

QANTAS AIRWAYS LIMITED FLIGHT TRAINING CENTRE

HISTORICAL ARCHAEOLOGICAL ASSESSMENT

16 APRIL 2019
P0003994
PREPARED FOR QANTAS AIRWAYS LIMITED

URBIS

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EXECUTIVE SUMMARY

Urbis Pty Ltd (Urbis) has been commissioned by Qantas Airways Ltd (Qantas) to prepare this report in accordance with the technical requirements of the Secretary's Environmental Assessment Requirements (SEARs), and in support of the **SSD 10154** for the development of a new flight training centre at 297 King Street, Mascot (The Site).

This report is an Historical Archaeological Assessment (HAA), to assess the potential for historical archaeological remains to be present on site, and impacted by the proposed works. It is prepared in response to SEARs Key Issue: Heritage, requiring *consideration of heritage items within the vicinity of the site and any potential impacts associated with the development*.

The Site is not listed on any statutory heritage registers, either for built heritage or archaeological values.

The Site is comprised of several lots, but overall has the following pattern of development:

- Land grant, 1837;
- Market gardens, ca.1900-1950;
- Industrial uses, ca. 1950-1980; and
- Qantas ownership and use, ca.1980-present.

The Site is assessed in this HAA as having low potential for archaeological remains or relics that reflect its past occupation and use. There is low potential for artefact bearing deposits dating to the use of the site as market gardens, however subsequent land uses would have disturbed such deposits. Should they remain are likely to represent assemblages commonly found in historical archaeological sites, and not considered to be of high research value or significance.

The research potential of the historical archaeological resource is assessed as low. It is unlikely that archaeological deposits or features that can provide meaningful research information are extant. Any artefacts identified during earthworks are unlikely to contribute previously unknown information about the subject site or the surrounding area, however they may have some level of comparative research value.

While the chances of finding in-situ archaeological features is considered low, the process to be undertaken in the event of an unanticipated discovery should be included in all site inductions to ensure legislative obligations are met. In the event that sub-surface material in the form of building footings, structural remains or artefact deposits are found in the course of site works, the following steps are recommended:

1. All works cease in the vicinity of the find to avoid further disturbance of remains;
2. Person who makes the discovery is to notify the head contractor / site manager of the find;
3. Head contractor / site manager to seek advice from archaeological consultant to assess the find. The assessment may require notification to the Heritage Division in accordance with s146 of the *Heritage Age 1977*. Depending on the nature of the find, additional assessment and possibly a s140 excavation permit may be required prior to the recommencement of excavation in the affected area;
4. No works are to continue until the find has been assessed and managed in accordance with the guidance of the archaeologist and/or the Heritage Division;
5. Recommence work following approval by archaeologist and/or Heritage Division.

GLOSSARY

Table 1 – Glossary of Terms used in this report

Term	Definition
The Site	Qantas Airways Limited owned land in Mascot to the north of Sydney Kingsford Smith Airport consisting of Lots 2 & 4 DP 234489, Lot 1 DP 202747, Lot B DP 164829 and Lot 133 DP 659434. Current site improvements include including at-grade car parking for Qantas staff, an industrial shed to store spare aviation parts, a substation, a disused gatehouse, a Sydney Water Asset with two driveways over it, the Qantas catering facility and Qantas tri-generation plant.
The Project	The construction of a new Flight Training Centre and ancillary uses to replace the existing facility on the Qantas Jetbase that will be impacted by RMS' Sydney Gateway Project.
Mascot Campus	<p>Over 19ha of Qantas Airways Limited controlled land in Mascot to the north of Sydney Kingsford Smith Airport consisting of freehold and leased land.</p> <p>The following lots are owned by Qantas: Lot 133 DP 659434; Lots 4 & 5 DP 38594 Lot 23 DP 883548; Lots 1 & 2 DP 738342; Lot 3 DP 230355; Lot 4 DP 537339; Lots 2 & 4 DP 234489; Lot 4 234489; Lot 1 DP 81210; Lot 1 DP 202093; Lot 1 DP 721562; Lot 2 DP 510447; Lot 1 DP 445957; Lot B DP 164829 and Lot 1 DP 202747 and equates to 16.5ha of land.</p> <p>The following lots are leased by Qantas: Lot 14 DP 1199594 and Lot 2 DP 792885 and equates to 2.7ha of land.</p>
Jetbase	Qantas leased land within the boundaries of Sydney Kingsford Smith Airport.
Sydney Gateway Project	A RMS Project including a road and rail component that is intended to increase capacity and improve connections to the ports to assist with growth in passenger, freight and commuter movements across the region, by expanding and improving the existing road and freight rail networks.

ABBREVIATIONS

Table 2 – List of abbreviations used in this report

Acronym	Definition
BBLEP	<i>Botany Bay Local Environmental Plan 2013</i>
Burra Charter	The Australia ICOMOS Charter for Places of Cultural Significance
ca.	Circa (approximately)
CASA	Civil Aviation Safety Authority
CBD	Central Business District
EIS	Environmental Impact Statement
Gateway	Sydney Gateway Project
ha	Hectares
HAA	Historical Archaeological Assessment
HIS	Heritage Impact Assessment
LEP	Local Environmental Plan
LGA	Local Government Area
NLA	National Library of Australia
NSW	New South Wales
OEH	Office of Environment and Heritage (OEH)
Qantas	Qantas Airways Limited
RMS	NSW Roads and Maritime Services
SEARs	Secretary's Environmental Assessment Requirements
Simulators	Full Motion Flight Simulators
SiX	Spatial Information Exchange (NSW)
sqm	Square Metres
SSD	State Significant Development
SHR	State Heritage Register
the Act	<i>Heritage Act 1977 (NSW)</i>
the Airport	Sydney Kingsford Smith Airport
Urbis	Urbis Pty Ltd

1. INTRODUCTION

Urbis Pty Ltd (Urbis) has been commissioned by Qantas Airways Ltd (Qantas) to prepare this report in accordance with the technical requirements of the Secretary's Environmental Assessment Requirements (SEARs), and in support of the **SSD 10154** for the development of a new flight training centre at 297 King Street, Mascot (The Site).

1.1. PROJECT BACKGROUND

Qantas has significant leases within the Airport and Mascot more broadly, including 16.5 hectares of freehold land to the north of the Airport, to support its operations. Qantas presently operates a flight training centre at the Qantas Jet Base, Qantas Drive, Mascot, but requires its relocation as a result of the Sydney Gateway Project (Gateway).

Gateway, proposed by Roads and Maritime Services (RMS), is a critical piece of infrastructure intending to improve connections to the ports and increase capacity of the road and rail network through expansions and improvements. As part of Gateway, Qantas Drive will be widened by approximately 16m, which will require partial demolition of Qantas' existing flight training centre. Further, the vibrations associated with the construction and operation of Gateway will exceed the Civil Aviation Safety Authority's (CASA) regulatory requirement in relation to the operation of Qantas' flight simulators in their present location.

As a consequence of Gateway's construction and operations, Qantas must relocate its existing flight training centre, and the proposed new location is at the northern side of Qantas Drive, at 297 King Street. The new flight training centre is proposed to be the largest such facility in the Southern Hemisphere. To achieve the timeframes for Gateway established by RMS, construction of the replacement flight training centre must commence no later than 01 September 2019.

1.1.1. Secretary's Environmental Assessment Requirements

This report is an Historical Archaeological Assessment (HAA), to assess the potential for historical archaeological remains to be present on site, and impacted by the proposed works. It is prepared in response to SEARs Key Issue: Heritage, requiring *consideration of heritage items within the vicinity of the site and any potential impacts associated with the development*.

Accordingly, the SEARs requires compliance with the *Heritage Act 1977*, which is NSW's key legislative instrument for the protection of the state's heritage, including the archaeological resource under its 'relics' provisions. This HAA is being prepared in accordance with the requirements of the *Heritage Act 1977*, and the Historical Archaeology Code of Practice (Heritage Council of NSW 2006).

1.2. SITE LOCATION

The Site is located at 297 King Street, Mascot and comprises land known as Lots 2-5 DP 234489, Lot 1 DP 202747, Lot B DP 164829 and Lot 133 DP 659434. The Site is identified in Figures 1 and 2. More detail about The Site is at Section 4.

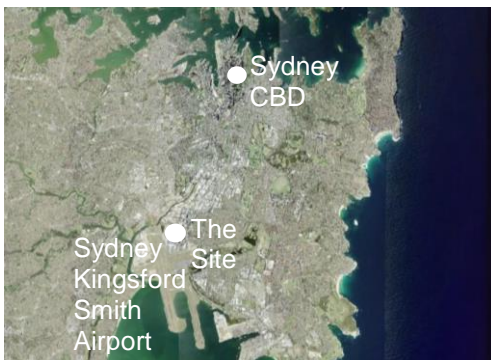


Figure 1 – Location of The Site relative to Sydney CBD

Source: SiX Maps and Urbis 2019

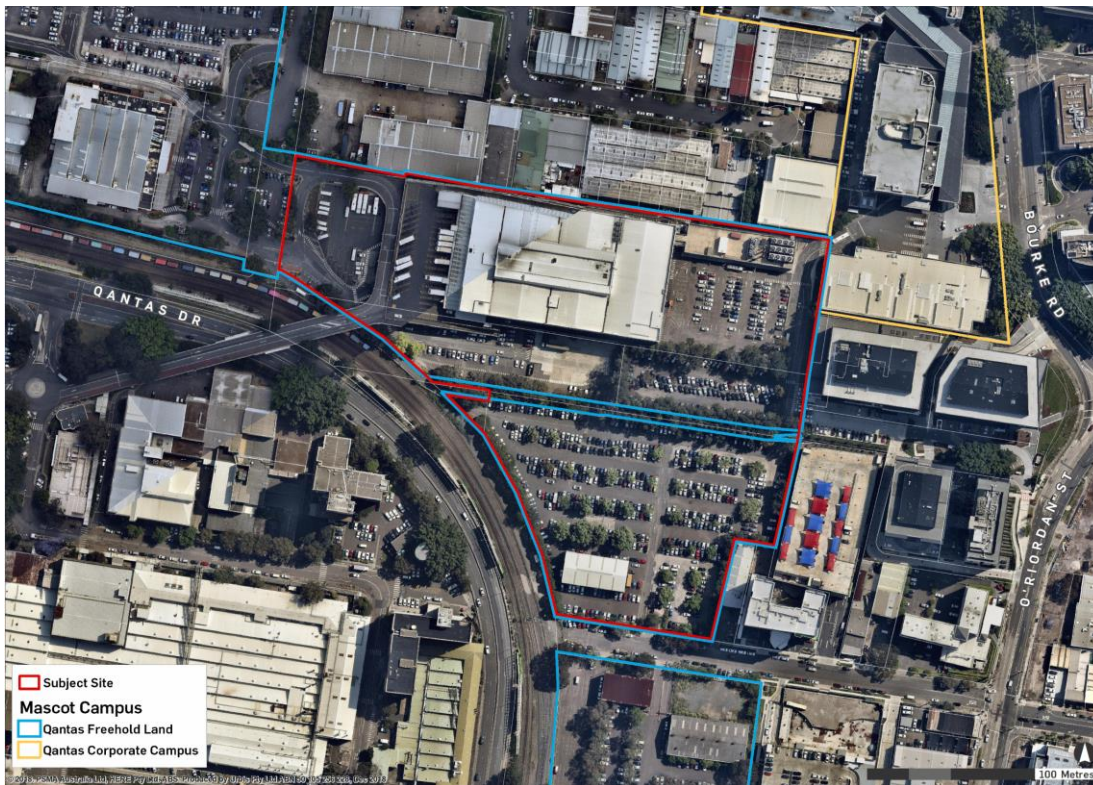


Figure 2 – The Site outlined in red

Source: APP 2019

1.3. PROJECT PROPOSAL

Safety is Qantas' first priority, and the flight training centre is a key pillar of that value. The facility is essential for the training and periodic testing of pilots and flight crew and includes simulations of both aircraft and emergency procedural environments. Further information about the facility is at Section 6.

The Project seeks consent for the construction and operation of a new flight training centre, comprising four key elements: an emergency procedures hall (western half), a flight training hall (eastern half), teaching areas and office space. A multi-level carpark is proposed north of the training centre and in the north-eastern portion of The Site as well as other minor ancillary works.

A render of the proposed construction is at Figure 3, and more detail about The Project is at Section 6.

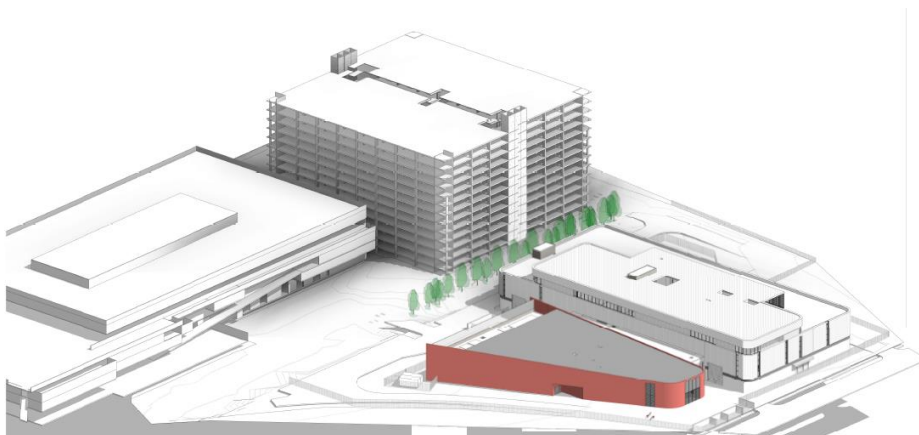


Figure 3 – Proposed construction, with flight training facility at foreground right, and car park at background middle

Source: Noxon Giffen Architects 2019

1.4. METHODOLOGY

This HAA has been prepared with reference to the NSW Office of Environment and Heritage (OEH) (2009) guideline *Assessing Significance for Historical Archaeological Sites and 'Relics'*, *Assessing Heritage Significance* (NSW Heritage Manual 2) (NSW Heritage Office 2001), the *Historical Archaeology Code of Practice* (Heritage Council of NSW 2006). and the requirements of the SEARs (SSD 10154). The philosophy and process adopted is that guided by the *Australia ICOMOS Burra Charter* 1999 (revised 2013).

The following tasks have been undertaken to prepare this document:

- Review of previous reporting prepared for The Site and for projects adjacent to The Site;
- Searches of the NSW State Heritage Inventory and Bayside Council LEP;
- Review of historical aerials available online;
- Preparation of HAA.

1.5. LIMITATIONS

A site inspection has not been undertaken specifically for the preparation of this HAA. Site inspections and photography have been undertaken by Urbis between 2018 and 2019, and those results inform this HAA.

This report is limited to a presentation and analysis of potential impacts on the historical archaeological (non-Aboriginal) potential of The Site only.

No archaeological excavation or sub-surface testing has been undertaken for the purposes of this report.

2. STATUTORY FRAMEWORK AND HERITAGE STATUS

The following Section outlines any heritage listings (archaeological) associated with The Site, any adjacent archaeological places that may influence the assessment of the archaeological potential of The Site and the statutory framework which outline any requirements for management of archaeological potential associated with The Site.

2.1. NSW HERITAGE ACT 1977

The *Heritage Act 1977* (the Act) (NSW) is the primary item of State legislation affording protection to items of environmental heritage (natural and cultural) in NSW. The Act is designed to protect both listed heritage items, such as standing structures, and potential archaeological remains or relics.

Under the Act, items of 'environmental heritage' include places, buildings, works, relics, moveable objects and precincts identified as significant based on historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic values. State significant items are listed on the NSW State Heritage Register (SHR) and are given automatic protection under the Act against any activities that may damage or affect its heritage significance. The SHR was established under s22 of the Act and is a list of places and objects of importance to the people of NSW, including archaeological sites.

Archaeological features and deposits are afforded statutory protection by the 'relics provision'. Section 4(1) of the Act (as amended 2009) defines 'relic' as:

- *any deposit, artefact, object or material evidence that:*
 - (a) *relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and*
 - (b) *is of State or local heritage significance.*

Sections 139 to 146 of the Act require that excavation or disturbance of land that is likely to contain, or is believed may contain, archaeological relics is undertaken in accordance with an excavation permit issued by the Heritage Council (or in accordance with a gazetted exception under s139(4) of the Act). In addition, s139[1] of the Act states that:

A person must not disturb or excavate any land knowing or having reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed unless the disturbance or excavation is carried out in accordance with an excavation permit.

In such cases, an excavation permit under Section 140 is required. The Heritage Council can, under s139(4) of the Act, also grant an exception in certain circumstances from the need for a permit. Note that no formal listing is required for archaeological relics; they are automatically protected if they are of local or state significance.

A Section 60 permit is required for places that are listed on the SHR. The site is not listed on the SHR, nor is the associated shed, gatehouse and substation, therefore a s60 permit would not be required.

2.2. HERITAGE CONTEXT

The Site is not a listed heritage item and it is not located within a heritage conservation area.

The Botany Bay Local Environment Plan (BBLEP) 2013 (Part 5 Clause 5.10) is relevant to the control of development with regards to heritage within The Site and surrounds. In relation to heritage, the BBLEP's objectives are to conserve the heritage of the Local Government Area (LGA) through the protection of the significance of heritage items, conservation areas, archaeological sites and Aboriginal places of heritage significance.

Part 5 Clause 5.10 (7) refers specifically to archaeological sites, noting:

The consent authority must, before granting consent under this clause to the carrying out of development on an archaeological site (other than land listed on the SHR or to which an interim heritage order under the Heritage Act 1977 applies):

- a) notify the Heritage Council of its intention to grant consent; and*

b) take into consideration any response received from the Heritage Council within 28 days after the notice is sent.

Schedule 5 of the LEP provides a list of identified heritage items. The Site is not listed as a heritage item under this schedule. It is not located within a heritage conservation area. It is located in the vicinity of some heritage items as seen below in Table 3 and mapped at Figure 4.

Table 3 – Heritage items listed on the BBLEP 2013 in proximity of The Site

Item Name	Address	Property Description	Significance	Item no
Sydney (Kingsford Smith) Airport group	Airport Drive	Part Lot 8, DP 1050923	Local	I170
Mascot Public School building group	King Street	Lot 1, DP 813088	Local	I139
Terrace Group	192-204 King Street	Lot X, DP 440648; Lot Y, DP 440648; Lot Z, DP 440648; Lot A, DP 440093; Lot B, DP 440093; Lot C, DP 440093; Lot D, DP 440093	Local	I149



Figure 4 – Extract of heritage map, showing The Site outlined in red

Source: Botany Bay LEP 2013, Heritage Map HER_001

3. HISTORICAL BACKGROUND

This section is primarily focussed on the history and development of the Mascot area, and the area surrounding the Sydney Kingsford Smith Airport, including The Site.

It is further noted that the following section is primarily concerned with the historic (non-Aboriginal) development of The Site.

The following section is adapted from the Dictionary of Sydney : Botany (Butler 2011) and *European Heritage Component: Sydney Kingsford Smith Airport Third Runway. EIS Draft Working Paper* (Thorp 1990), unless otherwise referenced.

3.1. HISTORICAL OVERVIEW – 1800-1850

The Site lies within the area historically known as Botany, the name of which reflects the arrival of the *Endeavour* to the bay in 1770, and the botanical research undertaken by Joseph Banks and Daniel Solander.

The first recorded non-Indigenous person to take up land in the area was Edward Redmond in 1809, who established a farm he called 'Mudbank' on account of the composition of the land, which in the area generally consisted of swamps, marshes and low scrub. The road to Mudbank was mapped by Sir Thomas Mitchell ca.1827, and appears to be the alignment of present-day O'Riordan Street. The proximity of the area to the water of the bay meant that a number of small villages were established with fishing becoming an early industry of the local region.

In 1812, Simeon Lord, an ex-convict, acquired 135 acres originally granted in 1810 to Edward Redmond, expanding this to nearly 800 acres by 1823. He rapidly set about modifying the local landscape, including damming of Blackwattle Creek to establish a privately run wool mill, and a flour mill. He soon developed a broad portfolio of business interests, and is recognised as one of Australia's first great entrepreneurs and the first person to export Australian wool.

The waters of the area attracted a variety of trades, and the fertility of the soil was soon appreciated encouraging the establishment of market gardens throughout the local area. By the 1880s, leather and tanning were major industries of the area and it is estimated there were 21 tanneries in the Botany area by the early 1900s.

The mid-1800s also saw the importance of Botany for supply of fresh water to the fledgling city of Sydney. Rapid and widespread development in the city area had led to poor management of the water sources of the local area, and many of the streams were too polluted to drink from. The Botany Pumping Station was established in 1859, operating until 1886, and supplying water to the city from the Botany Swamps – which was land resumed from Simeon Lord in 1855 and involved the demolition of Lord's flour mill.

Following the death of Simeon Lord in 1840, his land gradually became subdivided, and a village reserve with Church and School Estate was formed in the area now north of Foreshore Road, but settlement of this area was slow until the late 1850s.

3.2. HISTORICAL OVERVIEW – 1850-1900

The subdivision of the area in the 1850s gradually led to the establishment of roads such as Geddes and Herford Streets, and establishment of industry. The latter afforded employment opportunities, which in turn led to increasing settlement of the area. With the growing population, the demand and need for local infrastructure and government grew, and the *Municipalities Act of 1867* led to the establishment of the Municipality of Botany, West Botany, and North Botany, in which The Site is located. These would be incorporated in 1888, becoming the Boroughs of North and South Botany. The local council engaged in a variety of programs to transform the local area, creating sports fields and facilities, recreational spaces, and improved public infrastructure, such as Corduroy Road (present day Botany Road) in 1875. Horse riding and husbandry also became popular leisure pursuits, as did sailing, and several inns were established in the local area, of which some still survive and are heritage listed.



Figure 5 – Map of Botany, 1867 (?). Approximate location of The Site identified, within on the lands of Thomas Stubbs and Thomas Torkington (partial). Also showing lands of Simeon Lord on The Mill Stream, land of E. Redmond, the town of Boralee, and other land holders

Source: *Historical Parish Maps, Parish of Botany, County Cumberland. Historical Land Records Viewer. Undated.*



Figure 6 – 1886 map, North Botany, Parish of Botany. Showing Mill Stream, Engine Pond, alignment of Cooks River, and King Street with alternative name "Shea's Creek Road", and "Old Botany or Mudbank Road". Approximate location of The Site indicated by circle.

Source: *National Library of Australia (NLA) Call Number MAP PaA 48 Plate 29 / Item 231132911*

3.3. HISTORICAL OVERVIEW – 1900-1950

The interest in horse riding in the local area was formally realised in 1904 with the establishment of the Ascot Racecourse. Opened by Ascot Racing Club Lt, and named after England's Royal Ascot, the racecourse served as a focal point for unregistered horse racing until 1941 when it was closed on account of World War II and the need to use the space for a military camp (Paul Davies and Associates 2010).

A significant event in the history of the area occurred in 1911, when the name "Mascot" was officially adopted. North Botany Council was becoming increasingly bothered by the similarity of its name to its southern counterpart. In January of that year, the North Botany Council held a referendum to decide on a new name for the municipality. Several options were posited including Boronia and Booralee, after one of the area's early fishing villages, but "Ascot" was chosen, on account of the nearby racecourse. However, this name was rejected by Josiah Thomas, Commonwealth Postmaster General, who decided that there were already too many places in the Commonwealth with this name. Consequently, the slight variation of "Mascot" was chosen in October 1911 (Evening News Tue 31 Jan 1911; The Barrier Miner Wed 2 Aug 1911).

Another significant event, and arguably one with the biggest impact on the area, occurred in 1921 with the Commonwealth Government's acquisition of 65ha of land for the establishment of a large public airfield. The first flights between Sydney and other Australian capital cities commenced in 1924, expanding to overseas flights in 1934. By 1938 the airport had three small strips, with the longest gravelled runway being 1000 yards (just over 900m).

In 1946, approval was given for upgrades to the airport, and the following year saw large tracts of swampy ground resumed for construction of new facilities. The bed of the Cook's River was diverted, land was reclaimed, and substantial parts of Simeon Lord's Engine Pond and Mill Pond, established from his damming of Blackwattle Creek, were filled in. The coastline was modified to provide for new runways. General Holmes Drive was built through the former Engine and Mill Ponds and a new weir was built across the water channel. The Ascot Racecourse was farewelled in 1947, when it was subsumed into the airport's land, along with several public sports facilities and some private residences.

Two years after these works, in 1949 (Jan 1), administrative changes occurred to the Mascot area following the passing of the *Local Government (Areas) Act 1948*, which saw the Municipality of Mascot become the First Ward of the Municipality of Botany.

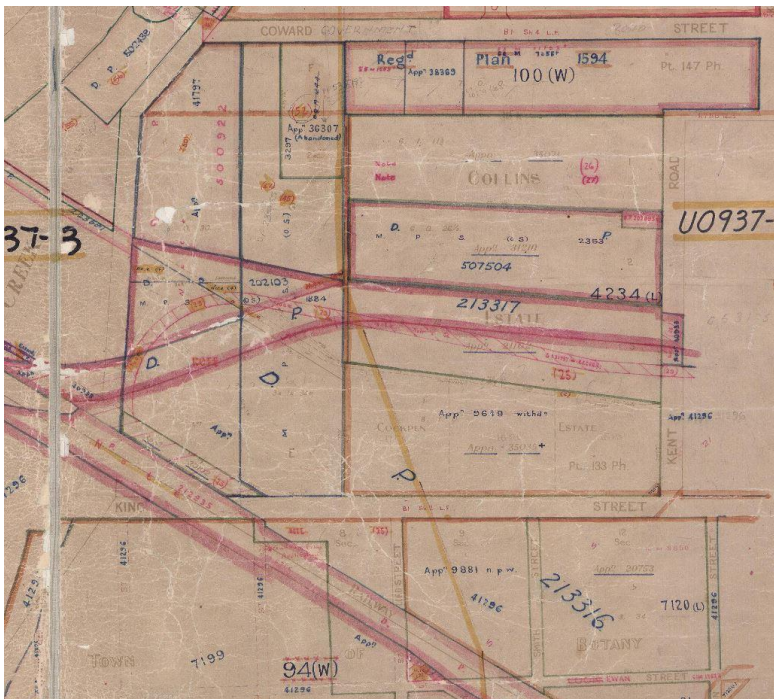


Figure 7 – Map, July 1938, indicating approximate location of The Site. Also showing alignments of King Street and Coward Street, and notation on map indicating The Site is part of "Collins Estate", which reflects earlier ownership by market gardener William Collins (refer Section 3.5).

Source: *Historical Land Records Viewer, LTO Charting Maps, Mascot Sheet 1*

3.4. REGIONAL SETTLEMENT – 1950-PRESENT

Upgrading and expansion works continued at the airport in the latter half of the 20th Century, including commencement of construction of the International Terminal ca.1965, and the north-south runway extension in 1968 to afford the use of newly introduced long-haul international jets (Sydney Airport n.d). It was extended again in 1974, and several years later in 1989 the parallel, or third, runway was approved and was completed in 1994. These later expansions have been primarily driven in response to increasing overseas travel. Since 1994, expansions and changes have continued, including modifications to terminals, car parking, and access.

More broadly, the 20th and 21st Centuries have seen the suburb become increasingly developed. Surprisingly, many of the Market Gardens established in the 19th Century were still operating through to the 1960s; but all were gone by the 1970s in favour of increased development.

The present day suburb falls in the boundary of the Bayside Council. It is dominated by the Sydney Kingsford Smith Airport, and also contains areas of commercial and industrial development in its north, adjacent to and generally associated with the Airport; and residential areas primarily at east. A rail link to the CBD has been established, and major roads such as Princes Highway and Southern Cross Drive have been established to cope with high levels of vehicular traffic.

Mascot's history is reflected in the remaining areas of Mill Pond and Engine Pond, shopping areas of Botany Road, and its heritage listed places.

3.5. SITE OVERVIEW – TITLE SEARCHES

Arcadis (2019) acquired a series of historical land titles for the purposes of their environmental assessment of The Site. The results are presented by Lot on Plan results, and can be cross referenced with the map at Figure 8. Historical aerial imagery, which shows most of the below land uses, is at Section 3.6.

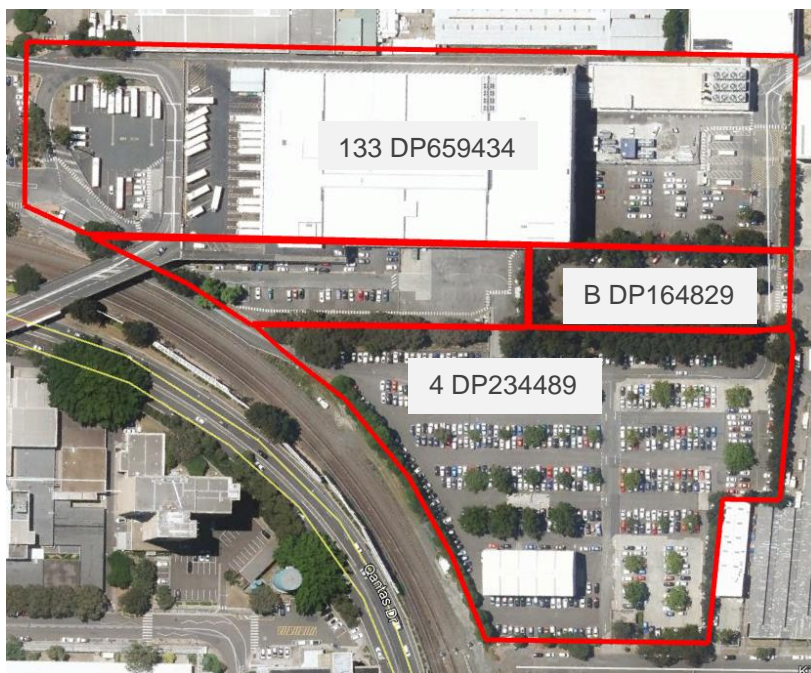


Figure 8 - 1938 LTO charting map (sheet 2) showing project site

Source: NSW Land Registry Services

3.5.1. Lot 133 DP659434

1837	Portion 133 Parish Botany, Thomas Stubbs (granted 29 April 1837)
1906-1915	William Collins, Market Gardener

1915-1920	Sarah Ann Collins, spinster/executrix Henry Tasker, executor William Collins, estate
1920-1957	Percy Edwin Tasker, market gardener
1942-1951	<i>Leased to Chong Yow, market gardener</i>
1957-1963	The Commonwealth of Australia
1963-present	Qantas Airways Limited

3.5.2. Lot B DP164829

1837	Portion 133 Parish Botany, Thomas Stubbs (granted 29 April 1837)
1906-1915	William Collins, market gardener
1915-1920	Sarah Ann Collins, spinster/executrix Henry Tasker, executor William Collins, estate
1920	Arthur Jackson, market gardener
1920-1937	Emily May Bridge, wife of Spencer William Bridge, market gardener
1937-1947	Ernest Whittaker, market gardener
1947-1957	John Samuel Baker, smelter
1957-1976	Heavy Equipment (NSW) Pty Ltd, smelter
1976-1977	F.G.S. Storage Pty Limited
1977-1980	Thiess Properties Pty. Limited
1980-1991	F.G.S. Storage Pty Limited
1991-present	Qantas Airways Limited

3.5.3. Lot 4 DP234489

1837	Portion 133 Parish Botany, Thomas Stubbs (granted 29 April 1837)
1906-1916	William Hambly, market gardener
1916-1942	Catherine Grace Hambly, widow Ethel May Hambly Harold William Thomas Hambly Leslie Theodore Westlake Hambly, retired poultry farmer / gardener William Hambly, estate
1942-1946	Catherine Grace Hambly, widow Leslie Theodore Westlake Hambly, retired poultry farmer
1942-1944	<i>Lease to Ching Tip, Sue Jarng and Man Hung, market gardeners</i>
1946-1952	Hector William Westlake Hambly, engineer

Leslie Theodore Westlake Hambly, retired poultry farmer

1952-1956 Commonwealth of Australia

1956-1964 Thomas Playfair Proprietary Limited, butcher

1964-1980 A.C.I. Operations Pty Limited, including lease to Sydney Electricity. Glass bottle manufacturer

1980-present Qantas Airways Limited (including various leases)

3.5.4. Site Overview - Historical Aerials

The historical background identifies that the Mascot area was broadly cultivated as market gardens. This is evident in the 1943 historical aerial at Figure 9, which shows the majority of The Site is under cultivation, with the exception of its south-eastern corner which is occupied by trees and buildings, most likely related to the agricultural productions on site.

Little change occurred to the southern portion of The Site by 1955 (Figure 10), however the central portions, generally corresponding to Lots 1DP202747 and B DP164289, has been cleared of agriculture and appears to be becoming industrialised with several buildings constructed. This is most likely attributable to the purchase of (at least) Lot B DP164829 by smelter John Baker in 1947.



Figure 9 –1943 aerial indicating approximate site boundary

Source: Arcadis 2019 with amendments by Urbis 2019



Figure 10 –1955 aerial indicating approximate site boundary

Source: Arcadis 2019 with amendments by Urbis 2019

The imagery of The Site in Figure 11 (1961) corresponds to changes in the area more broadly in the 1950s-1960s. The market gardens of the 19th and early 20th Centuries are gone, making way for more industrial development. All the plantings and built stock of Lot 4 DP234489 have been removed, and the site is predominantly cleared. Thomas Playfair Proprietary Limited, butcher, owns the site by this date and the cleared lot may have been used for livestock. The Commonwealth of Australia is the owner of Lot 133 DP659434 by this date, and that lot seems primarily cleared. Some additional buildings are at Lot B DP164829 and Lot 1 DP202747.

Little change overall has occurred to The Site by 1965 (Figure 12), however there appears to be more activity at Lot 4 DP234489, including what appears to be construction of buildings in the south-eastern corner.



Figure 11 –1961 aerial indicating approximate site boundary

Source: Arcadis 2019 with amendments by Urbis 2019



Figure 12 –1965 aerial indicating approximate site boundary

Source: Arcadis 2019 with amendments by Urbis 2019

All lots were subject to significant change and development by 1970 (Figure 13). A large building is centrally positioned at the north of The Site and within Lot 133 DP659434 which is now owned by Qantas. The building has been removed, or significantly expanded by 1976 (Figure 14) and this portion of The Site largely resembles its current layout and appearance by that date.

Lot B DP164829 appears to be used for bulk storage, and is owned by F.G.S. Storage Pty Limited, but is largely vacant at time of the 1976 aerial (Figure 14).

Lot 4 (lots 2-5) DP234489 by this time is in the ownership of glass bottle manufacturer A.C.I. Operations Pty Limited and has been heavily developed with hardstand, access roads and several large buildings. The Scone Advertiser, 1 Aug 1941, notes that Australian Consolidated Industries 'sprung up' in 1925 and manufactured bottles, but by 1941 covered 17 industries and was one of the first involved with defence work, including building annexes for the production of munitions. A.C.I.'s extent of development and operations within The Site remains relatively unchanged in 1976 (Figure 14).

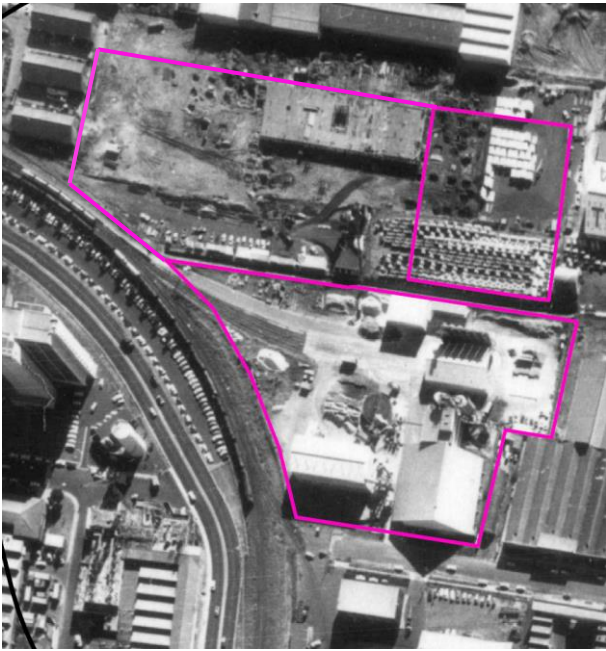


Figure 13 –1970 aerial indicating approximate site boundary

Source: Arcadis 2019 with amendments by Urbis 2019

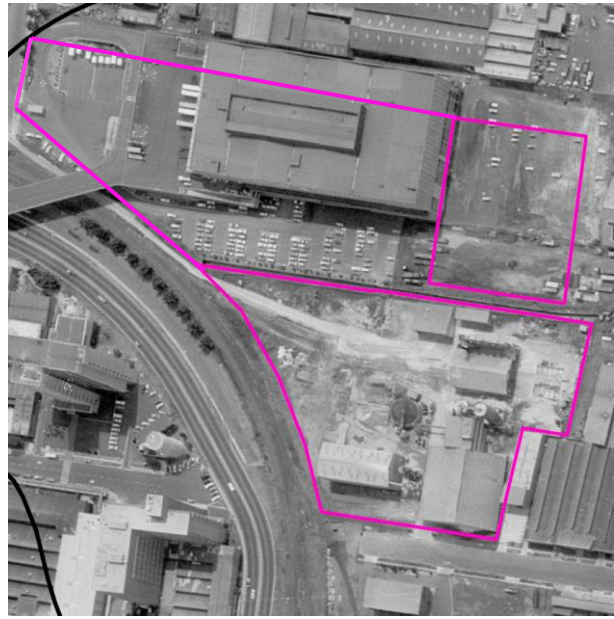


Figure 14 –1976 aerial indicating approximate site boundary

Source: Arcadis 2019 with amendments by Urbis 2019

Lot B DP164829 is still owned by F.G.S. Storage Pty Limited until 1991, at which time it transitions to Qantas ownership. Figure 15 and Figure 16 show the lot generally vacant, with what appears to be some shipping crates or similar, but Figure 17 (2002) shows the lot in its current configuration and under Qantas ownership. Lot 133 is generally unchanged and reflects current configuration and layout.

Lot 4 (2-5) DP234489 was purchased by Qantas in 1980, however the lot appears to retain the 1970s-era buildings from the period of ownership by A.C.I. Operations Pty Limited into the early 1980s at least. The lot appears to have more substantial surfacing and hardstand established, but by 1991 all but one of the earlier buildings have been removed. That building is still extant, and overall by the 1990s/2000s The Site overall reflects its current form.

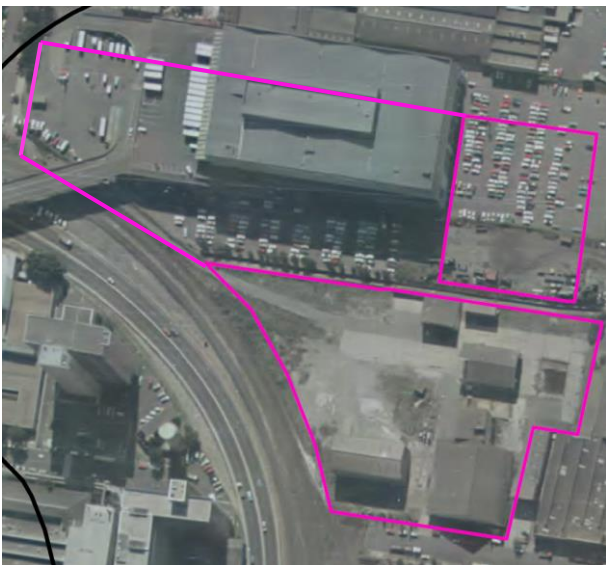


Figure 15 –1982 aerial indicating approximate site boundary

Source: Arcadis 2019 with amendments by Urbis 2019



Figure 16 –1991 aerial indicating approximate site boundary

Source: Arcadis 2019 with amendments by Urbis 2019

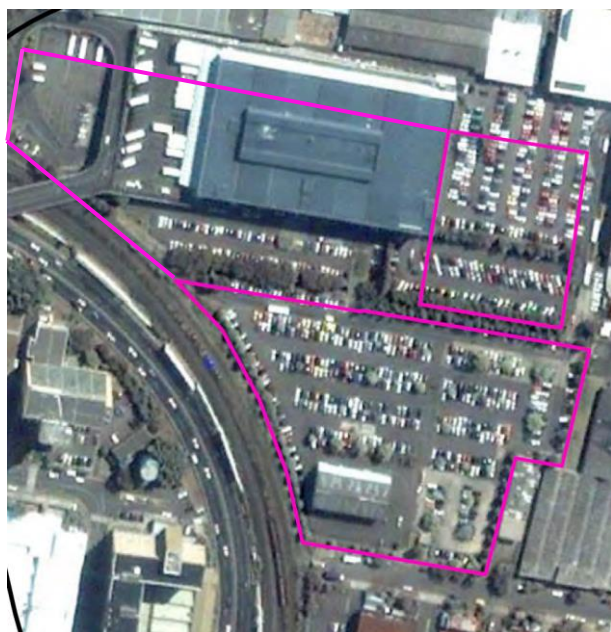


Figure 17 – 2000 aerial indicating approximate site boundary

Source: Arcadis 2019 with amendments by Urbis 2019

3.6. NSW HISTORIC THEMES

Historical themes can be used to understand the context of a place, such as what influences have shaped that place over time. Themes help to explain why an item exists, how it has been changed and how it relates to other items linked by the theme (Heritage Office and Department of Urban Affairs and Planning 1996). Many heritage items relate to more than one theme. The NSW Historic Themes framework (Heritage Council of NSW 2001) includes 35 themes that relate to the history of the State, and correlate with National and local historic themes. Themes applicable to The Site are at Table 4 below. It is noted that the activities in the local context would fit several more of the NSW Themes, but those below are specifically targeted to The Site.

Table 4 – Heritage themes applicable to The Site

Australian Theme	NSW Theme	Notes	Site Attributes
Developing local, regional and national economies	Agriculture	Activities relating to the cultivation and rearing of animal and plant species, usually for commercial purposes, can include aquaculture	The historic use of The Site for market gardens
Developing local, regional and national economies	Environment – cultural landscape	Activities associated with the interactions between humans, human societies, and the shaping of their physical environment	Modifying the landscape to create market gardens Modifying the landscape for industrial development
Developing local, regional and national economies	Industry	Activities associated with the manufacture, production and distribution of goods.	Several phases of site use including smelting, glass manufacturing and storage of goods

4. SITE OVERVIEW

4.1. SURROUNDING CONTEXT

The Site is located approximately 7km south-west of the Sydney CBD. It is immediately adjacent (north-east) to the Sydney Kingsford Smith Airport and the rail corridor, and is sited between major roads including Qantas Drive, O'Riordan Street and Burke Street. Alexandra Canal is approximately 650m to the north-west. Its immediate context is commercial and industrial development, much of which is associated with operations of the airport and/or Qantas, while to the east and across O'Riordan Street is primarily residential development. The historic landscape features, Mill Pond and Engine Pond, are approximately 1.5km to the south-east.

4.2. THE SITE

It is a developed area, with some extant buildings but the areas of proposed redevelopment primarily being car parking. The Site is noted to be generally flat, having been filled to level the site for that intended use. Borehole results (Arcadis 2019) indicate that the fill levels range generally between 2m and 3m across The Site.

Vehicular access to The Site from the local road network is from King Street. The site has intra-campus connections along the northern boundary in the form of three connecting driveways in the north-east corner, centre and north-west corner of The Site along the northern boundary which link it to the broader Mascot Campus.

Key features of the site are as follows:

- The site is approximately 5.417ha and is an irregular shape. It is approximately 240m in length and maintains a variable width of between approximately 321m in the northern portion of the site and approximately 93m along the King Street frontage (refer to Figure X).
- The site possesses a relatively level slope across the site. An open Sydney Water drainage channel bisects the northern portion of the site in an east-west direction. There are some isolated changes in level immediately adjacent to this channel. A Site Survey Plan accompanies the application which details the topographic characteristics of the site.
- Multiple mature Plane Trees are scattered throughout the site. A variety of native and exotic trees and vegetation also exist around the perimeter of the site which help screen the site from surrounding uses.
- Site improvements include at-grade car parking for Qantas staff, an industrial shed to store spare aviation parts, a substation, a disused gatehouse, a Sydney Water Asset with two driveways over it, the Qantas catering facility and Qantas tri-generation plant.
- The site forms part of a larger land holding under the ownership of Qantas that generally extends between Qantas Drive to the west, Ewan Street to the south, Coward Street to the north, with the Qantas "Corporate Campus" fronting Bourke Road.
- Vehicular access to the site from the local road network is available from King Street. The site has intra-campus connections along the northern boundary in the form of two connecting driveways in the north-eastern and north-western corner of the site along the northern boundary which link it to the broader Mascot Campus.
- The site is located within the Bayside LGA.

Key features of the locality are:

- **North:** The site is bounded to the north low scale industrial development, beyond which is Coward Street. Further north of the site is the Mascot Town Centre which is characterised by transport-oriented development including high density mixed-use development focussed around the Mascot Train Station.
- **East:** The site is bordered to the east by commercial development including a newly completed Travelodge hotel which includes a commercial car park. Additional commercial development to the east includes the Ibis Hotel and Pullman Sydney Airport fronting O'Riordan Street.

- **South:** The site is bounded to the south by King Street, beyond which is Qantas owned at-grade car parking and other industrial uses. Further south is the Botany Freight Rail Line and Qantas Drive beyond which is the Domestic Terminal at Sydney Airport.
- **West:** The site is bordered to the west by the Botany Freight Rail Line and Qantas Drive, beyond which lies Sydney Kingsford Smith Airport and the Qantas Jetbase (location of the current Flight Training Centre).

Images of The Site are below at Pictures 1 to 6.



Picture 1 – View towards 1970s-era shed at south-west of The Site

Source: Urbis 2019



Picture 2 – The gatehouse situated perpendicular to King Street

Source: Urbis 2019



Picture 3 – Industrial shed, parallel to King Street

Source: Urbis 2019



Picture 4 – Car parking with site plantings

Source: Urbis 2019



Picture 5 – View west towards multi-level car park

Source: Urbis 2019



Picture 6 – Sydney Water drainage channel

Source: Urbis 2019

5. POTENTIAL ARCHAEOLOGICAL RESOURCE

This section presents an assessment of the potential for historical archaeological resources, or 'relics' to be present at the subject site. The archaeological resources of any site are finite and have the potential to provide insights into everyday life that are not available from any other resource. The archaeological resources of a site may be as relics, structural remains including wall footings, wells, cisterns and privies, or deposits laid down as a result of occupational activity on the site.

5.1. PREVIOUS ARCHAEOLOGICAL ASSESSMENTS AND INVESTIGATIONS

Reports of archaeological assessments and investigations in locations near to The Site are presented below, to assist in an understanding of what archaeological materials have been found in the surrounding area and therefore assist in making predictions on the potential for such remains within The Site.

WSP 2016, Airport North Precinct Road Upgrade - Review of Environmental Factors

WSP (formerly Parsons Brinckerhoff) was engaged by Roads & Maritime Services to assess the non-aboriginal heritage of the Airport North Precinct, of which portions were located adjacent to The Site. The assessment involved desktop review of relevant heritage registers, historic research and site inspection of the study area. The review identified locally heritage listed items within and adjacent to the proposal footprint and asserted that while the area was historically important, the existing built heritage was limited, and there was nil- to- low potential for discovering any remnant archaeology associated with the heritage listed items.

Casey & Lowe 2011, Discovery Point Arncliffe

A non-indigenous cultural heritage archaeological assessment and fieldwork was undertaken at the Discovery Point development area, located at 1 Princes Highway, Wolli Creek, approximately 1km west of The Site. The assessment considered the impact of development on non-indigenous archaeological remains belonging to the nineteenth- century Tempe House Estate. The assessments identified that the proposed development of two mixed use residential and retail buildings with associated landscaping had potential to impact archaeological material associated with the past use of the site such as footings, post holes and artefacts.

WSP Australia Pty Limited and GHD Pty Ltd 2018, Botany Rail Duplication

Prepared for Australian Rail Track Corporation (ARTC), the report found there is potential for sub-surface archaeology associated with the State and locally significant Botany Water Reserves/ Botany Wetlands located approximately 2.8 km south-east of The Site.

Thorp, W. 1990, European Heritage Component Third Runway EIS Draft Working Paper

The study established that the extant pumping station and sewage station located on the northern side of General Holmes Drive (within the airport boundaries) had archaeological potential. In addition to this, other sites of archaeological potential included: The Botany/ Lachlan swamps pumping station and chimney and associated structures, Lord's mill and possibly his house, as well as other similar period structures close to the Mill Pond and Mill Pond Road.

5.2. HISTORICAL ARCHAEOLOGICAL POTENTIAL

Historical archaeological potential is defined as:

The degree of physical evidence present on an archaeological site, usually assessed on the basis of physical evaluation and historical research (Heritage Office and Department of Urban Affairs and Planning 1996).

Archaeological research potential of a site is the extent to which further study of relics likely to be found is expected to contribute to improved knowledge about NSW history which is not demonstrated by other sites, archaeological resources or available historical evidence. The potential for archaeological relics to survive in a particular place is significantly affected by later activities that may have caused ground disturbance. These processes include the physical development of the site (for example, phases of building construction) and the activities that occurred there.

The archaeological potential of The Site is assessed based on the background information presented in Section 3, and graded as per:

- **Nil Potential:** the land use history demonstrates that high levels of ground disturbance have occurred that would have completely destroyed any archaeological remains. Alternatively, archaeological excavation has already occurred, and removed any potential resource;
- **Low Potential:** the land use history suggests limited development or use, or there is likely to be quite high impacts in these areas, however deeper sub-surface features such as wells, cesspits and their artefact bearing deposits may survive;
- **Moderate Potential:** the land use history suggests limited phases of low to moderate development intensity, or that there are impacts in the area. A variety of archaeological remains is likely to survive, including building footings and shallower remains, as well as deeper sub-surface features;
- **High Potential:** substantially intact archaeological deposits could survive in these areas.

The potential for archaeological remains or 'relics' to survive in a particular place is significantly affected by land use activities that may have caused ground disturbance. These processes include the physical development of the site (for example, phases of building construction) and the activities that occurred there. The following definitions are used to consider the levels of disturbance:

- **Low Disturbance:** the area or feature has been subject to activities that may have had a minor effect on the integrity and survival of archaeological remains;
- **Moderate Disturbance:** the area or feature has been subject to activities that may have affected the integrity and survival of archaeological remains. Archaeological evidence may be present, however it may be disturbed;
- **High Disturbance:** the area or feature has been subject to activities that would have had a major effect on the integrity and survival of archaeological remains. Archaeological evidence may be greatly disturbed or destroyed.

5.3. ASSESSMENT OF ARCHAEOLOGICAL POTENTIAL

Table 5 presents a summary of the potential archaeological resource and condition of remains within the subject site as well as the research potential of the resource to assess the potential significance of any archaeological remains.

Table 5 – Assessment of Archaeological Potential

Land-Use Phase	Potential Archaeological Resource	Level of Disturbance from Later Land Uses	Archaeological Potential	Potential Significance Level (Research Value)
Phase 1: Early land grant – Thomas Stubbs	Artefact dumps, archaeobotanical resources, building remains	Moderate	Low	Moderate
Phase 2: Market Gardens – ca.1900-1950	Archaeobotanical resources, evidence of property boundaries (e.g. post holes), discarded artefacts associated with garden use, building remains	Moderate	Low	Moderate
Phase 3: Industrial use – smelting /	Discarded industrial items, animal bones, building remains	Moderate to high	Low	Low

Land-Use Phase	Potential Archaeological Resource	Level of Disturbance from Later Land Uses	Archaeological Potential	Potential Significance Level (Research Value)
butchering – ca. 1950-1970				
Phase 4: Industrial – Storage – ca. 1950-1980	Building remains	Moderate to high	Low	Low
Phase 5: Industrial – glass manufacturing – ca. 1964-1980	Building remains, discarded glass objects (artefactual remains), discarded industrial items (e.g. tools)	Low to moderate	Low	Low

5.3.1. Summary Statement on the Potential Archaeological Resource

It is considered that there is low potential for the early phases of The Site's use, comprising the early natural landscape and ca.1900s market gardens. While there has been ground disturbance in the form of vehicular movement, construction of car parks and access roads and establishment of buildings, the borehole results (Arcadis 2019) indicate that in some locations throughout The Site there is natural soils beneath the fill layer. There is low potential that these soils contain surviving archaeobotanical evidence. If such evidence survives, it is considered to have moderate research potential to provide information about the early natural environment and garden modifications to The Site.

There is low potential for deeper deposits of artefactual material, such as bottles, gardening implements, or ceramics, that may have been deposited in wells or waterholes, or purposefully dug rubbish pits. These would most likely be sited in the south-east of The Site, associated with the former buildings in that location (ca.1940s)

With regard to the industrial phases, the demolition of buildings, introduction of fill and establishment of car parking is likely to have had moderate to high levels of disturbance. The extant building, and historical imagery, suggests that the buildings established on site were not likely to be of robust construction with substantial footings. As evidenced by extant hardstand, it is likely that many were established on concrete slabs and therefore the potential for footings is considered low.

There is low potential for randomly discarded items such as tools or nails, and low potential for animal bones. However, should such evidence survive, it is considered that they would represent background discard rather than purposeful disposal, as it is likely that by this phase of the site's history (ca. mid-20th Century) more formal methods of rubbish disposal and collection would have been established, as opposed to discard in cesspits, wells, or similar. Glass and tile have been identified in some boreholes, and this is consistent with the historic site uses. Again, this is likely to represent random discard and may be attributable to the fill layer.

5.4. ASSESSMENT OF ARCHAEOLOGICAL RESEARCH POTENTIAL

Archaeological significance has long been accepted as linked directly to archaeological (or scientific) research potential: a site or resource is said to be scientifically significant when its further study may be expected to help answer research questions. The following questions (Bickford and Sullivan, 1984 pp 23–24) can be used as a guide for assessing the research potential of an archaeological site within a relative framework:

1. Can the site contribute knowledge that no other resource can?
2. Can the site contribute knowledge that no other site can?

3. Is this knowledge relevant to general questions about human history or other substantive questions relating to Australian history, or does it contribute to other major research questions?

The assessment of archaeological research potential of The Site is below, and guided by questions posited by Bickford and Smith. The information presented below is also considered to contribute to an assessment of The Site under the NSW Heritage Criterion E – Archaeological Research Potential, and thresholds for Criterion A,C,F and G – the ability to demonstrate the past through archaeological remains.

1. Can the site contribute knowledge that no other resource can?

Extant archaeobotanical evidence may provide insights into the agricultural pursuits undertaken directly within the boundaries of The Site, however it is considered that research into the market gardens of North Botany and/or Botany using documentary sources would likely provide sufficient information that inferences about the agricultural activities of The Site could be made.

Little is known at present about the use and development of the site at its time of allocation to Thomas Stubb. It is considered unlikely that extant in-situ evidence such as post holes or similar would be surviving from that period, but would provide some specific insights into the site. However it is considered that archival research may uncover such information.

The uses of the site from the turn of the 20th Century are documented in title searches and aerial imagery, and it is unlikely that the site will possess significant information that cannot be ascertained from other resources.

2. Can the site contribute knowledge that no other site can?

Extant deposits relating to the early use of The Site (i.e. Thomas Stubb's ownership, and market garden use) would be rare, and contribute site-specific knowledge, however it is unlikely that this evidence would be considered unique as the pattern of use being early land allocations followed by market gardens was standard in the local area. Evidence of the 19th Century industrial occupation is unlikely to be a rare resource or have potential to provide a unique database of information unavailable elsewhere. There may be some evidence that can attest to the site-specific site activities, but those activities including smelting, storage, butchery, and manufacturing are not unique industries. However, any information would have some comparative research value with other similar sites in the local area, and contribute to the ongoing understanding of the local area's history.

3. Is this knowledge relevant to general questions about human history or other substantive questions relating to Australian history, or does it contribute to other major research questions?

The pattern of use at The Site is considered to fit within the understood patterns of development in the broader local region, including early land grants, market gardens, and industrialisation. The Site is not considered to have the potential to provide unique information, rather contribute to the body of information already known about the local area. It is unlikely that there would be archaeological material at The Site that could contribute to substantive questions relating to Australian history or other major research questions.

5.4.1. Summary Statement on Research Potential

There are no known significant historical associations with The Site and there are no current improvements of any aesthetic value. While there is evidence that there were former structures located on the site (the dwelling and farm buildings), there is no evidence to support that these were of any significance. The former agricultural use of the property was consistent across the whole of the southern Sydney region including the whole of the areas now known as Mascot and Botany, and therefore there is no particular significance for The Site in association with the former use. Overall, The Site not considered to demonstrate any heritage value when considered against the criteria for heritage listing set out by the NSW Heritage Division.

6. PROPOSED WORKS

Safety is Qantas' first priority. The flight training centre is a key pillar of this value. The facility enables pilots and flight crews to undertake periodic testing to meet regulatory requirements by simulating both aircraft and emergency procedural environments. The Project seeks consent for the construction and operation of a new flight training centre, and associated ancillary uses including a multi-deck car park. The Project is comprised of the following uses:

Flight Training Centre

The proposed flight training centre will occupy the southern portion of the site. It is a building that comprises 4 core elements as follows:

- An emergency procedures hall that contains;
 - cabin evacuation emergency trainers,
 - an evacuation training pool,
 - door trainers,
 - fire trainers
 - slide descent towers,
 - security room,
 - aviation medicine training and equipment rooms.
- A flight training centre that contains:
 - a flight training hall with 14 bays that will house aircraft simulators,
 - integrated procedures training rooms, computer rooms, a maintenance workshop, storerooms, multiple de-briefing and briefing rooms, pilot's lounge and a shared lounge.
- Teaching Space that contains
 - training rooms,
 - classrooms and two computer based exam rooms.
- Office Space
 - Office space for staff and associated shared amenities including multiple small, medium and large meeting rooms, think tank rooms, informal meeting spaces, a video room and lunch/tea room.
- Ancillary spaces including the reception area at the ground floor, toilets, roof plant and vertical circulation. The external ground floor layout will include a loading dock, at-grade car parking for approximately 39 spaces and a bus drop-off zone at the northern site boundary.

Car Park

The proposed multi-deck car park will be located to the north-east of the flight training centre and adjacent the existing Qantas catering facility and tri-generation plant. The car park is 13 levels and will provide 2059 spaces for Qantas staff. Vehicle access to the car park will be provided via King Street, Kent Road and from Qantas Drive via the existing catering bridge.

Additionally, the proposal includes the removal of the existing warehouse at the corner of King Street and the rail corridor to the west of the site. Overall, no bulk excavation is anticipated for the purposes of this project, with existing ground surfaces and levels being retained. There may be some localised excavation associated with footings or services installation that are most likely to only extend vertically into fill layers. There may be a requirement for piles to be driven into bedrock, and a pool is proposed which may require excavation to 4m depth if that facility progresses.

Renders of the proposed works are at Figure 18 and Figure 19.

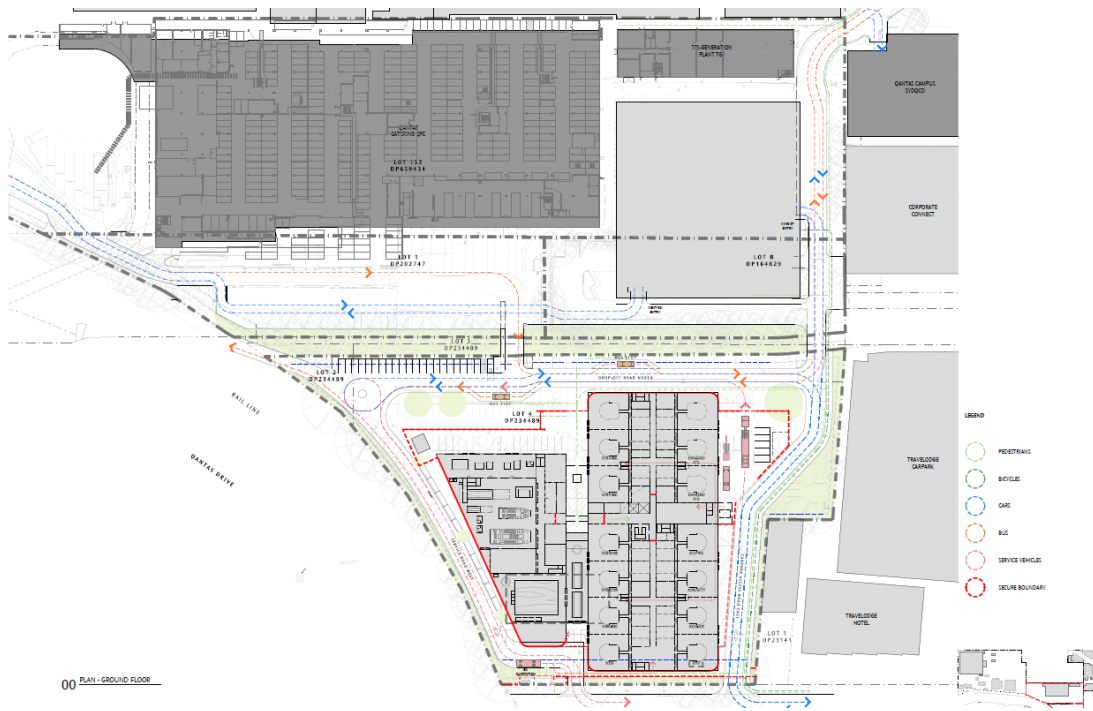


Figure 18 – Extract of proposal – site plan with proposed works circled in red

Source: Noxon Giffen Architects 2019

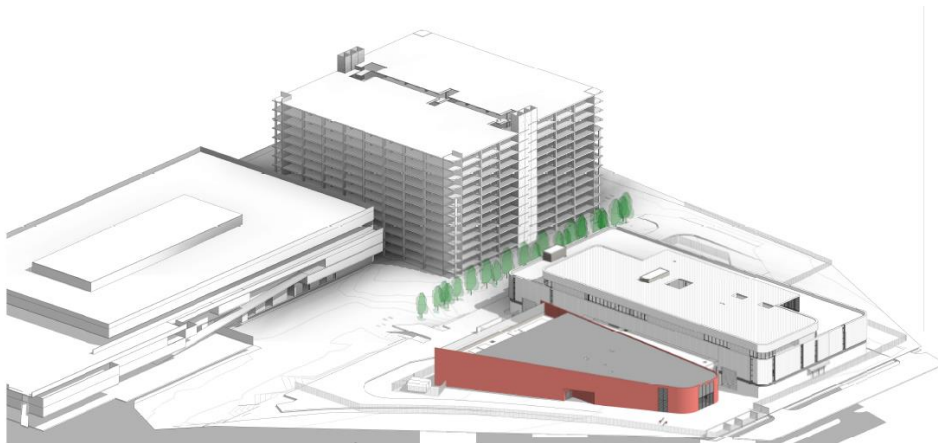


Figure 19 – Extract of proposal – render

Source: Noxon Giffen Architects 2019

7. IMPACT ASSESSMENT AND RECOMMENDATIONS

7.1. POTENTIAL IMPACTS

The Site is assessed in this HAA as having low potential for archaeological remains or relics that reflect its past occupation and use. There is low potential for artefact bearing deposits dating to the use of the site as market gardens, however subsequent land uses would have disturbed such deposits. Should they remain are likely to represent assemblages commonly found in historical archaeological sites, and not considered to be of high research value or significance.

The research potential of the historical archaeological resource is assessed as low. It is unlikely that archaeological deposits or features that can provide meaningful research information are extant. Any artefacts identified during earthworks are unlikely to contribute previously unknown information about the subject site or the surrounding area, however they may have some level of comparative research value.

7.2. RECOMMENDATIONS

7.2.1. Implementation of a Chance Finds Procedure

While the chances of finding in-situ archaeological features is considered low, the process to be undertaken in the event of an unanticipated discovery should be included in all site inductions to ensure legislative obligations are met. In the event that sub-surface material in the form of building footings, structural remains or artefact deposits are found in the course of site works, the following steps are recommended:

1. All works cease in the vicinity of the find to avoid further disturbance of remains;
2. Person who makes the discovery is to notify the head contractor / site manager of the find;
3. Head contractor / site manager to seek advice from archaeological consultant to assess the find. The assessment may require notification to the Heritage Division in accordance with s146 of the *Heritage Age 1977*. Depending on the nature of the find, additional assessment and possibly a s140 excavation permit may be required prior to the recommencement of excavation in the affected area;
4. No works are to continue until the find has been assessed and managed in accordance with the guidance of the archaeologist and/or the Heritage Division;
5. Recommence work following approval by archaeologist and/or Heritage Division.

7.2.2. Discovery of Skeletal Remains

It is considered unlikely that human skeletal remains will be present within The Site, however should such finds be uncovered all works must stop in the vicinity of the find and the NSW Police be contacted immediately for investigation. Works must not recommence until directed by the Police.

8. REFERENCES

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