordance with Stage 1.2 of the consultation guidelines, letters were sent to the relevant statutory bodies on 20 April 2018 (NSW Office of Environment and Heritage, La Perouse Local Aboriginal Land Council, the Registrar Aboriginal Land Rights Act 1983, the National Native Title Tribunal, Native Title Services Corporation Limited, Sydney City Council, and the Greater Sydney Local Land Services), requesting names of Aboriginal people who may have an interest in the proposed project area and hold knowledge relevant to determining the cultural significance of Aboriginal objects and places relevant to the SFS Redevelopment site.

A public notice advertising the SFS Redevelopment project was also placed in the Wentworth Courier on 11.4.18 (consistent with Stage 1.3 of the Consultation Guidelines), advising of the project location and proposed development, and inviting registration from local Aboriginal people.

All names compiled from Stage 1.2 of the process were then written to via email and/or registered post on 7 May 2018, inviting registration in the process of community consultation for the SFS Redevelopment. Response was requested within 14 days of the date of the letter (i.e. 21 May 2018).

Registered Aboriginal Parties

As a result of Stages 1.2 and 1.3, fourteen Registered Aboriginal Parties (RAPs) were identified for the SFS Redevelopment project (in alphabetical order):

- Biamanga;

- Butucarbin Aboriginal Corporation;
- Cullendulla;
- Darug Land Observations;
- Darug Aboriginal Cultural Heritage Assessments;
- Darug Boorooberongal Elders Aboriginal Corporation;
- Didge Ngunawal Clan;
- Goobah;
- Gulaga;
- La Perouse Local Aboriginal Land Council;
- Murramarang;
- Thoorga Nura;
- Tocomwall; and
- Wailwan Aboriginal Digging Group.

3.1.3 Stage 2 and Stage 3

Each project RAP was provided with written details of the proposed project and the draft proposed Aboriginal cultural heritage assessment methodology for the project (Stage 2 of the consultation guidelines). This letter was sent to all project RAPs in June 2018. Request was made for comment and/or review within 28 days of provision of the methodology document. A copy of the methodology document is provided in Appendix A.

All project RAPs were invited to a site visit and meeting to discuss the overall project and proposed methodology on 27 June 2018. This meeting was attended by Gordon Workman and Lynne Marlow (DLO), Scott Franks (Tocomowall), and Phil Boney and Brayden McDougall (Wailwan Aboriginal Digging Group). Sam Cooling (Curio Projects) facilitated the meeting, which was also attended by Phil Heads (SCG Trust), Tom Kennedy (INSW) and Fee Chemke Dreyfus (Ethos Urban). The meeting provided INSW with an opportunity to present the proposed SFS Redevelopment project to the project RAPs, as well as presentation and discuss of the draft Aboriginal cultural heritage methodology for the project, and for project RAPs to ask any question or raise any concerns or queries they may have regarding the Aboriginal cultural heritage management and proposed process for the project, or provide any comment on social or cultural values of the site location and project, if they wished. A second meeting was organised for Monday 10 December 2018, to which all project RAPs were invited, however, no RAPs were able to be in attendance.

Due to their inability to attend the 10 December 2018 meeting, a meeting was held between Sam Cooling (Curio Projects) and Chris Ingrey (La Perouse LALC) on 19 December 2018, at the La Perouse LALC offices. Mr Ingrey voiced concern about what might have remained (Aboriginal cultural material and sites) at the SFS site in areas of limited disturbance, as this would be of the highest significance for the project. Additional information was also provided regarding traditional use and significance of the SFS site and surrounds to the La Perouse community and their ancestors, however Mr Ingrey requested that the details of this information to be omitted from reporting for cultural sensitivity reasons. However, the information regarding significance provided by Mr Ingrey, has been incorporated into the Aboriginal cultural heritage significance assessment within this ACHAR, with specifics redacted.

While an opportunity was made for project RAPs to visit the project site, no archaeological survey was able to be undertaken, due to the nature of the subject site as a highly developed and urbanised site, completely covered with existing structures, building, hardstand, landscaping, and the stadium itself, therefore presenting

with no potential for surface artefacts nor landscape/landform features capable of informing Aboriginal archaeological assessment, to be visible.

3.2 Historical Archaeology

With regards to the historical archaeological assessment of the SFS Redevelopment site, the Stage 1 AA report concluded that:

- The subject site had six main phases of historical use including: Phase 1—Sydney Common (1811-1849); Phase 2—Busby's Bore (1839-1859); Phase 3—Military Rifle Range (1849-1892); Phase 4—Engineers/Military Depot (1899-1986); Phase 5—Sydney Sports Ground (1899-1986); and Phase 6—Sydney Football Stadium (1986-present).
- Busby's Bore is a State Significant heritage item (SHR listed) and is known to run beneath the subject area (near the northwestern boundary) and should be avoided by the design, and protected through development works where possible.
- The site retains low to moderate historical archaeological potential for an archaeological resource relating to the Phase 4—Engineers/Military Depot (As seen in Figure 3.1 below). If remnants of this are found and are to be impacted through the proposed development, mitigation via archaeological monitoring to record and remove any associated archaeological deposit may be necessary.
- The subject site retains low potential for remains associated with the Sydney Sports Ground (Phase 5). However, the Sydney Sports Ground is well recorded through numerous sources such as plans, maps, descriptions and photographs, and therefore, it is not considered that subsurface remains associated with the Sydney Sports Ground would be able to contribute in a meaningful way to the archaeological record (i.e. not meet the criteria for local or State significance), and therefore would not be considered to be 'relics' under the Heritage Act.
- Once the project has been approved as SSD, the requirement for Section 60 and Section 140 permits in accordance with the *NSW Heritage Act 1977* will no longer apply to the site.
- A Historical Archaeological Research Design (ARD) should be prepared to mitigate the impact to, and guide development in proximity to potential historical archaeological resources, notably Busby's Bore, and potential archaeological remains associated with the former Engineers Depot.

3.2.1 Revised Archaeological Assessment

A revised map of archaeological potential across the SFS Redevelopment site has been developed in relation to the six distinct phases of use of the site, as each phase entails historical activities that would leave different archaeological signatures. These phases include:

Phase 1 (1811-1849)—Recreational commons consisting of largely open space; Occupation deposits, cesspits and artefact scatters most likely present.

Phase 2 (1827-1859)—Fresh water bore implemented (Busby's Bore); land protected to keep tunnels untouched; Artefact scatters, occupation deposits from workers present.

Phase 3 (1849-1892)—Rifle range large open space; Bullets and other associated artefacts.

Phase 4 (1892-1986)—Engineers and Military Depot; Buildings constructed on subject site, other associated occupation deposits present.

Phase 5 (1899-1987)—Sports Grounds implemented; Buildings constructed and adapted seen in 1922 and 1949, would also see occupational deposits relating to military use and sporting use.

Phase 6 (1988-Present)—Establishment of current Stadium and associated buildings, carparks and services.

Due to major historical impacts across the site, only the south-east and north-east corners of the subject site have been assessed as retaining **moderate** potential for a remnant historical archaeological resource. The western half of the subject site has been assessed as having very low to low archaeological potential where extant structures are not present, and **low to nil** archaeological potential where structures are present (Figure 3.1).

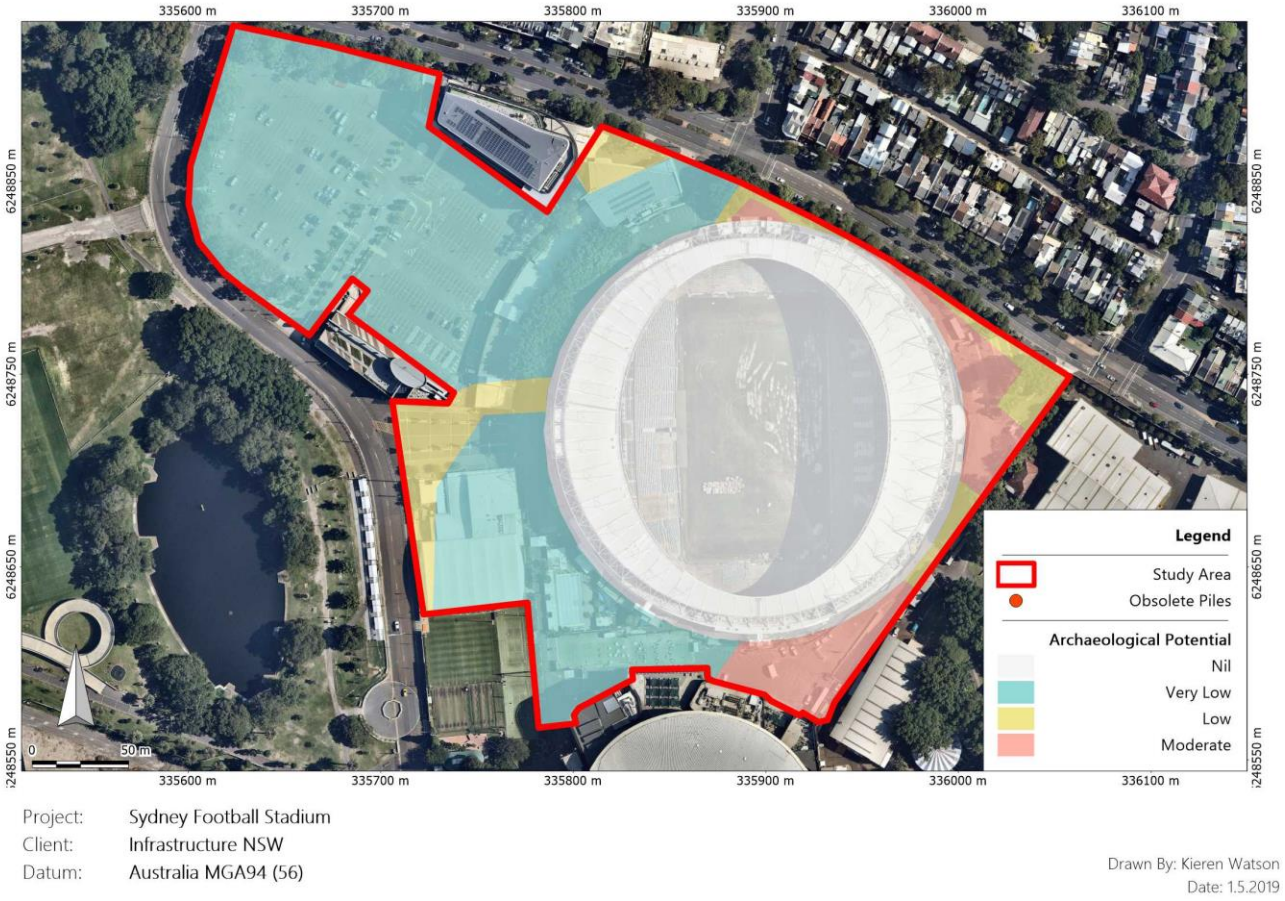

Figure 3.1: Historical Archaeological Potential (Source: Curio 2019)

3.3 Busby's Bore

Busby's Bore is known to be present within the SFS Redevelopment site, with the location of two shafts known (Shafts 9 and 10), and the location of two shafts unknown (Shaft 11 and Intervening Shaft No. 4). The exact trajectory and depth below ground level of the Bore itself, is also not accurately known within the subject site.

Therefore, while the Stage 1 SSDA for the SFS Redevelopment posed no below ground impacts (and therefore would not impact the fabric of the State Heritage Listed Busby's Bore), the Stage 1 HIS recommended that investigation should be undertaken prior to Stage 2 detailed design of the new stadium, in an attempt to locate the remaining two unknown shafts and path of the Bore itself, to ensure that there will be no intended impact to the significant fabric of State Heritage item by the new stadium construction, where possible.

Infrastructure NSW sought to undertake investigative works for more precise information about the location and condition of the Bore Shafts, and more precise information about the bore alignment within the SFS site (if possible) in the areas of the subject site that were likely to be impacted by the proposed future stadium footprint. These investigations were undertaken in January-February 2019 following endorsement by the NSW Heritage Division of a s57(2) Exemption Notification.

3.3.1 Summary of Investigation

Archaeological monitoring work of Busby's Bore was conducted at the SFS site in conjunction with the use of a vacuum truck to clear a shaft of the Bore (Shaft 10). The shaft position is known and is currently sited beneath a cast iron access plate adjacent to a cast concrete support column on the north side of the former SFS (Figure 3.2). Removal of the plate revealed a cast concrete collar sitting on top of hand dressed masonry from the bore shaft. Building rubble filled the shaft to within 2-3m of the current surface (Figure 3.3).

A worker with confined spaces training was lowered into the shaft via a winch and harness, who then proceeded to clear the large sized rubble and debris contained within the shaft into canvas bags (each weighing between 10 and 20kg) which were raised from the shaft by hand winch. These bags were emptied into a skip by the project archaeologist who sorted the material into: material to be immediately discarded; and material to be retained for further investigation and recording.

Once enough material had been removed, the vacuum truck pumped smaller scale debris and water into the truck under the supervision of the worker. The archaeologist was not allowed to enter the shaft due to Health and Safety regulations. The hand removal and vacuum truck took turn about over the period of clearance which eventually removed over 10 tonnes of rubble from the shaft and reached a depth of 11.80m below the current surface. Removal work only ceased when water began filling the shaft base in too great a volume for the vacuum truck to maintain a safe work space.

The majority of the material removed (>90%) was twentieth century building rubble consisting predominately of twentieth century machine-made bricks, concrete rubble, rusted reinforcing, and some plastics. During the process of clearance, a total of nearly 300 bags were removed from the shaft with a total estimated weight of over 10 tonnes. The remainder of the material consisted of hand dressed sandstone blocks and sandstone rubble, some sandstock brick and miscellaneous items of wood and metal. Once cleared, the principal elements of Shaft 10 were measured and photographed.

The majority of the recovered material indicates a twentieth century origin with a small fraction possibly derived from the nineteenth century. The context of the finds suggests that the material recovered from the shaft is largely derived from the demolition of the Sydney Sports Ground which once stood on this site and was demolished in the late 1980s. Some of the dressed sandstone recovered from the shaft may be derived from the masonry of the upper part of the shaft but there is no conclusive evidence that this is necessarily so.

At the completion of the clearance a vibration monitor was installed in the shaft – on the sandstone masonry – to provide monitoring of the vibration levels during demolition of the SFS (Figure 3.4).

Overall, the results of the investigation were relatively inconclusive with regards to the orientation/alignment of the Bore within the subject site, and the removal of debris did not reveal the Bore itself. However, while influx of water into the shaft at 11.8m below ground surface required the investigative works to cease, the ingress of this water was also considered likely to indicate that the level of the top of the Bore tunnel itself was imminent. The Bore in this locality is expected to be approximately 1.5m in diameter.

Figure 3.2: Cast iron access plate currently covering shaft 10, looking east.

(Source: Curio 2019)

Figure 3.3: Cast concrete collar sitting on top of the original shaft masonry, looking west.

(Source: Curio 2019)

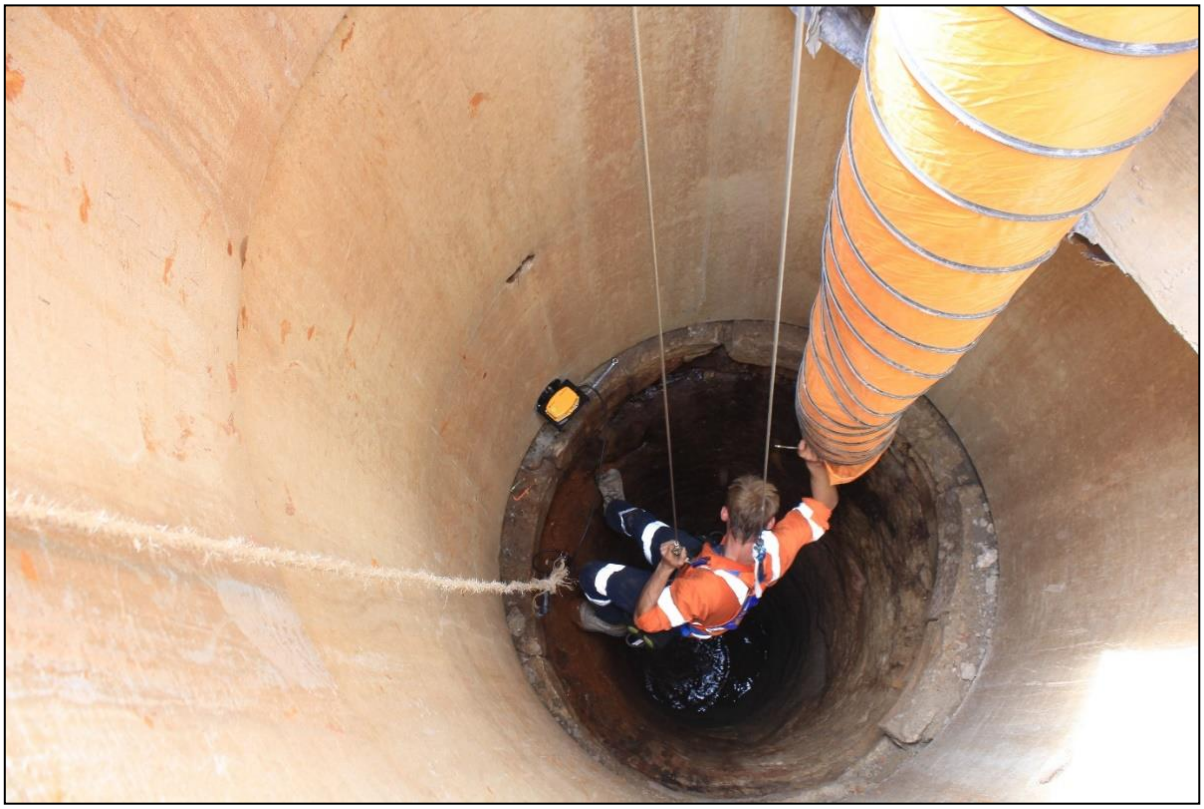

Figure 3.4: Workman installing vibration monitor on shaft side.

(Source: Curio 2019)

4.0 Proposed Modification Works

The s4.55 Modification to the Stage 1 SSDA includes the removal of the concrete ground slabs, pavement, footings and existing piles from the former stadium, as well as including the diversion of an existing Sydney Water stormwater main through the site.

The works proposed as part of the modification will be undertaken concurrent with works approved under SSD9249. This will include demolition of the existing ground slab across the entire site using excavators fitted with hammers and pulverisers. Demolished material will be carted from site for recycling and disposal at a licenced waste facility.

The below ground impacts involved for the removal of the concrete slab, existing paving and buildings footings should be minimal, while the subsurface impacts associated with the removal of the piles would be more substantial. The demolition plan for the modification works requires that the existing piles within the footprint of the new stadium be removed to a depth of 1.5m greater than RL39.3 (the depth approved through the Stage 1 Concept Plan as the maximum depth of the below ground building envelope). Works to remove existing piles would generally include the excavation of a 2m circumference around each pile in order to allow access to the pile, which itself would then be cut and removed by excavators. The locations of the existing piles within the subject site proposed for removal through the modification works are presented in Figure 4.1.

The diversion of the existing Sydney Water stormwater main located in the northwest of the subject site will involve connection of the new pipe to an existing stormwater pit (W1 in Figure 4.2) and construction of a new main to the west of the proposed stadium (Figure 4.2). These works are required to ensure the demolition of buildings approved within SSD9249 do not impact the existing stormwater servicing through the site. The existing stormwater drain through the site will be decommissioned and removed following installation and commissioning of the new drain.

The new stormwater main will be installed via trenching along the orientation of the new main, up to 3m in width to a depth of approximately 6m below the current ground surface (Figure 4.3).

Figure 4.1: Existing Piles from Former SFS (Source: Curio 2019)

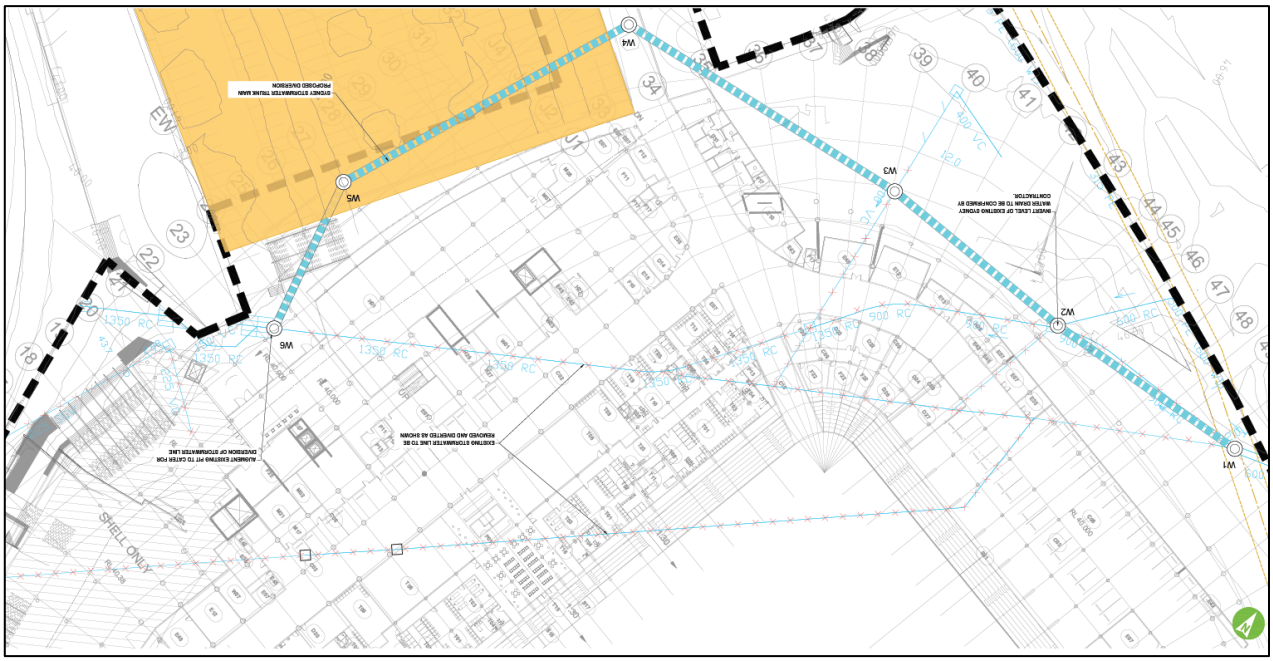

Figure 4.2: Sydney Water Diversion Plan showing existing stormwater main (thin blue line), and proposed (thicker blue line) (Source: Aurecon 2019, DWG-CC-00041-B, 25.4.19)

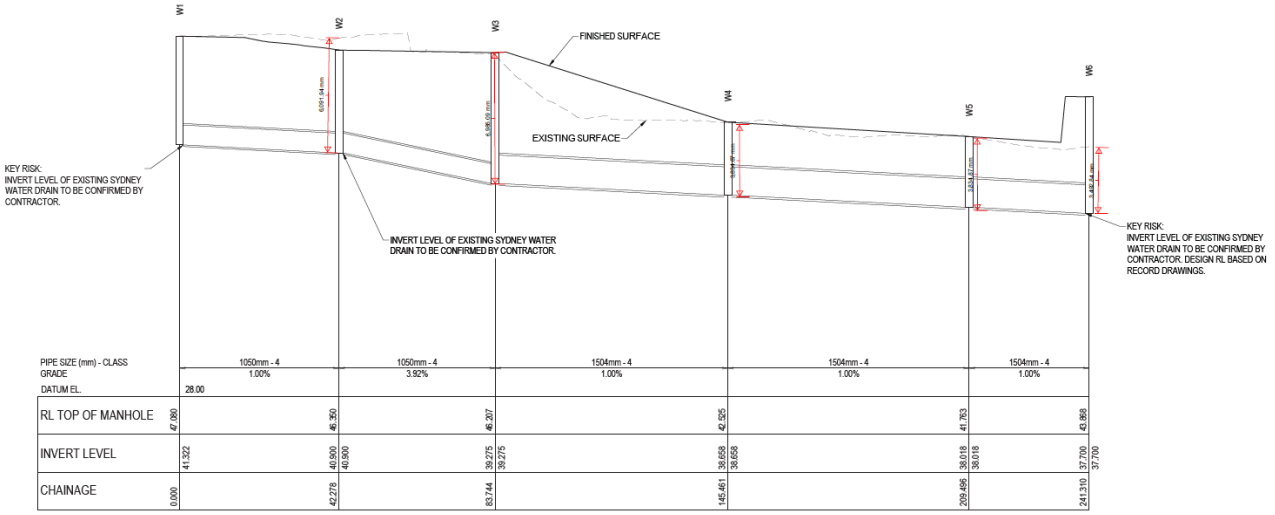

Figure 4.3: Sydney Water Diversion Longitudinal Section (Source: Aurecon 2019, DWG-CC-00041-B, 25.4.19)

5.0 Archaeological Impact Assessment—Modification Works

This report has been prepared to assess, mitigate, and manage the impact of the s4.55 Modification development activities to any potential archaeological resources contained within the subject site, and more broadly, mitigate any potential impacts to Aboriginal archaeological deposits or relics that may be unexpectedly discovered during the proposed modified construction works.

The proposed development impacts are those that will impact below the ground surface, and therefore risk disturbing any potential Aboriginal and historical archaeology that may be present (as discussed above).

5.1 Potential to Impact Historical Archaeological Resources

Figure 5.1 presents a general map of the existing piles requiring removal and the location of the stormwater diversion, over the map of historical archaeological potential of the SFS subject site. All existing piles fall within an area assessed to have no historical archaeological potential, due to the excavation undertaken across the stadium footprint for the construction of the former stadium in 1987 (Figure 5.2). Therefore, the removal of the existing piles within the stadium footprint is unlikely to have any historical archaeological impact.

The trenching required for the diversion of the stormwater main is mainly located in an area of very low potential, with a small section in the east of the line located within an area of Low to Moderate potential. The location of W1 marks an existing stormwater pit, and as such can be assumed to have no archaeological potential in the location of the pit and immediate surrounds. The part of the new stormwater main trenching that falls within the area of low to moderate archaeological potential will require some archaeological management to ensure mitigation of any potential archaeological relics or features in this location.

The removal of concrete slabs and paving across the remainder of the site (i.e. outside the footprint of the former stadium) have a low potential to uncover remnant historical features but should not pose direct or significant impact to any potential features, due to the minimal level of ground surface disturbance presented by these slab/paving removal works. However, if unexpected archaeological material is encountered during the proposed development, archaeological investigation and recording would be necessary, and procedures for such should be developed (see relevant sections below).

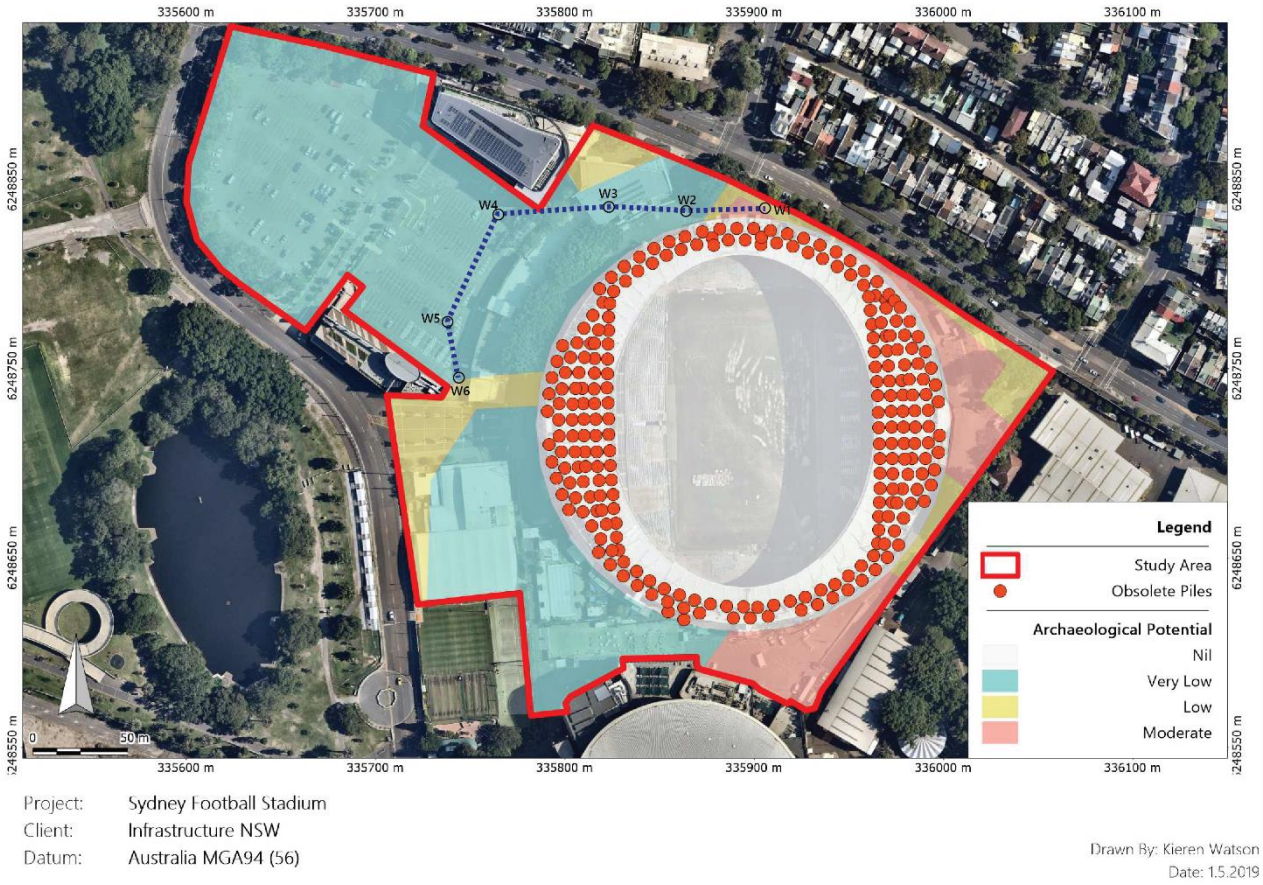

Figure 5.1: Existing Piles and Proposed Storm Water Main Diversion over Historical Archaeological Potential (Source: Curio 2019)

Figure 5.2: Excavation for SFS Construction, 1987, view West (Source: SCG Museum Collection 12/123)

5.1.1 Busby's Bore

There is known archaeological potential along the northern boundary of the subject site pertaining to Busby's Bore which, due to its State significance needs to remain in situ. The location of two shafts (Shafts 9 and 10) are known within the SFS site, both located in the northeast corner of the site, immediately adjacent to but outside of the former stadium footprint. While the 2019 investigations of the Bore were relatively inconclusive with regards to the overall alignment of the Bore within the subject site and potential location of additional shafts in the vicinity, the investigation removed over 10 tonnes of modern (i.e. 20th Century) building rubble from one shaft, without reaching the top of the Bore itself. Based on the results of the investigation, it is considered likely that the top of the Bore is not far below 11.8m below the existing ground surface.

Figure 5.3 presents the approximate location of Busby's Bore and known locations of the two shafts within the SFS Redevelopment site in relation to the existing piles proposed for removal, and proposed stormwater main diversion. While located in general proximity of the shafts, the existing piles support the former stadium, which the two shafts are definitely outside of the footprint of the former stadium. Therefore, removal of the piles will not impact the Bore.

With regards to the trenching required for the construction of the new stormwater diversion, the new diversion will be situated c.6m below the existing ground surface, a far shallower depth than the c. 12m below ground level depth of the Bore. Therefore, construction of the new stormwater diversion will not impact Busby's Bore.

Nevertheless, it is recommended that archaeological mitigation measures be put in place during the removal of the existing piles in the general vicinity of Busby's Bore (i.e. in the northeast of the subject site), and during trenching works in the vicinity of W1, to ensure that the pile removal/stormwater trenching will not impact the State significant heritage item.

The known shafts (shafts 9 and 10) within the subject site are sited beneath cast iron access plates, which overlays a cast concrete collar sitting on top of hand dressed masonry from the bore shaft. Due to the presence of the modern concrete collar, removal of the concrete slab in the vicinity of the Bore shafts will have no impact to the Bore Shafts themselves, however, mitigation measures are also recommended in these locations during slab removal to ensure there is no impact.

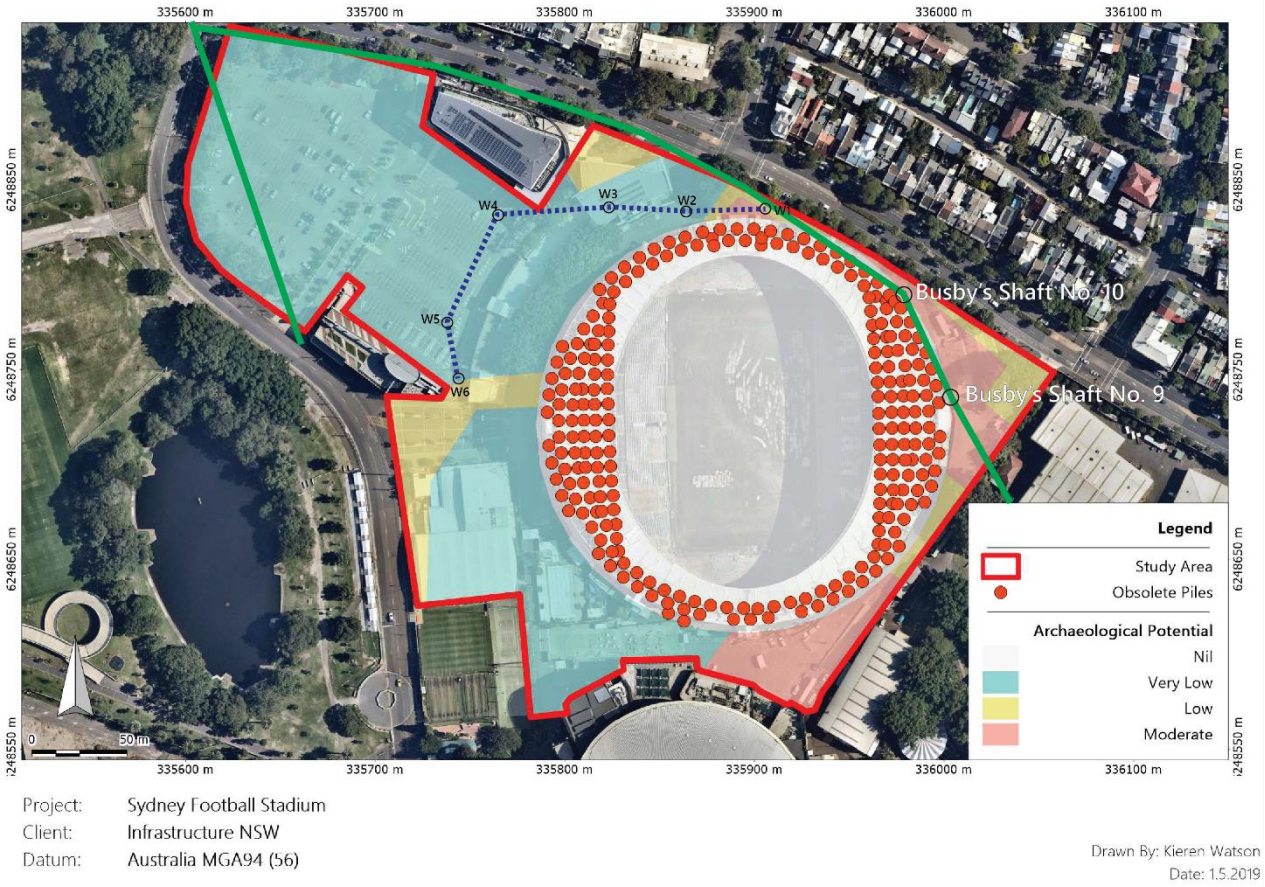

Figure 5.3: Approximate Busby's Bore location (green) and known location of Shafts 9 and 10, with Existing Piles and Proposed Stormwater Main Trench

(Source: Curio 2019)

N.B. Size of shafts depicted not to scale, for locational purposes only

5.2 Potential to Impact Aboriginal Archaeological Resources

Any below ground works proposed for the SFS redevelopment site that have potential to impact natural soil profiles across the site, also pose potential impact to Aboriginal archaeological deposits, if present. With reference to the proposed Modification works, wherever excavation for removal of the existing piles has the potential to impact natural soil profiles, there is also the potential to impact Aboriginal archaeology.

Preliminary modelling undertaken by Arup (engineers) through the development of the SFS Redevelopment Stage 1 Concept Plan and Early Works strategy demonstrated that a significant amount of cut will be required across much of the site. Due to the uneven surface elevations across the site, bulk excavation works (to be part of the future Stage 2 SSDA) will be concentrated in the west of the site, with an additional area to the south in order to link the new basement services level with the SCG basement.

In an effort to understand the potential that the excavation for removal of piles has to encounter/impact natural sand profiles, detailed analysis has been undertaken to compare proposed excavation depths (for pile removal), with geotechnical borehole information, in order to identify excavation locations within potential to encounter natural soil profiles. Geotechnical information for the SFS site contained within the 2018 report prepared by Douglas Partners (Douglas Partners 2018) was used in the excavation depth analysis. Based on this analysis, zones of high and moderate potential have been allocated across the SFS site with reference to locations of pile removal, to which archaeological investigation strategies would be applied where required.

The removal of existing piles is required to be undertaken to a depth of 1.5m below RL39.3, therefore the analysis presented below provides an indication of the locations across the subject site where the removal of existing piles is likely to require impact to natural soil profiles (Table 5.1). Figure 5.5 presents an overall zone of where pile excavation works are likely to be of a depth necessary to reach natural soil profiles, with an overlay of the location of existing piles proposed for removal through the modification works, as well as the location of the proposed stormwater diversion.

Trenching for the new stormwater diversion in the northwest of the site will require open trenching to c.6m below the existing ground level. The geotechnical information available (albeit limited), suggests that natural soil profiles in this location could be located between 1-2m to 5.5m below the existing ground level (boreholes C5, 4 and A10 from Table 5.1 below).

Overall, the excavation of the existing piles and trenching for the stormwater diversion as presented in Figure 5.5, has some potential to encounter and impact natural soil profiles (i.e. AHIMS #45-6-3645, SFS-PAD), and therefore should be subject to archaeological mitigation measures to monitor and/or mitigate this potential impact.

It should be noted that there is a margin for error associated with the zoning presented in Figure 5.5, due to the limited geotechnical information available, and therefore the concentration of borehole information to the west of the site (i.e. the location of proposed stormwater pits W4-W6 do not have available geotechnical data associated with them, and therefore the tentative potential for natural soil profiles in these locations were unable to be mapped). Therefore, the zones most likely to impact the sand deposit outlined below should be considered as indicative, rather than definitive. However, this level of ambiguity and uncertainty surrounding the depths of natural soil profiles at the site is able to be addressed via the application of archaeological mitigation measures, as presented in the following chapter.

Table 5.1: Assessment of natural soil impacts for removal of Existing Piles

Borehole (Approx north-south)	Depth to Natural Sand	Proposed Excavation Depth for Pile Removal	Potential to Impact Natural Soils
C5	1-2m	4-5m	High
4	5.5m	9-10m	High
A10	5.5m	7-8m	High
C20	1m	2-3m	Moderate
C21	4.2m	4-5m	High
C31	2.2m	3-4m	Moderate
A9	c.1-2m	2-3m	Moderate
P7	c.5m	4-5m	Low
P6	c.4m	4-5m	Low

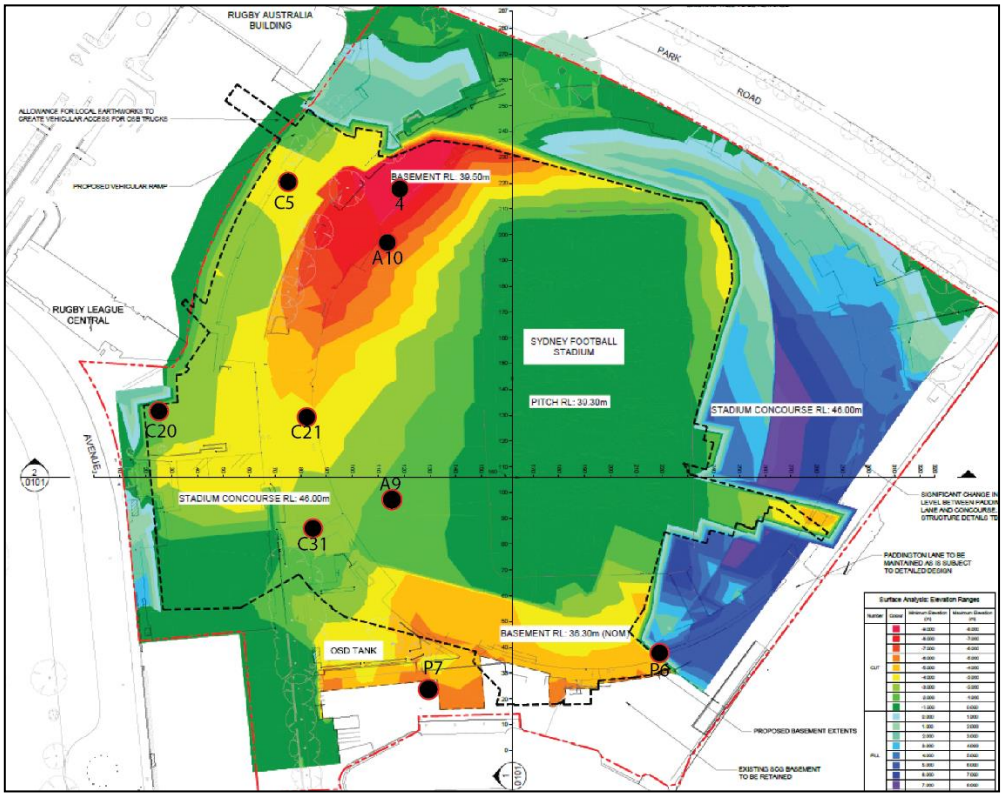

Figure 5.4: Location of Boreholes used in Analysis (Source: Arup 2018 with Curio Additions)

Figure 5.5: Potential Natural Sand Profile Impact Zones, Stormwater Diversion in Blue (Source: Curio 2019)

6.0 Archaeological Mitigations and Recommendations

6.1 Historical Archaeology

Following the impact assessment of the modification works with regards to historical archaeology (Section 5.1 above), the SFS Redevelopment site has been zoned to reflect areas to which two different historical archaeological mitigation strategies should apply:

- **Unexpected Finds**—for areas assessed to haver very low to no potential for intact archaeological fabric or resources to remain; and
- **Supervision**—for areas with low to moderate potential for a remnant archaeological resource or relics to be present, and therefore requiring caution to be applied during development works.

'Supervision' is defined as the archaeological supervision/monitoring of the modification works program that allows for the incidental recording of relics, should they be exposed through development activities (i.e. excavation of the existing piles), to be undertaken in accordance with a developed archaeological methodology. Areas zoned as 'Unexpected Finds' would not require archaeological monitoring, with archaeological mitigation works only required should an unexpected archaeological resource be uncovered during modification works.

The modification works that would present the greatest ground impact and therefore potential to impact historical archaeological resources (i.e. excavation of existing piles to c.1.5m below RL39.3) are mainly located in areas of the site assessed to be of no historical archaeological potential, due to the initial excavation works during construction of the former stadium that would most likely have removed any archaeological resource. However, there is one minor section of the new stormwater diversion that is located in an area zoned as requiring 'supervision'.

Therefore, it is recommended that the majority of the s4.55 modification works can proceed without targeted archaeological monitoring supervision (following the 'Unexpected Finds' protocol), with targeted supervision to be undertaken of the stormwater trenching between W1 and W2 (Figure 6.1).

6.1.1 Unexpected Finds

Given the low potential for significant archaeological remains to be present within the areas impacted by modification works, archaeological monitoring across the majority of the subject site is proposed to commence *only* if an unexpected archaeological resource is encountered during modification works. The modification works including pile excavation and top slab removal at the site may generally commence without historical archaeological supervision at first, provided the methodology as provided in this document is followed. This methodology includes the requirement for construction workers to undertake an archaeological induction prior to the commencement of works, and that the Aboriginal archaeological protocols, described in the sub-sections below are also observed and adhered to.

Should any suspected archaeological deposit or resource be encountered during the Modification Works, works in the immediate location of the find must cease, and the project archaeologist contacted to verify the nature of the potential relic/archaeological resource. Should any unexpected find be confirmed to be of archaeological significance by the project archaeologist, the finds would be subject to further archaeological investigation, including excavation, recording, and removal, in accordance with the 'Supervision' methodology presented below.

6.1.2 Supervision

Archaeological monitoring is the supervision of a works program that allows for the incidental recording of relics, should they be exposed through construction/development activities. Historical archaeological monitoring within the SFS Redevelopment site will be conducted according to accepted Australian historical archaeological best practice guidelines (as endorsed by the NSW Heritage Division).

Areas assigned as **Supervision** are considered to have a low to moderate potential for a remnant archaeological resource or relics to be present, and therefore any excavation works should proceed in these areas with more caution. An small area of trench excavation for the stormwater diversion is located in an area of low to moderate archaeological potential (approximately between W1 and W2), and therefore should be subject to targeted archaeological monitoring (Figure 6.1).

Should any historical archaeological deposit or resource be encountered during supervision works, construction/excavation works in the immediate vicinity of the find must cease until the resource can be appropriately archaeologically recorded. Following the appropriate exposure and recording of the find, construction (i.e. trenching/pile excavation) works may then proceed, to be monitored by an archaeologist.

The archaeological monitoring program will be undertaken by Matthew Kelly as nominated Excavation Director with assistance from a suitably qualified historical archaeological field assistant, if required, who would undertake the detailed recording analysis of the material before removal. Recording and removal of any find would be undertaken in accordance with the recording process outlined below. Following the appropriate exposure and recording of the find, construction works may proceed in the vicinity of the find, to be monitored by a suitably qualified and experienced historical archaeologist.

Should relics be exposed during archaeological monitoring works, they would be assessed on the spot and recorded. If significant, they will be subject to salvage excavation. The recording process will include the following:

- Manual (hand) clean-up and excavation of exposed relics using hand tools (shovels and trowels);
- Exposure (via hand excavation) of the identified archaeological deposit/relic to the extent of the deposit;
- Preparation of annotated site plans to plot the location of features, deposits and items;
- Note taking in a dedicated field notebook that will be used to create a running record of the monitoring and salvage program;
- Photography of the excavation using a high-end digital camera (& scale bar/mini-rod) with photo date and contextual details recorded in a photo catalogue; and
- Recording of any archaeological features and deposits identified to be of local significance, which will be given sequential identifiers (context numbers). Contexts and summary details will be entered into a running context catalogue with significant/notable items recorded on individual data sheets.

Should any locally significant artefacts from intact contexts be revealed during the excavation process, they will be retained, bagged and tagged according to location, context and fabric. These will later be cleaned, re-bagged and subject to preliminary cataloguing before being secured in archive boxes in an appropriate location (once analysis and recording has been completed). The ultimate artefact repository chosen (and/or options for dissemination or display) will be the responsibility of the client and will be detailed in the excavation report. Once identified archaeological deposits and relics have been sufficiently exposed and recorded (in accordance with the above), they will be removed, and modification works can continue in the area.

Figure 6.1: Existing Piles requiring removal and stormwater diversion over Archaeological Mitigation Zones

(Source: Curio 2019)

Research Questions

While it is considered unlikely that any significant historical archaeological resource would be encountered during the modification works, should any be encountered requiring excavation and recording as per the methodology presented above, research questions have been developed in order to provide a contemporary research framework should any intact or un-disturbed historical archaeological deposit be identified at the site. These include:

- It is predicted that the majority of the site has been subject to significant levelling for the modern stadium and associated. To what extent is this assumption reflected in the archaeology revealed?
- What level of historical ground disturbance exists outside the footprint?
- What is the nature, extent, intactness and significance of the historical archaeological resource (features, deposits or other items), if any, exposed within the bulk excavation area?
- Does the archaeological resource verify the assessed potential and significance of the site?
- Do the deposits and features contribute new information about the occupation and development of the site?
- Is there any archaeological evidence of the Phase 1 (1811-1849) use of the subject site (i.e. The Sydney Commons), including any structural remains, or evidence of deeper subsurface features such as wells, cisterns, rubbish dumps etc?

- If so, what is the nature of the evidence and how can it add to our understanding of this area of colonial Sydney and early occupation?

- Beyond the tunnel itself, is there any archaeological evidence that relates to Phase 2 (creation of Busby's Bore), including building material, rubbish dumps or associated fabric?
  - If so, what is the nature of the evidence and how can it add to our understanding of the construction of the bore?
- Is there any archaeological evidence of the Phase 3 and Phase 4 (1849–1986) use of the subject site (i.e. military use of the site as a rifle range and as athletic grounds), including any structural remains, or evidence of deeper subsurface features such as wells, cisterns, rubbish dumps etc?
  - If so, what is the nature of the evidence and how can it add to our understanding the way the site was used and the development through time?
- What does the material cultural assemblage (if present) from any of the historical phases of site use reveal about the daily lives and activities of the site occupants?

6.1.3 Busby's Bore

As discussed in Section 5.1.1 above, while the removal of the piles and the trenching for the stormwater diversion will not impact the Bore, it is still recommended that archaeological mitigation measures be put in place during the removal of the existing piles in the general vicinity of Busby's Bore (i.e. in the northeast of the subject site), and the trenching excavation around W1, in order to ensure that works will not impact the State significant heritage item.

Therefore, archaeological monitoring/supervision of the removal of the slab and excavation of existing piles in the vicinity of the known shafts, as well as monitoring of stormwater diversion trenching works in the vicinity of W1 is proposed. The archaeological monitoring program will be undertaken by Matthew Kelly as nominated Excavation Director with assistance from a suitably qualified historical archaeological field assistant, if required. Should any development impacts encounter deposits suspected to be associated with the Bore itself, or associated shafts, works would cease in the immediate vicinity until the nature of the find is verified by the Excavation Director, with the Supervision mitigation protocol (as outlined above) to be enacted if required.

6.2 Aboriginal Archaeology

The s4.55 Modification works include two different categories of ground impacts: those that will only impact upper fill layers, i.e. removal of the concrete slabs, footings and paving; and those that will have a deeper subsurface impact with the potential to impact nature soil profiles (i.e. excavation of existing piles). Modification development works that will only impact upper fill layers have no potential to impact potential Aboriginal archaeological deposits, however, excavation of existing piles and trenching for the stormwater diversion in the northwest of the site has potential to impact Aboriginal archaeology, if present, within select locations. Therefore, it is appropriate to develop a strategy for Aboriginal archaeological monitoring for the site to apply to areas of pile excavation, and stormwater diversion trenching with potential to encounter natural soils.

6.2.1 Monitoring

It is recommended that excavation of the existing piles located within the zone of potential impact to natural soil profiles, as well as the stormwater diversion trenching works (Figure 6.2), be subject to targeted Aboriginal archaeological monitoring. Generally, Aboriginal archaeological monitoring would be undertaken under the supervision of a suitably qualified and experienced archaeologist, to be accompanied by representatives from identified project RAPs acknowledged as being cultural knowledge holders for the SFS region (see Section 3.1 above for list of project RAPs).

Should natural sands be identified within development impact zones, opportunity should be made (to be discussed with the project RAPs) to commence test excavation in these locations, in accordance with the Aboriginal archaeological excavation methodology as presented below. Additionally, it is recommended that where possible, the existing piles should be excavated in a way that minimises the impact to the surrounding ground, particularly if excavation is required within natural soil profiles (i.e. beneath the fill level).

The monitoring of the identified locations (generally in the northwest, west and south of the site) would be coordinated with the civil contractor during modification works, as well as in consideration of any identified contamination constraints.

Allowance must be made for any contamination considerations or issues at the site during proposed archaeological mitigation works, should such issues become apparent, in order to ensure that all WH&S and Environmental requirements are met during site works. This may require slight variation of proposed strategy of soil monitoring, and should this be required, would be discussed between the archaeologist, contractor, client, and RAPs in the field.

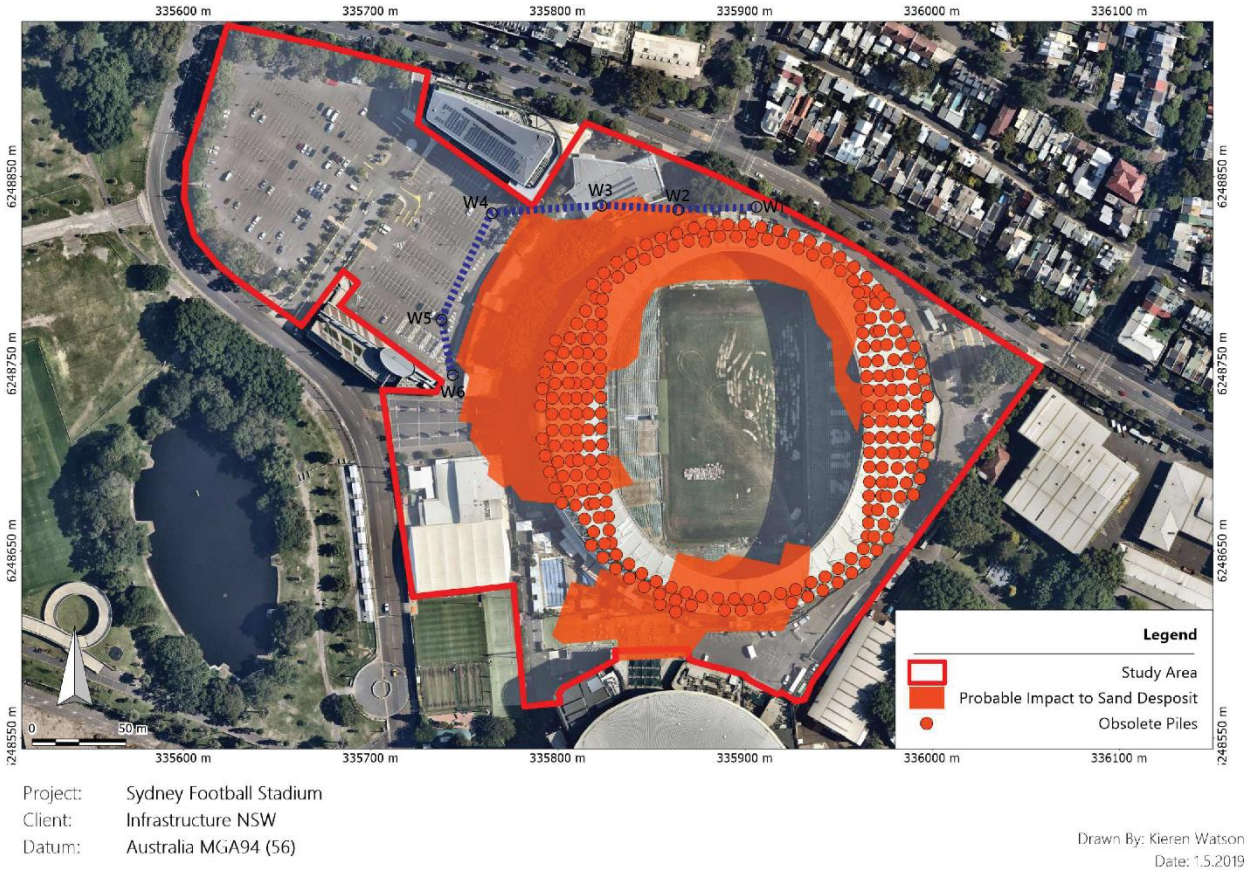

Figure 6.2: Aboriginal archaeological monitoring areas- Generally in north-west and south.

(Source: Curio 2019)

6.2.2 Test Excavation

Should intact natural sands be encountered during the archaeological monitoring phase, excavation in the immediate vicinity will be paused, and a suitably qualified and experienced archaeologist will be consulted to assess the nature of the soils, in order to confirm whether the soils are in fact remnant natural profiles with the potential to retain an Aboriginal archaeological deposit. If soils are confirmed to be natural, the Curio Archaeologist/Aboriginal Excavation Director, in consultation with project RAPs, would identify if test excavation is possible within the parameters of the location (i.e. considering factors such as accessibility, WHS conditions, and the required level of ground impact for the specific development location). Due to the limited

impact zone of the proposed modification works (i.e. c.3m in width for stormwater diversion trenching and c.2m in diameter around existing piles, it is considered unlikely that the impact zone will provide suitable access to natural soil profiles (if encountered) to allow Aboriginal archaeological test excavation. However, should it be determined that test excavation is possible at a location in which natural soils have been encountered, then the following methodology would be applied:

- Should a remnant soil profile be positively identified, that is capable of being subject to archaeological test excavation, then this would be undertaken by mechanical excavation using a small excavator (operated by a driver with demonstrated experience in archaeology) in targeted locations, with the purpose of testing for Aboriginal archaeological material within the natural soil profile.
- Mechanical excavation has been identified as an appropriate method for test excavation for the SFS Redevelopment site, due to the likely depth and nature of the natural sand profile, presence of the water table, as well as the depth of historical fill across the site.
- Test excavation in each identified area will commence by the initiation of a mechanical test trench of c2m x 2m (or of similar measurements to best fit the location and size of the pile excavation impact zone to be test excavated), within the identified location presenting with natural soil profiles. Machine excavation of test trenches would proceed in approximately 200mm spits.
- Test excavation would proceed to the depth of the required impact zone, or just above the water table, whichever comes first.
- The mechanical excavation of all test trenches will be monitored by a suitably qualified and experienced archaeologist, as well as representatives from the project RAPs.
- Should any sensitive Aboriginal archaeological features such as hearths be identified within the test trenches, mechanical excavation would cease, and hand excavation would commence to the extent of the identified feature (as possible, in consideration of accessibility and WHS conditions).
- If carbon or other features suitable for scientific dating are identified, these would be sampled for possible further analysis.
- The deposit from each expansion unit would be wet or dry sieved (depending on the nature of the sands, and any limitations of the work site at the time of excavation) through a 5mm aperture wire-mesh sieve, with any recovered objects recorded in correspondence to their test trench and catalogued appropriately.
- The location of each test trench will be recorded by GPS, and recorded in detail including stratigraphic/soil profile description and drawings, description of any relevant features, artefacts etc, and photographed using a DSLR camera and appropriate photoscale.
- Where possible, information derived from the monitoring/test excavation would be used to expand the archaeological understanding of the SFS Redevelopment site, and wider Aboriginal occupation patterns across the southeastern Sydney peninsula.
- Stone artefact recording of any recovered Aboriginal stone artefacts would follow the requirements detailed through the OEH Code of Practice, and in accordance with current accepted academic texts for stone artefact analysis and recording in southeast Australia (i.e. Holdaway and Stern 2004).

Should a natural soil profile be encountered within the stormwater diversion trench to which Aboriginal archaeological test excavation was not appropriate/able to be applied, mechanical excavation of the natural soils within the impact zone of the trench would be undertaken using a batter/mud bucket, under supervision

of the project RAPs. Any excavated natural soils would be retained, to be sieved by the project RAPs, to allow investigation of the natural soil profile in this location, to identify if any Aboriginal artefacts are present.

6.2.3 Research Framework

Three primary objectives have been identified for any Aboriginal archaeological investigation required for the modification works at the SFS Redevelopment site, with regard to the Aboriginal archaeological potential of the subject site. These objectives are:

- to identify whether natural soil profiles capable of retaining an Aboriginal archaeological deposit are present within the subject site (within the impact zone of the modification works);
- to determine whether these natural soil profiles contain an Aboriginal archaeological deposit, and, if present, to undertake an assessment of the deposit within a local and regional landscape context; and
- to explore the nature and extent of any identified Aboriginal archaeological deposit, within modification impact zones (as possible in consideration of any WHS concerns or accessibility issues at the site).

Any Aboriginal archaeological investigation undertaken for the modification works also have the ability to further inform the Stage 2 development works activities with regards to appropriate mitigation and investigation measures (if required).

Several research questions have been developed to inform the above objectives. Key research questions for the any Aboriginal archaeological investigation of the subject site include:

- Will the proposed development works within the SFS Redevelopment site impact intact natural sands?
- If natural soil profiles are encountered during development works, is an Aboriginal archaeological deposit present within these sands? If so, to what nature and extent are Aboriginal archaeological remains present?
- Can the natural soil profiles inform a geomorphological context of the study area? If so, how?
- Does archaeological test excavation provide any additional information as to whether the overall study area is likely to retain a remnant Aboriginal archaeological signature (i.e. within natural sands conserved outside of development impact zones?
- How can the Aboriginal archaeological deposit (if recovered) be interpreted in a local and regional context?
- Is there any evidence for 'post-contact' Aboriginal archaeological deposits, such as knapped glass artefacts and flaked ballast?
- Is the archaeological deposit (if encountered) culturally and/or publicly significant? To what extent?

7.0 Conclusions and Recommendations

Due to a change in the demolition strategy for approved Stage 1 SSDA for the SFS Redevelopment, an Addendum Archaeological Impact Statement was required in order to address additional below ground impacts proposed by the modification works. The proposed modification works will include the removal of the concrete ground slabs, pavement, footings and existing piles from the former stadium, as well as construction of a new diversion of an existing Sydney Water stormwater main through the site.

The s4.55 Modification works have been divided into two different categories of ground impacts: those that will only impact upper fill layers (i.e. removal of the concrete slabs, footings and paving); and those that will have a deeper subsurface impact (i.e. excavation of existing piles, trenching works for the stormwater diversion). The lesser impacts (i.e. removal of the concrete slab, paving and building footings) will have no to very low to impact on any potential historical archaeological resource, and no potential to impact on potential Aboriginal archaeology.

All existing piles fall within an area assessed to have no historical archaeological potential, and therefore the removal of the piles is unlikely to have any historical archaeological impact, and works can proceed following the developed 'Unexpected Finds' protocol. A small section of the trenching required for the diversion of the stormwater main is located within an area of Low to Moderate archaeological potential, and will therefore require archaeological mitigation in the form of targeted archaeological monitoring, following the 'Supervision' protocol as developed through this report.

Modification development works that will only impact upper fill layers have no potential to impact potential Aboriginal archaeological deposits, however, excavation of existing piles and trenching for the stormwater diversion in the northwest of the site has potential to impact Aboriginal archaeology, if present, within select locations. Therefore, excavation of the existing piles located within the zone of potential impact to natural soil profiles, and trenching for the stormwater diversion, should be subject to Aboriginal archaeological monitoring, as per the methodology presented in the relevant sections above.

Should natural sands be identified within development impact zones, opportunity should be made (to be discussed with the project RAPs) to commence test excavation in these locations, in accordance with the Aboriginal archaeological excavation methodology as presented above.

It is also recommended that during the excavation of the existing piles and trenching for the stormwater diversion, that excavation impacts be minimised as much as possible, particularly for pile locations at higher risk of encountering natural soil profiles (i.e. with potential to impact Aboriginal archaeological deposits), and trenching works.

While the removal of the existing piles and stormwater diversion trenching works will not impact Busby's Bore, it is still recommended that archaeological mitigation measures be implemented during the concrete slab removal, and pile excavation in the general vicinity of Busby's Bore (i.e. in the northeast of the subject site), and trenching works in the vicinity of W1, in order to ensure that the development works will not impact the State significant heritage item.

An archaeological induction should be prepared for all on site contractors involved in the below-ground works relating to this s4.55 Modification works (as described within this report), in order to familiarise them with the contents and recommendations of this Addendum AIS, and the process should they encounter an unexpected archaeological resource.