

## Appendix J

### Historic heritage - Statement of Heritage Impact

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## Menangle Quarry Extension

### Historic heritage | Statement of Heritage Impact

Prepared for Menangle Sand and Soil Supplied Pty Limited | 20 December 2016





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Historic heritage | Statement of Heritage Impact

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## Menangle Quarry Extension

Final

Report J14139RP1 | Prepared for Menangle Sand and Soil Supplied Pty Limited | 20 December 2016

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Date 20/12/2016

Date 20/12/2016

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### Document Control

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## Executive Summary

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Menangle Sand and Soil Supplies Pty Limited (Menangle Sand and Soil, a subsidiary of Benedict Industries) currently operates the Menangle Sand and Soil Quarry at 15 Menangle Road, Menangle, NSW. Menangle Sand and Soil is proposing to continue operations by extracting sand and soil from a new area (Stage 8), on the east side of the Hume Highway.

The Stage 8 area (DP 590247, Lot 203) is in the Wollondilly Local Government Area (LGA), on the west bank of the Nepean River, east of the Hume Highway. It is approximately 100 m wide, extends approximately 2.8 km along the Nepean River and the extraction area covers 12.99 ha.

This historic heritage impact assessment was prepared to accompany an application by Menangle Sand and Soil for the proposed modification to Development Consent 85/2865, under Section 75W of the *NSW Environmental Planning and Assessment Act 1979* (EP&A Act). It accompanies the environmental assessment (EA) for the application which provides information to allow NSW government authorities to assess the merits of the proposed modification and make a determination as to whether or not to grant approval.

The steps taken to prepare this historic heritage assessment were:

- a search for all statutory listings in the vicinity of the Stage 8 area;
- review of historical information for Menangle and surrounds, focusing on the Stage 8 area;
- a field inspection;
- assessment of significance of sites in the Stage 8 area;
- an assessment of anticipated impacts on the heritage values of the Stage 8 area; and
- measures to best manage impacts to heritage values.

Government heritage register searches show that no statutory historic heritage items are within the Stage 8 area.

EMM indentified a movable loading bin on stilts during a site survey. It is possibly associated with Menangle Sand Company operations in the 1920s and 1930s. Furthermore, a steam boiler was found partly buried in the banks of the river within the Stage 8 area. No structures or archaeological deposits are likely to exist in the Stage 8 area and it is assessed to have low archaeological potential.

While the two unlisted items are not assessed as having local significance, they may be of interest to the local historical society or to people who might have worked or have family members who worked in the area.

The project will not impact items of local and state significance. With regard to the two unlisted movable items, the first option is avoidance, which removes the need for mitigation or amelioration. If it is possible for the project to avoid the loading bin, it should remain *in situ* in order to maintain its relationship to Menangle and its context beside the Nepean River. If this is not possible, the loading bin may be relocated to a suitable location in consultation with Menangle Sand and Soil and the local historical society. If it cannot be relocated, it will be destroyed.

No management is warranted for the steam boiler; however, it will also be offered for relocation. If it cannot be relocated, it will be destroyed.

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# 1 Introduction

## 1.1 Background

Menangle Sand and Soil Supplies Pty Limited (Menangle Sand and Soil, a subsidiary of Benedict Industries) currently operate the Menangle Sand and Soil Quarry at 15 Menangle Road, Menangle, in Wollondilly Shire Council local government area, Cumberland County. The quarry extracts sand and soil for sale as specialty sand and soil mixes for a range of uses, including construction and landscaping.

The Stage 8 area of Menangle Quarry is located on the west bank of the Nepean River, immediately east of Menangle. It is vegetated with native trees and an understory of exotic weeds. The Stage 8 area is bounded by a steep escarpment to the west, which levels out onto cleared farmland above the escarpment. The location of the quarry can be seen in Figure 1.1.

Menangle Sand and Soil Quarry was approved by Development Consent 85/2865, granted by the Minister for Planning on 15 November 1989. The approval allows the extraction of sand and soil from floodplain areas adjacent to the Nepean River, including dredging of the river bed in seven stages. Development Consent 85/2865 requires the applicant to complete all stages of the development by 2020. Sand and soil has been extracted from Stage 1 to 2 and 4 to 6 and is currently being extracted from the Stage 7 area. While approved, the sand and soil resources associated with Stage 3 of the quarry are yet to be extracted.

The resource in the existing Stage 7 area is being gradually depleted, and rather than returning to the Stage 3 area, Menangle Sand and Soil is proposing to continue operations by extracting sand and soil from a new area, on land that it owns, on the east side of the Hume Highway. The new area is known as the Stage 8 area.

This statement of heritage impact (SoHI) was prepared to accompany an application by Menangle Sand and Soil for the proposed modification to Development Consent 85/2865, under Section 75W of the *NSW Environmental Planning and Assessment Act 1979* (EP&A Act).

It accompanies the environmental assessment (EA), which provides information to allow NSW government authorities to assess the merits of the proposed modification and make a determination as to whether or not to grant approval.

## 1.2 Project description

Menangle Sand and Soil seeks a modification to Development Consent 85/2865 under Section 75W of the EP&A Act to allow for the extraction of sand and soil from the proposed Stage 8 area within Lot 203 DP590247 on the eastern side of the Hume Highway and processing on Lot 202 DP590247 (Figure 1.1). The new area will extend approximately 2.8 km to the south of approved Stage 7, along the Nepean River floodplain. The new extraction area has an approximate footprint of 12.99 ha.

The saleable resource in the Stage 8 area is estimated to be 760,000 tonnes. This will be extracted over 15 years, with an average annual extraction rate of about 51,000 tonnes. However, extraction rates will vary depending on customer need and it has been assumed that up to 150,000 tonnes of material will be extracted in a given year.

The operations will employ a conveyor belt to transport sand and soil from the Stage 8 area under the Hume Highway and back to the approved sand and soil processing facility on Lot 202 DP590247 for sorting, processing and transportation off the site.

The project will include:

- installation of a conveyor from the Stage 8 area, under the Hume Highway, to the existing Menangle Sand and Soil processing area. Sand and soil extracted from the Stage 8 area would be transported using this conveyor so there would be minimal truck movements under the Hume Highway;
- progressive clearing of the Stage 8 extraction area;
- sand and soil extraction in the Stage 8 area leaving the Nepean River bank intact (other than to remove exotic trees such as willows); and
- progressive rehabilitation following sand and soil extraction. The project would include removal of extensive exotic vegetation upslope of the extraction area allowing restoration of the entire river bank to a high quality ecosystem.

There will be no changes to the approved Menangle Sand and Soil processing other than sand and soil being sourced from the Stage 8 area.

### 1.3 Legislative context

The assessment pathway for the project is a modification under Section 75W of the EP&A Act as the extant development consent was issued under Section 101 of the Act (refer to Clause 12 of Schedule 6A for transitional arrangements). The modification application will be assessed by the NSW Department of Planning and Environment (DPE).

This SoHI was conducted using the principles of *The Australian International Council on Monuments and Sites, Charter for Places of Cultural Significance* (also known as the *Burra Charter*, Australian ICOMOS 2013) and the New South Wales (NSW) *Heritage Manual* (Heritage Office 1996 with additions and revisions).

The *Burra Charter* defines the concept of cultural significance as 'aesthetic, historic, scientific, social or spiritual value for past, present or future generations' (*Burra Charter* 2013, Article 1.2). It identifies that conservation of an item of cultural significance should be guided by the item's level of significance.

The Heritage Division of the Office of Environment and Heritage (OEH) provides the following guidelines for the assessment of heritage significance that are based on the values of the *Burra Charter*, which were:

- *Statements of Heritage Impact Guidelines* (Heritage Office 2006);
- *Assessing heritage significance* (Heritage Office, 2001);
- *Investigating Heritage Significance* (Heritage Office 2004);
- *Assessing Significance for Historical Archaeological Sites and 'Relics'* (Heritage Branch Department of Planning 2009); and
- *Guidelines for Moveable Heritage*, (Heritage Office 2000).

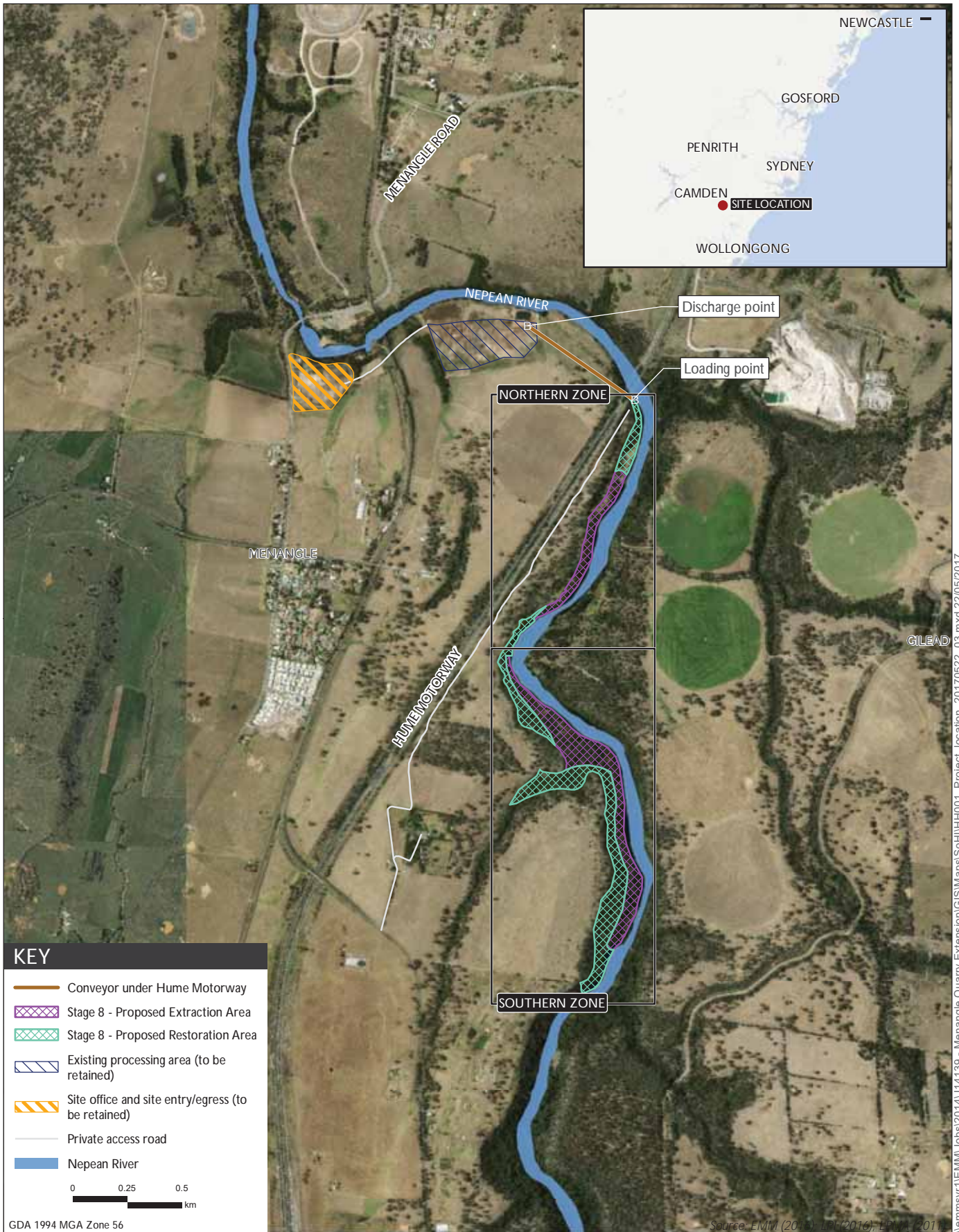
## 1.4 Objectives of this report

This SoHI has been prepared to accompany the development application for the project. Its purpose is to assess non-Aboriginal heritage items within the Stage 8 area. The tasks involved comprise:

- a search for all statutory listings in the vicinity of the Stage 8 area;
- review previous heritage assessments and historical information for Menangle and surrounds;
- research historic information for the Stage 8 area;
- a field inspection;
- an assessment of significance of sites in the Stage 8 area;
- an assessment of impacts to heritage; and
- outlining measures to avoid or minimise impact to heritage items.

## 1.5 Authorship

This report was written by Pamela Chauvel (Archaeologist EMM), reviewed and revised by Ryan Desic (Senior Archaeologist EMM) and reviewed by Pamela Kottaras (EMM heritage services manager).



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**Project location**  
 Menangle Quarry Extension  
 Statement of Heritage Impact  
 Figure 1.1

## 2 Existing environment

### 2.1 Identifying listed heritage items

Listing on statutory registers provides a legal basis under which the item or place is protected and where change is managed through conditioned approvals.

Non-statutory listing is an acknowledgment of a site's or place's importance to sections of the community. Listings on such registers does not place legal requirements on development but nevertheless influence the future of such listed items.

The following registers were searched online:

- Statutory:
  - the National Heritage List (NHL). The register is made under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act);
  - the Commonwealth Heritage List (CHL). The register is made under the EPBC Act;
  - the State Heritage Register (SHR). This register is made under Part 3A of the *Heritage Act 1977* (Heritage Act);
  - the Heritage and Conservation Register (s170 register). This register is made under Section 170 of the Heritage Act and is also referred to as the section 170 (s170) register;
  - Schedule 5 of the *Wollondilly Local Environmental Plan* (WLEP 2010);
  - Schedule 5 of the *Campbelltown Local Environmental Plan* (CLEP 2010); and
  - the State Heritage Inventory (SHI), which was cross-checked with Schedule 5 of the WLEP and the s170 register. The SHI is not a single statutory register but a central collection of heritage items listed on statutory instruments. The SHI is maintained by the Heritage Division.
- Non-statutory:
  - National Trust of Australia, NSW (NT); and
  - Register of the National Estate (RNE). The RNE is an archived list of heritage items that were protected under the repealed *Australian Heritage Commission Act 1975*, which was replaced by the EPBC Act.

Desktop research included consulting the following sources:

- Historic land Records Viewer (HLRV);
- Australian Railway Historical Society, NSW Division;
- Spatial Data Services, NSW Department of Finances, Services & Innovation (SixViewer);

- Wollondilly Heritage Centre; and
- Camden Historical Society.

## 2.2 Heritage listings

Relevant registers were searched on 13 April 2016. No heritage listed items are situated within the Stage 8 area; however, heritage items occur in the vicinity. These items are shown in Figure 2.1.

Menangle Conservation Area (LEP item C1) is centred on the crossroads of Menangle Road and Woodbridge/Station Street) and the historic village of Menangle. Menangle Landscape Conservation Area (LEP item C6) encompasses and surrounds Menangle Village to the west of the Hume Highway. None of Stage 8 area lies within these conservation areas but the proposed conveyor traverses the north-eastern extent of the Menangle Landscape Conservation Area. The portion of the Menangle Landscape Conservation Area where the proposed conveyor is proposed is already within the Stage 7 extraction boundary which is approved to be disturbed through extraction activities.

Table 2.1 outlines registered heritage items in the vicinity of the Stage 8 area.

**Table 2.1 Heritage items in the vicinity of the Stage 8 area (LEP)**

Register listing	Address	WLEP 2011 Item number	Distance from Stage 8 area (approximate)
Camden Park Estate – Dairy No 8, cottages and orchard sites	445 Remembrance Driveway	I54	6 km to the north-west
Camden Park Estate – House and Remembrance Driveway gardens	Remembrance Driveway	I55	6 km to the north-west
Menangle Rail Bridge over Nepean River	Menangle Road	I80	1.2 km to the west
Camden Park Estate—Central Creamery Manager’s Cottage	15 Menangle Road	I82	1.2 km to the north-west
Camden Park Rotolactor	15 Menangle Road	I83	1.2 km to the north-west
Dairy No 4 (EMAI Cottage 29)	60 Woodbridge Road	I 84	2.5 km to the west
Dairy No 9 (EMAI Cottage 24)	240 Woodbridge Road	I 85	3.3 km to the west
Bungalow	92 Menangle Road	I86	1.2 km to the west
Bungalow	96 Menangle Road	I87	1.2 km to the west
House	100 Menangle Road	I88	1.2 km to the west
Cottage	102 Menangle Rd	I89	1.2 km to the west
Bungalow	106 Menangle Rd	I90	1.2 km to the west
St Patrick’s Catholic Church	119 Menangle Rd	I91	1.2 km to the west
Cottage	124 Menangle Rd	I92	1.2 km to the west
Cottage	128 Menangle Rd	I93	1.2 km to the west
St James Anglican Church	131 Menangle Rd	I94	1.2 km to the west
Cottage	138 Menangle Road	I95	1.2 km to the west
Gilbulla (Anglican Conference Centre)	710 Moreton Park Road	I96	800 m to the south-west
Dairy Cottage	1370 Moreton Park Road	I97	600 m to the south-west
Menangle Gate Lodge (former)	60 Woodbridge Road	I99	2.5 km to the west
Menangle Weir	Station Street	I101	1.2 km to the west

**Table 2.1 Heritage items in the vicinity of the Stage 8 area (LEP)**

Register listing	Address	WLEP 2011 Item number	Distance from Stage 8 area (approximate)
Menangle Railway Station Group	Station Street	I81	800 m to the north-west
Menangle Store	2 Station Street	I98	1.2 km to the west
Menangle School of Arts and Community Hall	4 Station Street	I292	1.2 km to the west
Menangle Public School	28 Station Street	I291	800 m to the west
Camden Park Estate Central Creamery	45 Stevens Rd	I100	900 m to the west

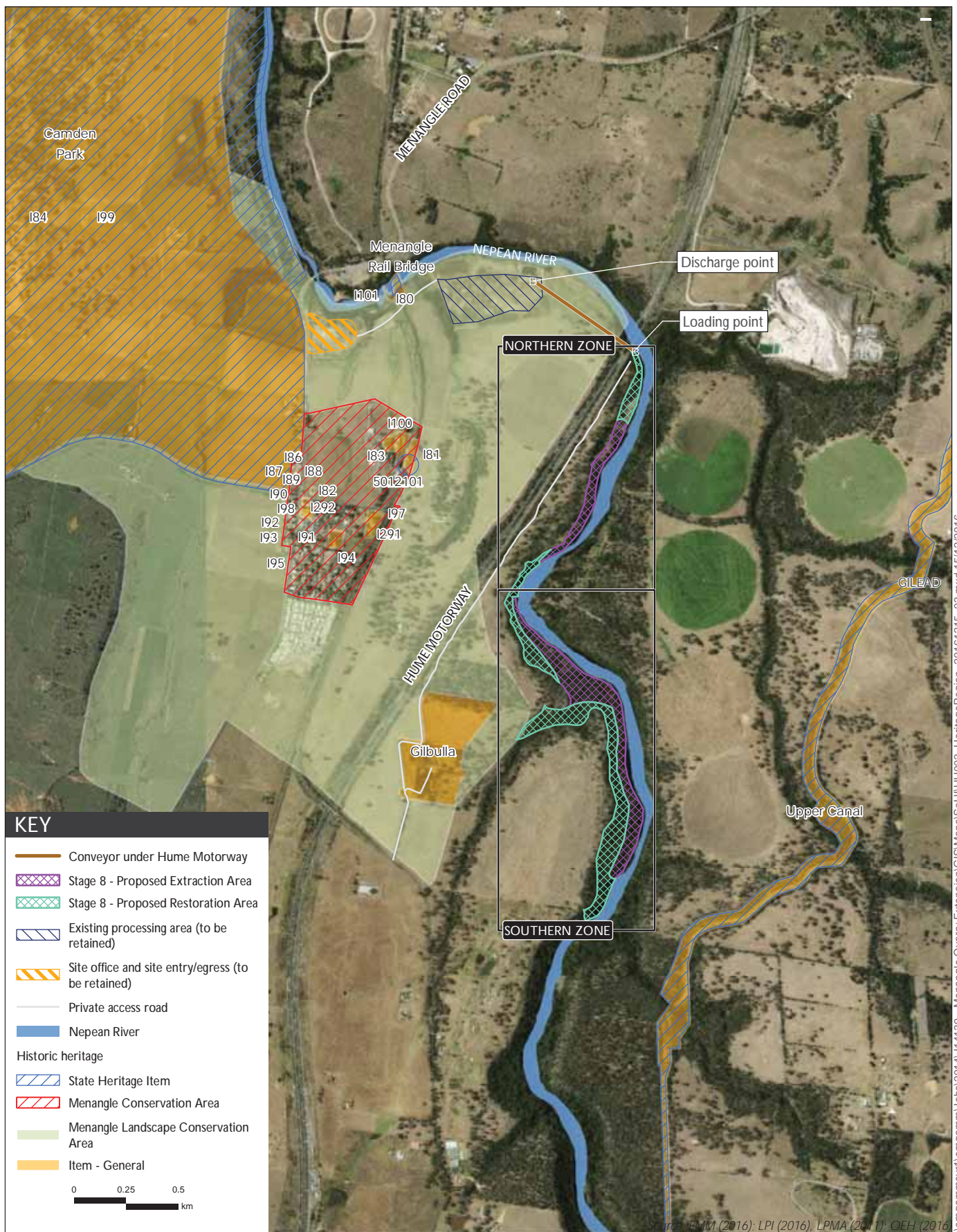
Table 2.2 lists heritage items in the vicinity of the Stage 8 area that are on the SHR.

**Table 2.2 State heritage registered items in the vicinity of the Stage 8 area (SHR)**

Register listing	Address	LGA	SHR Item number	Distance from Stage 8 area (approximate)
Menangle Railway Station Group	Main Southern railway	Wollondilly	01191	800 m to the north-west
Menangle Rail Bridge over Nepean River	Menangle Road	Wollondilly	01047	1.2 km to the west
Upper Canal	In canal reserve	Camden	01373	1 km to the east

The only heritage listed item east of the Hume Highway (ie on the same side as the Stage 8 area) is *Gilbulla* (Anglican Conference Centre) (WLEP I96), at 710 Moreton Park Road, approximately 700 m west of the Stage 8 area. As such, no LEP or SHR heritage items are in the Stage 8 area.

In summary, only the proposed conveyor is within an LEP listed item – Menangle Landscape Conservation Area (LEP item C6).



Heritage items in the vicinity of the project area

Menangle Quarry Extension  
Statement of Heritage Impact  
Figure 2.1

### 3 Historical context

The Stage 8 area is located on Tharawal land, also referred to as Dharawal in the historic records. Tharawal land encompasses the area south of Botany Bay to north of Shoalhaven River and west to Campbelltown and Camden (Tharawal Local Aboriginal Land Council). The historical records show that Gandangara people visited this area although it is not known whether this was due to recent displacement following European occupation or part of longer term interactions with the Tharawal people (Karskens 2010, cited in artefact 2015, p.10).

Early in the colony's history, the area was known as 'Cowpastures' because of the herd of cows that were discovered there in 1795, descendants of six escapees from Port Jackson seven years earlier. The name Menangle comes from an Aboriginal word 'Manhangle' or 'Manangle' for a place of swamps (State of New South Wales through the Geographical Names Board 2016).

In 1802, Francis Barrallier, a French engineer with the New South Wales Corps, led a party of four soldiers, five convicts and a Dharawal man to find a way into the Blue Mountains. They crossed the Nepean and passed lagoons at Menangle and nearby that were full of fish, molluscs and enormous eels (Turbet 2011, p.127).

European settlement in the area occurred soon after 1788, primarily for grazing. First Governor Paterson and then Governor Macquarie distributed land grants and by the early nineteenth century, all land in the area had been granted.

The Macarthur family's estate Camden Park (SHR 01697 and 00341) lies to the north-west of the Stage 8 area. It is the oldest sheep stud in Australia. In the early nineteenth century, the estate was run as a mixed farm with sheep for wool, dairy cattle, vineyards and orchards. The Macarthur's owned significant acreage in the region including *Upper Camden* on which the southern part of the Stage 8 area is situated (Plate 3.1).

The northern part of the Stage 8 area is situated on a 2000 acre property named *Belmont* that was granted to Walter Stevenson Davidson (1785–1869) by Governor King. Davidson was born in Scotland and came out to Sydney on the *Argus* with John Macarthur in 1805. His *Belmont* property is on land originally known as the Cowpastures, on land adjacent to Macarthur (Plate 3.1).

A journal entries by Lachlan Macquarie on 18 November 1810, records a visit to Davidson's property at Menangle:

"We all set out to see Manangle (sic) a fine extensive Farm of 2000 acres belonging to Mr. Walter Davidson, situated on the Banks of the Nepean... It is a beautiful situation and excellent rich Land for both Tillage and Pasture, with a fine large Lagoon in the Center of it, which is called Manangle, and is the native name of this Farm" (Macquarie University 2009).

Davidson only stayed in Sydney for six years before sailing to China and establishing Davidson & Co, importing opium and cotton, and exporting tea and silver. In 1822 he sailed for England and never returned to Sydney. Davidson had an agreement with Macarthur whereby Macarthur could "make use of" his property while he was absent. *Belmont* was finally sold in 1851 (ADB 1966).

In 1858 the Great Southern Railway to Campbelltown was completed. Five years later a rail bridge across the Nepean River at Menangle (SHR, 01191) was constructed and with it, railway access for the town of Menangle. It was the first large iron bridge in NSW and Menangle railway station buildings (SHR 01047) comprise one of the earliest station complexes to survive in NSW.

*Gilbulla* (WLEP 2011, 196) approximately 700 m west of the Stage 8 area was designed by Sir John Sulman in the Federation Arts and Craft tradition and is part of an important group of Sulman designed buildings around Menangle. The property was originally part of John Macarthur's estate, becoming home to the Macarthur-Onslows by the end of the nineteenth century. During World War Two the house was used as a Red Cross Centre. *Gilbulla* sits on the plateau above the escarpment on the western edge of the Stage 8 area. In 1974, the Halfpenny family bought land including the Stage 8 area from the Macarthur Onslows.

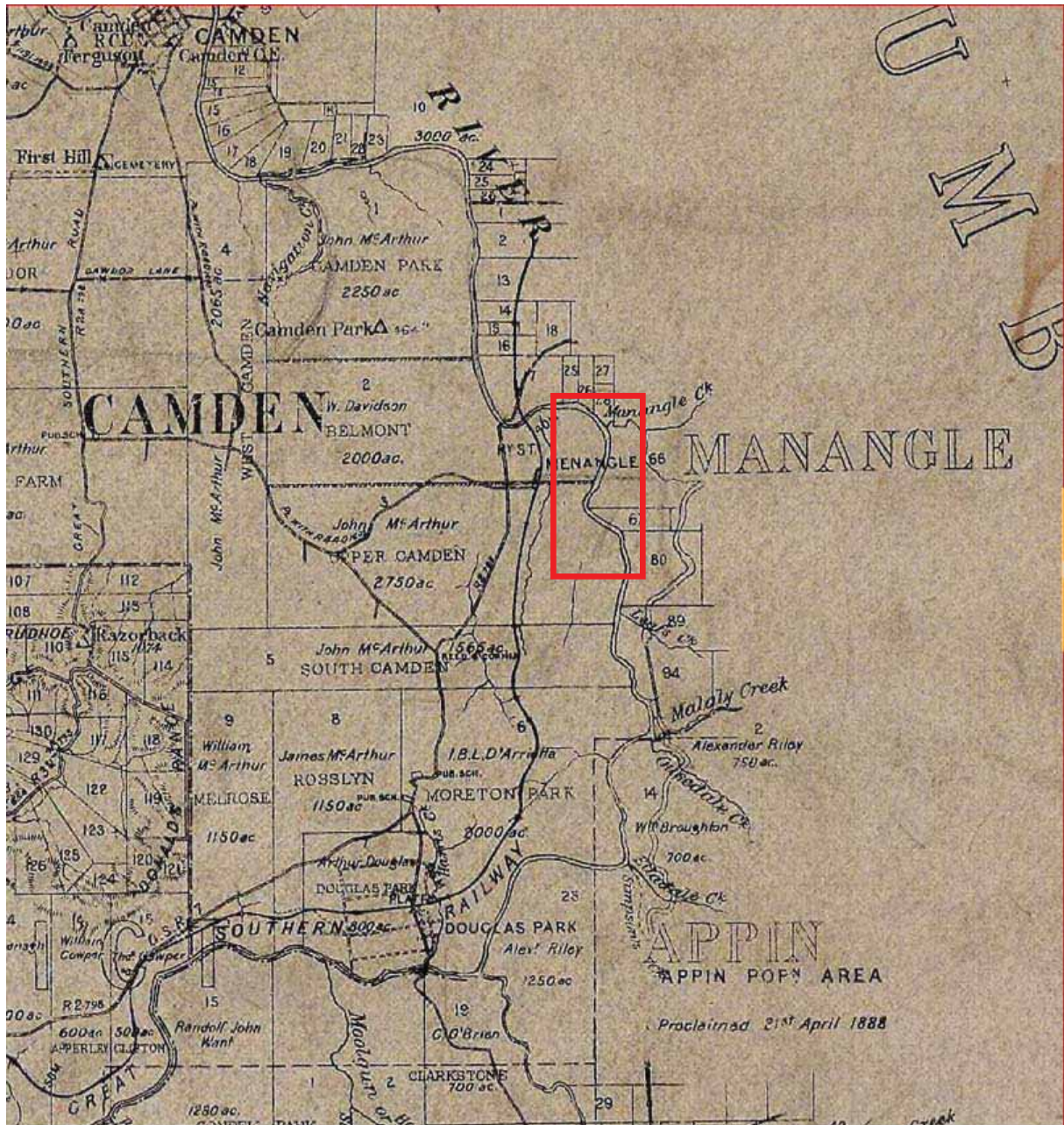


Plate 3.1 Detail from a map of the County of Camden, Eastern Division NSW (1895). The Stage 8 area falls within land that was granted to Davidson (*Belmont*) and to John Macarthur (*Upper Camden*). Macarthurs' *Camden Park* property is to the north-east.

Early farming in the district focused on wool and wheat production, and expanded to wine, orchards and dairy industries. Dairying was an important industry in the district, particularly at Camden Park estate where Elizabeth Macarthur-Onslow founded the local dairying industry in the late 1880s. Within the next decade, twelve cooperative farms and forty leased farms supplied the dairies and creameries at Camden Park (Draft Wollondilly LEP 2009). The Central Creamery sheds near Menangle station, were built in 1898 to separate cream from milk. Then, with the creation of the Milk Board in 1929, became the depot for receiving milk for city distribution (SHI 2690729). In 1952 a rotating milking platform, 'the rotalactor' began operation at Menangle and was part of the mechanisation of commercial dairy farming in the region (SHI 2690295). The following year a milk bar was opened next door and became a popular tourist attraction.

The Menangle Sand Company began operations in 1929, providing clean, good quality sand for manufacture of concrete for the north approach of the Sydney Harbour Bridge and later, for the concreted portion of the Hume Highway, north of Narellan (Eardley 1970, p65, 67). In 1930, weekly output was 400–500 tons, and the record for one days loading was 8 trucks, about 120 tons (Camden News 13 Mar 1930, p.7).

Sand was pumped from the river bed into a large elevated bin, deposited into wagons and drawn by a locomotive via a narrow (2 foot) gauge tramway, 2 miles to the rail yards at Menangle (Camden News 11 July 1929, p.1). The line ran from the sand-loading terminus northwards along the Nepean River for about half a mile before turning west through a farming area known as Bird's Eye Corner (near a bend in the Nepean) and on to the Menangle terminus (Eardley 1970, p.66). Menangle Sand Company's tramway closed around 1932 and the rail line was later dismantled. According to a notice in the NSW Government Gazette (28 Jul 1950 p.2365), Menangle Sand Limited was dissolved in 1950.

Soil extraction operations to the north of the Stage 8 area commenced in the 1960s (Planning Workshop 1987, p.10) and have continued until today.



## 4 Site inspection

### 4.1 Introduction

On 26 April 2016, two archaeologists from EMM conducted a pedestrian field survey of the Stage 8 area in conjunction with an Aboriginal cultural heritage survey. However, much of the Stage 8 area was inaccessible because of an impenetrable thick understory of weeds. Consequently, the areas that could be reached were inspected, but most of the Stage 8 area could only be viewed from nearby tracks bordering its boundary. A loading bin on stilts was identified at the southern end of the lower terrace in the northern zone (Figure 4.1).

During subsequent test excavation as part of the Aboriginal cultural heritage assessment (ACHA) (4–10 October), an additional item was identified on the bank of the river (Section 4.2.3) and the loading bin was more closely assessed (Section 4.2.2).

The items that were identified are shown on Figure 4.1.

### 4.2 Results

#### 4.2.1 Landscape context

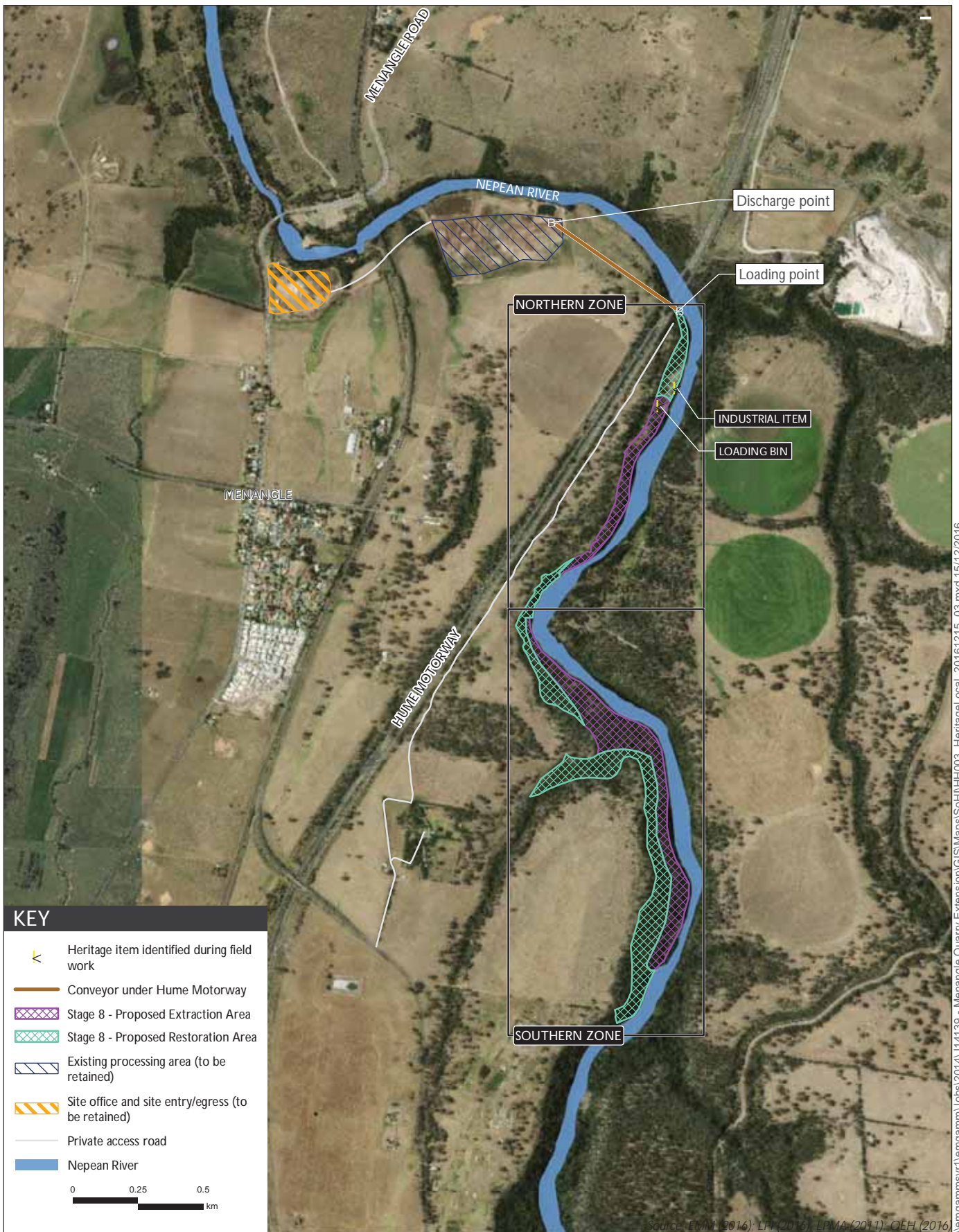
The landscape of the Stage 8 area is a riparian zone along the west bank of the upper Nepean River, immediately east of Menangle. It is flanked on either side by a steep escarpment. The plateau above the escarpment to the east, outside the Stage 8 area, has been cleared for farming. The land within the Stage 8 area is characterised by a thick understory of weeds, with remnant native trees and pockets of open grassland. In sections of the southern and northern zones of the Stage 8 area, a gently inclined upper terrace runs parallel to the Nepean River separated by a steep slope down onto a lower terrace. Vehicle tracks traverse the upper terraces and the more accessible sections of the lower terrace.

Two historical items were identified, and both were in the northern part of the Stage 8 area.

#### 4.2.2 Sand loading bin

A large metal container on stilts made of tree trunks sits at the edge of a cleared, elevated alluvial terrace in the northern part of the Stage 8 area (Figure 4.1). The metal bin is constructed of steel sheets riveted together to form an open topped bin resting on an elevated platform constructed from railway sleepers and iron rails. Protruding from the north-east corner is what could be a drainage spout. On the underside of the container, eight sliding doors would have enabled the structure to function as a hopper to dispense material to wagons or trucks below (Plate 4.1).

The structure is approximately 40 m west of the Nepean River and is likely to have been part of twentieth century sand extraction operations. No evidence for the 1920s rail tracks were identified during survey. However, a photograph in the Rail Historical Society archives taken in 1984 shows the bin overgrown and evidently no longer in use. The photograph is labelled “remains of sand loading bins used in later years for filling road trucks” (supplied by Bill Phippen, ARHS/NSW). If it was used for loading trucks rather than rail wagons, the bin would possibly date to after the 1930s when rail was no longer used for transporting sand from the Nepean River.



Heritage items identified during field work  
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 Figure 4.1



Plate 4.1 Close up of the loading bin showing possible drainage spout from north-east corner, railway sleepers tracks.



Plate 4.2 Loading bin, west elevation. The middle strut has notches cut into the sides possibly to accommodate cross beams.



Plate 4.3 Underside of loading bin showing one of the eight sliding doors.

### 4.2.3 Derelict industrial item

An abandoned item of industrial equipment was identified on the sandy banks of the Nepean River (Plate 4.4 and 4.5), approximately 100 m north of the loading bin. It is obscured by vegetation and partially buried so it is difficult to provide a definitive identification. John Gibson (Heritech Consulting, pers com) assessed the item as a steam boiler. The hole at the front is most likely missing its pressure cover plate. It is constructed of heavy iron or steel plates riveted together.

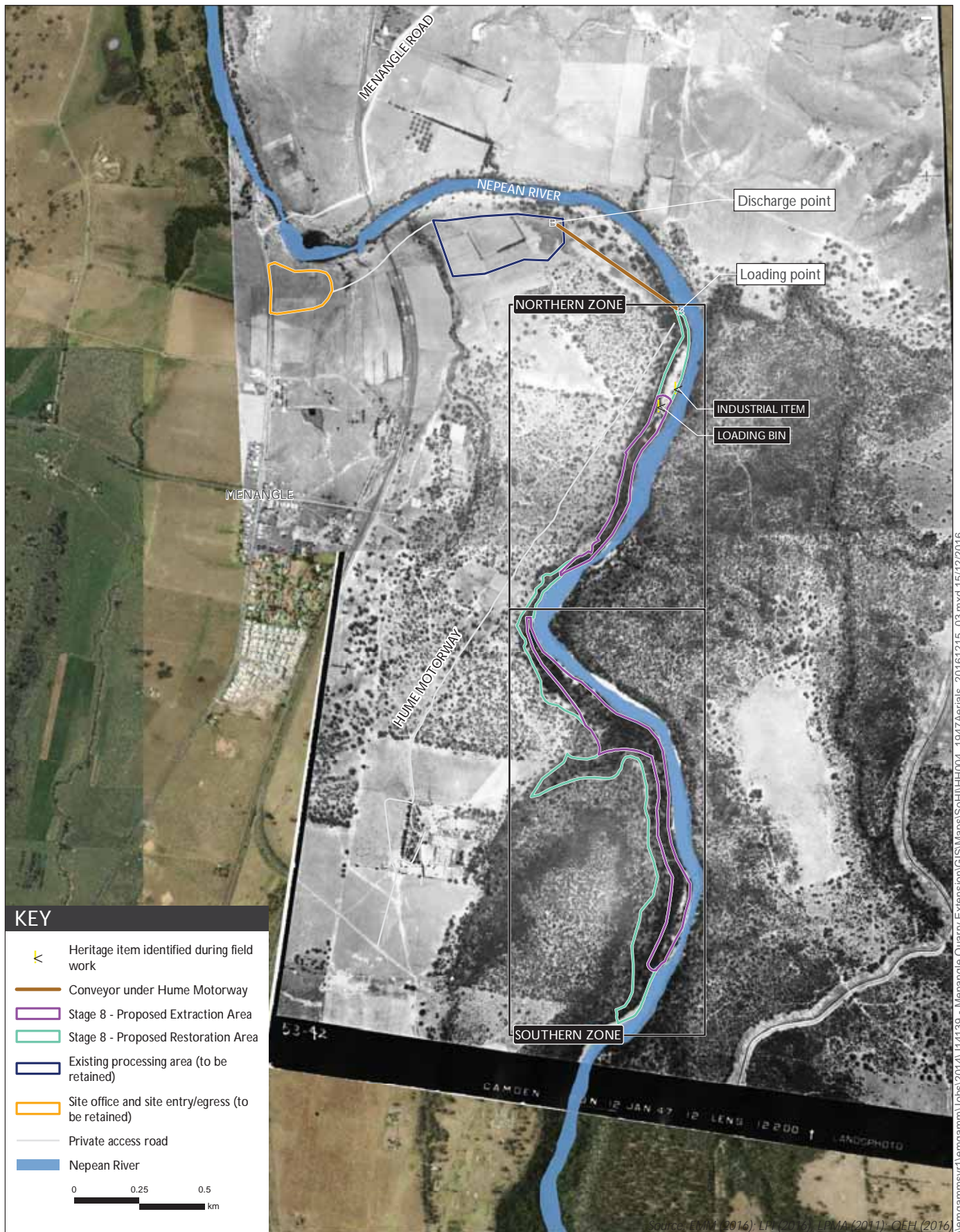
It is not clear whether the boiler is in its original location as part of equipment used for generating steam power during sand dredging from the river, or whether it was dumped there once it was no longer needed.



**Plate 4.4** Industrial equipment found in the Stage 8 area, possibly a steam boiler, on the west bank of the Nepean River.



**Plate 4.5** Close up of possible steam boiler.



Aerial photographs of Menangle, 1947  
 Menangle Quarry Extension  
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 Figure 4.2

### 4.3 Archaeological potential and significance

Historical research has shown that the Stage 8 area is situated on land that was originally granted to Walter Davidson (*Belmont*) and John Macarthur (*Upper Camden*). These pastoral properties were primarily used for agricultural activities, such as sheep and later dairy farming. Aerial photographs from the mid twentieth century show extensive land clearance. A tramway associated with sand mining in the early twentieth century connected the Nepean River with the Menangle train terminal.

Documentary evidence suggests that there have not been any significant structures within the Stage 8 area. Aerial photographs from 1947 (Figure 4.2) show that vegetation beside the Nepean River was of a similar density as today and that minimal development, beyond some vegetation clearance, has taken place. There is no evidence of the tramway or any other structures within the Stage 8 area. A map of the tramway (not to scale) indicates its approximated location (Plate 4.6) but the tracks were dismantled in the mid twentieth century and no fabric was identified during fieldwork. Evidence of the tramway or road is not visible in the 1947 aerial photographs.

The potential for the Stage 8 area to contain relics associated with former land use and occupation is assessed as low.

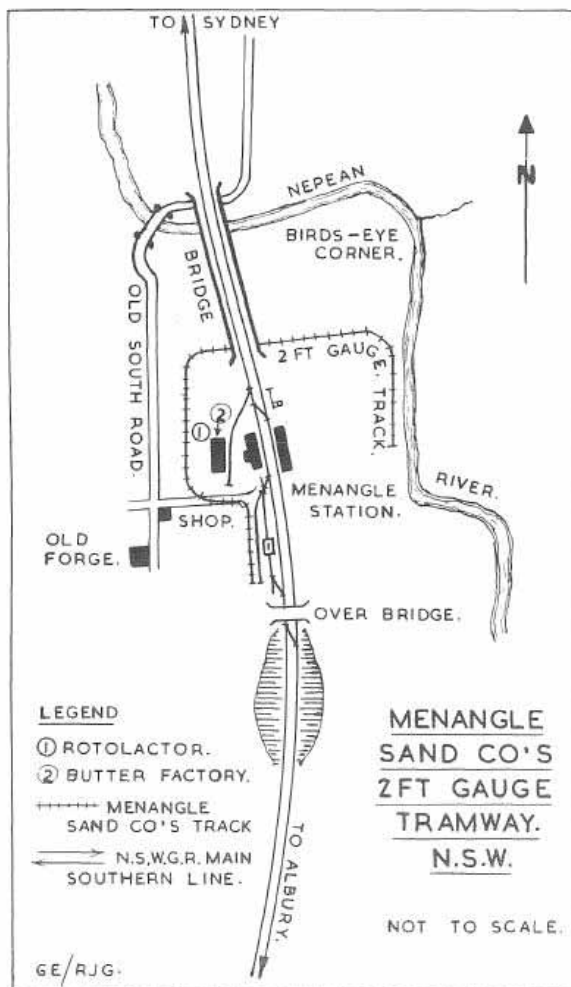


Plate 4.6 Menangle Sand Company's 2ft gauge tramway (Eardsley 1970, p.66)



## 5 Assessment of significance

### 5.1 Defining heritage significance

The Heritage Office of OEH assesses heritage significance based on the *Burra Charter* (Australia ICOMOS 2013). It lists seven criteria to identify and assess heritage values that apply when considering if an item is of state or local heritage significance. The seven criteria is provided in Table 5.1 which also summarises the heritage significance of each items in the Stage 8 area.

These criteria are then considered to arrive at an overall level of significance for the site as either State or local significance.

### 5.2 Statements of heritage significance for items within the Stage 8 area

#### 5.2.1 Loading bin

The Nepean River and its banks in the local area have been mined for sand for nearly a hundred years. The loading bin is part of the sand mining and industrial history of Menangle, and has the potential to contribute to greater understanding of local sand mining and transportation history. It has associative significance with the building of Sydney Harbour Bridge, an important Depression-era project.

It is a relatively intact and well preserved example of a vernacular structure constructed to fulfil a particular purpose, that of storing, draining and loading sand. The materials and construction techniques reflect what was in use at the time (and what was readily to hand). For example, the reused railway sleepers and tracks (Plate 4.1), or how the unfinished tree log struts were notched to accommodate cross beams (Plate 4.2).

The loading bin was probably in use for a relatively short period, only a decade or so, while the sand mine was in operation in the early twentieth century. While there once could have been tram tracks associated with the storage bin these tracks were removed in the mid twentieth century and it is unlikely rail infrastructure has survived.

The loading bin is a small remnant on private property and is not part of the public's awareness of the history of Menangle.

#### 5.2.2 Steam boiler

The derelict industrial object, which has been identified as a probable steam boiler, may be of local interest but does not meet the criteria to be classified as of local significance. As an item of moveable heritage, it is a small remnant on private property that is probably not in its original context neither is it in association with other items that would provide context for its interpretation. It is in a dilapidated condition and missing elements.

### 5.3 Summary

The loading bin is a relatively well preserved example of a vernacular structure that was probably in use for a relatively short period in the early twentieth century. In its current context, the storage bin could be of interest to the local community and historical groups for what it can contribute to knowledge about local industry in the early twentieth century and the development of Menangle. It is an item of moveable

heritage and has some local heritage values, but is not considered to fulfil local or stage heritage listing criteria.

The derelict industrial item/steam boiler is an item of early twentieth century industrial heritage, and given its derelict condition and lack of context, is unlikely to provide useful information. This item does not fulfil local or state heritage listing criteria.

**Table 5.1 Assessment of significance summary**

<b>NSW Heritage criteria (NSW Heritage Act 1977)</b>	<b>Assessment of significance for loading bin</b>	<b>Assessment of significance for steam boiler</b>
<p><b>Historical significance</b> Criterion (a) an item is important in the course, or pattern, of NSW's cultural or natural history (or the local area);</p>	<p>The loading bin has historical associations with the sand mining industry and the building of the Sydney Harbour Bridge. However, the item represents only a minor aspect of both associations and is not considered important in the cultural history of NSW or local area. As such, there are local historical values present but it would not fulfil local or state listing criteria.</p>	<p>This criterion is not demonstrated by the item.</p>
<p><b>Associative significance</b> Criterion (b) an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the local area);</p>	<p>This criterion is not demonstrated by the item.</p>	<p>This criterion is not demonstrated by the item.</p>
<p><b>Aesthetic significance</b> Criterion (c) an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area);</p>	<p>The loading bin is a relatively intact and well preserved example of a vernacular structure constructed to fulfil a particular purpose, that of storing, draining and loading sand. The materials and construction techniques reflect what was in use at the time (and what was readily to hand). However, these values would only be of local value to represent as minor aspect of the sand mining industry. As such, the item has aesthetic values but they would not fulfil local or state listing criteria.</p>	<p>This criterion is not demonstrated by the item.</p>
<p><b>Social significance</b> Criterion (d) an item has strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons (or the local area)</p>	<p>This criterion is not demonstrated by the item.</p>	<p>This criterion is not demonstrated by the item.</p>
<p><b>Research significance</b> Criterion (e) an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the local area);</p>	<p>The loading bin is a relatively simple vernacular structure. It would have limited research potential other than showing how loading bins functioned. As such, this criterion is not demonstrated by the item.</p>	<p>This criterion is not demonstrated by the item.</p>
<p><b>Rarity</b> Criterion (f) an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the local area); and</p>	<p>The research conducted to date has not indicated that the items fulfil this criterion. There is no indication that information about sand mining in NSW is rare.</p>	<p>This criterion is not demonstrated by the item.</p>

**Table 5.1**      **Assessment of significance summary**

NSW Heritage criteria (NSW Heritage Act 1977)	Assessment of significance for loading bin	Assessment of significance for steam boiler
<p><b>Representativeness</b>                      Criterion (g) an item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places or cultural or natural environments (or the local area).</p>	<p>The item represents only minor aspect of the history of sand mining. This criterion is not demonstrated by the item.</p>	<p>This criterion is not demonstrated by the item.</p>
<p><b>Overall significance</b></p>	<p>This item has local historical and aesthetic values but they do not meet local or state significance criteria.</p>	<p>This item does not meet local or state significance criteria.</p>

## 6 Impact assessment

### 6.1 Statement of heritage impact

The large-scale machine earthworks associated with sand and soil extraction has the potential impact the historical heritage items in the Stage 8 area. The loading bin and steam boiler will have to be removed prior to soil extraction. However, both items are moveable objects and their current location context does not measurably contribute to their significance. Both items do not meet local or state heritage significance criteria, but the loading bin does warrant some level of recording and possibly re-use if there is interest in the item.

The proposed Stage 8 extraction will not impact any listed statutory or non-statutory historic heritage items of local or state significance. Furthermore, it is very unlikely that the project will impact relics because the Stage area is considered to have low archaeological potential.

The proposed conveyor that traverses the Menangle Landscape Conservation Area (LEP Item C6); however, this area is already approved for complete disturbance through Stage 7 extraction activities. As such, proposed conveyor will not additionally detract from the significance of the conservation area.

A SoHI has been prepared to assess the impact of the project on the historical heritage item. The guideline *Statements of Heritage Impact: A Model*, (Heritage Office and Department of Urban Affairs & Planning 1996, revised 2002) poses a series of questions that comprise the minimum information to form a SoHI, which is required to properly address the impacts on heritage items. However, the questions are designed to address built items rather than moveable objects. As such, the impact of removing the loading bin and steam boiler most closely relates to the SoHI questions that apply to the demolition of an item. These questions are presented and addressed below:

*Have all options for retention and adaptive re-use been explored?*

Options for the relocation of the loading bin have been considered. These are presented in Section 7.2.3.

The steam boiler is dilapidated and missing elements. It is unlikely that relocation of the item is warranted because of its poor condition.

*Can all of the significant elements of the heritage item be kept and any new development be located elsewhere on the site?*

The items are not considered to be of a level of significance that would warrant changing the design of the development.

The loading bin may kept but relocated. The options for relocation are presented in Section 7.2.3. The steam boiler does not warrant being kept.

*Is demolition essential at this time or can it be postponed in case future circumstances make its retention and conservation more feasible?*

Removal of the items are essential for the project to progress. The items are not considered to be of a level of significance that would warrant postponing the project.

*Has the advice of a heritage consultant been sought? Have the consultant's recommendations been implemented, If not, why not?*

EMM heritage consultants have prepared this report. The management measures are presented in Chapter 7.

## 7 Conclusion and management measures

### 7.1 Conclusion

The project will not impact any statutory historic heritage items of local or state significance as shown on Figure 2.1. Two movable historical items which do not meet local or State heritage listing criteria will be impacted unless mitigated by the management options presented in Section 7.2.

### 7.2 Management measures

#### 7.2.1 Management framework

The management measures proposed in this report are in keeping with the philosophy of the *Burra Charter 2013* that recommends a cautious approach when proposing change to items of heritage value: do as much as necessary but otherwise change as little as possible so that its cultural significance is retained.

The first option is avoidance, which removes the need for mitigation or amelioration, and if this is not possible, then removing the items should be considered. Furthermore, moveable items can be relocated if there are groups interested in the items. The NSW Heritage *Guidelines for Moveable Heritage* (2000) outlines the importance of promoting the value of moveable heritage to the community through access, education and interpretation programs and of managing these items in their community context. The following section presents the proposed management measures.

#### 7.2.2 Avoidance

If it is possible for the project to avoid the loading bin, it should remain *in situ* in order to maintain its relationship to Menangle and its context beside the Nepean River. If this is not possible, measures from Section 7.2.3 will be implemented.

The steam boiler does not warrant avoidance.

#### 7.2.3 Relocation, archival recording, or destruction

Decisions on managing moveable heritage should be based on their significance, including their relationships to places and people (Heritage Office 2000, p.2).

The loading bin has some local values and is at risk of being damaged once sand extraction begins in the Stage 8 area. The item will be either:

- moved to another location in consultation with Menangle Sand and Soil and the local historical society, or if this is not possible;
- archivally recorded, as outlined in *How to Prepare Archival Records of Heritage Items* (Heritage Office 1998) and *Photographic Recording of Heritage Items using Film or Digital Capture* (Heritage Office 2006b). Archival recording could include measured technical drawings, photographic recording and/or oral histories. Copies of the final record would be kept by the local council, local historical society and by Benedict Sand and Soil. Once the item is recorded it may be removed without further management requirements.

The steam boiler will also be offered for relocation. If it cannot be relocated, it will be destroyed. The steam boiler does not warrant archival recording.

#### 7.2.4 Unexpected finds protocol

##### i Historical archaeology

If unexpected historical archaeology is discovered during construction, work in the immediate area must cease and an archaeologist must be contacted to make an assessment of the find. If it is determined to be a relic under the *NSW Heritage Act*, further investigation may be required. Examples of unexpected finds may include courses or alignments of bricks, sandstone blocks and artefact deposits.

##### ii Human remains

In the event that known or suspected human skeletal remains are encountered during the activity, the following procedure will be followed as soon as the suspected remains are discovered:

- all work in the immediate vicinity will cease and the find will be reported to the work supervisor who will advise the site supervisor or other nominated senior staff member;
- the site supervisor or other nominated senior staff member will promptly notify the police and the state coroner (as required for all human remains discoveries);
- the site supervisor or other nominated senior staff member will contact OEH for advice on identification of the skeletal material as Aboriginal and management of the material; and
- if it is determined that the skeletal material is of Aboriginal ancestral remains, the Registered Aboriginal Parties (RAPs) will be contacted and consultative arrangements will be made to discuss ongoing care or reinterment of the remains.

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