

Archaeological assessment and research design Showground Station

North West Rail Link

Prepared for Baulderstone Pty Ltd | 10 July 2013



Archaeological assessment and research design

Showground Station | North West Rail Link

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Archaeological assessment and research design

Draft Report

Report J13006RP1 | Prepared for Baulderstone Pty Ltd | 10 July 2013

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Position Archaeologist

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Signature



Signature



Date 10 July 2013

Date 10 July 2013

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Executive Summary

The North West Rail Link (NWRL) is a priority transport infrastructure project for NSW and will provide a new 23 km electrified passenger rail line between Epping and Rouse Hill. The Project includes eight new stations (Cherrybrook, Castle Hill, Showground, Norwest, Bella Vista, Kellyville, Rouse Hill and Cudgegong Road), a stabling facility and associated infrastructure.

Transport for NSW (TfNSW, the NSW Department of Transport) has commissioned Boulderstone Pty Ltd (BPL) as the managing contractor for the 'Early Works' to allow construction site establishment prior to commencement of the major works for the NWRL. Works at the Showground Station site are expected to result in removal of a large amount of soil to create the tunnel and station building and to widen Showground and Carrington roads. This will result in removal of all potential archaeological evidence at the Showground Station site.

Heritage constraints were initially identified in the preliminary phases of the project, specifically two potential archaeological sites (GML 2012a p.27). A possible 1920s plan of the area showed two structures between Cattai Creek and Showground Road, by 1947 a group of structures is visible on aerial photographs of the area. The rest of the area was identified as cleared paddocks with small orchards along Carrington Road. Historical research has shown that the area has been owned by farmers, horse trainers and foster carers and that the area has been subject to disturbance from the construction of the Hills Entertainment Centre and the Council Works Depot. Research in the area has been hampered by a lack of primary information. Archaeological potential has relied on the aerial photographs of the study area from 1928 to the present.

This historical and archaeological research has concluded that there is moderate potential for archaeological remains of structures and possibly a house built before the 1920s to be present within the study area. This archaeological evidence will be totally removed as a result of the NWRL construction.

The study area contains the potential remains of a locally significant archaeological site. The archaeological resource has the potential to yield information relating to historical uses of the study area, the construction of buildings and potentially a house site. Additionally the lives of farmers and fruit growers supplying the market in Sydney but located beyond what was then the outskirts of the town, is not well understood. Other than the Panacek family, who appeared to be known in the local area, the orchardists that lived and worked within the study area do not appear to have been notable in their own right but they are representative of a group of people, who left their physical marks on the landscape. This is an opportunity to investigate what survives archaeologically of their lives.

The recommendations relating to the archaeological resource are to:

- Conduct an archaeological test excavation on targeted areas of the site to test the conclusions of this report. The targeted archaeological test excavations to determine the extent of significant archaeological resource. This archaeological excavation program is provided in Appendix A.
- Prepare a Research Design to guide the archaeological test excavation and frame the approach. This Research Design is provided in Appendix A.
- Ensure that if during the course of excavation Aboriginal cultural material is found, work must cease and the indigenous heritage consultant be alerted as per the unexpected finds protocol as part of the Construction Heritage Management Plan.

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1 Introduction

1.1 Background

EMGA Mitchell McLennan Pty Ltd (EMM) has been commissioned by Baulderstone Pty Ltd (BPL) to undertake an archaeological program at the Showground Station construction area (Figure 1.1). This report details the archaeological assessment and research design for the archaeological program.

Heritage constraints were initially identified in the preliminary phase of the project, specifically two potential archaeological sites (GML 2012a, p.27). A 1920s plan of the area showed two structures between Carrington Road and Cattai Creek (Figure 1.2). A 1947 aerial photograph shows a small group of buildings in a setting that appears to be an orchard (GML 2012a p.27). The rest of the area was identified as cleared paddocks and orchards.

1.2 Project description

The North West Rail Link is a priority transport infrastructure project for NSW and will provide a new 23 km electrified passenger rail line between Epping and Rouse Hill. The Project includes eight new stations (Cherrybrook, Castle Hill, Showground, Norwest, Bella Vista, Kellyville, Rouse Hill and Cudgegong Road), a stabling facility and associated infrastructure (Figure 1.3). The Early Works include site establishment prior to the commencement of the Major Works and can be grouped into the following categories:

- tunnelling construction power – high voltage power supplies for construction;
- demolition – demolition of a mixture of residential and commercial properties and/or facilities;
- roads and traffic – road adjustments, signalling, and existing transport network facilities relocation; and
- precinct preparation – utilities, services relocations and miscellaneous works.

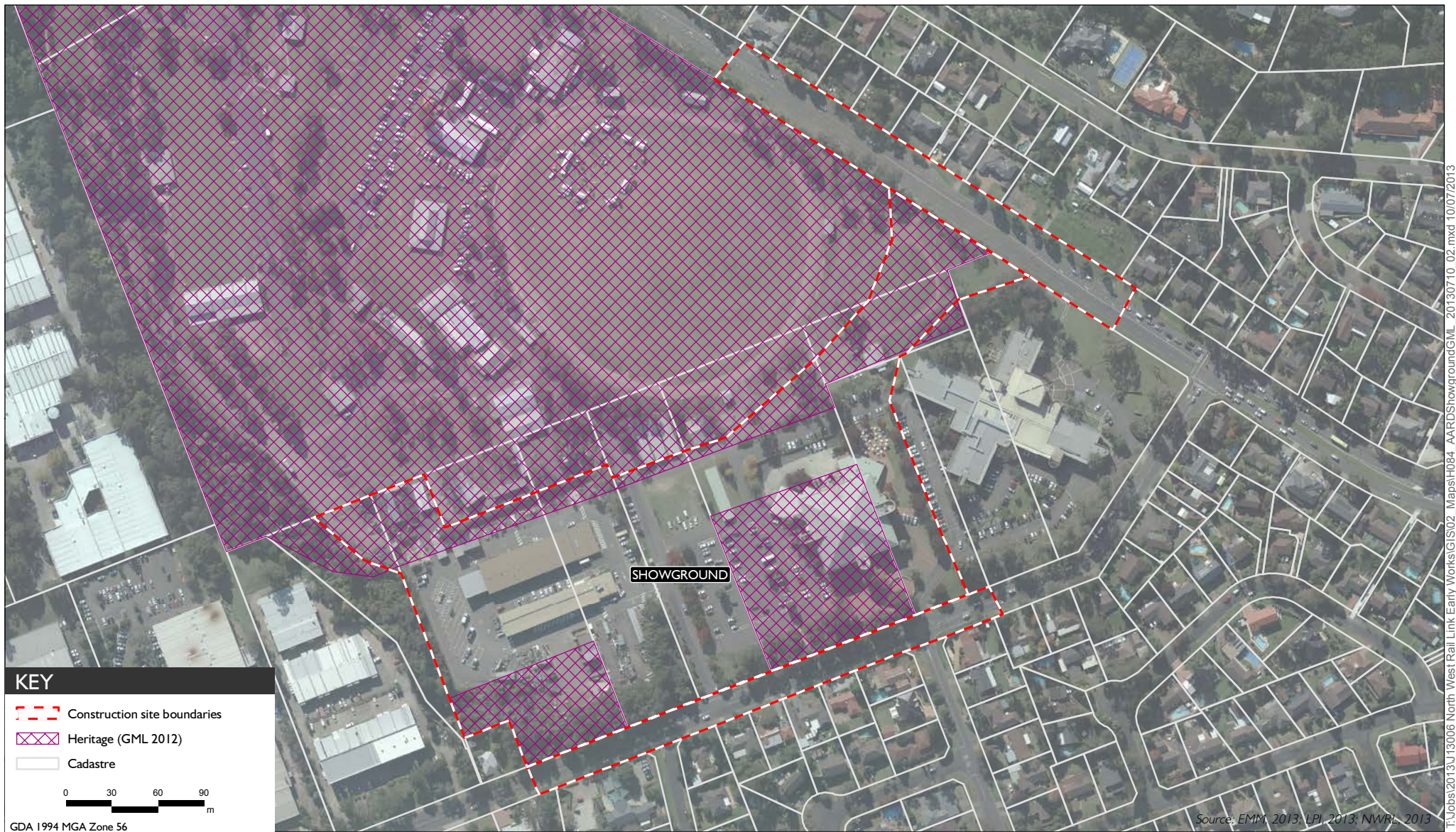
Transport for NSW (TfNSW, the NSW Department of Transport) has commissioned BPL as the managing contractor for the 'Early Works' to allow construction site establishment prior to commencement of the major works for the NWRL.

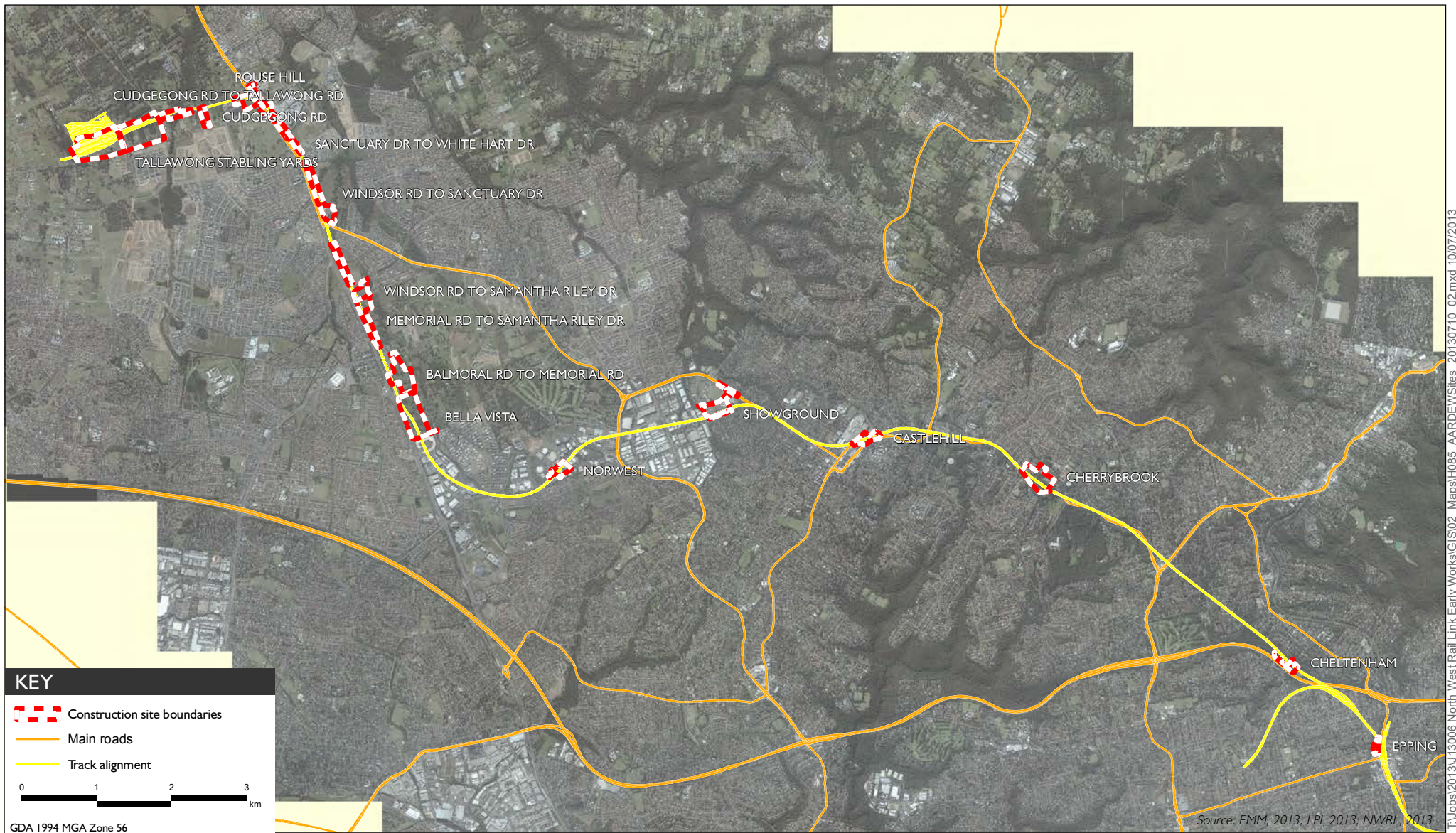
The works program specific to the Showground Station construction area includes the construction of an open cut retained box structure below ground level, resulting in the removal of large quantities of excavated soil. In addition, construction is proposed to use the study area as a major facilities support site, including high voltage electricity, drainage, ventilation and the creation of a water treatment plant. A new intersection will be required at the junction of Showground Road and a new access roadway will be located off Showground Road.

1.3 Showground Station

Early work is proposed in the area selected for the location of Showground Station. The proposed station site is approximately 65,000 m² along Carrington Road, bounded by Showground Road in the east, the Castle Hill Showground in the north and Cattai Creek in the west (Figure 1.1).







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North West Rail Link Early Works sites
 North West Rail Link Early Works
 Archaeological Assessment and Research Design - Showground
 Figure 1.3

The affected lots are shown in Table 1.1, with the lots that have been identified as possessing archaeological potential being marked with an asterisk. The construction area boundary for Showground Station is shown in Figure 1.1.

Table 1.1 **Affected Lots**

Lot//DP	Lot//DP
1//135696	A//37659*
C//398374	B//37659*
D//398374	1//539201
E//398374	2//539201*
38//35320*	2//870828

1.4 Area of archaeological investigation

The land under investigation (study area) at the Showground Station construction area encompasses the southern sections of Lot 38 DP 35320, Lot A DP 37659, Lot B DP 37659 and Lot 2 DP 539201. The land has frontage to Carrington Road.

For the purposes of the current assessment, the study area is located within the Hills Shire Council Local Government Area (LGA).

Heritage items located in the vicinity of the study area include:

- Old Windsor Road which covers a number of lots and LGAs, and is listed on the Heritage Inventory as an item of local heritage significance; and
- a “House” located at 128-132 located to the east along Showground Road in Lot 406 DP 860609, which is listed as an item of local heritage significance in the Hills Shire Council Local Environmental Plan (LEP) 2012 due to its remnant orchards.

1.5 Legislative context

In 2012, the Early Works were approved under Part 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). The planning approval process does not involve the requirement for excavation permit approval under the *Heritage Act 1977* (s140) but retains the notification for unexpected finds clause (s146) of the Act. The management strategies presented in this report are a response to the Minister’s Conditions of Approval (MCoA), which require consultation with the Heritage Council of NSW.

The MCoAs list a number of requirements for heritage including the heritage management tasks EH1 to EH19 in the Heritage Report (GML 2012a) to mitigate the associated impacts. Not all the MCoAs relate to potential archaeological sites but the following relates specifically to this report:

E10. Prior to the commencement of pre-construction and/or construction activities that will impact the historical archaeological sites identified in Table 4.2 of the North West Rail Link EIS: Technical Paper 3 – European Heritage, dated March 2012, the Proponent shall undertake an archaeological excavation program in accordance with the Heritage Council of NSW Archaeological Assessments Guideline (1996) using a methodology prepared in consultation with the Heritage Council of NSW, and to the satisfaction of the Director General. This work shall be undertaken by an appropriately qualified heritage consultant.

Within 2 years of completing the above work, unless otherwise agreed by the Director General, the Proponent shall submit a report containing the findings of the excavations, including artefact analysis and the identification of a final repository for any finds, prepared in consultation with the Heritage Council of NSW and to the satisfaction of the Director General.

This report details the methodology devised for the archaeological excavation program for review and comment from the Heritage Council and the Department of Planning and Infrastructure (DP&I).

1.6 Objectives

This report has been prepared to meet the requirements of the MCoA listed above for the NWRL Early Works Project and the conditions detailed in the Construction Heritage Management Plan (Baulderstone 2013). This report also aims to:

- investigate the historic archaeological resource identified in the North West Rail Link Heritage Zoning Plan (GML 2012a) through historical research;
- determine the likely location of the archaeological resource;
- assess the level of potential for archaeological resources;
- provide a preliminary assessment of significance;
- present appropriate archaeological management strategies for the historic archaeology; and
- provide recommendations on future procedures required to best mitigate impacts on the archaeological resource.

1.7 Research method

This report was prepared in accordance with the *Archaeological Assessment Guidelines* (Heritage Council 1996) as prescribed by the MCoA. This report is also guided by the philosophy of the *Charter for Places of Cultural Significance* commonly known as the *Burra Charter* (Australian International Council on Monuments and Sites, ICOMOS 1999).

Significance and impacts to significance have been assessed using the following guidelines:

- *Statements of Heritage Impact Guidelines* (Heritage Office 2006);
- *Investigating Heritage Significance* (Heritage Office 2004);

- *Assessing Significance for Historical Archaeological Sites and 'Relics'* (Heritage Branch Department of Planning 2009);
- *Historical Archaeology Code of Practice* (Heritage Office 2006); and
- *How to Prepare Archival Records of Heritage Items* (Heritage Office 1998).

At this stage the significance assessment is preliminary and based on the historical documentation obtained thus far. If an archaeological field program is determined to be the most appropriate management strategy, the assessment of significance will be updated to reflect new data recovered through excavation.

To determine the likely location, survival and heritage significance of the archaeological resource the following sources were consulted:

- historic maps and plans;
- Picture Australia for historic photographs;
- previous historical or archaeological reports;
- geotechnical investigations of the study area;
- modern and historic aerial photography; and
- additional local historical resources including rate books and probate records.

Research was undertaken a number of sources listed below:

- Land and Property Information: title searches;
- Land and Property Information: Six Spatial Information Exchange (online);
- the Mitchell Library;
- the State Records Authority NSW;
- Hornsby Shire Local Studies Library;
- Hills Shire Local Studies Library;
- Trove Newspapers online;
- the Australian Dictionary of Biography online;
- Heritage Branch Library: Consultant reports;
- Archaeology Online: Consultant reports; and
- Miles Lewis: Online database.

1.8 Consultation

A meeting with the Heritage Branch, TfNSW and EMM occurred on 13 June 2013. This meeting presented information on each of the study areas with archaeological potential and the preliminary research and excavation strategies planned for each. The Heritage Branch comments from that meeting noted the requirement that this report be submitted to the Heritage Branch on behalf of the Heritage Council for review and comment.

1.9 Limitations of the investigation

Due to the constraints of project timing there was limited time to conduct research on the study area. A number of resources were consulted, which did not yield the anticipated level of information. Additional research may be required during and after the completion of any excavation and reporting on the excavation results.

1.10 Authorship

This report was written by Rebecca Newell BA (EMM) with assistance from Ryan Desic (EMM). Research was conducted by Rebecca Newell, Ryan Desic (EMM) and Louise Doherty (Heritage Advisory Services). Analysis, report direction and review was provided by Pamela Kottaras BA Hons (Archaeology) – Associate Archaeologist (EMM) and David Kelly BTP (Hons) – Senior Environmental Planner (EMM). External review was undertaken by Tory Stening of Comber Consultants, who is one of the nominated excavation directors.

1.11 Acknowledgments

Staff at the State Library and the State Records provided invaluable assistance. Assistance in investigating land titles and early mapping was provided by Robert Parkinson at the Land and Property Information Division of the Department of Finance and Services. Research in the Castle Hill area was provided by Castle Hill Local studies librarian Kylie Dobbie.

2 Historical analysis

2.1 Aboriginal people

The majority of information about the social and cultural structure of Aboriginal society before contact with new settlers comes from accounts made by Europeans. These accounts and observations were made after massive social disruption due to disease and displacement. As a result, this information is often contentious, particularly in relation to language area boundaries. The discussion below is based on information obtained for early settlers and explorers in the Castle Hill area.

The dominant Aboriginal language group for the study area was the Darug (hinterland) (according to Attenbrow 2010 p.34). Their territory extended from the mouth of the Hawkesbury River inland to Mount Victoria, Campbelltown and Liverpool (Tindale 1974). The surrounding landscape, including the Hawkesbury River, would have yielded fresh water and fresh water fish, crustaceans and shellfish. Men and women fished, women hunted small animals such as lizards and snakes while men hunted the larger animals such as kangaroos (GML 2012c, Hornsby Shire Council 2013). This diet was supplemented by edible flowers and plant roots, honey, berries and fruits.

Suitable stone for manufacture of stone tools occurs across the Cumberland Plain. The closest raw material would have been the silcrete of the St Mary's formation at Plumpton Ridge, Eastern Creek and Marsden Park (GML 2012c p.13).

The Aboriginal cultural heritage issues in the study area have been addressed in GML 2012c.

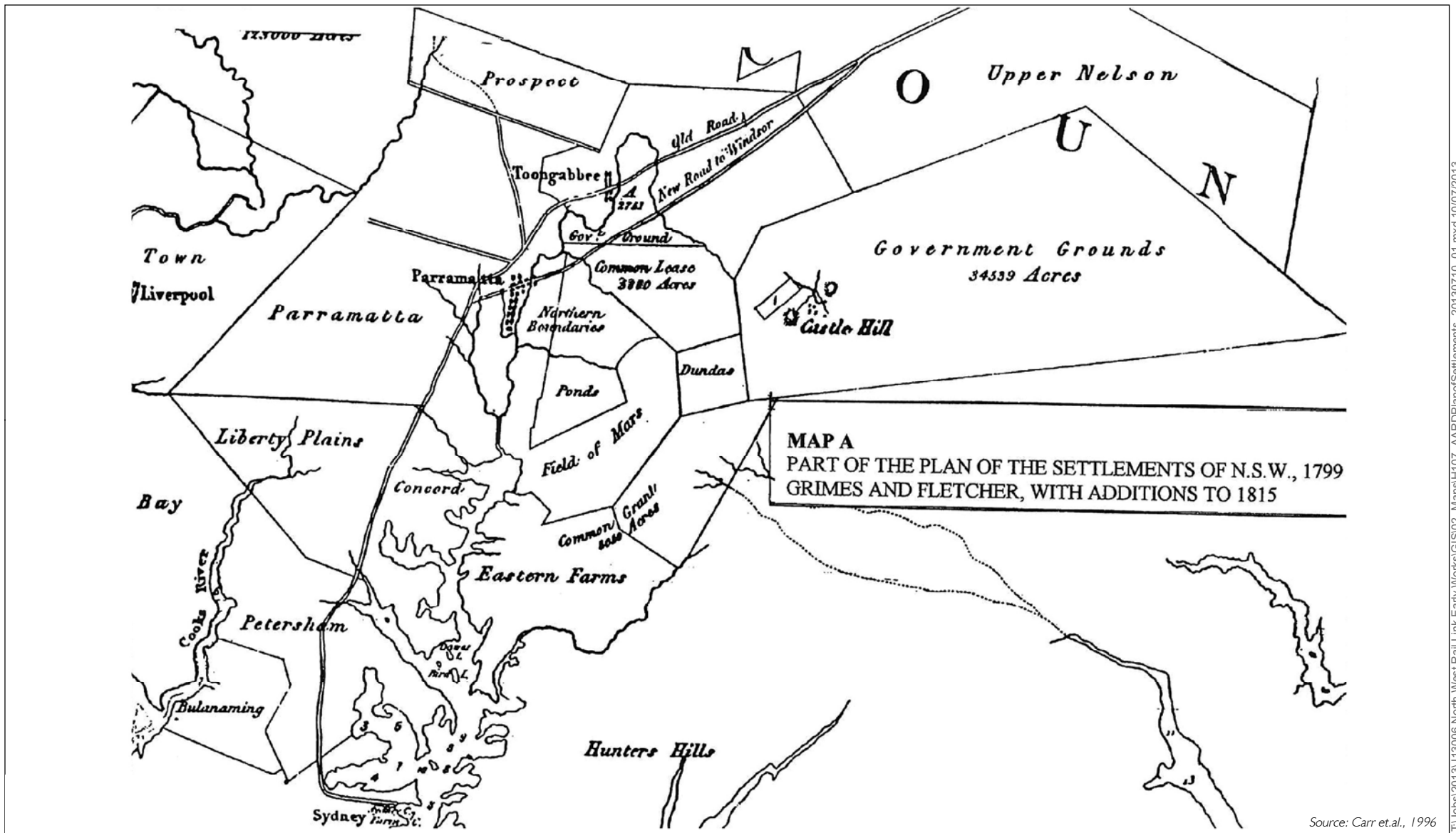
2.2 Historical context

The Castle Hill area was initially reserved by the colonial Government as part of a 34,539 acre area known as the Government Grounds, shown in Figure 2.1 (Carr *et al* 1997). This area was largely uninhabited but included government run model farms to test the productivity of the soil (Carr *et al* 1997). In 1811, a lunatic asylum was created in Castle Hill by Governor Macquarie, while the remaining area of the Government Grounds remained unoccupied but under the Government's control (Neil 1992 p.6). After approximately 1815, the Government Grounds were released to settlers as Crown Grants and the asylum was closed in 1826 (Carr *et al* 1997).

The model farms were a moderate success and the settlers who came to the area created a large agricultural district. Large land grants were given to George Suttor, the Mobbs family, Andrew McDougall and Matthew Pearce. The rich loamy soil of the area was suitable for the cultivation of fruit trees, particularly citrus, nectarines and peaches. Numerous plans, surveys and aerial photos note the large number of orchards in the Showground area.

The present day showground site was granted to the Show Society in 1890 for the purpose of a permanent showground (Castle Hill Show 2013). This development was in response to a number of previous sports and ploughing contests known as Castle Hill Sports Show Day hosted at multiple locations in Castle Hill.

The annual Castle Hill Show, from 1891 to the present, initially focused on a sports and agricultural program (Castle Hill Show 2013). The Show soon expanded in scope and added the display of mechanised farm equipment and displays of motor cars to the once equine-focused atmosphere.



Source: Carr et al., 1996

Part of the plan of the settlements of NSW 1799 Grimes and Fletcher, with additions to 1815

North West Rail Link Early Works
 Archaeological Assessment and Research Design - Showground
 Figure 2.1

World War II saw the decline of activities in the show, with a complete lapse from 1941 until 1945 (Castle Hill Show 2013). During this period, the Showground was occupied by the Victorian Ambulance Brigade — part of the Australian army. In the wake of World War II, the show continually expanded to include exhibitions of cattle, dogs, fruit, vegetables, farm produce, needlework, horticulture, schoolwork, arts, crafts, hobbies and photography. From the late 1940s, The Castle Hill Show had the reputation of being second only to the Sydney Royal Easter Show, opening two weeks prior to it.

An article in the Windsor and Richmond Gazette recounts a journey through Castle Hill and Kellyville in 1893 which passed by the Showground which hosted a cricket match. No further information was given regarding buildings in the study area.

2.3 Development of the Showground study area

2.3.1 1800s – 2000s

As noted above, the study area was originally part of the large, Government Grounds until 1819 when 150 acres was granted to Michael Hancey. Hancey is shown on the parish maps for the area in the 1840s (Figure 2.2), 1850 (Figure 2.3), 1897 (Figure 2.4) and on an early map with no date listed (Figure 2.5).

Michael Hancey came as a free settler on the *Minorca* in 1801 with his brother William. Michael and William were granted adjoining parcels of land with Michael's falling within the study area (Watson 2010 p.18). A census in 1828 showed Michael as a carpenter residing in Sydney and William as a farmer with 17 acres of cultivated land, 5 horses and 16 sheep (Watson 2010 p.18).

In 1891 the portion of Hancey's grant north of the study area was set aside as a showground. The land of the study area was then acquired by Alfred Thomas Carpenter, a clerk, in 1898. The land was subdivided and offered for sale in the Suttor's Estate subdivision of 1898 (Figure 2.6). No buildings are shown on the subdivision plan however the area's orchard land, suitable for citrus fruit growing is noted. The Suttor's Estate subdivision does not appear to have sold until 1908 when the land was transferred to William Arthur Power of Kellyville, who is listed as an orchardist. Power bought many blocks in the configuration of the Suttor's Estate subdivision including portions of the study area. He sold these blocks to a number of people including Milford Howard Reid, James Patterson, Walther Sydney James, Alfred Dowsett and George Henry Mobbs all in 1909. The study area was obtained by George Henry Mobbs, an auctioneer from Parramatta who also obtained a number of the Suttor Estate lots. Mobbs sold his portions over the next few years to Charles Fredrick Broughton (1911), George Sydney Smith (1911), Arthur John Baker (a farmer, 1911), Joseph Bothe (1912), Minnie May Stephens (1912), Arthur Kenwell (1912), James Kentwell (1912), Minnie Eliza Devine (1914), Sarah Jane Taylor (1914), Mary Jane Amos (1914), William Brown (1915), Henrietta Elizabeth Kentwell (1916), George Hammond (1919) and Dennis Coates (1922).

As a result of the sale by Mobbs, the study area fell into the ownership of two people. Sarah Jane Taylor obtained Lot 37 along Carrington Road and Dennis Coates obtained the adjacent Lot 36. Lot 36 was then obtained by Charles Fredrick Lloyd, a labourer from Auburn in 1922. It was passed to Ernestine Panacek in 1929 and then to George and Amelia Lamb in 1932.

Oral history for the Castle Hill area notes that the Taylors and two foster children lived along Carrington Road on a small farm (Watson 2010 p.55).

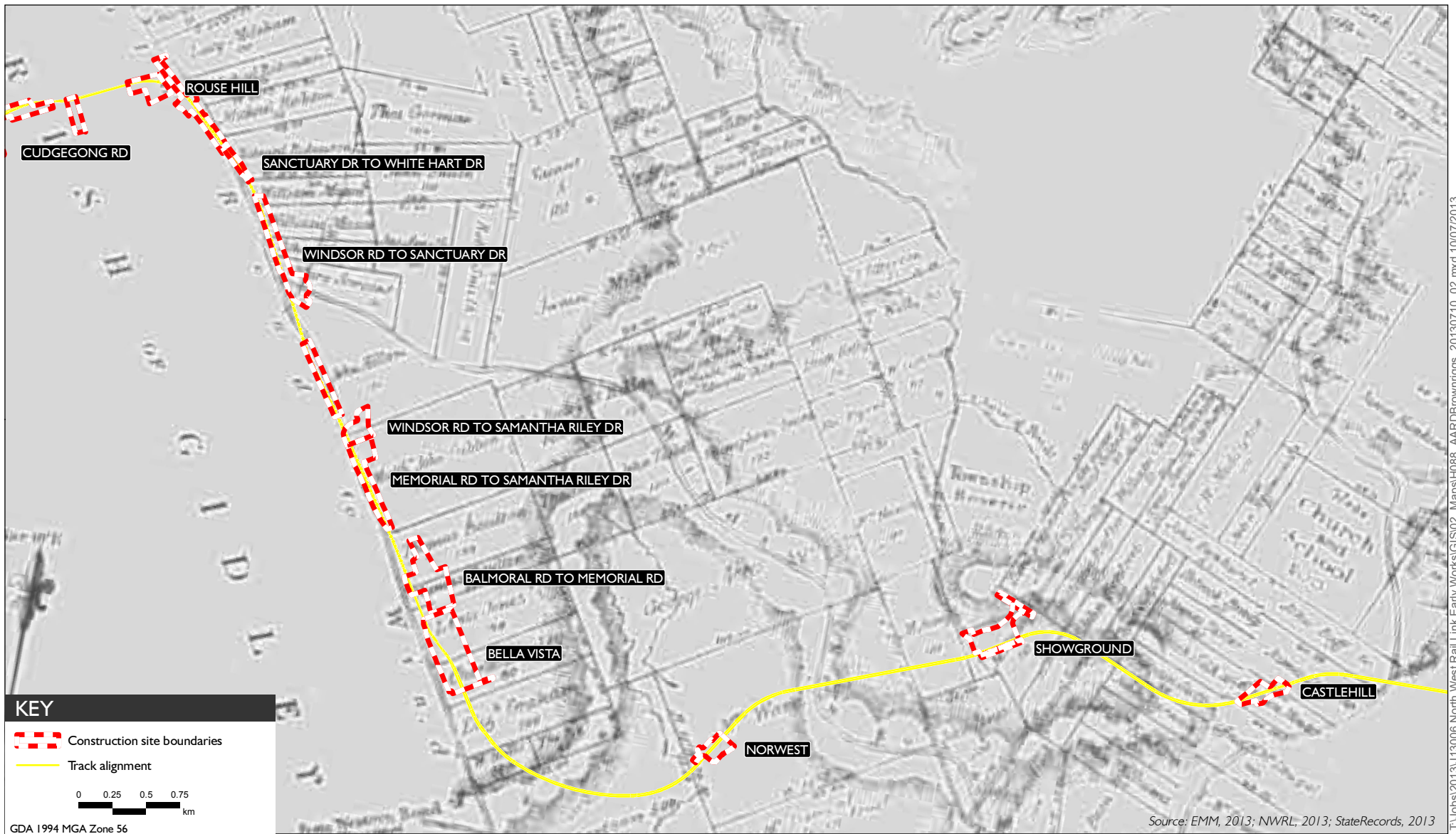
The Panacek family are mentioned three times in the local newspapers, first in 1925 after the sudden death of Metod Panacek husband to Ernestine, and then Ernestine is noted as receiving a clock for her birthday in 1935. At this stage the family had moved to Merrylands. In 1939, Ernestine's youngest daughter's 16th birthday party was noted as occurring at the Merrylands School of Arts. Additionally before his death, Metod was possibly being investigated by the federal police for spying.



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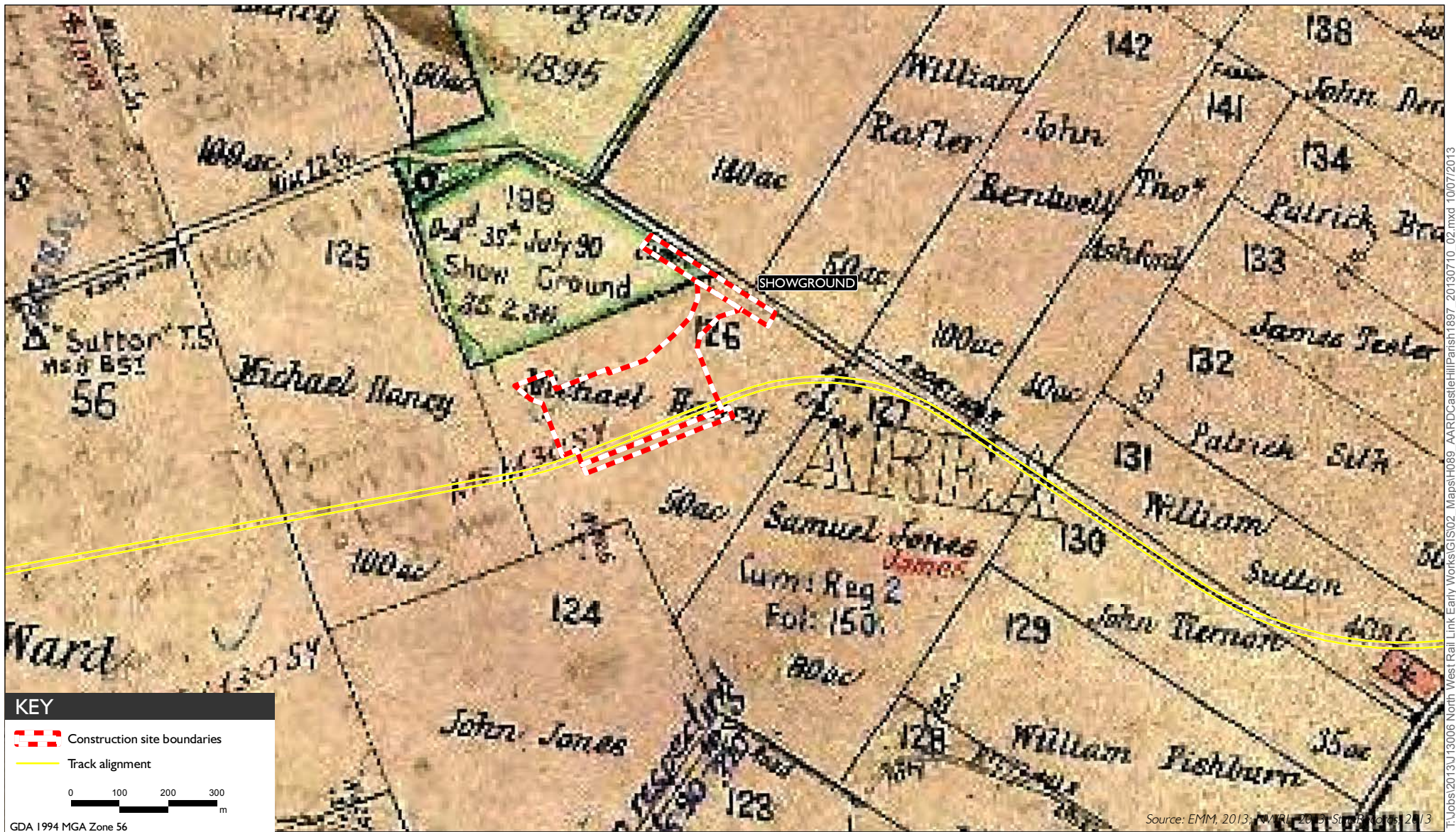
Bemi's Castle Hill Parish Map 1840s
 North West Rail Link Early Works
 Archaeological Assessment and Research Design - Showground
 Figure 2.2



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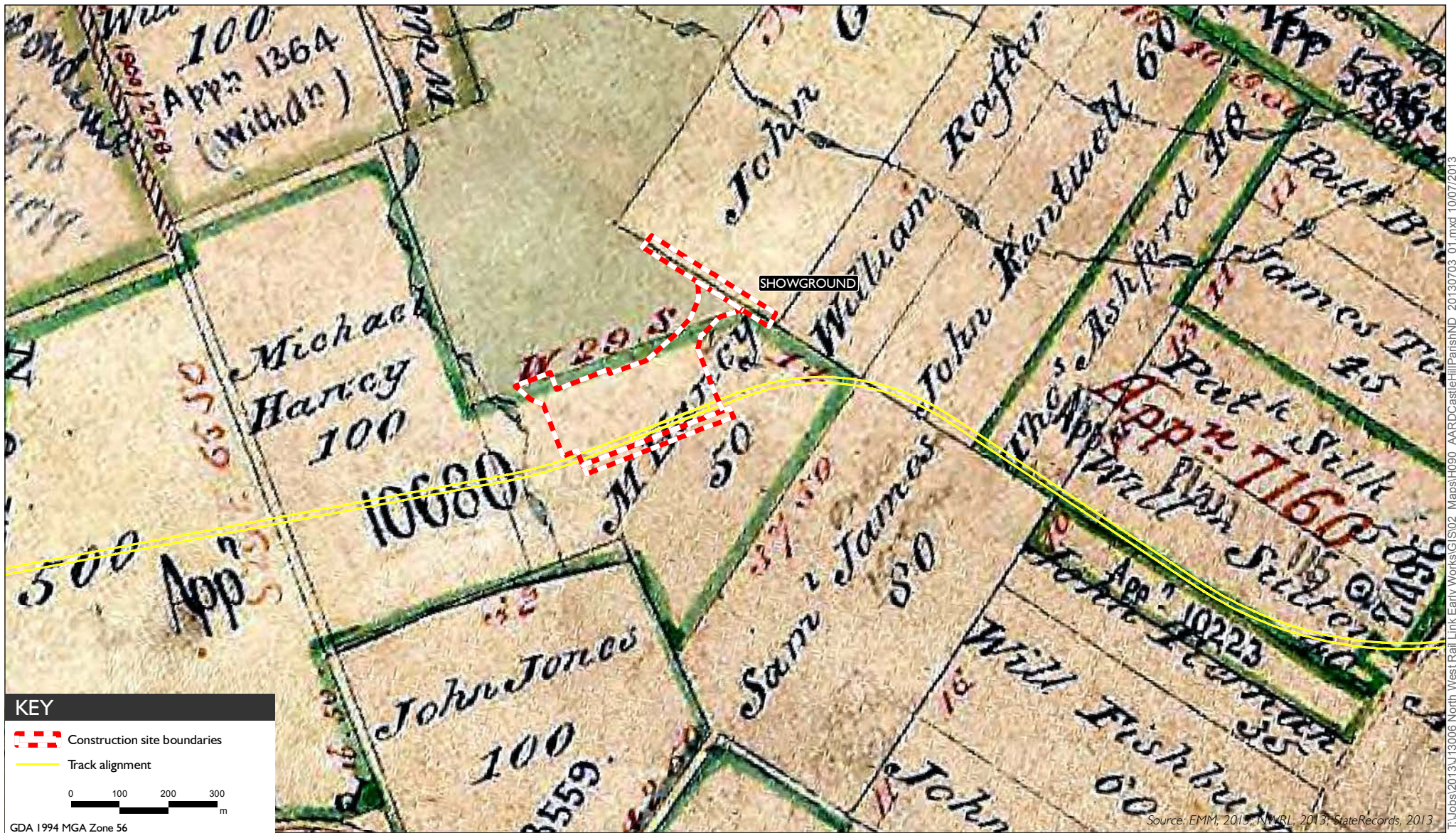


Brownrigg's Castle Hill Parish Map 1850
 North West Rail Link Early Works
 Archaeological Assessment and Research Design - Showground
 Figure 2.3



Map of the parish of Castle Hill 1897
 North West Rail Link Early Works
 Archaeological Assessment and Research Design - Showground
 Figure 2.4





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NOTE - Areas subject to Deposited Plan

Source: State Library, 2013

The death of George Mobbs was recorded in the Cumberland Argus and Fruitgrowers Advocate in 1946 which noted that he was a member of the Parramatta Bowling Club and stood but lost as an independent candidate for parliament and established one of the first estate agencies in Parramatta.

In 1947, Lot 36 of the study area was obtained by David John, a farmer and his wife Mary. Myra John, possibly their relation (although not definitively determined), obtained title of the land in 1950.

An unprovenanced plan possibly from the 1920s and possibly a topographic map, noted in GML (2012a) and Casey and Lowe (2006), shows two buildings located in the study area between Showground Road to the east and Cattai Creek to the west (Figure 2.7). Detailed investigation has been attempted on this map and information from Land and Property Information (Robert Parkinson pers comm) suggests that the style of mapping evident is reminiscent of the topo format (not topographic) maps from the 1940s era. Alternatively this mapping could be based on topo format surveys completed between 1929 and the mid 1940s.

The earliest aerial photograph of the study area in 1928 shows a predominantly rural area with Cattai Creek heavily vegetated and a combination of orchards and cleared land surrounding (Figure 2.8). The oval show ring of the Showground is clearly visible to the north of the study area and surrounding it is a number of buildings, none of which fall in the study area. One structure is noted near the centre of the study area, set back from Carrington Road surrounded by vegetation to the east and cleared land to the west. A smaller structure is also located in the cleared land adjacent.

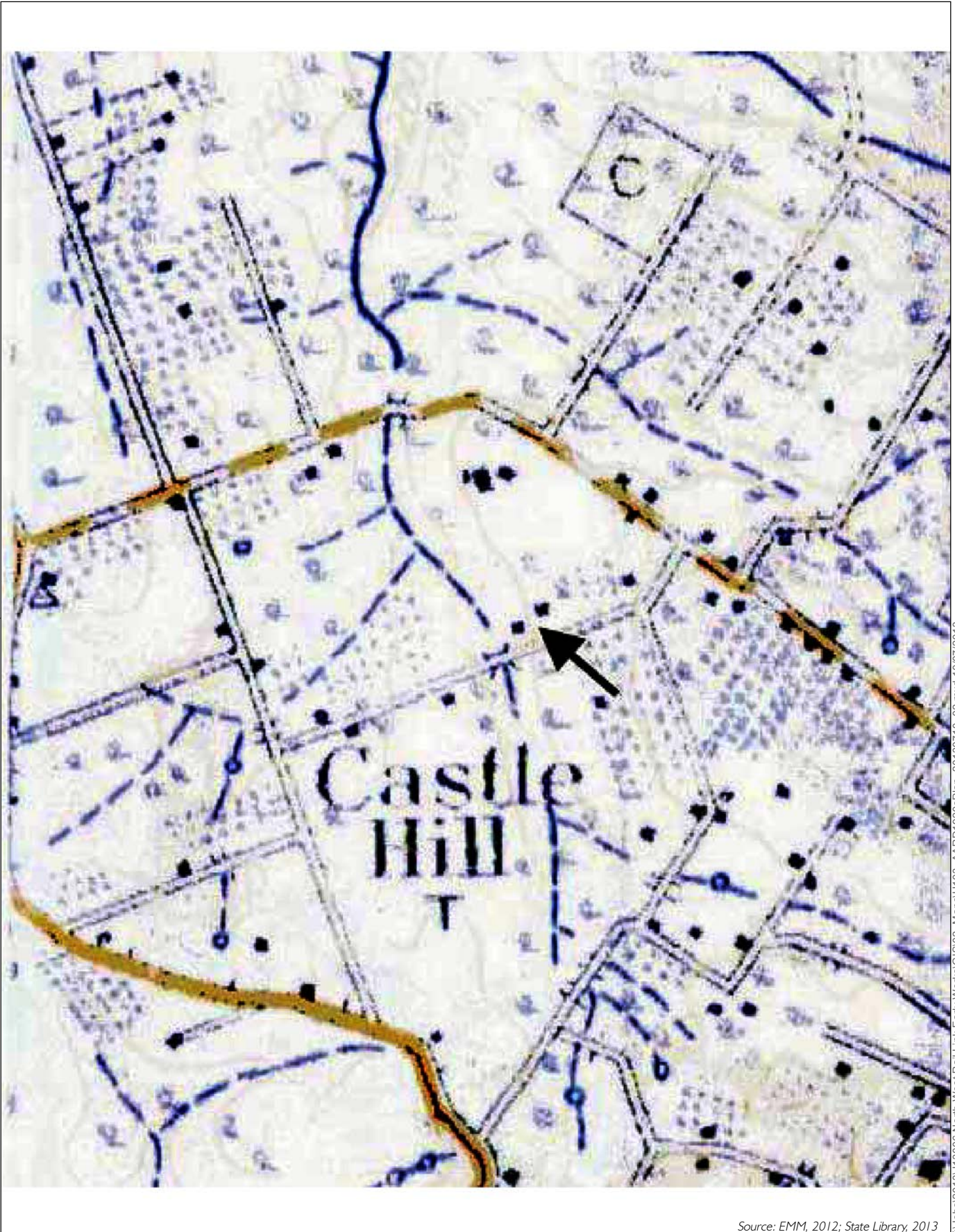
The 1947 aerial photograph of the study area shows a slight change to the shape of the Showground oval. A complex of buildings is clearly visible in the centre of the study area and two smaller groups of buildings are located in adjacent lots (arrows in Figure 2.9). The majority of the land is either cleared, or heavily vegetated. Small orchards are scattered throughout. The area remained unchanged in 1956 (Figure 2.10). A newspaper article from 1949 indicated that the area in front of the showground entrance (now the Council Works Depot) was a large rubbish dump. The Castle Hill Showground Trust asked for it to be removed prior to the Castle Hill Show on March 25 1949.

Lot 37 remained in the ownership of Sarah Jane Taylor until December 1952 when it was bought by Herbert Roy Alley, a horse trainer from Parramatta. Herbert consolidated the land around the study area including Lot 36 and 37. Oral history records convey that he was known as Bert Alley and trained trotters, leasing the adjacent Showground track to train them (Watson 2010 p.55).

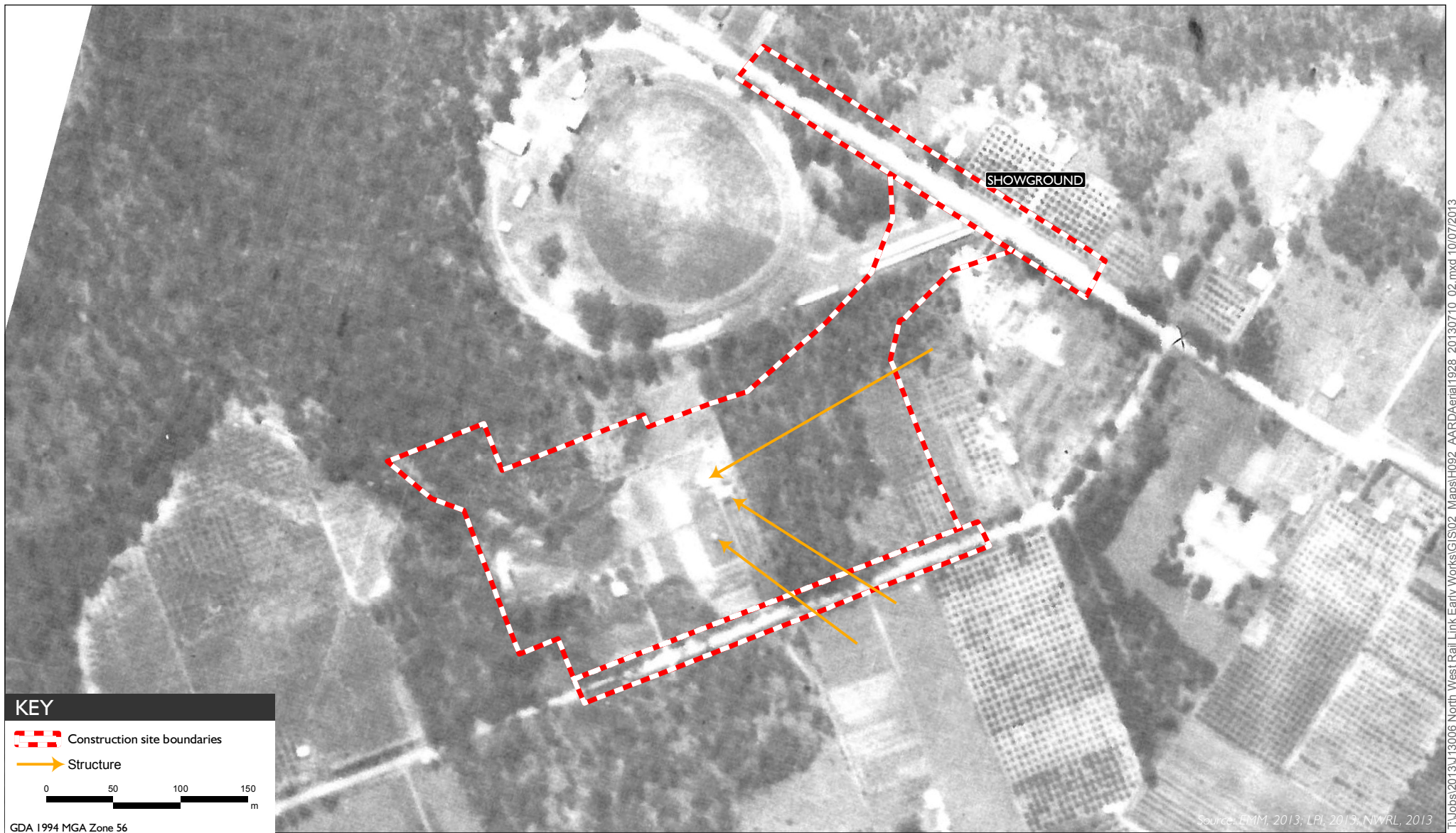
The aerial photograph from 1961 (Figure 2.11) shows a similar layout of houses as compared to 1947. Vegetation has been removed throughout the study area and fewer orchards are visible. In the north area of the lots belonging to Herbert Alley structures have been constructed which resemble horse stables. Alley transferred some of the land to MA Rose Holdings Pty Ltd in 1971 and another portion to the Baulkham Hills Shire Council in 1970. The Baulkham Hills Shire Council (now the Hills Shire Council) consolidated all of the land in the study area in 1977 after obtaining title over the rest of Alley's land.

The 1978 aerial photograph of the study area shows it has been extensively cleared for the provision of two soccer fields and the construction of the Hills Shire Council Works Depot and a road to the showground (Figure 2.12). The Hills Shire Council built their Council Chambers adjacent to the study area fronting Showground and Carrington roads. It is visible on the 1986 aerial photograph (Figure 2.13) along with more land clearing. The surrounding area has experienced considerable expansion with subdivision and housing development.

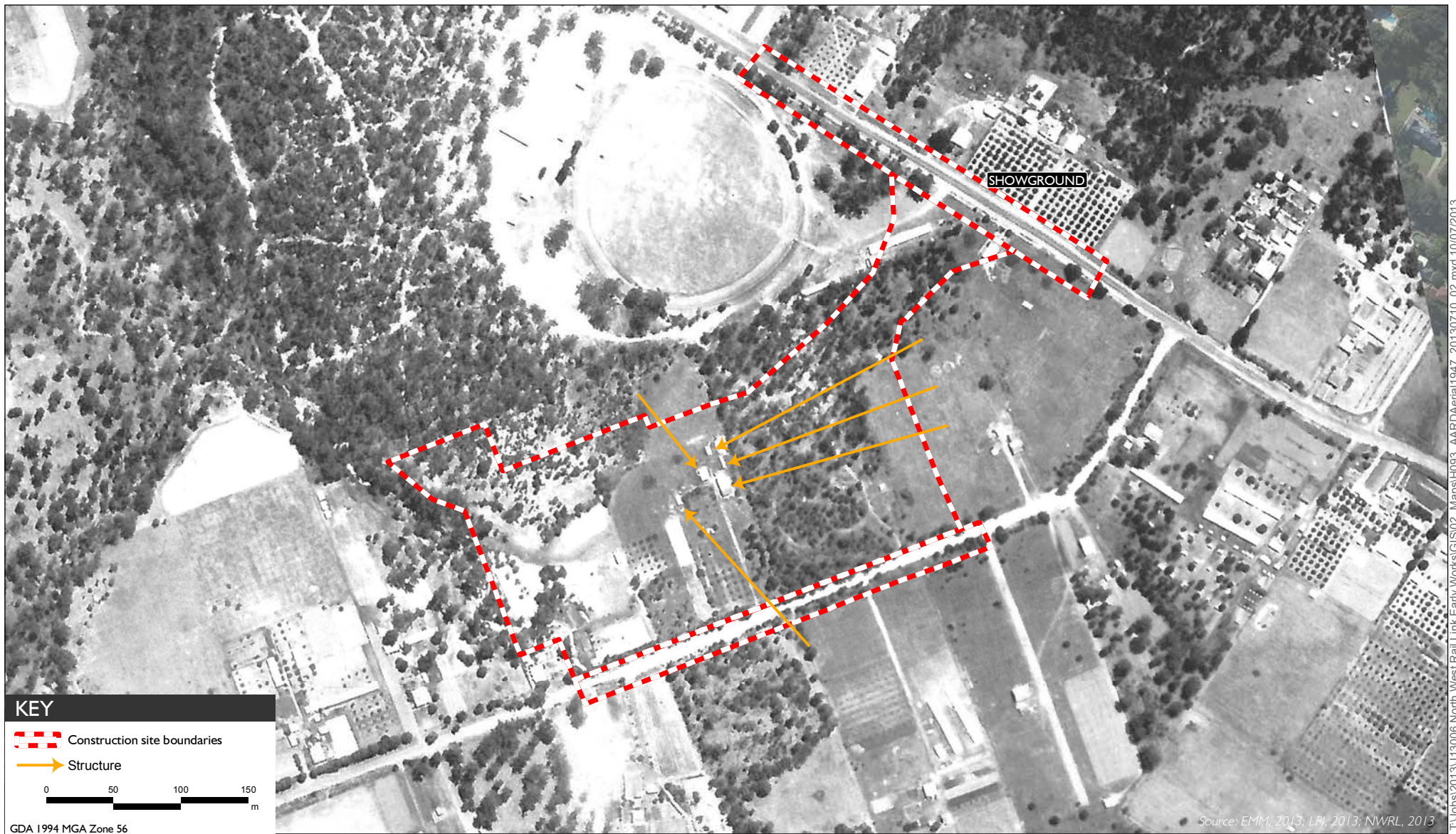
The 1994 aerial photograph shows the consolidation of the Council Chambers including car parking and the construction of the Hills Entertainment Centre, which also includes a large car park and landscaped areas (Figure 2.14). The Hills Shire Council Depot has also expanded to include bitumen areas.

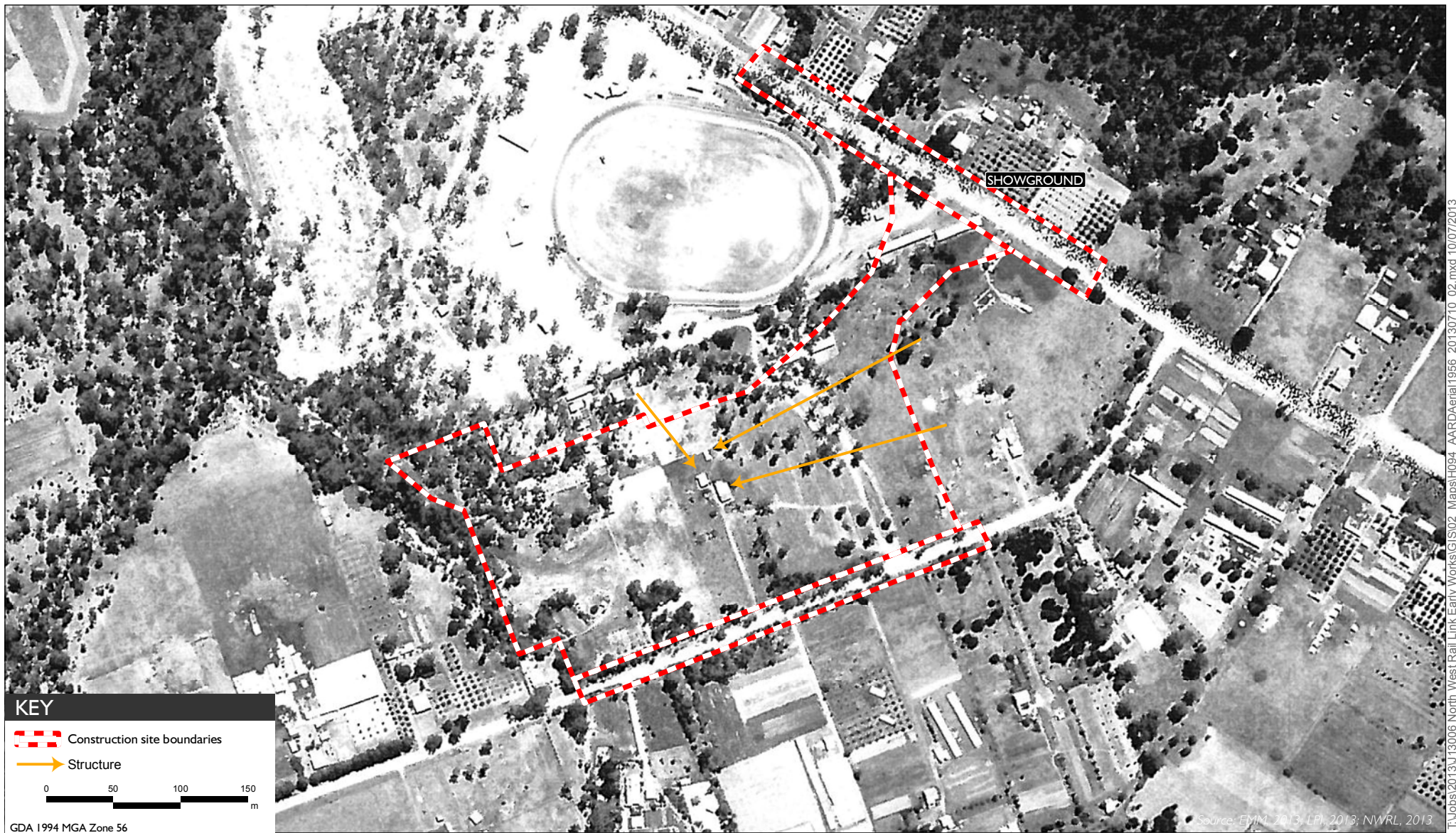


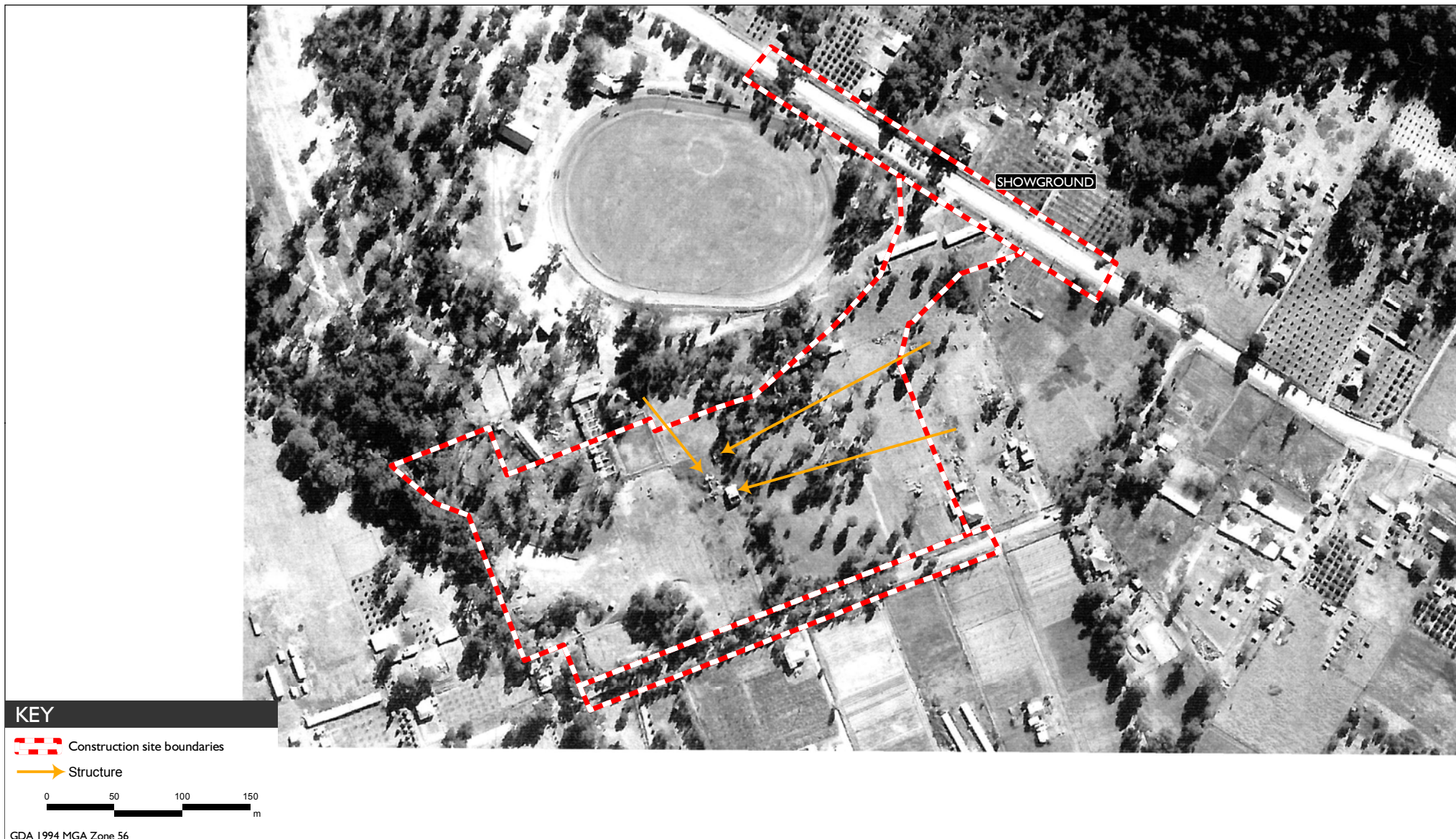
Source: EMM, 2012; State Library, 2013

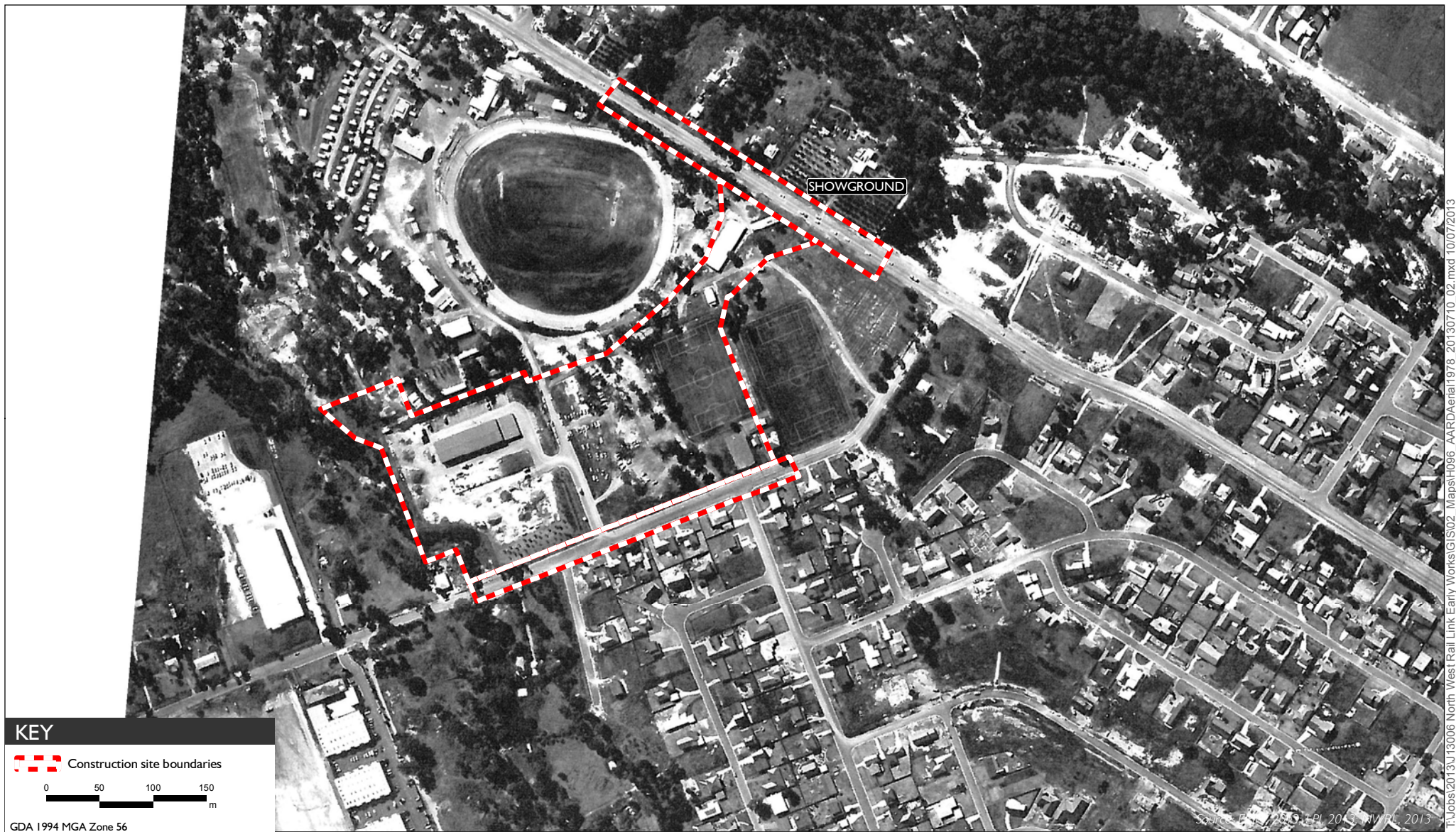


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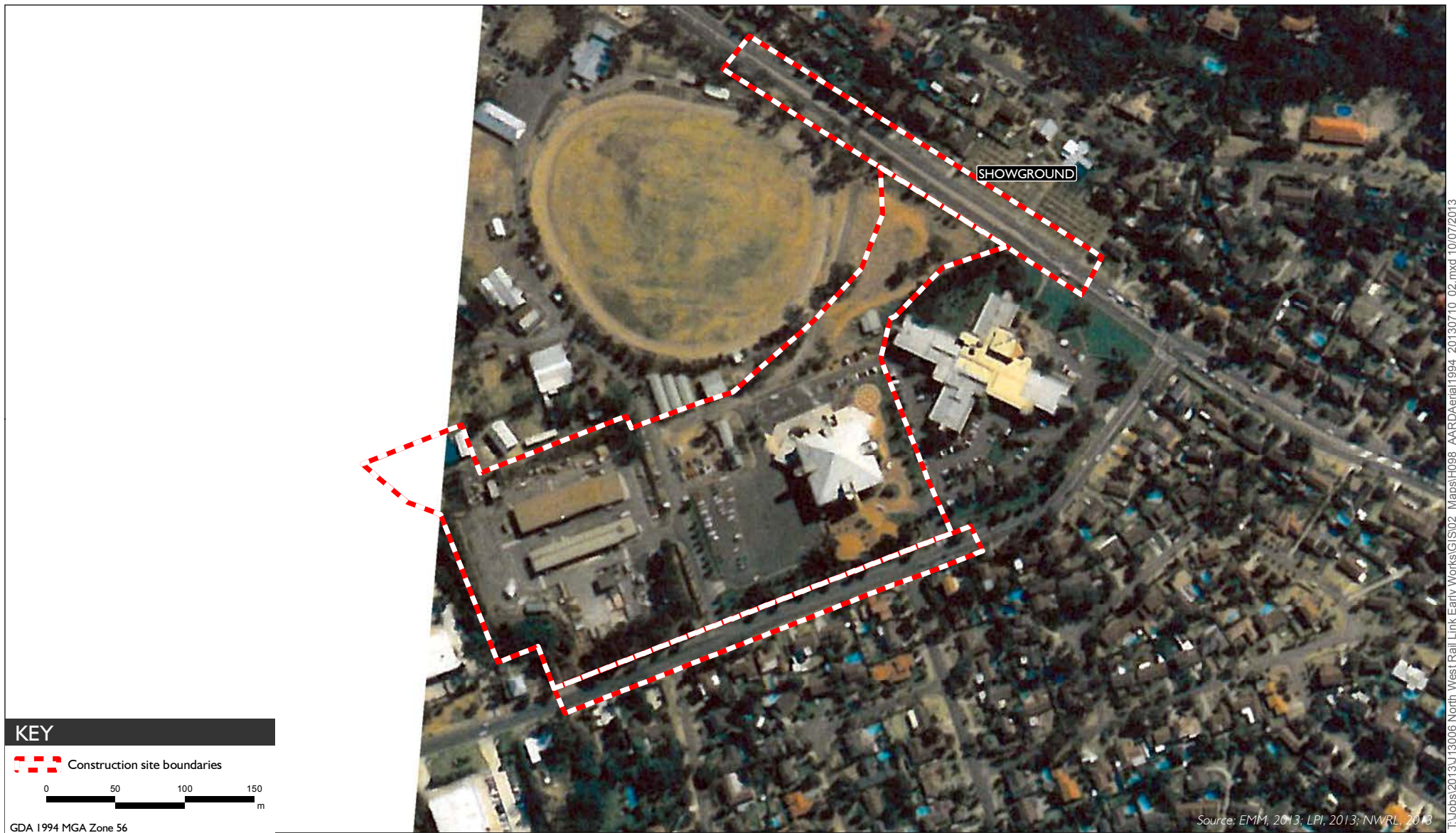




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2.3.2 Present date

Today the study area contains the Hills Entertainment Centre a large bitumen car park and the Hills Shire Hills Shire Council Works Depot (Figure 2.15). Surrounding the study area is the Castle Hill Showground and the Hills Shire Council Chambers. Industrial buildings are located to the west towards Victoria Avenue and houses are located further to the south and east.

The historic themes relevant to the archaeological investigation of the study area were taken from the NSW Heritage Branch website (www.environment.nsw.gov.au/heritage/index.htm). These have been used as a source and starting point in the formulation of research questions for the proposed archaeological monitoring program.

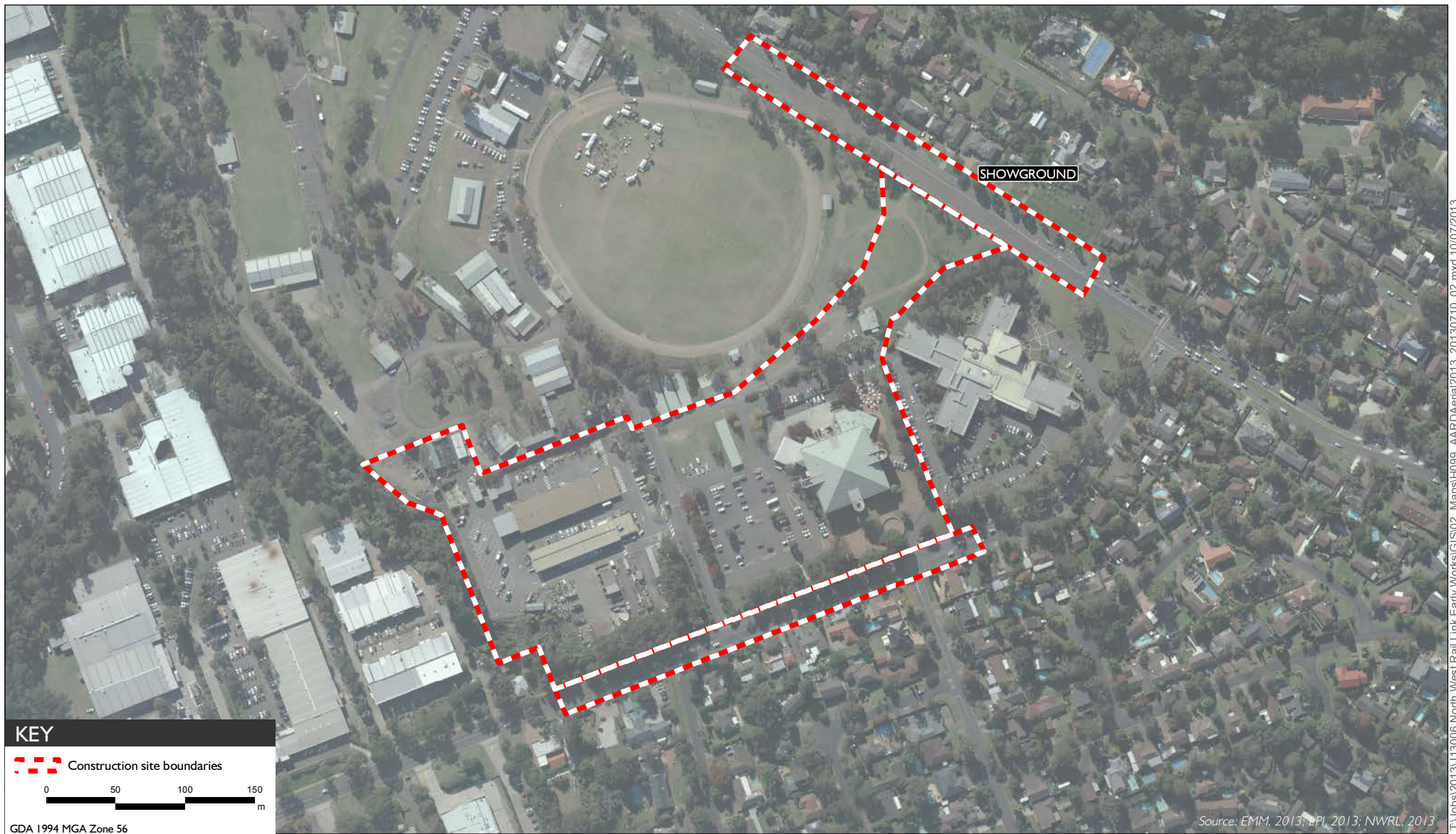
2.4 Historic themes

The national historic themes relating to the study area are:

- building settlements, towns and cities;
- marking the phases of life;
- developing Australia's cultural life; and
- developing local, regional and national economies.

The NSW historic state themes relating to the study area are:

- pastoralism;
- accommodation;
- domestic life;
- land tenure;
- environment – cultural landscape;
- persons; and
- agriculture.



3 Site evaluation

3.1 Overview from research

An evaluation of the study area aids in the identification of archaeological potential as well as the significance of potential relics. It is achieved through a process of analysing the archival sources, historical maps, plans and photographs, comparing historic aerials with modern aerials and the results of the site visit, as well as reviewing previous reports for sites in the vicinity and other like-sites. The following sections address the sources of information that have assisted with the assessment of archaeological potential and assessment of significance.

3.1.1 Aboriginal occupation

Aboriginal people utilised and passed through the Castle Hill area for thousands of years. A due diligence Aboriginal heritage assessment identified an Aboriginal site located outside the construction site and an area of archaeological potential adjacent to Cattai Creek (GML 2012b p.60). A survey identified a potential archaeological deposit (NWRL PAD 3) adjacent to Cattai Creek.

A separate Aboriginal heritage assessment and salvage excavation has been completed by RPS. Excavations of four test pits have occurred close to Cattai Creek which have revealed the area's use as a rubbish dumping ground. Excavation pits uncovered fragments of asbestos and building demolition and Aboriginal stakeholders noted in their memories of the site that it was used for rubbish dumping during the twentieth century (Erin Williams pers comm). No Aboriginal artefacts were uncovered. These results will be presented in a separate report.

In the event that any subsurface deposits containing Aboriginal relics are found, they are likely to consist of isolated or low density artefacts with disturbed soil profiles. The unexpected finds protocol includes Aboriginal heritage objects and should these objects be found all work will cease in the vicinity of the finds until an assessment of significance can be made in consultation with the registered Aboriginal parties for the project.

3.1.2 Early grants

The study area was part of the 34,539 acre Government Grounds and used for farm production until approximately 1815. The Government farm and asylum are located approximately 2 km to the east of the study area and it is likely that the study area was used for cattle grazing and crops during this time. While it may be possible that vernacular structures were built illegally, on government grounds, no documentary evidence has been found that suggests this and any evidence of early structures may have survived only in fragmentary form. Subsequent subdivision and cultivation of the land is likely to have disturbed the context of early structures.

The land was alienated in 1819 and granted to Michael Hancey. There is little information on his land grant, though it does appear on the parish records until the 1900s. No information has been found in regards to his use of the land or to any structures present. The Showground was alienated from this grant in 1891 and used for many events, however it is outside the study area. The modern aerial photographs suggest that the land has been heavily cultivated which may have removed evidence of Hancey's use of the land, if indeed he did proceed with modifications.

3.1.3 Agricultural practices

The study area has been predominantly used for orcharding and farming, particularly during the late nineteenth and early twentieth centuries. The local soil was considered loamy and good for farming, as noted in the Suttor's Estate subdivision of 1898. Citrus and fruit trees thrived and large portions of the Castle Hill area was turned into orchards (Watson 2010 p.9). This included the study area. The aerial photographs in 1928 (Figure 2.8) and 1947 (Figure 2.9) clearly show rows of orchard trees and areas of cleared land likely used for cropping. As shown in later aerial photographs when the fruit trees were removed, the landscape retained the furrows and tracks of the cultivated areas. Crop marks of the orchard are still visible in aerial photographs from 1956 and 1961 and can be seen as faint lines in cleared areas. Additionally approximately 1 km to the north-east of the study area at 128 Showground Road an area of remnant orchard has been retained and trees and crop marks are clearly visible.

The occupations of many of the study areas owners were also related to agricultural practices including orchardists and farmers, helping to characterise the area as a rural and agricultural district well into the twentieth century.

In the 1950s, Herbert Alley due to his occupation as a horse trainer is likely to have kept horses on the property. Potential visual evidence of horse stables and pens is visible in the 1961 aerial photograph, however these items have been removed for subsequent construction activities.

Due to the recent development of the area including the large development of the Hills Entertainment Centre, crop marks are unlikely to have survived in this area. It is possible that the archaeological remains of sheds and other agricultural buildings have survived, particularly in areas which are less disturbed such as grassed areas and car parks. None of these items are visible on aerial photographs from the 1980s onwards.

3.1.4 Subdivision

The land title records show the development of the subdivision of the land from the original 150 acre grant to Michael Hancey in 1819 to the current area owned by the NSW Government. The development of subdivision in the study area is shown in Figure 3.1.

The grant of Hancey was consolidated into a much larger grant by Alfred Thomas Carpenter in 1898. It was then subdivided and offered for sale as part of the Suttor's Estate subdivision of 1898. It is unknown as to the success of the subdivision but the land configuration remained and the lots in the study area were bought by George Mobbs.

Mobbs sold the lots in the study area to Sarah Jane Taylor in 1914 and Dennis Coates in 1922. These lots were consolidated by Herbert Alley in 1952. The lot configuration remained consistent till the study area was divided into its modern subdivision boundaries.

3.1.5 Historic maps and plans

Minimal information has been obtained for the majority of the title holders of the study area from maps and plans, particularly in relation to any structures which may have been present during their holding of the title.

The parish records for this area do not provide any further indication of structures on the study areas. Parish maps are available for 1897, 1905 and 1924 and one map that has not been definitively dated but is attributed the date of 1920 by Casey and Lowe (2006) and GML (2012a). All parish maps regardless of the year show Michael Hancey as the owner of the land. This information is confirmed through the land title documents.

Little other mapping information was forthcoming. The only subdivision plan for the study area, the Suttor's Estate subdivision does not show any structures. Town water and sewerage was not connected in Castle Hill until after 1917.

Thus, it was considered unlikely that water board plans of the area would be present or able to provide further information on the study area. Similarly, fire and insurance maps were also considered but relevant information was not obtained.

A 1920s topographic map of the area shows two buildings present in an area between Cattai Creek and Showground Road, however as noted in Section 2. this map has been unable to be sourced and no further information on the buildings can be ascertained (Casey and Lowe 2006 and GML 2012a).

3.1.6 Structures on aerial photographs

The historic aerial photographs provide information on structures present in the study area. In the 1928 aerial photograph two groups of three or four structures are evident in the centre and south-west of the study area. It is possible that these buildings belonged to Sarah Jane Taylor or Dennis Coates who were owners of these properties during this time. The 1928 aerial photograph has considerable overexposure in parts and is difficult to read in sections. In the 1947 aerial photograph these buildings remain and are more clearly visible. Structures have been added to the groups and there is evidence of buildings scattered through the study area.

The 1956 aerial photograph shows small changes, including the removal of orchards along Carrington Road within the study area and vegetation clearing which is continued in the 1961 aerial photograph. It is possible this is the work of Herbert Roy Alley who was the owner of this land during this time.

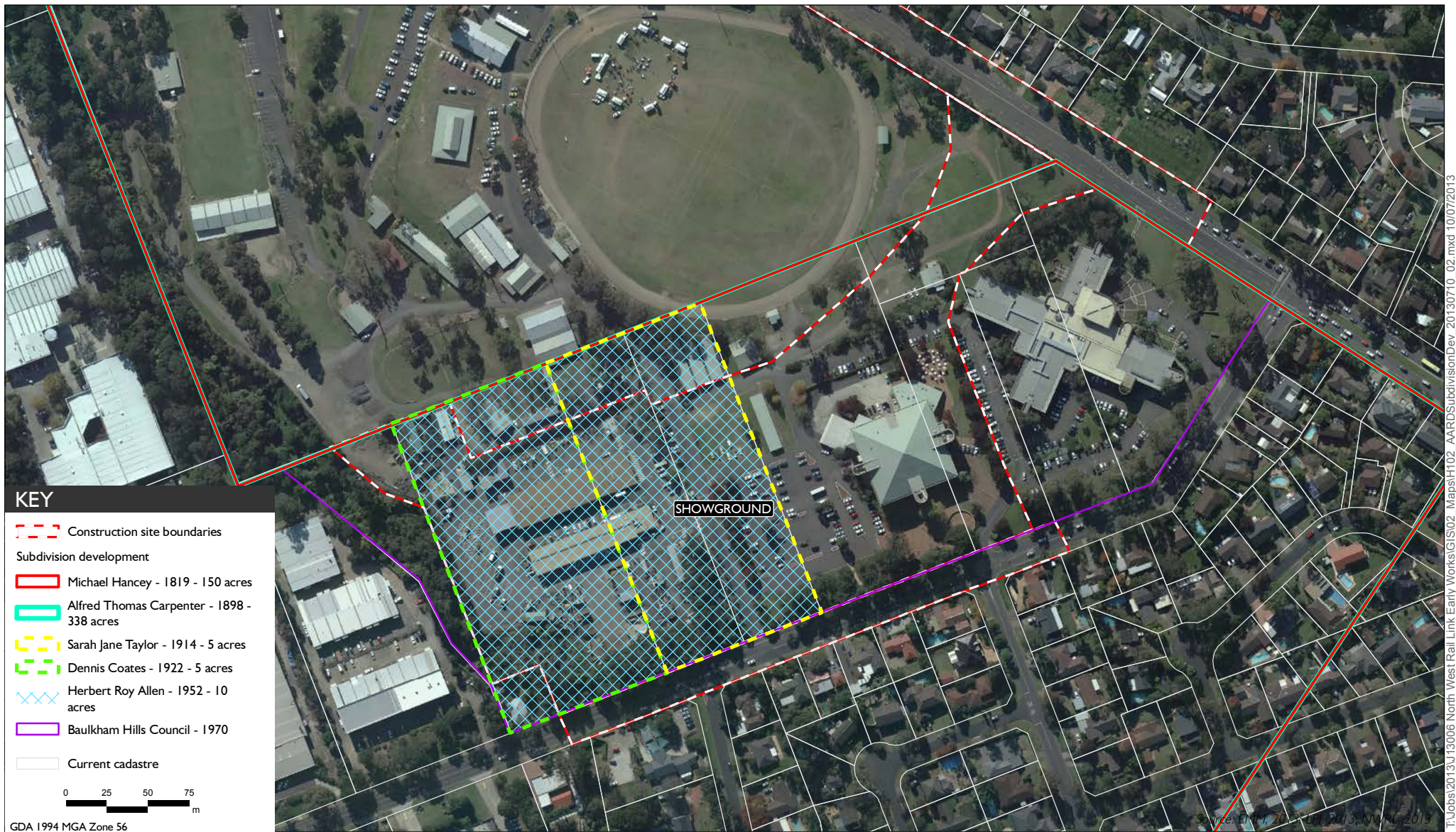
The majority of structures have been removed by the 1978 aerial photograph which shows playing fields, the Hills Shire Council Works Depot, a grassed car park and large cleared area. Carrington Road has been paved and widened and Doran Drive is visible as a paved Road in the centre of the study area. Some structures remain adjacent to the playing fields.

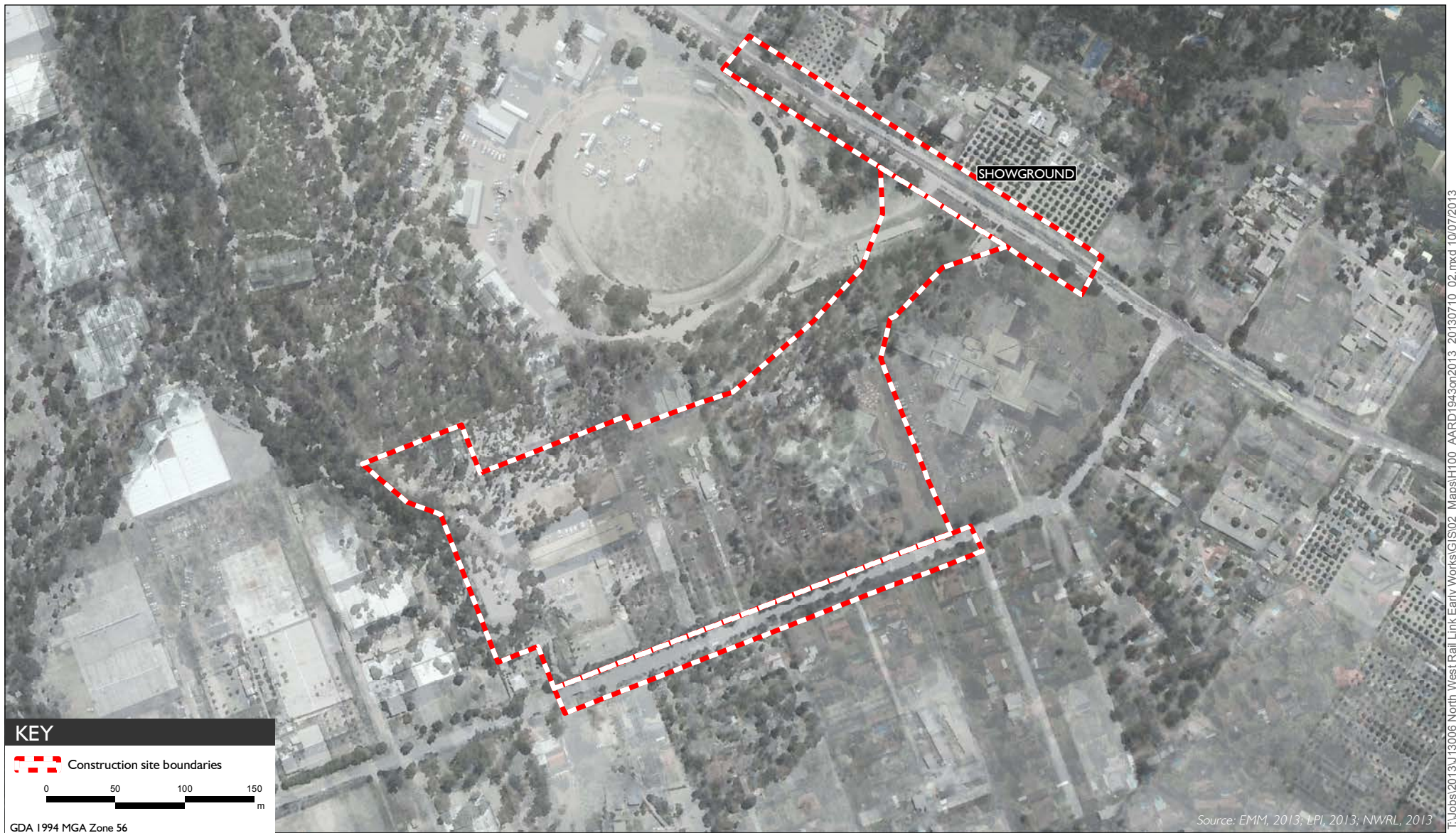
In the 1986 aerial photograph, clearing has continued and the construction of the Council Chambers is complete. The area between the Council Chambers and the Council Works Depot is cleared and grassed. None of the structures visible on earlier air photographs remain within the study area.

The construction of the Hills Entertainment Centre has been completed and is visible in the 1994 aerial photograph. A large car park covers the area between the Entertainment Centre and the Hills Shire Council Works Depot. Landscaping is evident on the majority of the study area though some small grassed areas remain. This is shown in the overlay of the 1947 aerial photograph over the 2013 aerial photograph (Figure 3.2).

3.1.7 Probate records

While probate records were canvassed, those who are listed as owners of the study area had transferred the land to another prior to their death. As such little information could be gained from these records regarding the study area.





3.1.8 Comparative studies

The local area has been subject to a limited number of archaeological investigations relating to domestic vernacular buildings and associated properties in the late nineteenth century and beyond. A search of the Heritage Branch library catalogue and other library resources identified only a few relevant previous investigations.

The most prominent archaeological investigation in the local area relates Castle Hill Heritage Park which is assessed to be of state heritage significance. The Castle Hill Heritage Park contains a number of known and potential archaeological sites, including the Third Government Farm, a lunatic asylum and barracks, a church and school, the remains of early dwellings and wells, roads, tracks fencing, and bridges of the early to mid-nineteenth century. The site was later adapted for orcharding from 1870 to 1930 (GML 2007). The Castle Hill Heritage Park has little comparative value with the current study area as it does not encompass late nineteenth–early twentieth vernacular buildings that were occupied during the agricultural phase of the study area. A mid-twentieth century domestic building and cistern remains in the north-east quadrant of the park, however it is likely to post-date any historical buildings constructed within the study area.

A number of showgrounds in NSW are listed on statutory registers including the State Heritage Listed Queanbeyan Showground. Locally heritage listed showgrounds include Bathurst Showground (McGregor Projects Architects and Builders 1995), Armidale Showground, Moree Showground, Maitland Showground (Conybeare Morrison International 2006), Moryua Showground and Sydney Showground (CSK Planning and Associates 1994). McMonnies (1996) also completed a study on rural showgrounds in the Hunter Valley. Showgrounds interacted with their surrounding environment and relationships often existed between the adjacent landholders and the Showground management. This was the case for the Bathurst Show which had to rely on sympathetic landholders before finding a permanent site (McGregor Projects Architects and Builders 1995 p.8). It was also the case for the Maitland Showground was held on various sites including adjoining land holdings (Conybeare Morrison International 2006 p.16). Therefore, it can be expected that structures relating to showground uses exist within the study area. These structures are likely to be related to animal holding pens, stables, cow sheds. Additionally, it is possible that structures relating to horse keeping and trotting may exist within the study area due to Herbert Alley's use of the site for horses and his use of the Showground for trotting training.

GML identified two pre-1920s house sites along Carrington Road (NWRL heritage site numbers 32 and 33) requiring further background research and potentially archaeological monitoring during construction activities. GML (2012a p.20) note these structures were visible on a 1920s plan. It is possible these sites were also shown on the 1928 and 1947 aerial photographs. As a result of their investigations GML (2012a) considered archaeological potential to be present in the east and west of the study area. However, these areas do not correspond to the result of this investigation. This investigation has shown that during the 1920s, structures present are located in the centre of the study area. The areas identified by GML (2012a) have also been subject to considerable disturbance for the construction of the Hills Entertainment Centre and the Hills Shire Council Works Depot and the archaeological potential in these areas is very low. No above ground evidence of these structures was located during the field survey (GML 2012a p.20).

Two pre 1920s sites were also listed in the Casey and Lowe (2006) preliminary report on the North West Rail link as items 125 and 126. These sites were identified on a 1920s plan which has not been able to be recovered. The picture of the 1920s plan contained in the Casey and Lowe (2006) report has been geo-referenced and the structures which it depicts are located within the centre of the study area.

In its Shire-wide heritage study during the 1990s, the Hills Shire Council considered archaeological sites but no sites along Carrington Road were listed.

3.1.9 Existing land use and disturbance

The most recent developments in the study area have been the building of the Hills Shire Council Works Depot and the Hills Entertainment Centre and their associated facilities including car parks and ancillary buildings. The study area has also been used for the construction of soccer ovals and the upgrading and widening of roads to the Showground. Doran Drive was constructed in the 1980s. The majority of previous buildings in the study area were removed for these developments.

The Hills Shire Council Chambers and the Hills Entertainment Centre both have areas which have been excavated into the ground as part of their construction, including a portion of the theatres in the Hills Entertainment Centre. The construction of these structures removed large amounts of fill and would have required site levelling. Additionally, as noted by RPS (Erin Williams pers comm) Aboriginal archaeological excavations have rubbish dumping and contamination in the areas around the works depot. This has resulted in considerable disturbance in these areas and a low potential for archaeological evidence to have survived.

Some areas of the study area have been subject to less use and disturbance, including car park and grassed areas. There is potential for archaeological remains to have survived in these areas.

The study area has also been subject to varying levels of disturbance from existing utility trenches. Areas disturbed by utility trenches within the study area include:

- fibre optic/phone network cables;
- electricity cables; and
- PVC sewerage piping.

The impact of the existing utility trenches on the potential archaeological deposit is likely to be low. The disturbance areas for these utilities are largely discrete and isolated, and are unlikely to have significantly affected any potential archaeological deposit. However, there is the possibility for these trenches to have affected the intactness of certain archaeological features or deposits.

3.1.10 Study area site visits

An inspection of the study area occurred on 14 February 2013 (Photograph 2.1 and Photograph 2.2). The majority of the study area was covered by bitumen, roads, and buildings. One fenced and grassed storage area for the Hills Shire Council Works Depot was noted. The areas not covered by built structures and car parks were observed to be heavily covered in grass, shrubs and trees. An incised creek runs through the west of the area.



Photograph 3.1 Hills Shire Council Depot off Carrington Road – Showground Station



Photograph 3.2 Vacant land fronting Carrington Road – Showground Station

3.1.11 Data from geotechnical investigations

Geotechnical testing was conducted by Coffey, Geotechnics from September to December 2012. Six borehole sites were investigated for the proposed Showground Station. The geotechnical test sites were located near Carrington Road in the south of the areas of archaeological potential but not located close to any identified historic structures (Figure 3.3). The boreholes are listed and discussed as they are located from west to east in Figure 3.3.

Borehole (BH) 187 was located at 5 Carrington Road adjacent to the study area. It was excavated in December 2012. The first 0.6 m was identified as pale brown to pale grey clay topsoil and fill overlaying a pale brown to dark orange clay residual soil becoming mottled pale grey at depth. Bedrock was reached at 2.7 m.

BH 158 was located on the eastern side of Cattai Creek along Carrington Road. It was excavated in December 2012. The first 0.1 m of soil was a silty clay topsoil, pale brown in colour. The topsoil overlaid a silty clay fill layer, brown to pale brown with fine to medium angular concrete gravel fragments. A silty clay residual soil with some fine to medium sub angular ironstone gravel was reached at approximately 2.50 m and continued to weathered sandstone at 4.60 m. Bedrock was reached at 5.3 m.

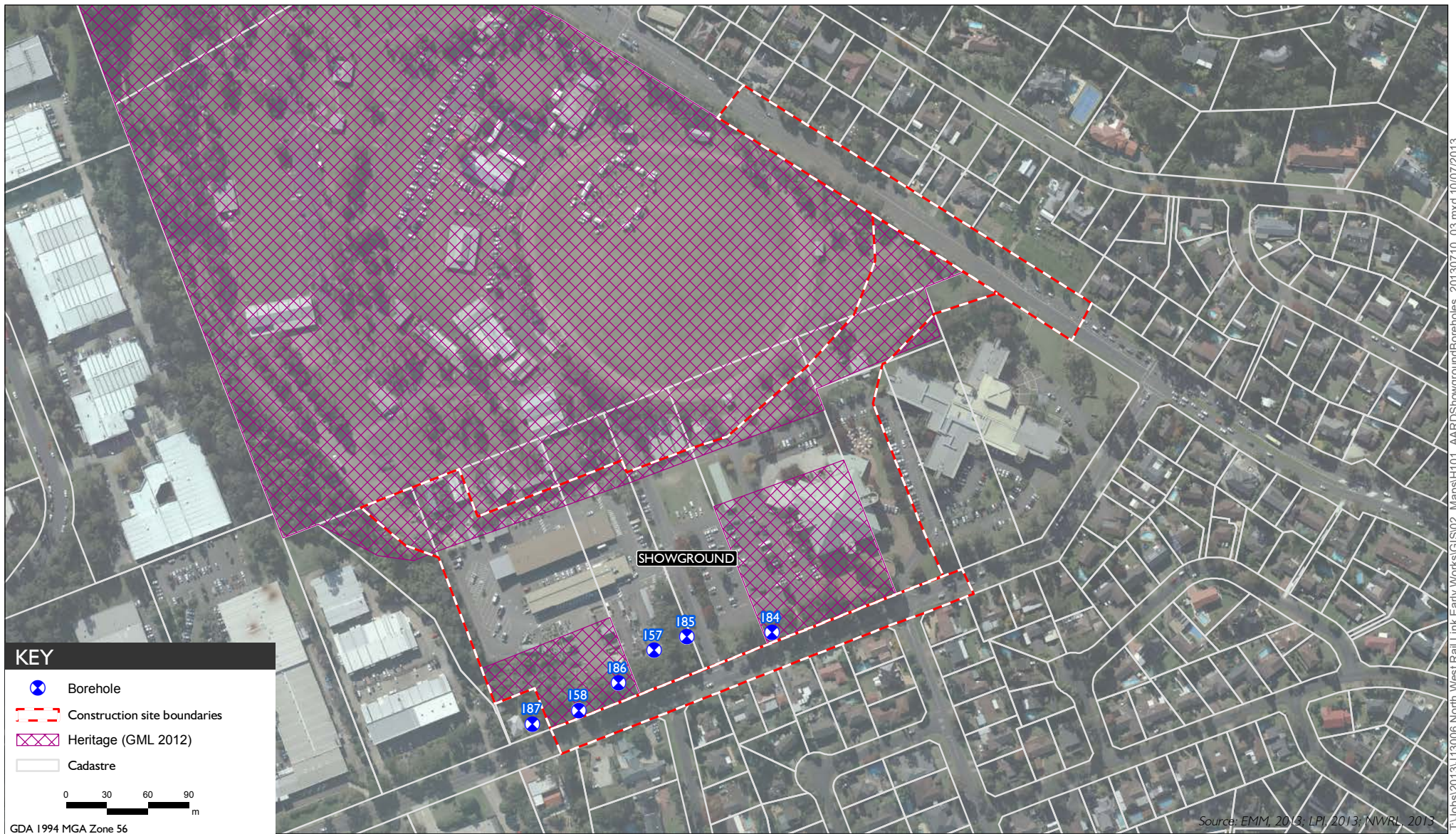
BH 186 was located adjacent to the Hills Council Works Depot along Carrington Road. It was excavated in October 2012. The first 0.2 m of soil was identified as brown silty clay topsoil fill with some fine gravel overlaid on dark brown gravelly clay fill. At 0.8 m a single cobble sized fragment was noted. Weathered sandstone bedrock was reached at 3 m. The gravel and concrete inclusions in this borehole point to the use of the area adjacent to the Council Works Depot as a rubbish dumping ground.

BH 157 was located in the Hills Council Works Depot. It was excavated in September 2012. The first 0.8 m consisted of two layers of grey brown gravelly sand fill. The fill was overlaid on a red brown clayey sand residual soil. At 0.9 m sandstone bedrock is reached. This borehole shows the use of the Council Works Depot and the changes to the soil landscape this has created including an increase in gravel and sand, possibly used as a surface for trucks prior to the area being covered in bitumen.

BH 185 was located on Carrington Road. It was excavated in October and November 2012. The first 0.4 m of soil was brown clay topsoil overlaid on a brown sandy clay fill layer. A residual soil layer of orange brown sandy clay was reached at 2 m. Bedrock was reached at 2.5 m.

BH184 was located on Carrington Road. It was excavated in November 2012. A 0.1 m layer of brown silty clay topsoil was overlaid on a brown to dark orange residual clay layer. Weathered sandstone was reached at 1.40 m and bedrock was reached at 2.20 m.

The recorded data from the geotechnical samples did not yield material that could be described as archaeological deposit or potential artefactual material. The noting of residual soil in the boreholes may indicate that the land was used for cropping and orcharding. Additionally the noting in BH 186 of concrete fragments aids in substantiating the results of the Aboriginal investigations and show that the area of the works depot was used as a rubbish dump for a period of time.



3.2 Archaeological potential

The assessment of the potential for archaeological evidence, known as “archaeological potential”, is based on a predictive model that assumes historical archaeological evidence is generally located in close proximity to occupation and activity areas.

“Archaeological potential” refers to an areas potential to contain archaeological relics which fall under the provisions of the *Heritage Act 1977*. This potential is identified through historical research and by judging whether current building or earlier development activities have removed all evidence of known previous lands uses (Heritage Council 1996). From this evidence conclusions are drawn from this section to identify the likely location, survival of the archaeological evidence. The preceding Section 3.1, the “evaluation”, is where each area of investigation was analysed to ascertain the potential for the survival of archaeological resources.

3.2.1 Aboriginal occupation

Aboriginal people utilised and passed through the Castle Hill area for thousands of years. A separate Aboriginal heritage assessment and salvage excavation has been completed by RPS. Excavations have occurred within the west of the study area along Cattai Creek. Preliminary results have not revealed evidence of Aboriginal occupation. The final results of Aboriginal archaeological excavation will be presented in a separate report.

In the event that any subsurface deposits containing Aboriginal relics are found, they are likely to consist of isolated or low density artefacts with disturbed soil profiles. The unexpected finds protocol includes Aboriginal heritage objects and should these objects be found all work will cease in the vicinity of the finds until an assessment of significance can be made in consultation with the registered Aboriginal parties for the project.

3.2.2 Assessment of archaeological potential

Figure 3.4 presents the evidence for where the remains of structures are likely to be found. This is based on the most accurate information available from the research. There is likely to be some inaccuracy in the plans due to the factors of time and the difficulties of geo-referencing the various historical data sources.

From the information available it is most likely that the archaeological evidence will be located in the centre of the study area. A cluster of structures were located here in aerial photographs from 1928 until 1978. The geo-referenced structures located on the 1920s plan also correlate with this area, however they are not an exact match for the structures on the aerial photographs but as discussed, this may be a reflection of the margin of error when overlaying historic maps and aerial photographs. Archaeological evidence may include house foundations, sheds, building debris and household items. Additionally, should a house site be uncovered the possibility that there was a cesspit or well associated with it is supported by the late arrival of reticulated water and sewerage pipes to the area.

During the 1920s the land was owned by Sarah Jane Taylor who owned the study area in 1914 until it was bought by Herbert Alley in 1952. No information about the tenure of Taylor has been able to be ascertained.

Generally houses during this period were built with tongue and groove floorboards, reducing the amount of subfloor deposit that would normally accumulate under other types of floorboards. However, this house was built in a rural setting remote from the city and may have been built using earlier techniques. Therefore underfloor deposits may exist and if it is found that the house was built prior to the 1870s, there may be the potential for earlier structural evidence such as an earthen floor and slab construction.

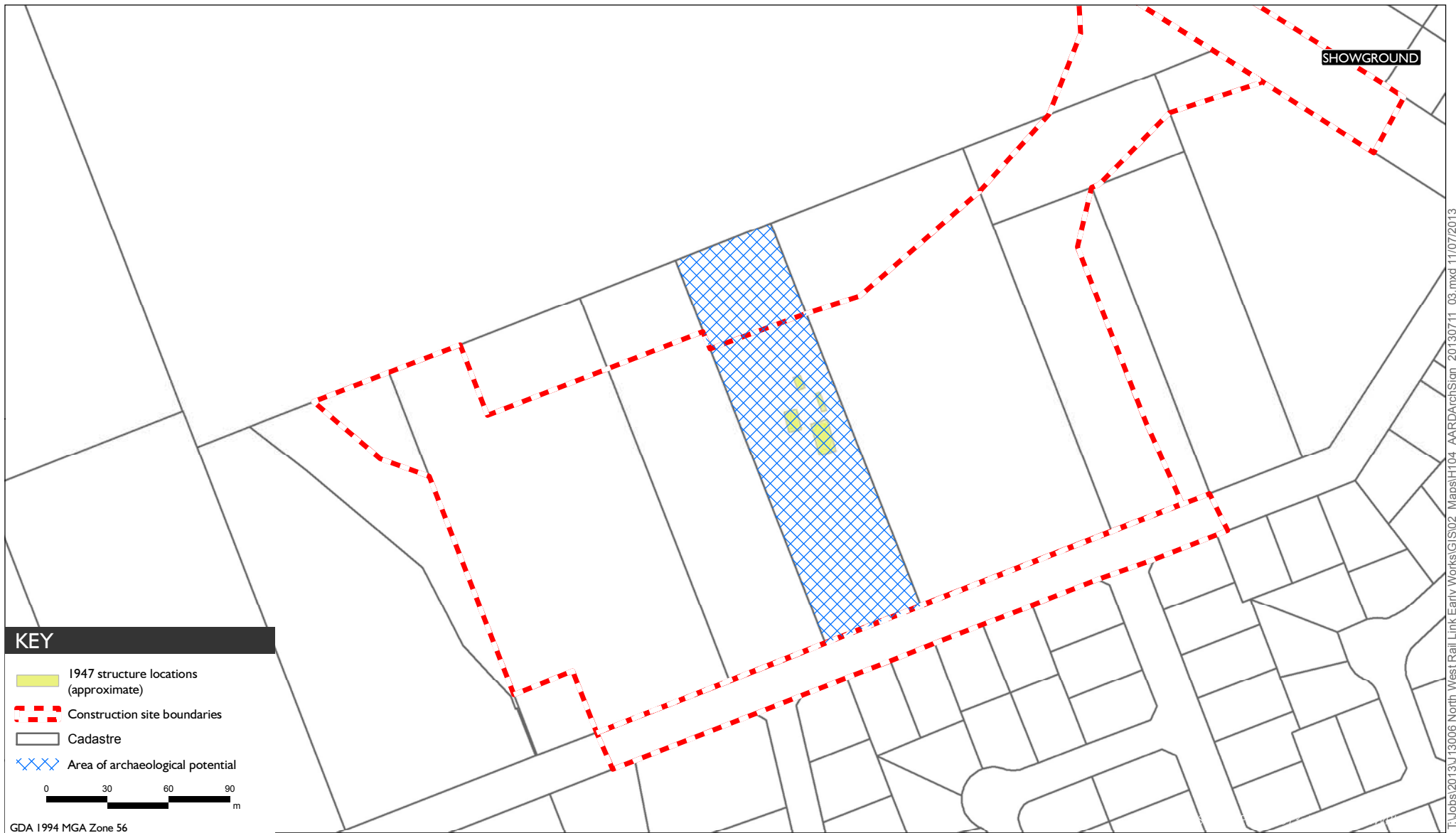
When the historical information is overlaid onto a modern aerial it is clear that the centre of the study area has remained relatively undisturbed. A bitumen car park has been constructed and a grassed area remains adjacent to the car park. In this area there is a moderate likelihood of these remains surviving intact, depending on the fill required to level the area for the car park construction.

Previously this study area has been assessed as having the potential to contain archaeological remains in the east and west of the study area (GML 2012a). The current research has indicated that the majority of the study area has been subject to extensive disturbance. The study area appears to have been cleared in the 1970s for soccer ovals, and for the expanding Council Works Depot in the south-west of the study area and in the 1980s for the construction of the Hills Entertainment Centre.

There was no visible evidence of any structures identified in the historic evidence during the most recent site inspection in February 2013. Visibility was low as the site is covered by car parks and buildings.

In summary, the assessment concludes that the following may exist below the ground surface:

- remnants of structures demonstrated by remnants of wooden slabs, posts, framework, subfloor deposits and earthen floor;
- bricks as remnants of a fireplace;
- remnants of galvanised iron roofing;
- postholes for shed structures;
- structural materials, including nails and wire;
- cesspits/wells/cisterns;
- rubbish pits;
- cement pads for outbuildings such as toilets or laundries; and
- remnants of fencing including fence post holes and wire.



3.3 Heritage significance

The following section presents the statement of significance for the potential archaeological resources at Showground. The statement of significance is based on the guideline *Assessing Heritage Significance* (Heritage Office 2001). No previous statement of heritage significance has been completed for these potential archaeological remains. Analysis in Section 2 and 3 of this report presented a range of evidence regarding the potential archaeological remains which has been used in the assessment of significance.

The concept of cultural significance is defined as “aesthetic, historic, scientific, social or spiritual value for past, present or future generations” (*Burra Charter* 1999: Article 1.2). It identifies that conservation of an item of cultural significance should be guided by the item’s level of significance.

Table 3.1 provides a summary of the assessment criteria and their application to the potential archaeological remains. Section 3.4 provides a full statement of significance.

Table 3.1 Statement of significance summary

NSW Heritage criteria (NSW <i>Heritage Act</i> 1977)	The potential archaeological remains at Showground Station.
Criterion (a) an item is important in the course, or pattern, of NSW’s cultural or natural history (or the local area);	<p>The potential archaeological resources is historically associated with the late eighteenth and early twentieth century use of the local area particularly orcharding, farming and horse keeping. The agricultural uses of the study area demonstrate the importance of the region in producing food for the region and was one of many such orchards, none of which survive in the local area.</p> <p>Archaeological evidence of horse keeping may be able to contribute to the understanding of the adjacent Showground and the pursuit of horse trotting.</p> <p>Archaeological evidence demonstrating the domestic and commercial uses of the study area would be of local significance.</p>
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>The Panacek family were of local interest and Metod Panacek was investigated by the federal police and died at his house in Carrington Road. Archaeological evidence would provide further information on their lives and contribute to an understanding of these locally significant people.</p>
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>The research conducted to date has not indicated that the potential archaeological resources fulfil this criterion. The expected archaeological resource may include remains of a unidentified structures which are unlikely to be aesthetically significant. However, if evidence survives that demonstrates rudimentary building techniques such as slab construction, these technical aspects of the resource would be of local significance.</p>
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>The research conducted to date has not indicated that the potential archaeological remains fulfil this criterion.</p>

Table 3.1 Statement of significance summary

NSW Heritage criteria (NSW <i>Heritage Act 1977</i>)	The potential archaeological remains at Showground Station.
<p>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 site has the potential to yield new information that would contribute to an understanding of construction techniques and materials used in structures during the late nineteenth and early twentieth centuries including how they changed over time. In addition, archaeological evidence relating to the life of the people that lived there may shed light on their way of life, their economic situation as well as answer questions related to farming in what had been recognised as an important food-producing area on the outskirts of Sydney.</p> <p>The presence of a cesspit is a possibility, and if one exists it would yield important information regarding the lives of the people that lived there.</p> <p>Archaeological evidence demonstrating this criterion would be of local significance.</p>
<p>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 potential archaeological remains fulfil this criterion.</p>
<p>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 research conducted to date has not indicated that the potential archaeological remains fulfil this criterion. If the archaeological resource is a house this evidence will be representative of life in the area and the results will be comparable to other like sites.</p>

3.4 Statement of significance for the potential archaeological remains

The potential archaeological resources at the Showground Station study area are considered to be of local heritage significance. They have the potential to contribute to the local area’s understanding of the site’s use and people present in the study area during the late nineteenth and early twentieth century. The potential archaeological remains may yield information relating to the construction techniques used to create the structures and farm buildings on the site during the late nineteenth and early twentieth centuries.

Information from the site may be able to contribute to understanding the lifeways and practices of the people who lived in this area, who are not represented in the documentary evidence for the site. Also of local significance would be archaeological evidence, including a cesspit, that could demonstrate the life of the families that lived in the house and answer questions relating to personal and commercial activities on the orchard.

Much of the surrounding archaeological resource is likely to have been disturbed by the construction of buildings on the site but the topography of the site indicates the subsurface features and deposits may still survive.

4 Impact assessment

4.1 Impacts from the proposed development

The entire area of the Showground Station footprint will be disturbed before the construction of the station. The station will be built below the current ground level and will result in the removal of a large layer of fill. Impacts to all areas of archaeological potential are expected due to the large amount of soil to be removed.

The potential archaeological remains will be impacted by:

- the removal of soil to create the station area;
- the levelling of areas surrounding the station area to create walkways, parks;
- the creation of access roads through the study area;
- excavation for services including water, sewer and electricity; and
- the construction of a car park to service the station.

Figure 4.1 shows the development plan for the Showground Station study area. It is noted that the current development plan may be revised during construction and installation of the station buildings. However, this is not expected to change the comprehensive impacts to the potential archaeological remains.



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5 Conclusions and recommendations

5.1 Conclusions

Showground Station study area has been characterised by rural industry such as horse breeding, orcharding and crops and remained undeveloped until bought by the Hills Shire in the 1970s and 1980s. Subdivision was regular and the study area has been owned by a number of families since the land was granted in 1819.

Research on the nature of structures and potential archaeological sites which may be present in the study area has been hampered by a lack of primary information. Archaeological potential has relied on the aerial photographs of the study area from 1928 to the present.

The majority of the study area has been disturbed by the construction of large buildings including the Council Works Depot and the Hills Entertainment Centre, which also has a basement level. As a result, the centre is considered to have archaeological potential as it has remained relatively undisturbed and covered by a car park.

The study area contains the potential remains of a locally significant archaeological site. The archaeological resource has the potential to yield information relating to historical uses of the study area, the construction of buildings and potentially a house site. Additionally the lives of farmers and fruit growers supplying the market in Sydney but located beyond what was then the outskirts of the town, is not well understood. Other than the Panacek family, who appeared to be known in the local area, the orchardists that lived and worked within the study area do not appear to have been notable in their own right but they are representative of a group of people, who left their physical marks on the landscape. This is an opportunity to investigate what survives archaeologically of their lives.

This archaeological evidence will be totally removed as a result of the NWRL construction.

5.2 Recommendations

Research undertaken for this report indicates that the potential for relics exists within the identified study area and that these resources may be able to answer questions relating to the growth of commercial activities and about representative families who undertook those activities. The recommendations relating to the archaeological resource are to:

- conduct an archaeological test excavation on targeted areas of the site to test the conclusions of this report. The targeted archaeological test excavations to determine the extent of significant archaeological resource. This archaeological excavation program is provided in Appendix A;
- prepare a Research Design to guide the archaeological test excavation and frame the approach. This Research Design is provided in Appendix A; and
- ensure that if during the course of excavation Aboriginal cultural material is found, work must cease and the indigenous heritage consultant be alerted as per the unexpected finds protocol as part of the Construction Heritage Management Plan.

Abbreviations

Abbreviation	Term
£	Pounds
\$	dollars
AHD	Australian Height Datum
AHIMS	Aboriginal heritage information management system
BOM	Bureau of Meteorology
BH	borehole
c	circa
cm	centimetres
DP	Deposited Plan
DP&I	Department of Planning and Infrastructure
EMM	EMGA Mitchell McLennan Pty Limited
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
GML	Gooden Mackay Logan
km	kilometres
LEP	Local Environmental Plan
LGA	Local Government Area
m	metres
m ²	metres squared
MCoA	Ministers Conditions of Approval
mm	millimetres
NSW	New South Wales
NWRL	North West Rail Link
OEH	Office of Environment and Heritage
PAD	Potential archaeological deposit
RMS	Roads and Maritime Services
SHR	State Heritage Register
t	Tonne
TfNSW	Transport for NSW
TP	Test pit

Glossary of Terms

Many of these definitions use throughout this report have been taken from the *Archaeological Assessments Guidelines* (Heritage Branch 1996).

Archaeological Potential: a sites potential to contain archaeological relics as defined in the Heritage Act 1977. The degree of physical evidence present on an archaeological site usually assessed on the basis of physical evaluation and historical research. It refers to the surviving condition of archaeological sites). Common terms for describing archaeological potential are:

- known archaeological features/sites (high archaeological potential);
- potential archaeological features/sites (medium archaeological potential); and
- no archaeological features/sites (low archaeological potential).

Archaeological Site: a place that contains evidence of past human activity. Below ground archaeological sites may include building foundations, occupation deposits, features, artefacts and relics. Above ground archaeological sites may include buildings, works, or industrial structures that are intact or ruined.

Archaeology: the study of the human past using material evidence.

Archaeological investigation or excavation: the manual excavation of an archaeological site.

Artefact: an object produced by human activity. In historical archaeology the term usually refers to small objects contained within occupation deposits. The term may also encompass food or plant remains and ecological features (for example, pollen).

Conservation: all of the processes of looking after a place so as to retain its cultural significance.

Building: a part of a building, structure or part of a structure.

Heritage: encompasses both Aboriginal and historic heritage including sites that predate European settlement and a shared history since European settlement such as the shared associations in pastoral landscapes as well as associated link with the mission period.

Heritage Item: an item defined under the *Heritage Act 1977* and assessed as being of local, State and/or National heritage significance

Heritage Significance: a term used to encompass all aspects of significance (see Cultural Significance). Defined in the *Heritage Act 1977* (Section 4A) as being of State or Local significance in relation to historical, scientific, cultural, social, archaeological, natural or aesthetic value of the item.

Historical Archaeology: in NSW historical archaeology is the study of the physical remains of the past, in association with historical documentation, since European occupation of NSW in 1788.

Item: a place, building, work, relic, moveable object or precinct.

Listing: an item is placed on a statutory heritage list.

Local Significance: in relation to a place, building, work, relic, moveable object or precinct, means significance to an area in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item.

Place: site, area, land, landscape, building or other work group of buildings or other works and may include components, contents, spaces and views.

Potential Archaeological Site: a place which may contain physical evidence of past human activity (see Archaeological Site).

Relic: any deposit 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.

Research Design: a set of questions, which can be investigated using archaeological evidence and a methodology for addressing them. A research design is intended to ensure that archaeological investigations focus on genuine research needs. It is an important tool which ensures that when archaeological resources are destroyed by excavation, their information content can be preserved and can contribute to current and relevant knowledge.

Research Potential: the ability of a site or feature to yield information through archaeological investigation. The significance of archaeological sites is assessed according to their ability to contribute information to research questions.

State Significance: in relation to a place, building, work, relic, moveable object or precinct, means significance to the State in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item. An item can be both of State heritage significance and local heritage significance. An item that is of local heritage significance may or may not be of State heritage significance.

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Appendix A

Research design

A.1 Introduction

A.1.1 Background

EMGA Mitchell McLennan Pty Ltd (EMM) has been commissioned by Boulderstone Pty Ltd (BPL) to undertake an archaeological program at the Showground Station construction study area. This report details the research design for the archaeological program.

The requirements for the archaeological program come from the Ministers Conditions of Approval E10. Condition E10 states that:

E10. Prior to the commencement of pre-construction and/or construction activities that will impact the historical archaeological sites identified in Table 4.2 of the North West Rail Link EIS: Technical Paper 3 – European Heritage, dated March 2012, the Proponent shall undertake an archaeological excavation program in accordance with the Heritage Council of NSW Archaeological Assessments Guideline (1996) using a methodology prepared in consultation with the Heritage Council of NSW, and to the satisfaction of the Director General. This work shall be undertaken by an appropriately qualified heritage consultant.

Additionally TfNSW has requested that the archaeological investigations for these sites are completed in the earliest possible timeframe to facilitate a smooth transition between the various stages of the project.

Heritage constraints were initially identified in the preliminary phase of the project, specifically two potential archaeological sites (GML 2012a, p.27). A 1920s plan of the area showed two structures between Carrington Road and Cattai Creek (Figure 1.1 of the archaeological assessment and research design report). A 1947 aerial photograph shows a small group of buildings in a setting that appears to be an orchard (GML 2012a p.27). The rest of the area was identified as cleared paddocks and orchards.

Research on the nature of structures and potential archaeological sites which may be present in the study area has been hampered by a lack of primary information. Archaeological potential has relied on the aerial photographs of the study area from 1928 to the present.

The majority of the study area has been disturbed by the construction of large buildings including the Council Works Depot and the Hill Entertainment Centre which included a basement level. As a result a section of the Hills Centre car park adjacent to Doran Drive is considered to have archaeological potential as it has remained relatively undisturbed and covered by a car park.

The study area contains the potential remains of a locally significant archaeological site. The archaeological resource has the potential to yield information relating to the construction and building techniques of farm buildings. Additionally the lives of farmers and fruit growers supplying the market in Sydney but located beyond what was then the outskirts of the town, is not well understood. The orchardists that lived and worked within the study area do not appear to have been notable in their own right but they are representative of a group of people, who left their physical marks on the landscape. This is an opportunity to investigate what survives archaeologically of their lives.

This archaeological evidence will be totally removed as a result of the NWRL construction.

The recommendations relating to the archaeological resource are to:

- conduct an archaeological test excavation on targeted areas of the site to test the conclusions of this report. The targeted archaeological test excavations to determine the extent of significant archaeological resource. This is the archaeological excavation program;
- prepare a Research Design to guide the archaeological test excavation and frame the approach. This is the Research Design; and
- ensure that if during the course of excavation Aboriginal cultural material is found, work must cease and the indigenous heritage consultant be alerted as per the unexpected finds protocol as part of the Construction Heritage Management Plan.

A.1.2 Site location

Early works is proposed in the area selected for the location of Showground Station. The proposed station site is approximately 65,000 m² along Carrington Road, bounded by Showground Road in the east, the Castle Hill Showground in the north and Cattai Creek in the west (refer to Figure 1.3 of the archaeological assessment report).

The affected lots are shown in Table A.1, with the lots that have been identified as possessing archaeological potential being marked with an asterisk.

Table A.1 Affected Lots

Lot//DP	Lot//DP
1//135696	A//37659*
C//398374	B//37659*
D//398374	1//539201
E//398374	2//539201*
38//35320*	2//870828

A.1.3 Limitations

This report deals specifically with items of historical archaeological significance within the study area. Issues related to heritage items outside the scope of the NWRL Project are not covered in this report. A detailed assessment of Aboriginal heritage for the study area is separate to this report.

A.1.4 Author Identification

This report has been prepared by Rebecca Newell BA Hons (Archaeology) and Ryan Desic BA Hons (Archaeology). The report was reviewed by Pamela Kottaras BA Hons (Archaeology) – Associate Archaeologist and David Kelly BTP (Hons) – Senior Environmental Planner EMM.

A.2 Development proposal

A.2.1 Project description

The North West Rail Link is a priority transport infrastructure project for NSW and will provide a new 23 km electrified passenger rail line between Epping and Rouse Hill. The Project includes eight new stations (Cherrybrook, Castle Hill, Showground (referred to in some documents as Hills Centre), Norwest, Bella Vista, Kellyville, Rouse Hill and Cudgegong Road), a stabling facility and associated infrastructure (Figure 1.1 of the archaeological assessment report). The Early Works include site establishment prior to the commencement of the Major Works and can be grouped into the following categories:

- tunnelling construction power – high voltage power supplies for construction;
- demolition – demolition of a mixture of residential and commercial properties and/or facilities;
- roads and traffic – road adjustments, signalling, and existing transport network facilities relocation; and
- precinct preparation – utilities, services relocations and miscellaneous works.

Transport for NSW (TfNSW, the NSW Department of Transport) has commissioned BPL as the managing contractor for the 'Early Works' to allow construction sites establishment prior to commencement of the major works for the NWRL. Works at the Showground Station study area are expected to result in removal of a large amount of soil as a component of the Showground Station, which will result in removal of all potential archaeological evidence in the study area.

The works program specific to the Showground Station construction area includes the construction of an open cut retained box structure below ground level, the use of the study area as a major facilities support site, including high voltage electricity, drainage, ventilation and the creation of a water treatment plant. A new intersection will be required at the junction of Showground Road and a new access roadway.

A.2.2 Impacts from the proposed development

The entire area of the Showground Station footprint will be disturbed before the construction of the station. The station will be built below the current ground level and will result in the removal of a large layer of fill. Impacts to all areas of archaeological potential are expected due to the large amount of soil to be removed.

The potential archaeological remains will be impacted by:

- the removal of soil to create the station area;
- the levelling of areas surrounding the station area to create walkways, parks;
- the creation of access roads through the study area;
- excavation for services including water, sewer and electricity; and
- the construction of a car park to service the station.

Figure 4.1 of the archaeological assessment report shows the development plan for the Showground Station study area. It is noted that the current development plan may be revised during construction and installation of the station buildings. However, this is not expected to change the comprehensive impacts to the potential archaeological remains.

A.3 Proposed research design and archaeological program

A.3.1 Research design

A research design is a set of research questions developed for a specific site, which contributes to current and relevant knowledge. The questions posed must be responsive to the nature of the archaeological evidence that is likely to be encountered. In addition, the how and where of the excavation is described in this document.

The archaeological assessment for Showground Station by EMM (2013) assessed the site as having moderate potential for the remains of farm structures sheds and potentially houses built prior to the 1920s. The significance of the potential archaeological resource has been assessed to be of *local* significance.

This research design proposes a program of archaeological testing to record the nature and extent of the archaeological resource present at the site. The archaeological program will aim to clarify the archaeological potential of the site by verifying the presence or absence of the remains of a weatherboard house, shed structure and cesspit as well as other possible associated features. This research design also includes a provision for salvage excavation for particular areas of significance.

A.3.2 Research questions

The archaeological remains of interest are those associated with the occupation of the site in the late eighteenth and early twentieth century. There is potential for archaeological remains relating to vernacular structures and occupation deposits to exist within the study area. The potential archaeology is within the context of a rural landscape characterised by orcharding and farming.

Remnants of shed structures and other buildings have the potential to exist as subsurface relics. At present, it is not discernible whether development and land use subsequent to the demolition of the structures has removed the site's archaeology. Test excavation will aim to verify the sites' archaeology in conjunction with a methodology that will target specific research questions. Research questions have also considered the potential for this site to change over time through multiple occupation events.

Research questions have been guided by historic themes relevant to the site which have been taken for the NSW Heritage Branch website (www.environment.nsw.gov.au/heritage/index.htm). These have been used to ensure that the site may be a comparable resource for previous and future archaeological investigations in NSW and nationally.

The national historic themes relating to the study area are:

- building settlements, towns and cities;
- marking the phases of life;
- developing Australia's cultural life; and
- developing local, regional and national economies.

The NSW historic state themes relating to the study area are:

- pastoralism;
- accommodation;
- domestic life;
- land tenure;
- environment – cultural landscape;
- persons; and
- agriculture.

Some of these questions will be answered during the test excavation, while the more detailed questions may be answered by a subsequent salvage excavation.

i General research questions

- Does the archaeological resource verify the assessed potential and significance of the site?

That is:

- i) What is the condition and extent of the surviving archaeological evidence in the area of highest potential?
- ii) What is the nature of extant archaeological features?
- iii) Do the deposits and features contribute new information about the occupation and development of the site?
- iv) Is there any evidence of domestic occupation at the site? If so, what form does it take, how does it change over time and what can it relate about the site's residents?

General questions concerning the settlement of rural north-western Sydney, agricultural economies and the cultural life surrounding these events in the late nineteenth and early twentieth century are also appropriate for comparative purposes.

ii Site specific research questions

Is there any physical evidence of the structures identified in the archaeological assessment?

- v) Do any structural remains or material culture deposits at the site tell us about the social status and standard of living of those who occupied the site?
- vi) Do the structural remains indicate a specific design or style of vernacular architecture? If so, are they comparable to other archaeological sites, or existing structures on a local, regional or national level?
- vii) Do the structural remains indicate additions or alterations over time, and does this coincide with changes in occupancy as shown in the historic record?

- viii) Is there evidence of domestic occupation at the site? If so, does the material culture assemblage change through time and with phases of occupation? Is there any historical evidence linking these changes to certain people, occupational phases, or other events?
- ix) What does the material culture assemblage reveal about the owners and occupants of the house, when compared with assemblages from other sites?
- x) Is there any evidence of agricultural produce at the site, especially fruit growing? If so what form does it take and how does the information contribute to our knowledge of the agricultural practices in the area?

It should be noted that the archaeological program may uncover a range of information not expected and the research questions are likely to evolve depending upon the type of evidence and artefacts found at the site.

A.4 Methodology

An excavation strategy has been prepared which represents the most appropriate archaeological methodologies for the archaeological program. This strategy responds to the requirements above, the development plans and the local heritage significance of the site.

As mentioned in the previous section, it is difficult to discern how much of the site is likely to contain intact archaeological remains. The construction of large buildings within the study area and recent utility works since the deposition of the archaeological evidence may have disturbed the subsurface deposit to some extent. Subsequently, archaeological test excavation is the only reliable method to quantify and characterise any potential subsurface deposit. This archaeological management strategy presented here is based on the findings of the archaeological assessment (EMM 2013).

The archaeological investigation of the site will involve the excavation of test pits targeted at locating specific archaeological evidence. There is also a provision for the salvage excavation of areas that have the potential to contribute knowledge that no other site or resource can. The knowledge retrieved from salvage will aim to answer the general and specific research questions provided in the research design.

A.4.1 Archaeological testing

Excavation of test trenches will determine the nature and extent of archaeological features associated with previous structures and may determine the stratigraphy across the site. Archaeological testing will consist of excavating areas where the structures are predicted to survive within areas of least known post-depositional disturbance. Areas with existing utility trenches and other previous development areas will be avoided where possible. Targeting predicted deposits with the least known post-disturbance will increase the likelihood of locating intact archaeological evidence. The test excavation will also aim to sample the widest cross-section of features and associated deposit as possible.

Testing will target the areas where structural evidence is anticipated by using trenches orientated to catch as much information as possible from limited trench dimensions. An additional test trench may be excavated within an area anticipated to be archaeologically sterile in order to provide an understanding of the soil profile test trenches. If testing confirms archaeological evidence, it will be fully recorded and an assessment will be made on its significance. The archaeological potential of the remains and its significance will determine if salvage excavation is warranted.

The testing program will require the use of an excavator with a smooth edged mud bucket, to remove overburden down to just above any occupational surface, structural remains or natural soil levels. At all stages of the test excavation, the archaeologist will have the authority to halt work if archaeological evidence is suspected. Any archaeological evidence will be verified by hand excavation techniques.

The proposed test pit layout is shown in Figure A.1. The archaeological testing program will be undertaken by:

- Test trenching via machine-excavation to a depth the archaeologist considers appropriate for finding relics, and to also determine culturally sterile layers.
- Targeting test pits or trenches in order to investigate the archaeological evidence according to historical imagery and plans.
- Excavating one 6 m by 4 m trench at the predicted location of one structure. This will aim to identify any structural remains, including walls. The width of the trench also has the potential to include occupational deposits inside or outside any structures.
- Excavating one 6 m by 4 m trench at the predicted location of additional structures north of the first test trench.
- Excavating one 3 m by 2 m trench outside the areas of predicted subsurface remains. This will be fully recorded as a means to characterise the soil profile of the local area.
- Excavation of the test areas to remove overburden will proceed by using appropriate machinery, including a 5 tonne excavator with a smooth bucket.
- Monitoring the removal of any overburden, fill or other culturally sterile layers until any significant archaeological evidence, occupational surface or structure is identified by a qualified archaeologist.
- Hand excavation by field archaeologists to fully expose or characterise the archaeological evidence. The decision to excavation stratigraphically or by feature will be determined in the field based on the archaeological evidence uncovered. For example, any cesspits will be excavated as a feature.
- Recording of remains and deposits according to the detailed recording methodology outlined below.
- Managing artefacts according to the artefact methodology outlined below.
- Implementing salvage excavation if sufficient evidence of the presence of archaeological deposits of local significance occur. If the deposits are of State heritage significance then the Heritage Branch will be contacted to review the excavation. Salvage excavation would preferably commence within a week of finishing the test excavation.

Salvage excavations will follow the salvage excavation methodology outlined below.

Where appropriate, the archaeologist will sample any cultural and non-cultural deposits that may provide significant information regarding the pre and post European environment and occupation of the site. Soil samples will be analysed by a soil specialist.

In the event that evidence of Aboriginal cultural remains are found on site all works in the immediate vicinity of the area will cease and Boulderstone will be contacted. Appropriate measures provided in the NWRL Early Work Aboriginal Cultural Heritage Management Plan will be adhered to before works recommence.

A.4.2 Salvage excavation approach

Salvage excavation will be undertaken subsequent to test excavation if significant archaeological remains warranting further excavation are found. Salvage excavation will largely be guided by the nature and extent of the archaeological remains uncovered from test excavation. The basic principles of open area salvage excavation that will be used on the site are:

- salvage excavation will aim to retrieve a level of information relative to the significance and intactness of the archaeological resources;
- salvage excavation will aim to answer research questions provided in the research design;
- salvage excavation will involve the expansion of test trenches to adequately characterise the archaeological evidence initially exposed; and
- a similar methodology to that outlined for the testing will be followed.



Potential remains of significance and the appropriate archaeological management strategy

North West Rail Link Early Works

Archaeological Assessment and Research Design - Showground

Figure A.1

A.4.3 Recording methodology

All recording will be undertaken using the following principles:

- the establishment of an appropriate site grid;
- use of surveying techniques for location of remains;
- detailed archaeological scale plans;
- the use of context recording forms and context numbers to record all archaeological information;
- use of Harris matrix as part of the recording program;
- all structural remains, post holes and features will be planned using an established survey point;
- detailed photographic recording;
- collection, labelling, safe storage, washing, sorting and boxing of artefacts.

A.4.4 Artefact methodology

Any artefacts recovered from the site will be the subject of a detailed cataloguing and analysis program, including:

- all artefacts will be catalogued using a system that identifies and allows easy retrieval of the item;
- an artefact analysis report; and
- the use of artefacts and information to inform a future interpretation plan.

The excavation report will contain an analysis of artefacts and their deposits and contexts. This analysis will be illustrated using tables in the final report.

A.4.5 Excavation Report

A detailed excavation report will be produced describing the results of the archaeological program. The report will include an artefact analyses and response to research questions.

A.5 Public interpretation of the archaeological program

The information and artefacts from the excavation may be used in interpretation of the site and in displays as part of the new station complex.

The following are suggested ways in which information about the site can be disseminated to be public:

- public information leaflets;
- regular updates on the archaeological program on the NWRL webpage; and
- media releases.

A.6 Aboriginal archaeology

A separate Aboriginal archaeological testing and excavation program has been completed as part of this project by RPS.

A.7 Public interpretation in the completed Cherrybrook Station site

Interpretation could utilise a range of archaeological material including:

- archaeological drawings, plans and images;
- panels with informative text; and
- artefacts.

A.8 Personnel

The excavation program will be directed by Jillian Comber with Tory Stening as an alternate excavation director. Pamela Kottaras is the nominated excavation co-director. The following staff will also assist as site supervisors:

- Ryan Desic; and
- Rebecca Newell.

As the major constraint is time, it is intended to have a team of 6 archaeologists on call to complete the test excavation. If relics are uncovered in the three proposed test trenches, concurrent excavation may contract the amount of time required on site. The final decision however, rests with the excavation director.

We are intending to use a number of assistants and other staff where required. CV's and references for personnel listed above are contained in Appendix B.

Appendix B

Curricula vitae

Curriculum vitae

Pamela Kottaras

Associate Archaeologist

Pamela has over 13 years experience as a heritage consultant and leads EMM's heritage service.

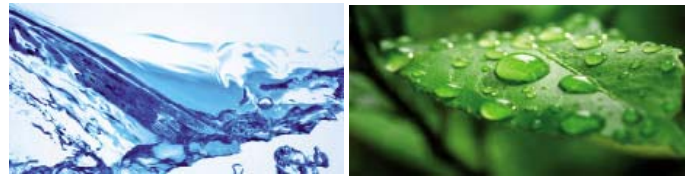
Her strengths include project direction and management of complex historic period assessments and heritage impact statements and Aboriginal heritage assessments, site analysis, archival recording, heritage statutory planning and policy review, and major excavation and survey planning and supervision.

Pamela's exceptional communication and interpersonal skills are demonstrated by her strong working relationships with historic and Aboriginal heritage communities, government agencies and clients.

She has undertaken heritage assessments for multiple sectors including: energy, infrastructure and utility providers; and property and construction.

Qualifications and memberships

- Bachelor of Arts (Hons) Prehistoric and Historical Archaeology, University of Sydney, 1997
- Laboratory Technician Certificate, Sydney Technical Collage, 1987
- Australian Society for Historical Archaeology
- Australasian Archaeological Association
- Australia ICOMOS Inc



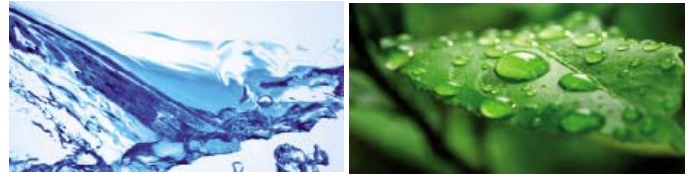
Career

- EMGA Mitchell McLennan, 2013present
- Team Leader Cultural heritage, Biosis Pty Ltd, 2009–2013
- Consultant, Austral Archaeology, 2004–2009
- Manager, Austral Archaeology, 20072009
- Heritage Consultant, City Plan Heritage, 2003–2004
- Research Assistant, Otto Cserhalmi & Partners Architects, 2001–2003
- Research assistant, Heritech Consulting, 19982001

Representative experience

- Windsor Bridge Replacement Project, historical heritage statement of heritage impacts, Sydney NSW for RMS (Biosis Pty Ltd with CRM)
- Grafton Bridge Duplication Project, non-Aboriginal heritage constraints reports and options report, Grafton NSW for Arup on behalf of RMS (Biosis Pty Ltd)
- Pipehead and Potts Hill Reservoirs 330 kV underground cable: statement of heritage impacts, Sydney NSW for Perram and Partners on behalf of Transgrid (Biosis Pty Ltd)
- Hume Highway Bypass at Tarcutta, archival record of Hambledon Homestead, Humula, Tarcutta Cemetery, Regional NSW for Leighton Contractors on behalf of RTA (Biosis Pty Ltd)

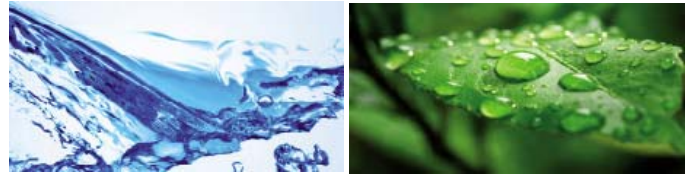
Curriculum vitae



Pamela Kottaras

- Hume Highway Bypass at Tarcutta Unexpected Finds Reports: Tarcutta stock camp and buried bridge, Regional NSW for Leighton Contractors on behalf of RTA (Biosis Pty Ltd)
- Tallawarra Lands Redevelopment, Historical Heritage Assessment, Wollongong NSW for TruEnergy (Biosis Pty Ltd)
- Nundah Bank Third Track, historical heritage assessment and statement of heritage for KMH on behalf of ARTC (Biosis Pty Ltd)
- Erskine Park Archaeological Salvage Excavation, Sydney NSW for RTA (Biosis Pty Ltd)
- Spring Farm Trunk Main, Aboriginal test excavation in accordance with the code of practice, Sydney NSW for Networks Alliance (Biosis Pty Ltd)
- North-West Growth Centre, heritage assessment, Sydney NSW for Sydney Water Corporation (Biosis Pty Ltd)
- Windsor Bridge Options Study: Assessment of Historical Heritage Constraints, Sydney NSW for the RTA (Austral Archaeology Pty Ltd)
- Edmondson Park Wastewater Planning Study, Aboriginal and historical risk assessment, Sydney NSW for SKM on behalf of Sydney Water (Austral Archaeology Pty Ltd)
- Proposed Holroyd Substation: Aboriginal archaeological and cultural assessment, Sydney NSW for SKM on behalf of Transgrid (Austral Archaeology Pty Ltd)
- Stevens Weir Deniliquin: proposal to install a vertical slot fishway statement of heritage impact, Regional NSW for the Department of Water and Energy on behalf of State Water (Austral Archaeology Pty Ltd)
- Great Western Highway Upgrade, Lawson: heritage construction management plan, heritage management report, Regional NSW (RTA with Austral Archaeology Pty Ltd)
- Wollondibby Project, Alpine Way, Jindabyne NSW Preliminary Heritage Advice, Snowy River Shire for Jay Harrison (Austral Archaeology Pty Ltd with City Plan Heritage Pty Ltd)
- Goat Island, conservation management plan. archaeological assessment, site analysis, archaeological policies & recommendations, Port Jackson NSW with Paul Davies Pty Ltd & Geoffrey Britton Environment Design for the National Parks & Wildlife Service (Austral Archaeology Pty Ltd)
- Bonnyrigg House, conservation management plan. archaeological assessment, site analysis and policies, Sydney NSW with Paul Davies Pty Ltd & Geoffrey Britton Environment Design for TSP Consulting on behalf of the Department of Planning (Austral Archaeology Pty Ltd)
- Proposed Subdivision of Bonnyrigg Male Orphan School Site Bonnyrigg, statement of heritage impact, Sydney NSW with Paul Davies Pty Ltd & Geoffrey Britton Environment Design for TSP Consulting on behalf of the Department of Planning (Austral Archaeology Pty Ltd)

Curriculum vitae

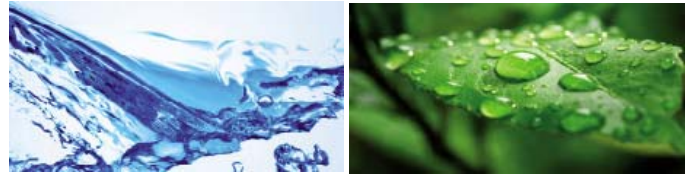


Pamela Kottaras

- Holy Trinity (Garrison) Church at Millers Point, archaeological assessment and exemption notification, Sydney NSW (under standard exemption 4) (Anglican Properties Trust with Austral Archaeology Pty Ltd)
- Gogeldrie Weir and Yanco Old Weir, statement of heritage impact & exemption notification, for NSW State Water, Leeton Branch (Austral Archaeology Pty Ltd)
- Australian Technology Park, temporary car parking innovation plaza upper, middle and lower car parks, Sydney NSW for The Australian Technology Park Management Pty Ltd (Austral Archaeology Pty Ltd)
- Australian Technology Park, Bays 3, 4 and 5 north internal fitout: statement of heritage impact and Section 60 application, Sydney NSW for The Australian Technology Park Management Pty Ltd (Austral Archaeology Pty Ltd)
- Australian Technology Park, Bays 6 and 7 north internal fitout: statement of heritage impact and Section 60 application for APP Corporation Pty Ltd on behalf of Fuji Xerox Australia (Austral Archaeology Pty Ltd)
- North West Transitway Project, Sydney NSW for Leighton Contractors (Austral Archaeology Pty Ltd)
- North West Transitway, archaeological assessments and research designs, for Leighton Contractors (Austral Archaeology Pty Ltd)
- 330–348 George Street, Sydney, archaeological assessment & research design, Sydney NSW for Hemmes Pty Ltd (Austral Archaeology Pty Ltd)
- Boggo Road Gaol: Excavation of Former One Division, Dutton Park, Brisbane Qld for Allom Lovell Architects on behalf of QLD govt (Austral Archaeology)
- 299–305 Sussex Street, Sydney, archaeological assessment & research design, Sydney NSW (City Plan Heritage Pty Ltd)
- University of Sydney School of Information Technologies, archaeological assessments & research design, Sydney NSW (City Plan Heritage Pty Ltd)
- RTA Heritage and Conservation Register Update, analysis & history, Warringah sub-region, NSW for the RTA with City Plan Heritage Pty Ltd)
- Spit Bridge, heritage impact statement review, Sydney NSW (City Plan Heritage Pty Ltd)
- Review Fort Scratchley Historic Site, Newcastle Conservation Management Plan, Newcastle NSW for the Heritage Office, Department of Planning (City Plan Heritage Pty Ltd)
- Review Wallarah and Moonee Collieries Conservation Management Plan, Central Coast NSW for the Heritage Office, Department of Planning (City Plan Heritage Pty Ltd)
- Review Dyke Point Conservation Management Plan, Newcastle NSW for the NSW Heritage Office (City Plan Heritage Pty Ltd)

Curriculum vitae

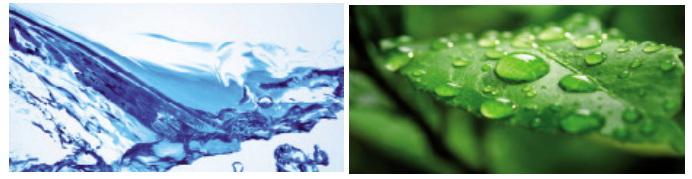
Pamela Kottaras



- Review Tracks into History Conservation Management Plan for the NSW Heritage Office (City Plan Heritage Pty Ltd)
- Review Sewage Pumping Station SP0038, Conservation Management Plan, Sydney Water for the NSW Heritage Office (City Plan Heritage Pty Ltd)
- Review Sewage Pumping Station SP0271, Conservation Management Plan, Sydney NSW for the NSW Heritage Office (City Plan Heritage Pty Ltd)
- Review White Bay Power Station, Conservation Management Plan, Sydney NSW for the NSW Heritage Office (City Plan Heritage Pty Ltd)

Curriculum vitae

Ryan Desic



Archaeologist

Ryan is an archaeologist with consulting and field experience in NSW. He has worked in both historic and Aboriginal and heritage.

He has worked on a number of major Aboriginal and historic archaeological investigations including the Hume Highway Duplication Project and the Barangaroo redevelopment project.

Ryan's key skills are in archaeological excavation and recording, and Aboriginal and historic artefact identification and analysis. His work has involved providing site supervision, field assistance, technical expertise and report writing.

Qualifications

- Bachelor of Arts (Hons) in Prehistoric and Historical Archaeology, University of Sydney, 2009
- Nationally recognised OH&S construction induction White Card

Career

- EMGA Mitchell McLennan, 2012–present
- Archaeologist, subcontractor to multiple Sydney-based heritage companies, 2010–2012

Representative experience

Environmental impact assessments

- Cobbora Coal Project, Cobbora NSW (Cobbora Holding Company)
- Newcastle LNG Gas Storage Facility and Pipeline Project Modification, Tomago NSW (AGL)

- Camden Gas Project Modifications, Sydney NSW (AGL)

Reviews of environmental factors

- Gloucester Gas Project Exploration, Wards River pilot testing, Wards River NSW (AGL)
- Cobbora Coal Project, geotechnical investigations, Cobbora NSW (Cobbora Holding Company)

Heritage management plans

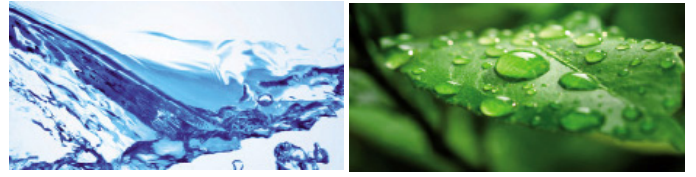
- Gloucester Gloucester Gas Project Exploration, aboriginal cultural heritage management plan, Gloucester NSW (AGL Energy)

Archaeological excavations

- Barangaroo Development, historic excavation and on site artefact management, Sydney CBD NSW (Casey and Lowe in association with Bovis Lend Lease)
- Cobbora Coal Project, Aboriginal cultural heritage test excavation, Cobbora NSW (Cobbora Holding Company)
- Hume Highway Duplication Project, Aboriginal excavation Tarcutta–Woomargama NSW (Kelleher Nightingale in association with Roads and Traffic Authority)
- Penrith Lakes Scheme, Aboriginal excavation, Sydney NSW (Penrith Lakes Development Corporation)
- Darling Walk Development, historic excavation, Sydney CBD NSW (Casey and Lowe in association with Bovis Lend Lease)

Curriculum vitae

Ryan Desic



Archaeological excavation reports

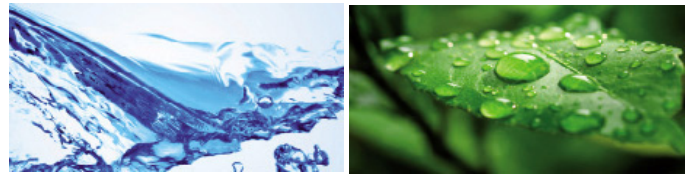
- Cobbora Coal Project: Aboriginal cultural heritage test excavation report, Cobbora NSW (Cobbora Holding Company)
- Australand Eastern Creek, Aboriginal cultural heritage test excavation report (Kelleher Nightingale Consulting)

Aboriginal opportunities and constraints

- Hume Coal, opportunities and constraints study, Southern Highlands NSW (Cockatoo Coal)

Curriculum vitae

Rebecca Newell



Archaeologist

Rebecca is an archaeologist with consulting and field experience in NSW and Tasmania. She has worked with industry leaders in both historic (European) and Aboriginal archaeology and heritage.

Her skills are in excavation and field survey techniques, artefact management, public communication and community engagement.

Rebecca has worked on a number of historic and Aboriginal archaeological excavations and surveys. This work has involved providing field assistance, site supervision and providing technical expertise.

Qualifications

- Bachelor of Arts (Hons Class 1) in Archaeology and Heritage Studies, University of Sydney, 2010
- Senior first aid certificate
- Nationally recognised OH&S construction induction certificate White Card

Representative experience

Environmental impact assessments

- Cobbora Coal Project, historic and Aboriginal heritage, Cobbora NSW (Cobbora Holding Company)
- Mount Penny coal mine, historic heritage, Mt Penny NSW (Mt Penny Coal)
- Peppertree Quarry, historic and Aboriginal heritage, Marulan South NSW (Boral Property Group)

Reviews of environmental factors

- Cobbora Coal Project geotechnical investigations, Cobbora NSW (Cobbora Holding Company)
- Hunter Gas Project, pilot testing, Windermere and Monkey Place, Hunter Valley NSW (AGL)

Archaeological excavations

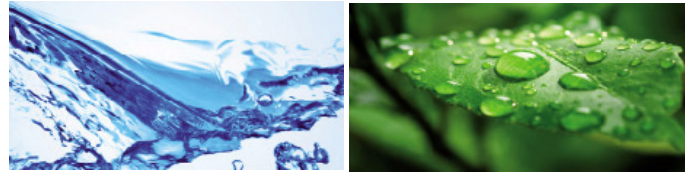
- Cobbora Coal Project, Aboriginal heritage test excavation, Cobbora NSW (Cobbora Holding Company)
- Penrith Lakes Scheme, Aboriginal heritage excavation, Sydney NSW (Penrith Lakes)
- Oatlands Gaol and Mill, historic heritage excavation, Oatlands TAS (Southern Midlands Council)
- Cumberland and Gloucester Streets, historic excavation and artefact processing, Sydney CBD NSW (Godden Mackay Logan)
- Rouse Hill House, historic school house excavation, Sydney NSW (Historic Houses Trust)

Aboriginal heritage impact permit (AHIP) applications and due diligence assessments

- Aboriginal heritage due diligence report Peppertree Quarry, Marulan South (Boral Property Group)
- Muswellbrook Sewer AHIP report, Hunter Valley NSW (NSW Public Works)
- Badgally Road, Camden Aboriginal Heritage due diligence report, Sydney NSW (Dart West Developments)

Curriculum vitae

Rebecca Newell



Heritage management plans and strategies

- Sydney Bennelong Stormwater Channel Heritage Management Strategy, Sydney NSW (Kembla Watertech)
- North West Rail Link Early Works Heritage Management Plan, Sydney NSW (Boulderstone)



Jillian Comber, B.A., Litt.B., P.C.Arb, M.AACAI., M.ICOMOS, J.P.

Archaeologist/ Heritage Consultant

Mediator/Arbitrator

Adjunct Research Fellow, Flinders University

Guest Lecturer University of Sydney and Flinders University

DIRECTOR

JILLIAN COMBER

ASSOCIATE DIRECTOR, SYSTEMS

DAVID NUTLEY

ASSOCIATE DIRECTOR, PROJECTS

TORY STENING

Skills:

- Historical & Aboriginal Archaeology
- Cultural Heritage Management
- Heritage Advisor
- Alternative Dispute Resolution
- Grade 1 Arbitrator
- Graded Mediator
- Expert advice

Affiliations:

- Australian Association of Consulting Archaeologists, Full Member
- Australian Archaeological Association
- Australasian Society of Historical Archaeology
- International Council on Monuments and Sites, Full Member
- Australasian Institute of Maritime Archaeology
- Institute of Arbitrators & Mediators Australia
- NSW Justices Association

Relevant Expertise:

- Aboriginal and non-Aboriginal site and place management including an understanding of relevant legislation
- Implementation of Heritage Council procedures outlined in the *Heritage Manual*
- Facilitation of OEH's *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*.
- Implementation of OEH's *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* and *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW*.
- Heritage Conservation advice.
- Provision of Aboriginal and non-Aboriginal Heritage Management advice for planning and conservation documents.
- Site survey and excavation including background research and AHIMS searches.
- Impact assessment and mitigation.
- Significance assessment & provision of management recommendations.
- Site inductions and site management.
- Land Management Mediation and Arbitration
- Native Title Mediation.
- Provision of expert advice.
- Expert Witness.
- Preparation and delivery of cultural heritage education.

Qualifications:

- B.A (Archaeology/Anthropology)
- Litt.B (Aboriginal & Historical Archaeology)
- PhD Candidate, Sydney University
- Practitioners Certificate in Mediation and Conciliation
- Professional Certificate in Arbitration

Summary

Jillian Comber, the Director of Comber Consultants has over 25 years experience in Aboriginal and non-Aboriginal archaeology and cultural heritage management. She is experienced at survey, assessment, monitoring, testing and excavation. She has extensive skills in significance assessment and report writing and can provide the cultural heritage component for conservation management plans, REF's and other planning documents. She has a sound understanding of NSW's planning legislation, policies and procedures.

Jillian has a particular expertise in cultural landscape and open area management. As the Director of the Parramatta Park Trust for five years, Jillian led a team of natural and cultural heritage specialists in the management and conservation of Parramatta Park. Parramatta Park is of national significance and has been inscribed on the World Heritage List. In this role Jillian had full delegated powers from the Heritage Council of NSW.

In addition, Jillian has extensive experience in the management of historical archaeological sites and places. She can provide advice on appropriate management strategies all formulated within best practice management and in accordance with Heritage Council requirements. Jillian undertakes assessments, monitoring and excavation of a broad range of historical archaeological site types and has held s140 and s60 permits from the NSW Heritage Council, including those listed below. To obtain permits she prepares the research design and permit application and liaises with the Heritage Branch. Her detailed Curriculum Vitae has previously been submitted to the New South Wales Heritage Branch, Department of Planning and is held on their files. Following is an example of permits from the Heritage Council held by Jillian:



Delegated Powers

Delegated powers from the Heritage Council to Jillian Comber in her role as Director of the State heritage listed and World Heritage inscribed Parramatta Park. In this role Jillian supervised conservation works and archaeological monitoring and excavation at the Dairy Precinct, the second oldest extant building in Australia; at the Macquarie Street Gatehouse and other ongoing projects related to landscaping and park maintenance.

s60 permits (Sites listed on the State Heritage Register)

- Permit to undertake archaeological monitoring at Kenmore Hospital site (current) on behalf of Goulburn-Mulwaree Council.
- Permit to undertake archaeological monitoring and excavation at Googong (current) on behalf of CIC Australia
- Monitoring, excavation and conservation of *Puckeys Saltworks* for Wollongong City Council.
- Permit to undertake archaeological excavations at Newtown Railway Station, on behalf of RailCorp.
- Permit to undertake archaeological monitoring at the Marsden Street Weir and Parramatta Park Weir on behalf of Parramatta City Council .
- Permit to undertake archaeological monitoring and excavation at Mulawa Women's Correctional Facility on behalf of the Department of Commerce.
- Permit to undertake archaeological excavation at Belmore Basin, Wollongong.

s140 permits

- Permit to undertake archaeological monitoring and testing at Belmore Basin for Wollongong City Council.
- Permit to undertake archaeological monitoring at the Captain Cook Hotel, Botany Bay on behalf of Gale Street Pty Limited.
- Permit to undertake archaeological monitoring at Leura Mall.

Jillian can provide advice on which permit is required and whether an Exception would be more suitable.

All of the above projects have been undertaken according to best practice management and in consideration of critical path delivery.

Tenures:

Jillian has held or continues to hold the following tenures:

- Member, Waverley City Council's Heritage Review Panel.
- Part-time Lecturer Sydney University and Flinders University in Aboriginal Cultural Heritage Management
- Former Heritage Advisor to Bourke, Cobar, Parkes, Lachlan and Cowra Shire Councils and Wollongong City Council.
- Past member of Marrickville City Council's Heritage Promotions Committee.
- Previous Lecturer in Aboriginal Cultural Heritage Management at Canberra University.
- Member of the Heritage Office's Experts Workshop in respect of the review of the *Heritage Act 1977*

Previous Positions:

Jillian has held the following positions

- 1997-2001: Director, Parramatta Park Trust, NSW
- 1994-1997: Regional Manager, Cultural Heritage, Department of Environment & Heritage, Far North Queensland.
- 1992-1994: Cultural Heritage Coordinator, NSW National Parks & Wildlife Service
- 1988-1993: Consultant Archaeologist, NSW

Integrated Management System

Comber Consultants has a certified integrated management system to the requirements of ISO 9001:2008 (quality), ISO 14001:2004 (environmental), OHSAS 18001:2007 (health and safety) and AS/NZS 4801:2001 (health and safety). This is your assurance that Comber Consultants is committed to excellence, quality and best practice and are regularly subjected to rigorous, independent assessments to ensure that we comply with stringent Management System Standard/s.



In all projects, Jillian is supported by the dedicated Comber Consultants team of archaeologists, anthropologists, historian, specialist photographer and administration staff to ensure best practice heritage management. The Comber Consultants team is committed to providing outstanding customer service and is able to work within tight timeframes and budget commitments.



Tory Stening, BA, MA, JP
Associate Director, Projects
Senior Archaeologist

Skills:

- > Aboriginal and non-Aboriginal Archaeology
- > Cultural Heritage Management
- > Aboriginal Community Consultation

Relevant Expertise:

- > Historical archaeological survey, assessment, monitoring and excavation.
- > Identification of impacts and provision of mitigation strategies in respect of historical archaeological sites and places.
- > Implementation of historical archaeological procedures and strategies in accordance with best practice management and the NSW Heritage Manual.
- > Aboriginal place management including an understanding of relevant legislation.
- > Aboriginal community consultation.
- > Facilitation of OEH's *Aboriginal Consultation Requirements for Proponents 2010*.
- > Preparation of reports in accordance with OEH's *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW and Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW*.
- > Aboriginal site survey and excavation including background research and AHIMS searches.
- > Documentation, mapping and predictive modelling.
- > Significance assessment & provision of management recommendations.
- > Site inductions and site management.
- > Delivery of Cultural Heritage Training.
- > Critical path delivery of projects;
- > Justice of the Peace for New South Wales since 2010;
- > Expertise in stone tool identification and analysis.

Qualifications:

- > Bachelor of Arts (Archaeology);
- > Master of Arts (Archaeology).

Affiliations:

- > Australian Archaeological Association (AAA);
- > Australasian Society of Historical Archaeology (ASHA);
- > International Council on Monuments and Sites, Full Member (M.ICOMOS);
- > Australasian Institute of Maritime Archaeology (AIMA);
- > World Archaeological Congress (WAC).

Sample of Relevant Projects:

- > Historical archaeological monitoring and excavation of Denmark Cottage, Ashfield for Blue Eagle Construction.
- > Historical archaeological excavations at Brighton Lawn Reserve, Belmore Basin, Wollongong for Wollongong City Council (State significance).
- > Historical archaeological excavations in respect of the "small miserable hut" at Belgenny Farm, Camden Park Estate, Camden for the Belgenny Farm Trust for Ted Higginbotham (State significance).
- > Historical archaeological excavations at the corner of Marsden and Macquarie Streets, Parramatta for Ted Higginbotham.
- > Identification and assessment of potential impacts on historic archaeology in respect of the Camden Zone Substation for Endeavour Energy.
- > Historical archaeological monitoring and excavation at Lawson Town Centre for Blue Mountains City Council.
- > Historical archaeological assessment for the upgrade of Kunama Dam, Tumut for Tumut Shire Council.
- > Historical archaeological assessment for the extension of St Mary's Church, North Sydney for David Scobie Architects.
- > Historical archaeological monitoring and archival recording of the Marsden Street Weir for Parramatta City Council (State significance).



Tory Stening, the Associate Director, Projects, of Comber Consultants has over 7 years experience in both Aboriginal and non-Aboriginal archaeology and cultural heritage management. She is experienced in both Aboriginal and non-Aboriginal archaeological survey, assessment, excavation and recording.

Tory has experience in supervising and undertaking historic surveys, assessments, provision of management recommendations, testing and excavations. She is experienced in the cleaning and cataloguing of historical archaeological artefacts using Comber Consultants easily retrievable archaeological cataloguing program.

She has extensive skills in significance assessment and report writing and can provide the cultural heritage component for conservation management plans, REF's and other planning documents. She has a sound understanding of NSW's planning legislation, policies and procedures.

Tory has specialist knowledge and experience in the assessment and management of historic buildings. She has undertaken training in the Conservation of Traditional Buildings and works closely with property owners to ensure best practice conservation management. Tory prepares Statements of Heritage Impact and Conservation Management Plans.

Tory also has an expertise in Aboriginal stone tool analysis with a detailed understanding of the process of stone tool manufacture and is experienced in the cataloguing and analyses of Aboriginal stone tools. She has a Master of Arts (Archaeology) from the University of New England. Her Master's Thesis was an analyses of stone tools excavated at Cowra.

In all projects, Tory is supported by the dedicated Comber Consultants team of archaeologists, anthropologists, historian, specialist photographer and administration staff to ensure best practice heritage management. The Comber Consultants team is committed to providing outstanding customer service and is able to work within tight timeframes and budget commitments.

Comber Consultants has a certified integrated management system to the requirements of ISO 9001:2008 (quality), ISO 14001:2004 (environmental), OHSAS 18001:2007 (health and safety) and AS/NZS 4801:2001 (health and safety). This is your assurance that Comber Consultants is committed to excellence, quality and best practice and are regularly subjected to rigorous, independent assessments to ensure that we comply with stringent Management System Standard/s.



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