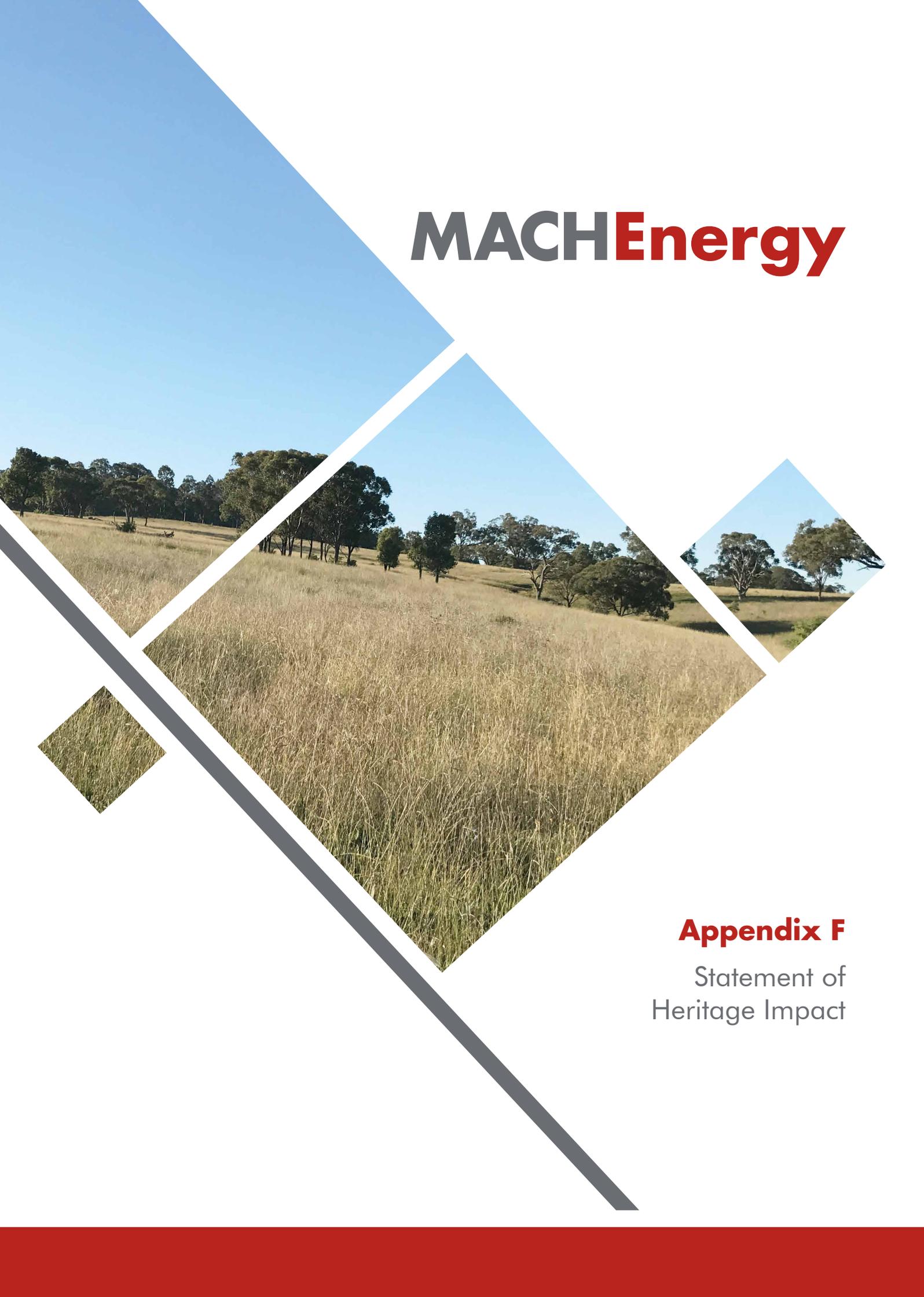


MACH**Energy**



Appendix F

Statement of
Heritage Impact

EXTENT

**HERITAGE ADVISORS
TO AUSTRALIA AND
THE ASIA PACIFIC**

Incorporating AHMS and Futurepast

Mount Pleasant Operation Rail Modification

Statement of Heritage Impact

Prepared for MACH Energy Australia Pty Ltd

19 December 2017

Built & Urban Heritage | Aboriginal Heritage | Archaeology | Interpretation | Intangible Cultural Heritage | World Heritage

EXTENT HERITAGE PTY LTD

ABN 24 608 666 306 ACN 608 666 306

info@extent.com.au

extent.com.au

SYDNEY

3/73 Union Street

Pyrmont

P 02 9555 4000

MELBOURNE

13/240 Sydney Road

Coburg

P 03 9388 0622

BRISBANE

Level 7, 757 Ann Street

Fortitude Valley

P 07 3667 8881

PERTH

312 Onslow Road

Shenton Park

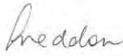
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Document Control Page

CLIENT: MACH Energy Australia Pty Ltd

PROJECT: Mount Pleasant Operation Rail Modification

EXTENT PTY LTD INTERNAL REVIEW/SIGN OFF				
WRITTEN BY	DATE	VERSION	REVIEWED	APPROVED
Matthew Harris	26/10/2017	DRAFT	Andrew Sneddon	26/10/2017
Matthew Harris	22/11/2017	DRAFT REV 1	Andrew Sneddon	
Matthew Harris	13/12/2017	DRAFT REV 2	Andrew Sneddon	13/12/2017
Matthew Harris/Andrew Sneddon	19/12/2017	FINAL	Andrew Sneddon	

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EXECUTIVE SUMMARY

EXTENT Heritage Pty Ltd has been engaged by MACH Energy Australia Pty Ltd to prepare a Statement of Heritage Impact for certain works that may impact non-Aboriginal cultural heritage places at Mount Pleasant, in the vicinity of Muswellbrook, New South Wales. The proposed works (known as 'the Rail Modification') involve the construction of new rail and coal loading infrastructure and associated facilities, and water infrastructure.

The Rail Modification would be located 2 kilometres (km) west of the town of Muswellbrook. The significant heritage homesteads of Edinglassie and Balmoral are located some 1 km to the south and south east of the proposed works respectively. They would not be impacted by the proposed works.

Five heritage places of local significance are located within and in proximity to the Rail Modification area. These are: Overdene Homestead, Overton Orchard, Overton Race Track, Bengalla Homestead, Blunts Butter Factory. In addition, two places of heritage interest are also located within or in proximity to the Rail Modification area, including the Overton Colliery and the previously recorded MP13.

Three of these would be impacted by the proposed works: Overton Orchard and Race Track (which formed part of the former Overdene Estate) and MP13. The rail line would remove the western third of Overton Orchard and Race Track. This impact would be partly mitigated by the retention of the remainder of the orchard and track and retention of the homestead itself, within a generous curtilage. If the Rail Modification proceeds, it would still be possible to gain an appreciation of the former layout of the estate and the ways in which it operated. The impact would also be mitigated by the photographic documentation of the sites prior to the work proceeding.

MP13 would be removed by the proposed works. A report prepared in 2014 indicated that this location might contain archaeological 'relics' as defined by the NSW *Heritage Act 1977*. The present Statement of Heritage Impact re-assesses this site as being not a heritage place and as having low potential to contain 'relics'.

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1 INTRODUCTION

1.1 Project Description

EXTENT Heritage Pty Ltd (Extent) has been engaged by MACH Energy Australia Pty Ltd (MACH Energy) to prepare a Statement of Heritage Impact (SOHI) for certain works that may impact non-Aboriginal cultural heritage places at the Mount Pleasant Operation (MPO), in the vicinity of Muswellbrook, New South Wales (NSW). The proposed works (known as ‘the Rail Modification’ [the Modification]) are described in detail in Section 3.1.

The Modification would primarily comprise:

- duplication of the approved rail spur, rail loop, conveyor and rail load-out facility and associated services;
- duplication of the Hunter River water supply pump station, water pipeline and associated electricity supply that currently follows the rail spur alignment; and
- demolition and removal of the redundant approved infrastructure within the extent of the Bengalla Mine, once the new rail, product loading and water supply infrastructure has been commissioned and is fully operational.

We understand that the Modification would not alter the number of approved train movements on the rail network.

This SOHI assesses the potential adverse heritage impacts for non-Aboriginal heritage places. It identifies historic heritage values affected by the proposed works, demonstrates measures taken to avoid/minimise/mitigate impacts, identifies conservation outcomes, and considers relevant government policies. It has regard to (among other documents): *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance* (Australia International Council on Monuments and Sites [Australia ICOMOS], 2013) (hereafter The Burra Charter), the *NSW Heritage Manual* (Department of Urban Affairs and Planning [DUAP], 1996), *Assessing Cultural Heritage Significance* (NSW Heritage Office, 2001), and *Assessing Significance for Historical Archaeological Sites and ‘Relics’* (Office of Environment and Heritage [OEH], 2009).

The proposed works would be located 2 kilometres (km) west of the town of Muswellbrook. The significant heritage homesteads of Edinglassie and Balmoral are located some 1 km to the south and south east of the proposed works, respectively. They would not be impacted by the Modification.

A number of other known and potential heritage places would be located in closer proximity to the proposed works, including Blunt’s Butter Factory and the Overdene Homestead. This SOHI focuses on those places that are in closer proximity to the proposed works (i.e. generally within 300 m).

Six places in the north of the MPO area (MP02, MP14, MP15, MP16, MP18 and MP19) were assessed in the *‘Mount Pleasant Historical Heritage Study’* conducted by Veritas Archaeology & History Service (VAHS) (2014). That report has been endorsed by the former NSW Department of Planning and Infrastructure. The VAHS report concluded that it would be appropriate to ‘demolish when required’ those places (2014). Therefore, they are not included in this SOHI.

The Modification would occur to the north and immediate east of the approved and operational Bengalla Mine and north of the approved and operational Mt Arthur Coal Mine. Other associated infrastructure would be placed north of Wybong Road, west of the Hunter River. The formerly quiet rural setting of the heritage places assessed in this report has been modified by mine activities over many years. Therefore, the Modification would result in additional disturbance within an already compromised rural landscape. This has been a relevant consideration in this SOHI’s assessment.

Matthew Harris (Heritage Advisor, Extent) conducted a site investigation of the study area in September 2017. This report also draws upon existing historical information contained within the *Muswellbrook Shire Wide Heritage Study* (EJE Group 1996), the *Muswellbrook Shire Council Local Environmental Plan* (LEP) 2009, *'Hunter Estates: A Comparative Heritage Study of pre-1850s Homestead Complexes in the Hunter Region'* produced by the OEH (2013), and the *'Mount Pleasant Historical Heritage Study'* conducted by VAHS (2014).

1.2 Approach and Methodology

This report comprises two sections – one being an assessment of the heritage significance of non-Aboriginal heritage places within the Modification area, and the second being a SOHI for each place having regard to the proposed works. The SOHI reviews the relevant statutory heritage controls, assesses the impact of the proposal on the identified heritage places, and makes recommendations for actions in mitigation of identified adverse heritage impacts.

1.2.1 Heritage Significance Assessment

Places of interest potentially impacted by the proposed development were assessed against the heritage assessment criteria contained within the NSW guideline document entitled *Assessing Heritage Significance* (NSW Heritage Office, 2001). Specifically, places were assessed against the following criteria (which are a reflection of the more broadly expressed criteria in Article 1.2 of The Burra Charter):

<p>Criterion (a)</p> <p>An item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area);</p>	<p>Criterion (e)</p> <p>An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area);</p>
<p>Criterion (b)</p> <p>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 cultural or natural history of the local area);</p>	<p>Criterion (f)</p> <p>An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area);</p>
<p>Criterion (c)</p> <p>An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area);</p>	<p>Criterion (g)</p> <p>An item is important in demonstrating the principal characteristics of a class of NSW's</p> <ul style="list-style-type: none"> • cultural or natural places; or • cultural or natural environments. <p>(or a class of the local area's</p> <ul style="list-style-type: none"> • cultural or natural places; or • cultural or natural environments.)
<p>Criterion (d)</p> <p>An item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons;</p>	

No direct community consultation was carried out in the preparation of this report. However, comment is sometimes made on the potential 'social significance' (criterion [d]) of places, having regard to community views expressed in publicly accessible published material.

A search was made of all relevant statutory heritage registers for previously identified heritage places that may be impacted by the Modification. Desktop historical research also informs our heritage assessments.

The former Australian Heritage Commission compiled a number of Australian historical themes to guide practitioners in the assessment of historic heritage places (*'A framework for use in heritage assessment and management'*, 2001). In making the assessments in this report, particular regard was had to:

- Theme 2: Peopling Australia, including the subthemes of 'Migrating' and 'Promoting settlement';
- Theme 3: Developing local, regional and national economies, including the subthemes of 'Developing primary production', 'Struggling with remoteness, hardship and failure';
- Theme 4: Building settlements, towns and cities, including the subthemes of 'Planning urban settlements', 'Supplying urban services', 'Making settlements to serve rural Australia';
- Theme 5: Working, including the subthemes of 'Working on the land'; and
- Theme 8: Developing Australia's cultural life, including the subtheme of 'Living in the country and rural settlements'.

In making the assessments, regard was also made to the related historical themes produced by the NSW Heritage Council (*'New South Wales Historical Themes'*, 2001) which includes themes concerning 'migration', 'agriculture', 'pastoralism', 'towns, suburbs and villages', 'land tenure', 'accommodation' and 'domestic life'.

The heritage assessments in this SOHI distinguish between places of State and local significance. Any places that failed to meet the criteria for either State or local significance were assessed in this report as being 'not a heritage place'. The guideline document *'Assessing Heritage Significance'* (NSW Heritage Office, 2001) states:

- State significance means significance to the people of NSW.
- Local significance means significance within the local government area.

This reflects section 4A of the NSW *Heritage Act 1977* which states that 'State heritage 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.

It then states that 'local heritage 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.

Some of the structures assessed in this report were in a poor state of repair. A Practice Note prepared as an adjunct to The Burra Charter by Australia ICOMOS (*Understanding and assessing cultural significance*) states:

The physical condition of a place does not generally influence its significance, but will often be a factor in determining policy for the place. Guidance: A place may be in ruinous condition, yet still be significant if its values can be clearly understood. In this case the condition does not influence significance, but will have a bearing on the development of policy for the place.

The assessments in this report also appreciate that the fabric of a heritage place may be only part of its significance. Article 1.2 of The Burra Charter states:

Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects.

Conservation of the heritage values embodied in some of the places discussed in this report is dependent on an understanding, assessment of, and response to the 'setting'. A Practice Note prepared as an adjunct to The Burra Charter, entitled *Understanding and assessing cultural significance* states:

'Place' in the Burra Charter has a broad meaning, and includes its elements, objects, spaces and views. Place may have tangible and intangible aspects. Guidance: A place should be considered in its wider physical, social or spiritual context. It should not be assessed in isolation. A group of individual places with shared histories, common social associations, or complementary aesthetic characteristics may form a larger 'place' or a serial place. Care is needed in defining the extent of the place and the tangible and intangible elements of the place. Its setting may include views to and from the place, its cultural context and relationships, and links between this place and other places.

These principles are reflected in the NSW government guideline entitled *NSW Heritage Manual* (DUAP, 1996). In particular, the above principles have guided the assessment of the potential impacts to the rural residences identified in this report.

Archaeological 'relics' are protected by the NSW *Heritage Act 1977*. Section 4 of the NSW *Heritage Act 1977* defines a 'relic' as:

...any deposit, artefact, object or material evidence that:

(a) relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and

(b) is of State or local heritage significance.

Section 4A of the NSW *Heritage Act 1977* states that 'local heritage 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.

In addition to these considerations (above), where the potential archaeological resource has been assessed in this report, regard has been given to the following three fundamental questions:

- Might the site yield data that cannot be obtained from any other source?
- Might the site yield data that cannot be obtained from any other site?
- Might the site yield data that would contribute to addressing substantive research questions?

The intactness of the potential archaeological site, having regard to levels of disturbance, was also central to assessments of archaeological significance in this report, on the grounds that disturbed sites generally have lower potential to yield meaningful data than intact sites.

1.2.2 Statement of Heritage Impact

This SOHI applies the principles presented in the NSW government guideline entitled *Statements of Heritage Impact* (NSW Heritage Office, 2002). Where the Modification would have a direct and physical impact on a heritage place, this report will address the following questions provided from the guideline:

- Have all options for retention and adaptive re-use been explored?
- Can all of the significant elements of the heritage item be kept and any new development be located elsewhere on the site?
- Is demolition essential at this time or can it be postponed in case future circumstances make its retention and conservation more feasible?
- Has the advice of a heritage consultant been sought? Have the consultant's recommendations been implemented? If not, why not?

In other cases this report considers the following questions provided in that document in relation to 'new development adjacent to a heritage item':

- How is the impact of the new development on the heritage significance of the item or area to be minimised?
- Why is the new development required to be adjacent to a heritage item?
- How does the curtilage allowed around the heritage item contribute to the retention of its heritage significance?
- How does the new development affect views to, and from, the heritage item? What has been done to minimise negative effects?
- Is the development sited on any known, or potentially significant archaeological deposits? If so, have alternative sites been considered? Why were they rejected?
- Is the new development sympathetic to the heritage item? In what way (e.g. form, siting, proportions, design)?
- Will the additions visually dominate the heritage item? How has this been minimised?
- Will the public, and users of the item, still be able to view and appreciate its significance?

1.3 Limitations

The study area was inspected by Matthew Harris of Extent. The inspection was restricted to the exterior of known and potential heritage places. It did not include a comprehensive assessment of the physical condition of structures assessed by this SOHI. The remaining extant VAHS site (i.e. MP13) to the north of the Modification area was not accessible in September of 2017, and the assessment of this site is based on the information presented in VAHS (2014) and desktop research.

This SOHI includes an assessment of the potential historical archaeological resource. During Mr Harris' field work he traversed the study area on foot and by four-wheel drive, remaining alert to visible evidence of potential sub-surface archaeological material. This survey comprised only a sample of the study area. In places, long grass reduced visibility.

This SOHI relies on the historical research undertaken for the reports described in Section 1.4 below.

1.4 Authorship

This report was prepared by:

- Matthew Harris – principal author (Heritage Advisor).
- Dr Andrew Sneddon – co-author and QA review (Associate Director).

This report relies on the historical research contained in the following documents, occasionally supplemented with additional research:

- *Muswellbrook Shire-Wide Heritage Study: Final Report* (EJE Group, 1996).
- Muswellbrook LEP (2009).
- *Hunter Estates: A Comparative Heritage Study of pre 1850s Homestead Complexes in the Hunter Region* (OEH, 2013).
- *Mount Pleasant Historic Heritage Study* (VAHS, 2014).
- *Bengalla Mine Historic Heritage Management Plan* (AECOM, 2015).

The above reports and documents include detailed histories of heritage places within or directly adjacent to the Modification Area. This report reproduces or draws upon the historical research conducted as part of the above reports, with additional research supplementing it where necessary.

1.5 Terminology

The terminology in this report follows definitions presented in The Burra Charter. Article 1 provides the following definitions:

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

Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations.

Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects.

Places may have a range of values for different individuals or groups.

Fabric means all the physical material of the place including components, fixtures, contents, and objects.

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

Maintenance means the continuous protective care of the *fabric* and *setting* of a *place*, and is to be distinguished from repair. Repair involves restoration or reconstruction.

Preservation means maintaining the *fabric* of a *place* in its existing state and retarding deterioration.

Restoration means returning the existing *fabric* of a *place* to a known earlier state by removing accretions or by reassembling existing components without the introduction of new material.

Reconstruction means returning the *place* to a known earlier state and is distinguished from *restoration* by the introduction of new material into the *fabric*.

Adaptation means modifying a *place* to suit the existing use or a proposed use.

Use means the functions of a place, as well as the activities and practices that may occur at the place.

Compatible use means a use that respects the *cultural significance* of a *place*. Such a use involves no, or minimal, impact on cultural significance.

Setting means the area around a *place*, which may include the visual catchment.

Related place means a place that contributes to the *cultural significance* of another place.

2 STATUTORY CONTROLS

2.1 Environmental Planning and Assessment Act 1979

The NSW *Environmental Planning and Assessment Act 1979* allows for the preparation of planning instruments to direct development within NSW. This includes Regional Environmental Plans and LEPs which are administered by local government and determine land use and the process for development applications. The Muswellbrook LEP includes provisions relating to the conservation of heritage places, including a schedule of heritage places in the shire that are of local significance. Some places that may be impacted by the Modification are included in the Muswellbrook LEP local heritage register. The NSW *Environmental Planning and Assessment Act 1979* also establishes the broad frameworks for environmental assessment that underpin this SOHI.

2.2 Heritage Act 1977

Section 3 of the NSW *Heritage Act 1977* states (among other things) that it is an object of the NSW *Heritage Act 1977* to promote an understanding of the State's heritage and to encourage its conservation. The NSW *Heritage Act 1977* establishes the NSW Heritage Council and the NSW State Heritage Register (SHR) as important mechanisms for achieving these objectives. Although the NSW *Heritage Act 1977* applies to certain aspects of local heritage (e.g. the Minister may make an interim heritage order in relation to places of local significance), it principally applies to conserve places of State significance, especially through inclusion on the SHR.

None of the properties assessed in this report are listed on the SHR.

The NSW *Heritage Act 1977* also defines and protects archaeological 'relics' (Section 1.2.1). Under the NSW *Heritage Act 1977* Act it is illegal to disturb or excavate any land knowing or having reasonable cause to suspect that the disturbance or excavation will disturb or destroy 'relics' (section 139). Where ground disturbance may impact a 'relic' the proponent of the activity must seek an excavation permit pursuant to section 140 of the NSW *Heritage Act 1977*. No formal listing for relics is required, and they are protected if they are deemed to be of local significance or higher.

The Modification will not impact any 'relics', provided the recommendations contained in this SOHI are observed. However, they are proposed to be located in the vicinity of some known and potential 'relics' which are described in this SOHI.

2.3 Muswellbrook Local Environmental Plan 2009

The Muswellbrook LEP controls development in relation to heritage items within the Muswellbrook Local Government Area. Clause 5.10.1 outlines the aims of the Muswellbrook Shire Council in relation to heritage items, these being:

- (a) to conserve the environmental heritage of Muswellbrook,
- (b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,
- (c) to conserve archaeological sites,
- (d) to conserve Aboriginal objects and Aboriginal places of heritage significance.

Muswellbrook Shire Council requires that a SOHI accompany a Development Application that has the potential to disturb archaeological sites or heritage items or developments that are within a heritage conservation area.

3 PROPOSED WORKS

3.1 Approved Mount Pleasant Operation

MACH Energy requires an Environmental Assessment in relation to the Rail Modification to the approved MPO under section 75W of the NSW *Environmental Planning and Assessment Act 1979*. The MPO Development Consent DA 92/97 was granted on 22 December 1999. The MPO was also approved under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* in 2012 (EPBC 2011/5795).

MACH Energy acquired the MPO from Coal & Allied Operations Pty Ltd on 4 August 2016. MACH Energy commenced construction activities at the MPO in November 2016, in accordance with Development Consent DA 92/97 and EPBC 2011/5795.

The approved MPO includes the construction and operation of an open cut coal mine and associated rail spur and product coal loading infrastructure. The mine is approved to produce up to 10.5 million tonnes per annum of run-of-mine coal. Up to approximately nine trains per day of thermal coal product from the MPO will be transported by rail to the port of Newcastle for export or to domestic customers for use in electricity generation.

3.2 Proposed Works

The ultimate extent of the approved Bengalla Mine open cut intersects the approved MPO rail spur. While the intersection of the Bengalla Mine open cut with the approved MPO rail infrastructure is still some years away, MACH Energy is proposing the Modification to obtain approval for future rail and/or conveyor product transport facilities to manage this future interaction.

The Modification would primarily comprise:

- duplication of the approved rail spur, rail loop, conveyor and rail load-out facility and associated services;
- duplication of the Hunter River water supply pump station, water pipeline and associated electricity supply that currently follows the rail spur alignment; and
- demolition and removal of the redundant approved infrastructure within the extent of the Bengalla Mine, once the new rail, product loading and water supply infrastructure has been commissioned and is fully operational.

We understand that the Modification would not alter the number of approved train movements on the rail network.

Relevant infrastructure, the key components of the Modification, and known and potential heritage places within (and in the vicinity of) the Modification Area are depicted in Figure 1.

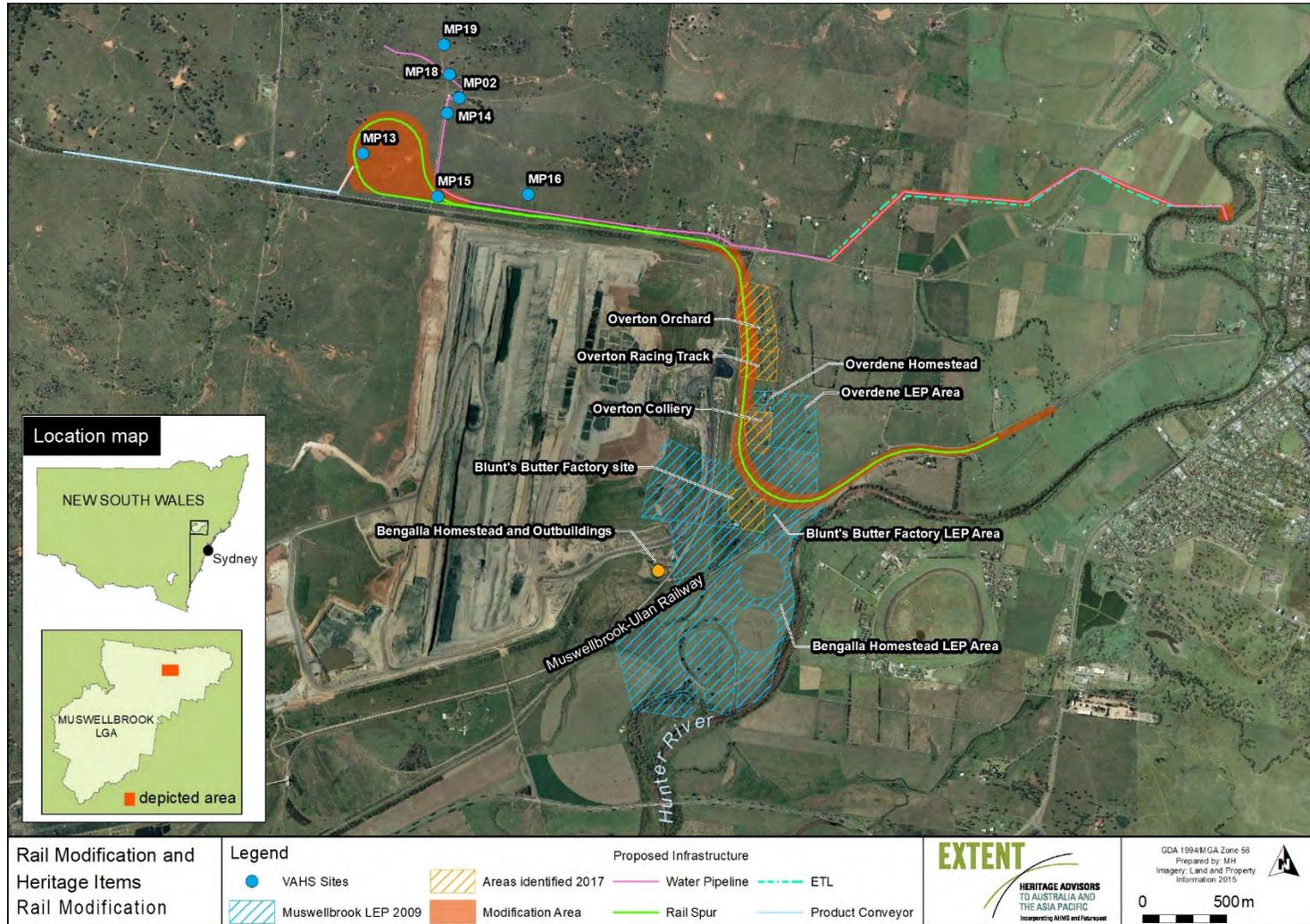


Figure 1 Overview of the study area including known and potential heritage items within it, or in its immediate vicinity. The blue hatched areas represent whole-of-property listings for Blunts Butter Factory, Overdene and Bengalla Homesteads on the Muswellbrook LEP. These are large areas, and the proposed rail infrastructure will pass through parts of them. This SOHI concludes that the heritage values of the butter factory and Bengalla and Overdene homesteads are embodied by discrete locations within these broader listing areas. MP02, MP14-16 and MP18-19 have been previously assessed as part of an existing project approval as not warranting in situ retention.

4 PHYSICAL DESCRIPTION – HERITAGE PLACES

4.1 Heritage Places

There are a number of known and potential heritage places within, and in the immediate vicinity of, the Modification Area. Table 1 lists those places, and provides their listing status on a number of statutory or non-statutory registers, and a reference to the section in this SOHI that discusses them. They are also illustrated in Figure 1.

Table 1 Heritage Places Within or in the Vicinity of the Modification Area

Item	Site Information			Report Section	
	Proximity to Modification Area	Item Type	Listing	Significance Assessment	SOHI
Overdene Homestead	Within	Homestead Complex	LEP	8.1	Section 10.1
Overton Orchard and Race Track (M403)	Within	Agricultural complex	Partially within Overdene LEP curtilage	8.2	Section 10.2
Work building (M404)	Within	Industrial building	None	8.3	Section 10.7
Blunt's Butter Factory	Within	Industrial Complex	LEP	8.4	Section 10.3
Overton Colliery	Proximity	Industrial Complex	Within Overdene LEP curtilage	8.5	Section 10.4
Bengalla Homestead	Proximity	Homestead Complex	LEP	8.6	Section 10.5
MP13	Within	House, dairy, piggery	None	8.7	Section 10.6

NOTE: LEP = Muswellbrook LEP

In addition to the places presented in Table 1, there are two sheds of indeterminate date to the southeast of Overton/Overdene, two areas of cuttings in the side of the slope east of Overton Orchard and Race Track, and a possible pump-house on the western bank of the Hunter River. These places are greater than 100 metres (m) from the proposed works and will not be impacted by them. They are included but are not treated in detail by this SOHI. Nevertheless, taking a cautious approach, this SOHI includes recommendations to protect them from inadvertent damage caused by the movement of plant or equipment through the Modification Area during construction (Section 11.1).

5 LISTINGS

5.1 Statutory and Non-Statutory Listings

Table 1 presents the places that are identified as heritage items on the *Muswellbrook Local Environmental Plan 2009* (local heritage register).

No places within the Modification Area are on the following statutory and non-statutory lists:

- The NSW SHR.
- The National Heritage List.
- The National Trust list of classified sites.
- The Australian Institute of Architects Register of Significant 20th Century Buildings.

6 HISTORIC CONTEXT

6.1 A Brief History of Muswellbrook

The following historic overview of Muswellbrook is taken from VAHS (2014: 35-37). Non-Aboriginal settlement of Muswellbrook dates to as early as 1824, when government surveyor Henry Dangar set aside 640 acres for a village that was to become Muswellbrook. Following Dangar's survey, large grants of land in the area were awarded to wealthy settlers in return for taking on convict labourers. This early period of Muswellbrook saw the establishment of a number of estates, including Edinglassie, Overton and Bengalla estates, among others. Wool was the dominant industry at the time, with small-scale agriculture also established by settlers in the region. With Muswellbrook situated close to the Hunter River, and linked to the port at Morpeth by the main track through the Liverpool plains, population continued to increase. By 1841, Muswellbrook had 215 residents, shops, several hotels and a flourmill.

The Crown Lands Acts of 1861, (also known as the Robertson Lands Acts after the NSW premier at the time, John Robertson) and the opening of a railway to Muswellbrook in 1869 saw rapid population increase. The farming of cattle and sheep, and breeding and rearing of horses were the major industries at the time. It was also at this period that Carl Brecht started to develop his 'Rosemount' vineyard. Several large homesteads were constructed as symbols of prosperity in the region, including a number that survive today. The end of the 19th century saw the rise of large-scale commercial dairying in Muswellbrook, with the first creameries opening in the 1890's. The Closer Settlement Acts of the early 20th century saw another increase in population and the subdivision of many large estates in Muswellbrook.

The opening the first large-scale open cut coal mine in 1944 significantly altered the town, bringing a new, dominant industry, an increase in population, and new developments. The second half of the 20th century saw major increases in population at Muswellbrook. In 1947, the town's population was recorded at 3939 – by 2016, the population had increased threefold to 12,075.

6.2 Heritage Places Within the Modification Area and Adjacent to the Proposed Works

The following sections provide a brief historic overview of the heritage places that are within the vicinity of or immediately adjacent to the proposed development, providing a basis for the significance assessments that follow. The places discussed in Sections 6.2.1 to 6.2.4 are discussed separately, but they were originally all part of the large Overton Estate owned by Thomas Blunt.

6.2.1 Overdene/Overton Estate, Overton Orchard and Race Track

In 2015, AECOM and Hansen Bailey completed a conservation management plan (CMP) for Overdene Homestead which included a historic overview of the site, which was adapted from Turner (1996). The historical overview of Overdene/Overton presented in this report is adapted from the AECOM and Hansen Bailey (2015:14-19) CMP, supplemented with additional historical research.

The land for Overton/Overdene forms part of 2560 acres of rich riverfront land originally granted to Captain Francis Allman (1780-1860). Allman founded Overton, then known as Kelso Place, in 1825. Allman was not successful in the Hunter Valley, and in 1833 the majority of his grant at Overton was sold to John Kerr McDougall. Allman retained 640 acres of the original land, leading to two properties named Overton existing side by side until Allman's Overton was subsumed into the neighbouring Bengalla estate.

The McDougall family were early free immigrants to NSW, and owned land in a variety of locations in the Hunter Valley. From his residence at Parramatta, J.K. McDougall managed Overton from 1833, but his son, John McDougall took up residence at the property some time in the 1830's. The 1841 census shows McDougall as the owner of a sheep station of 2560 acres with 13 residents, including seven convicts on assignment. Richard C. Dangar, (brother of Henry Dangar, the government surveyor that set aside the original land for Muswellbrook) and John Tuckey also lived at Overton during this time. As this period predates the construction of the sandstone cottage known as Overdene, the McDougall, Dangar and Tuckey families all lived in timber houses at unknown locations on the property, none of which remain. The McDougall tenure ended in 1858, when Overton was sold to Henry Nowland.

Henry Nowland is a significant figure in the history of the Hunter Valley. Nowland owned a great deal of land around Singleton and New England, and he was, according to a family member, 'at one time the largest landholder and employer of labour' in the Upper Hunter. Nowland was a leading citizen, owner of many properties around Muswellbrook, including Overton, Collatoota and properties in town, and supported various charities and causes in Muswellbrook until his death in 1863.

Following his death, the Nowland family retained Overton for another decade, and it was during this time that the sandstone cottage that remains on the property was erected by Mrs Nowland. A fire was reported at the property¹ in 1869, apparently only leaving the stone walls standing. The date at which the residence was repaired is unclear, though it is very likely that repair occurred almost immediately as the cottage was used as a manager's residence once the property was sold to Thomas Blunt in 1873.

Blunt initially focussed on breeding draught horses at Overton, and by 1885 between Overton and a much smaller property known as Brogheda he owned 75 horses, 112 cattle and 2711 sheep. To obtain feed for his stock, Blunt began what would become one of the prominent features of Overton – the irrigation of Lucerne crops.

Blunt began irrigating the property using a windmill, and later installed a steam engine, at least by 1895. The engine was powerful enough to pump 1700 gallons of water from the Hunter River and helped to produce an irrigated crop of Lucerne averaging 2.5 to 3 tons per acre, a very high output at that time. By this time, the estate also carried 8,500 sheep and had a shearing shed that was demolished in 1991. At some time during the Blunt tenure, a coal mine was opened on the property to provide fuel for the estate (see Section 6.2.4).

Eight years later, in 1903, either Thomas Blunt, or his son, opened a small creamery and butter factory on the property. Blunt's butter factory is discussed in detail in Section 6.2.3. A piggery and dairy was established on the property around the same time, and by 1905 Blunt was milking 600-700 cows daily on the property². In order to find the best cattle for his herd, Blunt employed a buyer to 'travel the country to pick up small lots of heifers where he could'³. By 1910 Overton had six dairies, each milking about 80 cows, and was averaging the sale of 80 pigs per month after fattening on the estate.

Subdivision of Overton as part of the Australian Government's early 20th century policy of Closer Settlement led to the dismantling of Overton after subdivision in 1912. The riverfront sections of the estate were divided into 10 to 200 acre lots, with only the section containing the butter factory, cottage and steam engine remaining with the Blunt family. The house now called Overton was likely built following subdivision. The remainder of the 20th century saw Overton (now known as Overdene) sold to the Scholes family, the Moore family, and then to the Tibbeys. Occupation of the sandstone cottage

¹ *Matiland Mercury*, 30 January 1869 (p6a).

² *Australasian*, 18 March 1905 (p6[3]).

³ *Ibid.*

continued until 1972, when the Tibbey family constructed and moved into the brick residence adjacent to Overdene. Owen and Lee Carter purchased Overdene in 1985, but did not re-occupy Overdene.

The most prominent period for the estate was during Blunt's tenure. Overton estate was seen as an example of the rich agricultural potential of the Upper Hunter in the late 19th and early 20th century⁴. By 1910, the estate featured the sandstone homestead that remains, several dairies, a piggery, a coal mine, an orchard (referred to in this report as site M403), grape vines, a creamery and a butter factory^{5,6}. Overton also had several outbuildings including managers cottages, a woolshed, hay shed, stables, loose-boxes for stock, and yards. The orchard contained 300 fruit trees and 500 grape vines in 1905⁷. Sometime before 1910, Thomas Blunt erected a public school on the property 'attended by 30 children of the 120 or more employees and settlers on the estate'⁸. A private training ground and race course for Blunt to engage in recreational 'hobby-racing' of horses, which is still extant at the site (Section 7.1.3), was also erected sometime before 1910⁹. A map of the Overton Estate can be seen in Figure 2.

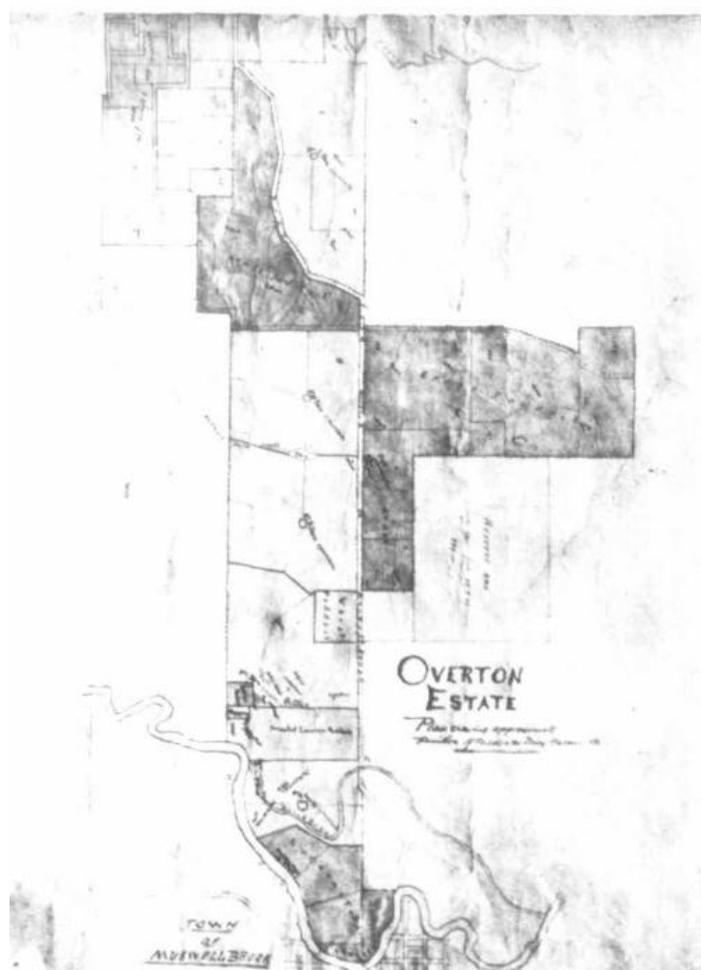


Figure 2 Map of Overton Estate in 1910 produced as part of an article in the Australasian (9 July 1910 [p30]). North is to the right.

⁴ *Australasian*, 18 March 1905 (p6).

⁵ *Scone Advocate*, 22 August, 1905 (p2).

⁶ *Maitland Daily Mercury*, 29 January 1902 (p5).

⁷ *Scone Advocate*, 22 August, 1905 (p2).

⁸ *Muswellbrook Chronicle*, 15 June 1910 (p2).

⁹ *Ibid.*

Overton was also notable at the time for the success of the irrigation systems that Blunt had constructed. Blunt had several pumping stations and irrigated 250 acres¹⁰, producing remarkable quantities of Lucerne for the time (Figure 3). This system of irrigation and use of the elevated position of the property was also exploited in the working of the butter factory, discussed in Section 6.2.3.

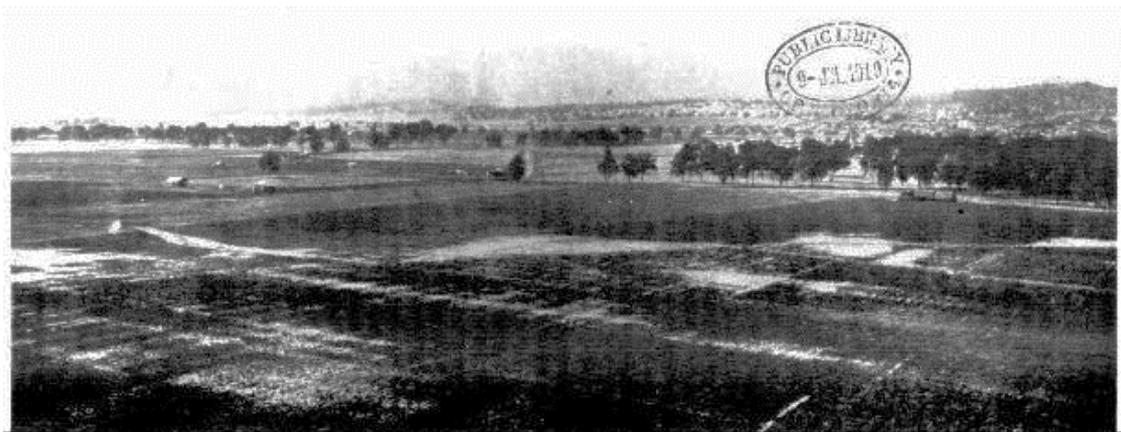


Figure 3 Image from an article on Overton in the Australasian (9 July 1910 [p30]). The caption reads: “Irrigated Lucerne Paddocks with the Town of Muswellbrook in the Background”. Photo appears to have been taken from the ridge where Overdene homestead stands today.

For all of these achievements and improvements to Overton, little remains at the property today. To the north of Overdene homestead, sections of the orchard are still extant, as is the hobby-racing track. Overdene homestead remains, and is currently boarded up and fenced off to inhibit further dilapidation. The butter factory, piggery and associated pipes, troughs and dams survive as ruins (Section 6.2.3). None of the original outbuildings remain, and it is difficult to discern the original layout of the estate from the evidence that remains at the site. Systematic subdivision and neglect have made it difficult to interpret the original layout or relationship between the homestead, its outbuildings (none of which survive), the colliery and the butter factory. The modern buildings that surround Overdene homestead today were all erected after the subdivision sale in 1959 (VAHS, 2014:652). However, some foundations of buildings in the orchard and evidence of irrigation were located to the north of the homestead (Section 7.1.2).

6.2.2 M404

The history of this structure was not able to be determined. However, the concrete slab, metal columns and piece of sparrow-pecked sandstone indicate an early 20th century construction. It is possible that this building was erected by Blunt or a later owner of Overton, though its function is unknown.

6.2.3 Blunt’s Butter Factory

Thomas Blunt opened a butter factory at Overton in 1903 to supplement the successful dairy that was running on the property. In 1910 it was the largest butter factory in the state, and one of the most modern. The interior of the factory was finished in white Minton tiles and concrete floors that gave it a ‘bright and cleanly aspect’¹¹.

The butter factory was part of a larger complex that included vats for milk prior to separation, a series of pipes for distributing milk and cream, and paddocks and yards for fattening calves and pigs. These

¹⁰ *Australasian*, 18 March 1905 (p6).

¹¹ *Muswellbrook Chronicle*, 15 June 1910 (p2[3])

yards were downslope from the butter factory, which occupies a high point on the ridge above the flood plain.

Milk carts would back onto a platform on the hillside and discharge their load into a large vat, which would gravity-feed to the separators. The carts were of a design that seems to have been an innovation of Blunt's, that used a large zinc-lined tank instead of the more common milk cans. This facilitated less handling of individual milk cans, and faster cleaning of the tank. The butter factory included a steam pipe that would clean the tanks and fill them with hot water after milk had been unloaded¹².

After separating the milk at the top of the hill, the skimmed milk was fed into troughs for the calves, and then any remaining milk was transported down to the base of the hill for use in the piggery (Figure 4). Once the milk had been distributed, hot water was sent through the pipes to clean the pipes and troughs. Finally, cold water was pumped through to provide water for the stock.

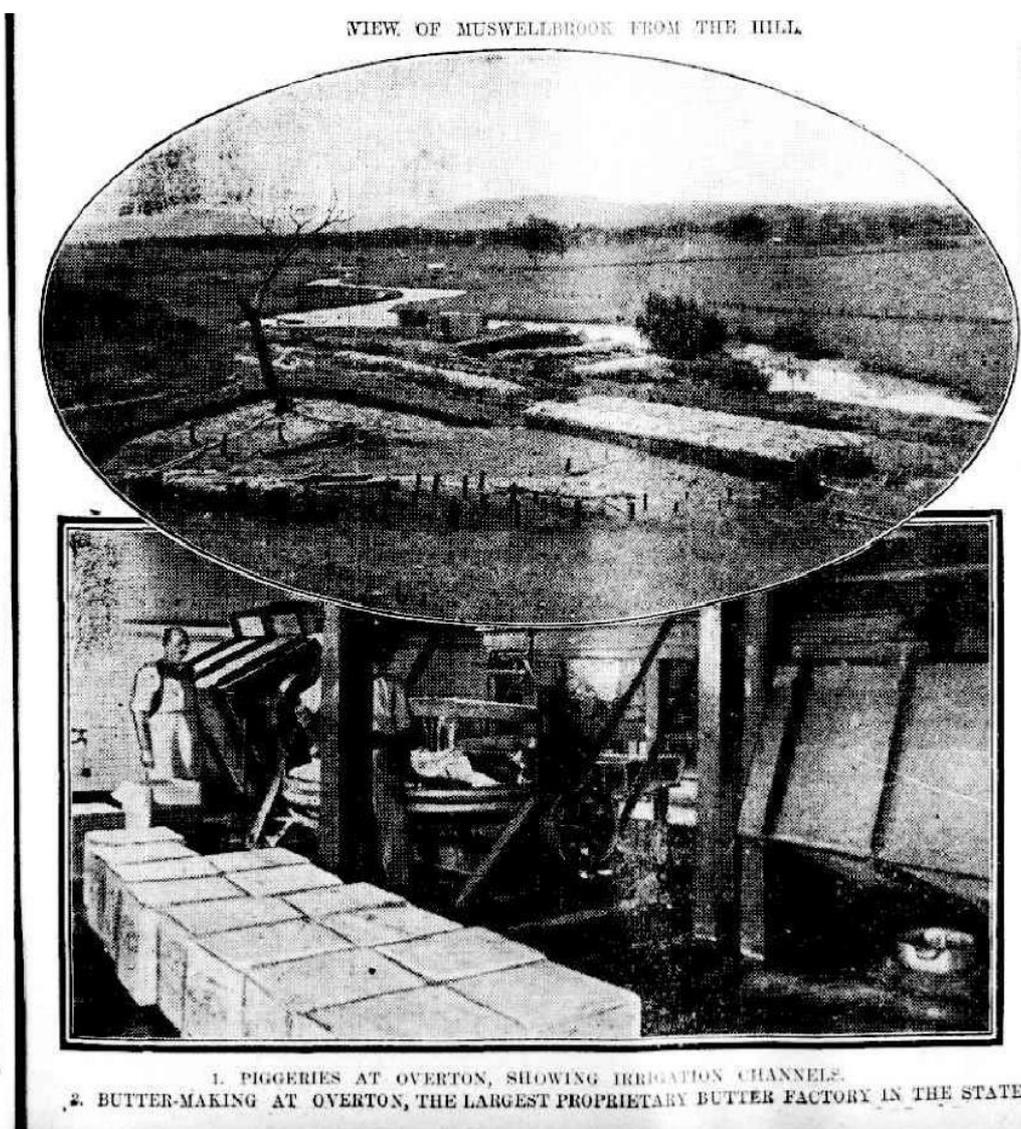


Figure 4 Image from an article on Overton in *The Daily Telegraph* (5 October 1910 [p11]). The caption reads: “1. [top image] Piggeries at Overton, showing irrigation channels. 2 [bottom image] Butter-making at Overton, the largest proprietary butter factory in the state”. Top image taken looking east at the bottom of the slope below Blunt’s butter factory.

¹² *Australasian*, 18 March 1905 (p6).

This system was seen as an innovative labour-saving setup, and Blunt's Butter Factory produced as much as 30 tons of butter per week by one estimate¹³, and serviced up to 260 dairies in the region¹⁴. *The Muswellbrook Chronicle* reported that in 1910, there were 'five large and four small' vans and 35 horses that were employed to collect cream for the factory from as far away as Merriwa¹⁵. The butter was mostly exported, and in 1910 it was reported that Blunt was supplying butter to Manila, Philippines¹⁶. The rise of other co-operative dairies in the 1930s probably resulted in the closure of Blunt's Butter Factory, and the site seems to have been abandoned at that time. Today, the site of the butter factory contains half-buried concrete slabs and pockets of rubble left by the demolition of the original buildings. No walls survive. In places, broken piping and earthworks are visible.

6.2.4 Overton Colliery

The opening of the Muswellbrook to Merriwa Railway in 1915 facilitated the development of a small coal mine at Overton after coal was found there in 1917¹⁷. It is likely that George Blunt had opened the mine at Overton some years earlier, but in 1921 Overton Colliery Company Ltd. was registered as a syndicate with George Atkins acting as mine manager. The colliery employed 12 men in 1922¹⁸, 18 in 1923, and at least 13 in 1924 prior to its abandonment in 1925¹⁹. It appears to have been an entirely underground operation and no clear evidence of entrances or shafts is visible in the area of the Modification, although some degraded terracing of unknown origin is visible downslope of the proposed rail line. Today, the general area of the colliery would be adjacent to the proposed rail line, with the proposed rail batters on its western most edge.

6.2.5 Bengalla Homestead and Estate

The 2560 acres of fertile land that would become Bengalla estate was granted to Captain Samuel Wright. Originally from Ireland, Wright had fought with distinction in the Napoleonic Wars as an ensign with the 3rd Regiment in 1806, arriving with his regiment in NSW 1823. He held posts as Commandant at Port Macquarie, Westernport, and Newcastle, and had explored the Macleay River, which was known at the time as Wrights River. In 1826, Wright left the army to become a free settler.

Wright began improvements at the estate immediately and by 1828 there were nine men working on the estate: one free man acting as overseer, an ex-convict labourer and seven convicts. Several buildings were constructed in the 1820s, but these do not survive and little is known about them. It is possible that they were erected at the site of the Old Bengalla homestead, 5.2 km south of the extant homestead known as Bengalla.

Wright continued to develop the property during his ownership. By 1838, when he sold Bengalla to Captain D.C.F. Scott, Wright was running sheep and cattle, growing wheat, and had a vineyard with at least ten varieties of vine.

Following Wright's tenure, according to AECOM (2015:11-12), the original constructor of Bengalla homestead is unclear, but most evidence points toward Scott as the original constructor. In 1843, following the collapse of the Bank of Australia, Scott lost the Bengalla estate because it was still mortgaged to Wright. The property reverted to Wright and he is presumed to have lived in the homestead while the Scott family moved to Sydney until the death of Scott in 1881.

¹³ *Australasian*, 9 July 1910 (p30).

¹⁴ *Muswellbrook Chronicle*, 15 June 1910 (p2[3]).

¹⁵ *Ibid.*

¹⁶ *Daily Telegraph*, 5 October 1910 (p11[6]).

¹⁷ *Maitland Mercury*, 4 September 1917 (p7).

¹⁸ *Muswellbrook Chronicle*, 18 July 1922 (p2).

¹⁹ *Government Gazette of the State of NSW*, 31 July 1925, Issue No. 102 (p3417).

By 1851, Wright was in financial difficulties. Following a failed attempt to arrange an annuity to provide for himself in old age, he wrote his will, left it with his agents and boarded the night steamship for Newcastle. He was never seen again and suicide was presumed. Following Wright's death, the terms of his will set out that Bengalla should be sold. Due to the circumstances of his death, the sale did not take place until 1853, and the *Sydney Morning Herald* provides a detailed description of the property and the resulting sale by auction. The 12,335 acres of the estate were divided into 13 blocks. Two of these had small farms. Also on the property were a lime quarry and kiln, and a stone quarry, both with huts. The locations of these structures and quarries are unknown. The homestead complex consisted of a house with six rooms, outbuildings, a store and cellar, coach house, box and yards, two cottages, a carpenters' shop, huts and a vineyard. From the outbuildings that existed in 2015, the paintings by Maria Scott, and oral histories, it is likely that this homestead complex stood on the site of the present farmhouse on the Dalamar Stud. However, what is known is that by the 1840s at least ten outbuildings were around the homestead, but none survive.

The sale of Bengalla in 1853 saw the estate owned by Henry Osborne, who sold it to John Hudson Keys, who was at that time the manager of St. Helier's Estate, between Muswellbrook and Scone. J.H. Keys took up residence at Old Bengalla Homestead and built the property into one of the most successful in the Hunter Valley. By 1885, J.H. Keys had acquired more land, expanding to 18,000 acres carrying 32 horses, 1010 cattle and 3280 sheep. Bengalla was at this time the largest estate in Muswellbrook, and was over three times the size of Overton. Around this time, at least fifteen householders and as many as 100 persons lived on Bengalla according to the electoral roll.

The principal building project during his tenure was the house now known as Bengalla, but called at that time Inglebrae. Keys kept meticulous records of his management practices, and was unusual in his refusal to hire architects or builders. As AECOM (2015:15) notes Keys' methods produced 'good husbandry, but not great architecture', and the present house is a reflection of the frugality of the elder Keys. The first stage was constructed in 1877, and the bedroom wing was added by the second Keys generation in 1895. The estate continued to expand under J.H. Keys' son, R.T. Keys, and by 1911 Bengalla encompassed 20,000 acres.

R.T. Keys was hailed as a successful and progressive grazier at the time, focussing on fattening beef for the Sydney market. Fattening of cattle in the Hunter Valley at this time was common, but R.T. Keys was a pioneer of live exports of cattle to Great Britain. The first shipments of cattle were made in 1893, with good results. By 1895 Keys had a good trade relationship with Britain, and was regularly purchasing and driving cattle south from Queensland. The Queensland bottle tree (*Brachychiton rupestris*) planted in the front garden is a lasting symbol of this relationship. R.T. Keys was also an early pioneer of creameries in the region, and similar to Overton, Bengalla was dairying and irrigating Lucerne by 1897.

During his tenure, the homestead was extended and improved. In 1895 an eastern wing was constructed and a second drawing room added, all of locally made bricks, slate roof and striped bull-nosed iron verandas.

Following the death of R.T. Keys in 1909, and similar to Overton and many other estates in the Hunter Valley at this time, the Closer Settlement policies of the Australian Government saw the subdivision of Bengalla. J.H. Keys the second (II) oversaw the subdivision of Bengalla into 42 farm lots of between 100 and 700 acres. Further modifications to the estate came in 1915 with the opening of the railway that divided the property, with J.H. Keys II retaining 8000 acres for dairying and Lucerne growing. J.H Keys II worked the property until his death in 1952.

1953 saw further subdivision for the purposes of solidier settlement, with the Keys family retaining a reduced 1300 acres by 1978. The homestead was carefully maintained in keeping with its original architecture, and a brick toilet block was erected to replaced a timber structure behind the western wing. In 1995 the estate was sold to Bengalla Mining Company.

The development of the Bengalla open cut mine saw the construction of an Emplacement Area 115 m to the north, and a visual bund 30 m distant. The bund is the current visual backdrop to the homestead, and the development of the mine has altered the setting to remove the link between Bengalla homestead and the farmland surrounding it. In 2015, AECOM and Hansen Bailey prepared a CMP for Bengalla Mining Company in order to update the Schedule of Conservation works as the homestead is located within the approved mining area under Development Application 211/93.

The primary features of the property, being the homestead, outbuildings and ornamental plantings are adjacent to the Modification area, but will not be impacted by the Modification either directly in terms of physical impacts, or indirectly in terms of views and setting.

6.2.6 MP13 (also known as 'Humphries')

VAHS included MP13 in the *'Mount Pleasant Historic Heritage Study'* in 2014. That report included a detailed discussion of MP13. The following summary history reproduces and paraphrases the VAHS report:

- Portion 7 and 8 appear to be pre-emptive leases taken up by George Seabrook in 1862. John Neill's map dated 3rd Feb 1863 shows that there was a house and yard on the land then. This is the site of MP12. He stated that the map was prepared for George Seabrook's CP and ACP purchase of Portions 7 and 8.
- On 7th May 1866, it was transferred to Mary Ann Seabrook, then Harriet Nowland 8th February 1872 followed by her daughter, Harriet Farlow Nowland on 8 January 1874.
- George Seabrook Jnr. was living in Muswellbrook by 1873.
- H.F. Nowland gave her address as Bollibon, Muswellbrook when she applied for administration of the estate of her mother, Harriet Nowland on 4 October 1880.
- H.F. Nowland was the occupier in 1885 where she is listed as having 600 acres, 4 horses, 21 cattle and 450 sheep.
- In 1904 Edward Higgens, Parkinson advertised that they were to auction on 2nd November 1904, a portion of the estate of H.F. Nowland consisting of 360 acres of her CP land.
- 1906. It is our mournful duty to record the death on Sunday night last, of H.F. Nowland, of Bollibon, which occurred at the residence of Nurse Lucas, where the deceased had underwent an operation a few months ago, in consequence of suffering a poisoned foot, caused, it is said through cutting corns. The operation was successfully performed by Dr Halcomb (in conjunction with Dr Scott); but other complications occurring the patient never recovered, and died as stated above. The deceased, who lived a retired life on her estate, Bollibon, a few miles out of town, was a member of one of the oldest and best-known families in the district. The funeral took place on Tuesday morning last; when the body, after being taken to St. Alban's Church, where a portion of the burial service was read, was laid to rest in the Church of England cemetery, where the Rev Canon Regg read the concluding portion of the solemn service. Mr A R Lang conducted the funeral arrangements.
- Miss H. Nowland of Bollibon died interstate so relatives for the administration of the estate took proceedings. Sarah Lumley (sister) and David Gould Hegarty (nephew) made application. All her kin except her brother, Archibald Nowland who made a separate application, supported their application. Administration granted to Sarah Lumley and Pierce Hegarty.
- In 1906, A Muswellbrook Estate. Messrs Higgens, Parkinson & Co announced the sale of Bollibon Estate, five miles from Muswellbrook to take place on the ground. The place is well adapted for dairying purposes, being only one mile from Overton butter factory, and as it is intended to dispose of all stock, an excellent opportunity is open to secure an up-to-date and adequately fitted dairy farm in a good district.
- Edward Higgens, Parkinson & Co. reported that they had sold the estate of the late H. F. Nowland to Thomas Blunt of Overton. Estate consisted of 83 acres freehold and 200 acres conditional purchase, with dwelling house, outbuildings, yards, three dams and a splendid well.

- In 1907, Archibald Nowland made claims on the estate of his sister H.F. Nowland for administration between her illness and death. In court, he stated that there were 60 – 70 head of cattle on the property. His sister had been assisted prior to her illness by Henry Waldron, who was a lad of about 17 years of age when he started with his sister. He had worked for her for about 16 – 17 years. The fences were in a very poor state of repair and he had them repaired. Claimed his sister had lived all her life on Bollibon. Henry Waldron stated that there were about 70 – 80 cattle on the property and at one time had about 800 sheep. Verdict for defendants.
- Portions 7 and 8 were transferred to Thomas Blunt on 18th January 1907. Blunt took out a mortgage with The Australian Mutual Provident Society on 4th March 1907 and on 12th October 1911 the mortgage was with The City Mutual Life Assurance Society Ltd.
- Thomas Blunt disposed of his property, Overton on 8th April 1912 to William F Robey. The sale included Portion 8. At this stage Overton consisted of 5538 acres 1 rood and 24 perches, William F. Robey paid £44,000.
- 1915, Portion 7 and 8 were sold by William F. Robey to John Malcolm Campbell Humphries and Kenneth William Humphries, as tenants in common, graziers of Muswellbrook. Transferred dated 20th July 1916 though the document was produced 30th July 1915 and entered 6th August 1915.
- J.M.C. & K.W. Humphries purchased Lots 25 and 26 in the subdivision of Overton, this comprised Portions 7, 8 and 210; and area of 243 acres for which they paid £1400. Sale took place on 30th June 1915.
- On 1st July 1920, J.M.C. & K.W. Humphries split their properties and K.W. Humphries purchased the other half of Portions 7, 8 and 210 for £700. Property was called Bollybong, corruption of Bollibon.
- It appears from the interview with Col Bates that K.W.D. Humphries held the land for a long period.

7 PHYSICAL DESCRIPTION

7.1 Overton Estate

Overdene, Overton Orchard and Race Track, Overton Colliery and Blunt's Butter Factory are discussed separately below for the sake of clarity, but they were all at one time part of the large Overton Estate. However, the visual and functional relationship between these disparate elements has now largely been lost due to subdivision, subsequent development, and demolition of the original structures. The following descriptions of Overdene Homestead and Blunt's Butter Factory are adapted from AECOM and Hansen Bailey (2015) and *Muswellbrook Shire Wide Heritage Study* (1996), and have been updated where necessary to reflect the current physical condition of the sites.

7.1.1 Overdene Homestead

This section is a summary of the physical description presented in the AECOM and Hansen Bailey (2015: 20-28) CMP for Overdene Homestead. All comments on the condition of the structural elements are drawn from that report and do not reflect the condition of the house in 2017, as access was not possible. The original tin roof has been replaced and other structural refurbishments have been made following the CMP (AECOM and Hansen Bailey, 2015).

Overdene is located on Overton Road (Old Bengalla Road) turning south off Wybong Road. The Hunter River is to the west, and the Bengalla Mine is to the east. The house looks east back across the flood plain to the town of Muswellbrook, which lies immediately to the east, on the opposite bank of the Hunter River. The house occupies an elevated position in the landscape, looking east over what is now grazing land on the flood plain. The Bengalla Mine waste emplacement now blocks all views out to the west. Overdene is surrounded by a chain-link fence, and all openings have been boarded up.

The original relationship between Overdene and its now demolished outbuildings has been lost due to successive development and construction of new buildings at the site. The AECOM and Hansen Bailey report established a heritage curtilage for the building that includes the homestead and a small area to the west that are areas of archaeological potential.

Overdene is a house in the classic Georgian style (Figure 5). The front façade is symmetrical, centred around an entrance door, with two pairs of French doors and shutters to either side. The roof presents a long, low ridgeline, punctuated by chimneys rising from the northern and southern elevations.

The original roof was hipped, with the ridge returning down both sides to form a pair of hips with box gutter between, creating a low, formal roof line to the front typical of this style. The roof timbers are hardwood with nailed joints. Shingles, presumably original, are still in place and appear to be in good condition. The current corrugated iron cladding is also in good condition with few obvious leaks. The fascia and soffit board are timber, with galvanized steel Ogee profile gutters.

Roof joinery includes a timber fascia and soffit board, both with beaded edge. The gutter is of galvanised steel in Ogee profile, presumably of the same age as the roof sheeting. Downpipes were circular, presumably galvanised steel, though all of the original piping is missing. Guttering has generally failed and as all downpipes are missing, rainwater discharges near the building.



Figure 5 View north-east of Overdene Homestead during the site visit of 2017.

A bell cast veranda ran around all sides, although this has been completely removed. A kitchen wing and other outbuildings were located to the rear. These buildings have been demolished, although the flashing on the rear of the house indicates the presence of some of the former structures. The veranda originally wrapped around all four sides of the house, though was broken at the rear allowing for what was presumably a covered walkway to run from the back door, with the veranda roof returned into the wall. The form of these elements is evident by the flashings and rebates for the edge beams in the stonework. The floor of the veranda was formed up with sandstone to match the house, and a timber floor has been constructed over the top of the original to bring it flush with the interior. The wooden veranda is no longer present at the site, though the metal wall plates have been retained and have been stacked internally (AECOM, 2015:23).

External walls are of coursed sandstone, roughly dressed and sparrow pecked. Courses are roughly consistent at 300 Millimetres (mm) high on all façades, however the coursing to the front and side façades is more consistent than to the rear, which might be better described as being random coursed. To the front façade especially, almost all of the stones are a full course in height and anything up to 600-700 mm long and larger for the lintels, with a fairly consistent cream toning throughout. To the rear façade, such large stones are generally restricted to only the quoins and lintels, with smaller roughly squared stone as infill, including many of a soft red tone. The quality of the side façades lies somewhere in between. This variation in quality of construction is typical of the period, the finer quality being restricted to the "on-view" facades.

Lintels are of dressed, fine-grained sandstone that is free of colour variations, similar to the internal hearthstones. Lintels are finished with a sparrow- or convict-peck and include a keystone in the course above all openings except the front door. Door thresholds are timber except the back door which is dressed stone that has subsequently cracked.

An additional opening was formed in the northern wall sometime soon after construction. A timber lintel and reveals were installed, but the surrounding stonework was not adequately supported and is now badly cracked, particularly to the eastern reveal. Some cast iron air vents of a geometric pattern remain at floor level, though they are badly rusted and many are missing.

The front door is four-panelled with heavy mouldings and embossed panels. The front door is the only one to feature a fanlight, which is split by a central mullion. The French doors along the front façade are of similar construction. The single remaining shutters that are in place are badly deteriorated. All windows are double-hung sash on pulleys and counterweights, with six panes.

There is major cracking around the new opening to the north where there is evidence of subsidence and cracking. There is some rising damp and loss of pointing to the lower sections of all walls. Joints to the rear wall are however badly eroded in places, and a few smaller stones have fretted away or been dislodged. Air vents are in poor repair and probably inoperative in terms of ventilating the sub-floor space.

The building features three full-heights from floor level chimneys and fireplaces constructed of sandstock bricks. The chimneys are toothed into the stone coursing in a roughly symmetrical fashion. The chimneys feature decorative plinths and capping. Only one chimney pot of the three chimneys remains *in situ*. In 2015, AECOM and Hansen Bailey noted that another was *ex situ* in the garden near the house, but this was not noted in 2017.

The internal layout of Overdene is typical of the period, being a double pile plan with central hall. Two main rooms (presumably the sitting and dining rooms) are at the front of the house, each measuring approximately 4.2 m x 4.5 m. Fireplaces are located centrally on the external side walls. At the rear, the right hand room is repeated, and the left hand room is broken into to smaller spaces, measuring ~3.9 m x 2.4 m. The hall narrows in the rear to maximise the width of these small rooms, with the change in width disguised by an arch and pilasters. All walls are sandstock bricks and finished with lime plaster. Floors are timber, and were likely polished originally. Ceilings were lath and plaster but have been replaced with Masonite sheeting. Internal doors are four paneled with simple mouldings.

7.1.2 Overton Orchard and Race Track

A number of features were located by the survey undertaken for this SOHI in the area to the north of Overdene, referred to here as Overton Orchard or M403 (Figure 6). Most of these features are concrete footings or depressions indicating the previous locations of buildings on the site. There is very little documentary evidence to indicate when these structures were built, but they appear to relate to the early 20th century based on the construction methods and other physical evidence associated with the features.

Figure 6 depicts the location of all identified features and the general layout of the Overton Orchard, located 300m north of Overdene homestead. The orchard covers an area of roughly 76 square metres, and contains nine areas of various sizes delineated by cultural plantings and windbreaks. An avenue of cultural plantings oriented east-west was presumably the main entrance from Overton Road, and leads into the area where the majority of building remains were located. Most features were located within three sections to the northeast. All other sections contained no structural remains or potential archaeological features, but did contain evidence of what are possibly former irrigation channels (Figure 7). These areas likely represent what remains of the orchard that was originally on the property, though there is little documentary evidence to confirm this.



Figure 6 Overton orchard showing site boundary, proposed rail alignment and all features identified in 2017 (blue shaded areas within the inset map).



Figure 7 Image from the Agricultural Gazette of NSW (1905:1007). The caption reads: “Orchard in process of being irrigated”. This process of irrigating orchards may have been practiced at Overton, resulting in the linear depressions that are common at the site.

7.1.3 Miscellaneous Features within the Orchard Area

Those structural remains that were identified in the 2017 survey were either concrete footings and slabs or depressions indicating the location of posts that had been removed. The following features were identified (Figures 6 and 8-26):

- Two stone-lined elevated garden beds that likely formerly contained ornamental plantings to fringe the entry way to the west. Each bed measured roughly 6 m x 3 m and was raised above the surrounding ground surface by 300 mm. A concrete slab lined the base of each, with large natural sandstone blocks forming a retaining barrier for the soil inside only on the slab to the south. A fragment of a brick bearing a diamond shaped frog was found in association. An avenue of cultural plantings leads down the driveway to the east (Figures 8 - 10).
- Various stone surrounded planting beds (M403A [Figures 11 and 12], M403P, M403T [Figures 13-16]), some with fragmented ceramic pipe contained within, and several depressions surrounded by sandstone cobbles (M403N, M403U, M403V) were located (Figure 17).
- A concrete slab that was heavily fragmented and disturbed at the southern and northern ends (M403B, Figure 18). Several likely irrigation ditches, including the possible remains of a sluice gate were located in the area around M403 (Figure 19). A large area that likely contains a concrete slab below the current ground surface (M403R, Figures 20-22). Several concrete blocks and piers can be seen above ground. A mix of modern and early 20th century bricks were found in association. Both slabs were likely the footings for structures.
- M403S: A sandstone retaining wall with stone and brick steps at the northern end. The bricks appear to be early 20th century bricks common to the Muswellbrook area, but frogs were not visible. Some ex-situ bricks that appear to be of the same fabric were found closely associated, and bore a diamond-shaped frog. A circular concrete slab that appears to be the cap of a septic tank was located to the east of M403R and M403S.

- A rectangular concrete pit (M403O, Figure 23) with black plastic underlay was located to the east of M403C. The northern and southern ends of the pit are capped with sandstone blocks.
- Six depressions each measuring 1 m across, one being a concrete post mould (M403D, Figure 24) indicating the likely location of a structure.
- A series of concrete slabs oriented east west and arranged from upslope to downslope (M403Q). Five concrete slabs were located in total, four of which were rectangular, and one circular.



Figure 8 View south of the southern raised bed at the entry gates



Figure 9 View south of the northern raised bed at the entry gates



Figure 10 View south of both features showing the association with the entry gate and the avenue of trees that continue to the west.



Figure 11 M403A view south over one of the stone surrounded planting beds



Figure 12 M403A view south west of another stone surrounded planting bed.



Figure 13 View east over M403T. The alignment of stone extended for 20 m to the east. Located at the eastern end of the alignment were many fragments of ceramic pipe (Figure 14), and a mix of early and later 20th century bricks. Sandstone cobbles and structural timbers covered the area to the east, extending down almost to the edge of the slope.



Figure 14 Fragmented ceramic pipe at the eastern end of M403T



Figure 15 Mix of early 20th century and modern bricks at the eastern end of M403T



Figure 16 Structural timbers located east of M403T



Figure 17 Sandstone lined depression at M403U, similar depressions were found in several locations around the eastern portion of the orchard.



Figure 18 M403B fragmented and disturbed concrete slab



Figure 19 An example of one of the possible irrigation ditches at M403L. Ditch runs parallel and to the left hand side of the scale bar. Sandstone cobbles were placed perpendicular to the run of the channel at the northern end, and may be the remains of a sluice gate.



Figure 20 View south east over M403R concrete piers, the pier shown in detail in Figure 21 is in the mid-ground in the left hand corner. The sandstone retaining wall (M403S) can be seen in the foreground of the right hand side frame.



Figure 21 Detail view of concrete piers showing evidence of the former location of posts



Figure 22 View west over the sandstone retaining wall. The edge of M403R can be seen in the foreground. A red brick bearing a diamond-shaped frog that appears to be the same fabric as the bricks in the steps at the northern end of the retaining wall is visible on the surface near the scale.



Figure 23 View west over M403O.



Figure 24 Detail view of the concrete post mould at M403E



Figure 25 Sandstone and brick steps at the northern end of M403S



Figure 26 View west over septic tank located to the east of M403R, scale is 15 centimetres (cm).

To the south of the features described above is Thomas Blunt's 'hobby-racing' track (Figures 27–30). The Overton Race Track is a 600 m circuit that skirts the edge of the ridge to the west. The Overton Race Track is cut into the surrounding landscape, and is between 8 m and 13 m wide. There is also a 1972 NSW trigonometry survey marker inside the Overton Race Track on the eastern side (Figure 30).



Figure 27 Overton Racing Track showing the boundary of the site and the proposed rail alignment.



Figure 28 View north at the northern end of the Overton Race Track. Note that the track has been cut into the landscape and has an embankment on the inside track.



Figure 29 View north-east at the northern end of the Overton Race Track. Note that the track has been cut into the landscape and has an embankment on either side.



Figure 30 NSW 1972 Trigonometry Survey Marker

7.1.4 M404

Site M404 consists of a concrete slab measuring roughly 14 m x 10 m. On the northern side of the slab stand six metal columns roughly 300 mm in diameter and 2.2 m high (Figure 31). Wooden beams span the length of the columns on the south and north side, and are connected by badly sagging battens indicating a former roof. To the south-west, a low wood-moulded concrete wall is connected to lower brick foundation walls that stand 150-200 mm high (Figure 32). The original form and function of the structure is difficult to interpret based on the remaining evidence.



Figure 31 View north-west over M404.



Figure 32 View east over the low walls and foundations present on the southern edge of M404.

7.1.5 Blunt's Butter Factory

The following description of the site is adapted from the Muswellbrook Shire Wide Historic Heritage Study site card (1996) and AECOM (2015) and has been updated where necessary to reflect the site visit conducted in 2017 (Figure 33). Very little remains at the site of the Blunt's Butter Factory/Overton Creamery (Figure 33). There are no standing structures present at the site (Figures 34-38). All that remains are the concrete foundations and rubble. Some of the remaining concrete sections have the original glazed white tiles attached. The site has been almost totally destroyed and is in quite poor physical condition. The potential for archaeological relics to exist at the site is discussed in Section 9.3

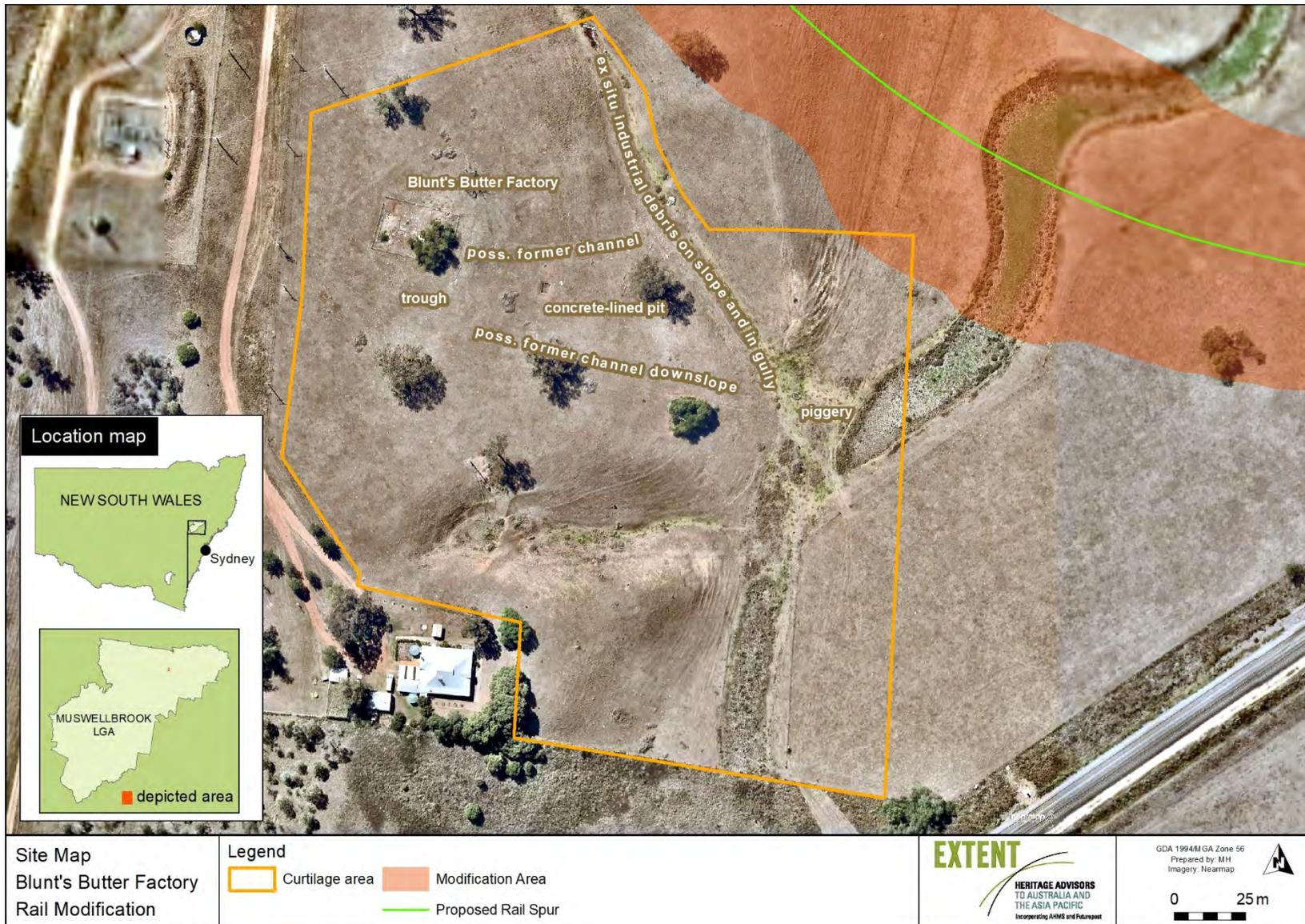


Figure 33 Blunt's Butter Factory site map showing locations of features of interest, curtilage area and proposed rail alignment.



Figure 34 View south-east over the butter factory showing currently fenced off area.



Figure 35 View south of the eastern side of Blunt's butter factory showing in situ concrete blocks.



Figure 36 Detail view of section of original wall with tiles attached.



Figure 37 View of ground surface inside the ruins of Blunt's Butter Factory showing mix of gravel, bricks and ceramic.



Figure 38 Concrete-lined pit to the east and downslope of the Butter Factory.

7.1.6 Overton Colliery

Overton Colliery is located on the southern slope of the hill below Overdene homestead (Figure 39). No clear evidence of entrances or shafts was visible on the surface. It is possible that the entrances were located further to the east. Some degraded terracing of unknown origin, and occasional shallow depressions on the surface, may relate in some way to the former mine works but they may also reflect agricultural activity unrelated to any mine activity (Figure 40). There is a small shed at the top of the hill that has an unclear association with the colliery as a construction date was not able to be determined, although it appears to be no older than the early 20th century.

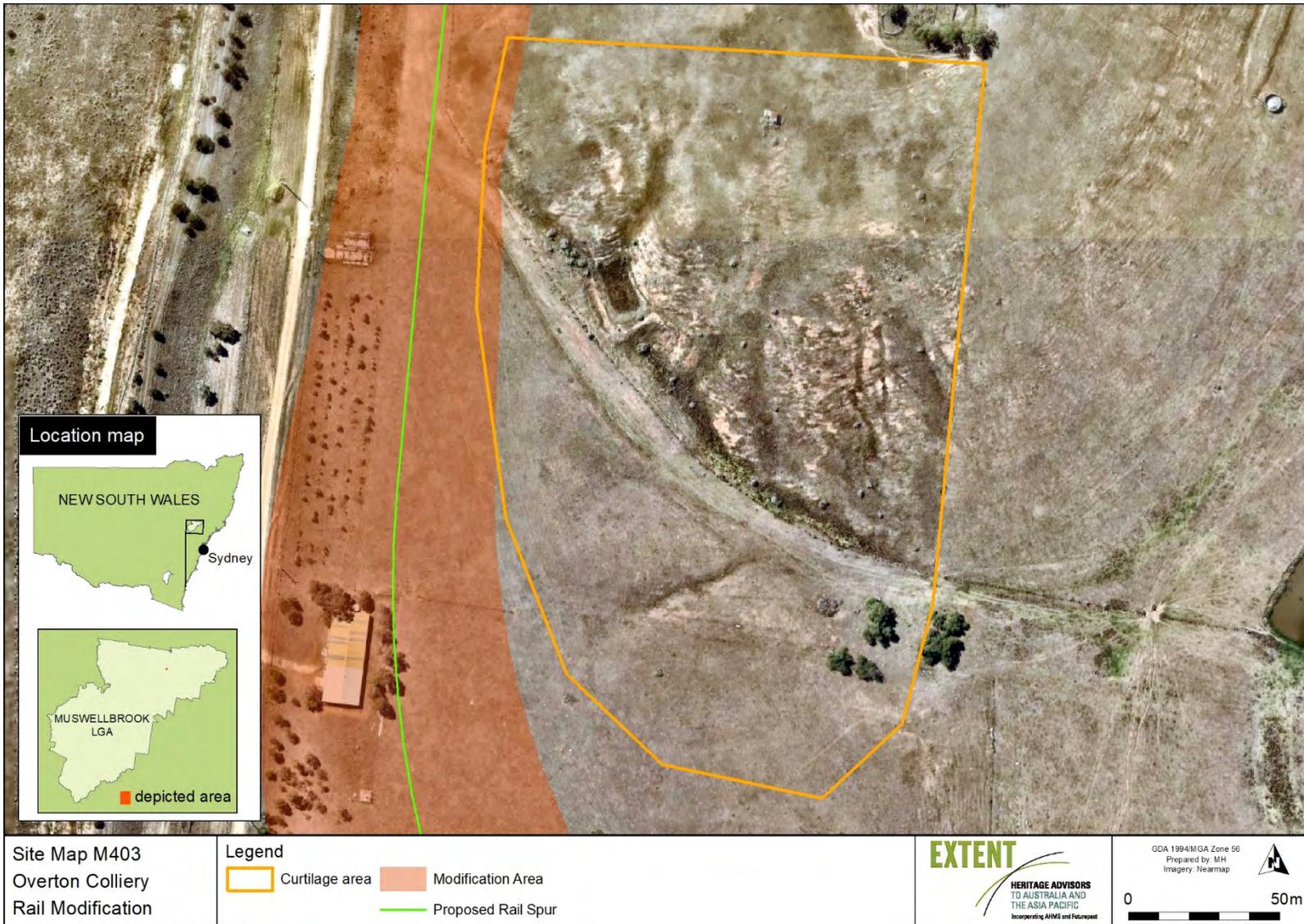


Figure 39 Aerial image showing the general area of Overton Colliery adjacent to proposed rail alignment.



Figure 40 Panoramic view north over Overton Colliery. Overdene Homestead is visible at top of the hill in the centre of the frame.

7.2 Bengalla Homestead

The principal features of Bengalla Estate are the homestead buildings with the 1877 house, the 1895 extension and 1960's additions, combined with gardens, outbuildings, a tennis court, farm sheds and several archaeological sites. These features are all outside the Modification area. To the north, the visual curtilage is defined by the mine operation area, and to the south by the Muswellbrook-Ulan Rail Line that acts as a visual boundary between the homestead area and the river flats beyond. The Muswellbrook LEP curtilage also includes the area between the Muswellbrook-Ulan Rail Line and the Hunter River. The survey conducted in September 2017 noted only two items within the areas to the south of Bengalla Homestead (a small shed and a possible pumping station) (Figure 1), neither of which will be impacted by the proposed works.

7.3 MP13

The following physical description of MP13 is taken from VAHS (2014:172). The site contains six features:

- House site (Figure 41). Very little remains of the house. There is the brick base of a chimney and a large number of bricks scattered over the area. To the north, there two places with piers, 30 and 40 cm high that most likely were tank stands. There is some concrete with netting in it that has come from the inside of a corrugated iron tank that has been repaired. Artefacts include part of an iron bed frame and the front of a fuel stove. The stove is marked KEB top right and left corners while there is WEDGEWOOD at the bottom (See Plan 52). There are six pepper trees to the west, which were most likely planted to screen the sun in summer. There is no indication of house size or building method.
- Feature 2 (Figure 42). The purpose of this building is unknown. The floor is made of concrete, approximately 6 m x 6 m with, perhaps an entrance in the right hand bottom corner. This corner has a spoon drain so the building must have been cleaned from time to time. The area has been fenced with rabbit proof netting with a couple of gate ways. Round and rectangular posts have been used in the fence. There is a fig tree within the yard. A dairy had been considered, but there is no indication that a separator has been mounted on the floor. (See Plan 53).
- Dairy/milking shed (Figure 43). This is a concrete slab approximately 4 m x 13 m. The slab has been extended to the east or there was a separate room here. There are two drains in the floor. At the western end of the slab, there are blocks that indicate machinery was mounted here. Perhaps mechanical milking or a separator.
- Piggery. This area contains concrete floors and troughs, which indicates it was a piggery. It is highly disturbed.
- Tank stand. This a stand built for two tanks. Round bush timber has been used for the posts and recycled split rails from a fence have been used to stop stock getting under it.
- Well & boiler. Site contains a timber lined well (Figure 44). Timber is hand split. This would be the 'splendid well' mentioned by Edward Higgens, Parkinson in their 1906 sale of Bollibon. Boiler is a vertical steam boiler of unknown origin. It is partly buried in the soil at the base of a tree.



Figure 41 View north over the house site (VAHS, 2014: Plate 103)



Figure 42 View south-west over Feature 2 at MP13 (VAHS, 2014: Plate 105)



Figure 43 View north-east over the dairy (VAHS, 2014:Plate 106)



Figure 44 Timber-lined well at MP13

8 STATEMENTS OF HERITAGE SIGNIFICANCE

8.1 Overdene Homestead

Overdene Homestead is listed on the Muswellbrook LEP (2009) and the Hunter Valley Regional Environmental Plan (1989) as a place of local significance. It is on the non-statutory register of heritage places maintained by the National Trust. The site is of local historical significance. AECOM and Hansen Bailey (2015) undertook a heritage significance assessment in 2015 and concluded that Overdene satisfies criteria (a) – (f). This report agrees with that assessment. The ways in which the homestead and its immediate surrounds satisfy these criteria are presented below and adapted from AECOM and Hansen Bailey (2015).

Overdene is of local historical significance through its demonstration of the pattern and course of settlement in the Muswellbrook area (criterion [a]). The property was one of the earliest in the area, and was owned by many prominent families including the McDougalls, Nowlands and Blunts. Overdene also demonstrates the impacts of both the Closer Settlement Act, and the development of the Muswellbrook-Merriwa railway that divided the property in 1915. The association with several prominent families and individuals from the Muswellbrook area satisfies criterion (b), including Francis Allman, John McDougall and especially George Blunt and his family. The Blunt family managed Overton during its most productive period, and were involved in innovative methods of irrigation, cropping, animal breeding, coal mining, railway construction and the processing of dairy goods, all of which have been central to the subsequent development of the Hunter Valley.

Overdene is of aesthetic significance (criterion [c]) as a well-proportioned Colonial Georgian style cottage constructed of locally quarried sandstone. The cottage has had few alterations since construction, and has retained its readability as a Georgian cottage. The house also occupies a prominent position in the landscape and is visible from Muswellbrook and the approach along Wybong Road.

Overdene is likely to meet the threshold for local significance under criterion (d), for having a strong association with the Muswellbrook rural farming community (although no community consultation was undertaken for this SOHI to confirm this).

The built form at Overdene has the potential to yield information that could shed new light on domestic arrangements and the construction of early (i.e. 19th century) homesteads in the region (criterion [e]). The AECOM report identifies areas of high archaeological potential immediately surrounding the house. These areas are discussed further in Section 9.1, but the proposed development would not impact these areas (Section 11.2). If there were potential archaeological deposits further from the house and within the Modification Area (e.g. the location of the public school erected on the property by Thomas Blunt is unknown), then they will have been impacted by significant ground disturbance over the last century. The intentional demolition of the outbuildings following the subdivision sale in 1959, the construction of the Bengalla Mine to the west, and the intensive use of the floodplain below for grazing and agriculture would mean that any potential archaeological deposits within the whole-of-property listing on the Muswellbrook LEP are likely to be disturbed.

As noted, Overdene Homestead is included in the Muswellbrook LEP 2009 as a place of local significance. The LEP listing captures the entirety of the historic property allotment, and therefore captures the historic home as well as a number of post-1950s buildings, and large tracts of vacant land (Figure 45). The heritage values of the homestead are principally embodied in the historic structure itself, and in a small area adjacent to it, where there are extant cultural plantings and the potential for historical archaeology. As discussed below, the proposed rail infrastructure would pass along the western edge of the 'heritage item' as listed in the whole-of-property LEP listing, but would be 135 m west of the discrete part of the property that actually embodies local heritage values (Figure 46).

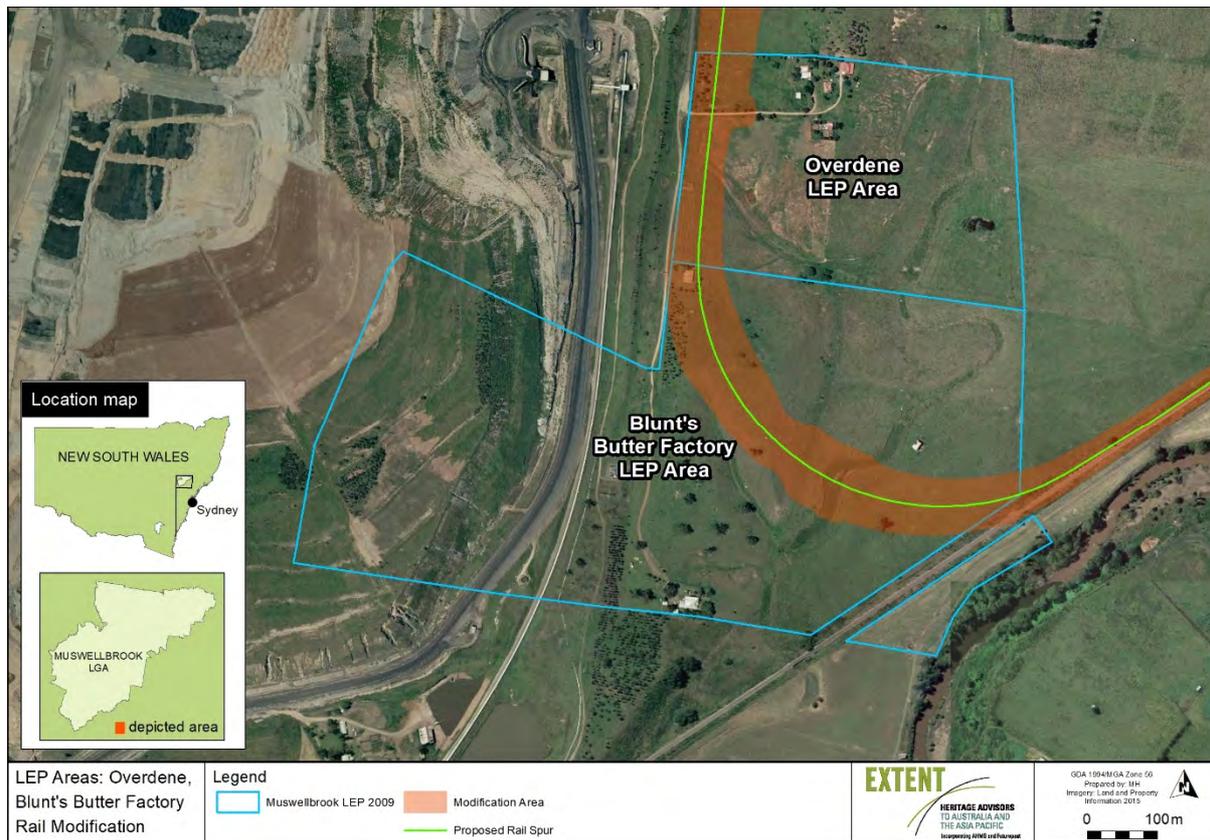


Figure 45 Muswellbrook LEP whole-of-property listing areas for Overdene and Blunt's Butter Factory, including Modification Area boundary and proposed location of proposed rail alignment.

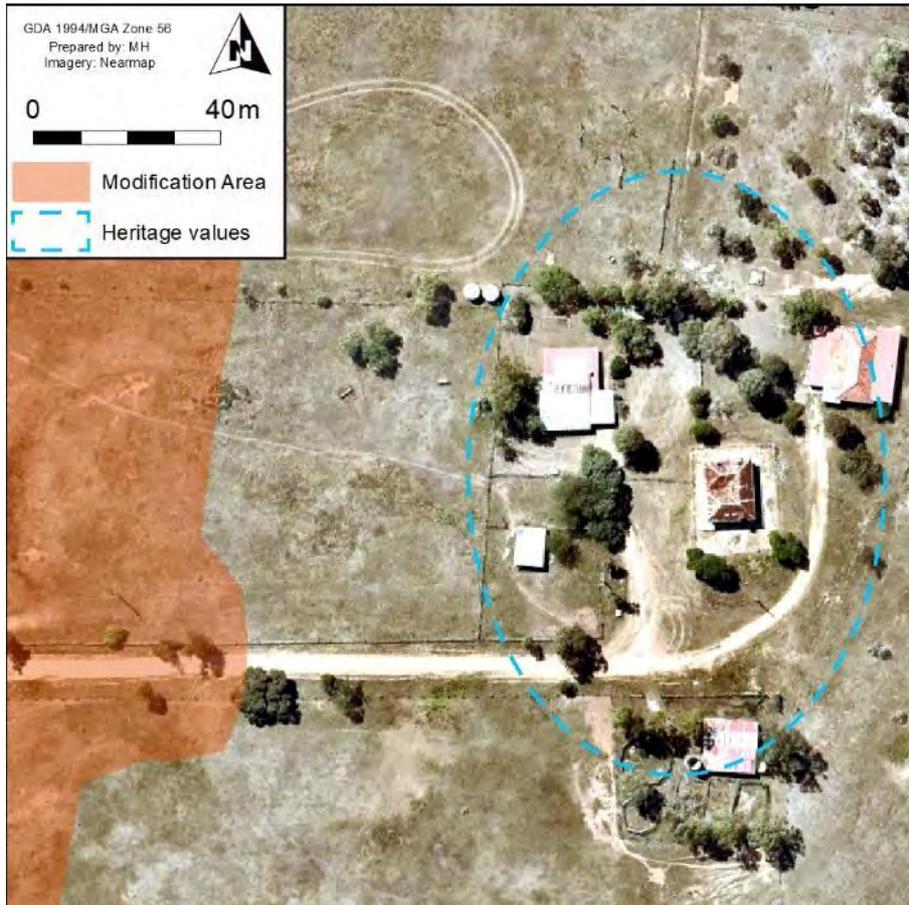


Figure 46 Aerial image showing the location of Overdene Homestead relative to the proposed rail alignment. The oval shape captures the homestead, extant cultural plantings, a collection of post-1959 buildings, and the area identified by AECOM as potentially containing historical archaeological relics. This area amply embodies the local heritage values for the homestead. The proposed rail infrastructure would be 135m west of the homestead itself, the most significant heritage feature of the property.

8.2 Overton Orchard and Race Track

The remains of the Overton Orchard and Race Track, were historically part of the Overdene Estate (see Figures 6 and 27-29). The orchard played a role in the agricultural history of the Muswellbrook area (criterion [a]). The Overton Orchard and Race Track form part of the broader estate, once a suite of functionally related structures and work areas, with strong associations with the pioneering agricultural work of Thomas Blunt (criterion [b]). Although in declining condition, the avenues of ornamental trees and the curve of the Overton Race Track, are attractive features of a rural farming complex, which capture a pleasant rural aesthetic (criterion [c]).

8.3 M404

The ruins present at M404 are difficult to interpret in their current form. The site appears to have been intentionally demolished at some point since abandonment. The site is not mentioned in any of the historic descriptions of the Overton Estate, or the Overton Colliery in the early 20th century, being an unremarkable rural building relating to some work activities of the property. It is not historically significant (criterion [a]) and has no obvious association with prominent individuals or communities (criteria [b] or [d]). It is aesthetically unremarkable (criterion [c]). It is not a rare type of structure in terms of form or function, nor is it a particularly good representative of this class of structure (criteria [f] and [g]). The site is in poor condition, and has low potential for *in situ* archaeological deposits that might make a contribution to substantive research questions (criterion [e]). M404 is not a heritage place.

8.4 Blunt's Butter Factory

AECOM (2015) assessed the heritage significance of the place, concluding that Blunt's Butter Factory is of local significance on historical (criterion [a]) and technical/research grounds (criterion [e]). This report agrees with this assessment, concluding that Blunt's Butter Factory is of local significance. This SOHI has adapted the statements of significance below from AECOM (2015).

Blunt's Butter Factory is one of the earliest creameries in the Muswellbrook area, and the first butter factory. The factory serviced a wide area and utilised many modern and innovative methods for transporting and processing milk, and using the by-products in secondary industries fattening cattle and pigs. The site highlights the development of the agricultural industry in the Hunter Valley away from traditional practices of running sheep towards dairying, fattening cattle and dairy products. For these reasons the site satisfies the requirements of criterion (a). There is potential for relatively intact archaeological deposits to survive at the site that would satisfy the definition of a 'relic' under the NSW *Heritage Act 1977* (also criterion [e]). These might yield information that would contribute to an understanding of the operation of a butter factory at this time (criterion [e]). However, these potential 'relics' would be in discrete locations only. This is discussed in greater detail in Section 9.3.

Blunt's Butter Factory is listed on the Muswellbrook LEP as a place of local significance, and the curtilage area, as listed, is indicated in Figure 393. This is a whole-of-property listing that includes large areas of the property that contain no buildings (and likely never did) and have low archaeological potential. The area of the butter factory and support buildings, including areas of potential archaeology, is much smaller than the Muswellbrook LEP listed area. It is these areas that actually embody the local heritage values for which it is listed. The discrete area that embodies the local heritage values described above is illustrated in Figure 33. It will not be impacted by the Modification provided the recommendations contained in this report are followed.

8.5 Overton Colliery

The Overton Colliery operated for a short period of time and represents an early, although not uncommon, foray into small coal mines in the early settlement of the Muswellbrook region. Overton Colliery played a modest role in the historical development of coal mining (criterion [a]). It has low potential to contain 'relics' as defined by the NSW *Heritage Act 1977*. Isolated artefacts from the colliery might assist to address research questions regarding the operation of a small coal mine that operated for a short period in the 1920s (criterion [e]). However, any remaining evidence of the mine's former workings, and the potential archaeological resource, are likely to be of considerable depth underground such that the proposed works will not impact them.

8.6 Bengalla Homestead

The Muswellbrook LEP lists Bengalla Homestead as being locally significant for its importance to the historical development of Muswellbrook, its association with the Keys family, and for its potential archaeological resource. Bengalla Homestead (the building) is outside the Modification Area and would not be impacted by the proposed works.

The Muswellbrook LEP listing for the homestead also captures vacant land to its south, extending to the Hunter River. These areas would be more directly impacted by the Modification. Historically, they were used for irrigation farming of Lucerne, and later for dairying during the Keys tenure. These areas have been significantly disturbed by later farming activities and by the construction of a railway line in 1915. The irrigation farming of Lucerne at the Overton Estate (further north) was pioneered by Thomas Blunt, and attracted considerable attention in agricultural circles at the time. Bengalla Estate adopted the same farming practices but at a later date. It lacks the historical significance of the earlier activities on the Overton Estate. These areas of land, although on the LEP whole-of-property listing, do not meet the threshold for local significance for historical reasons (criterion [a]). For a period, those lands were in the ownership of local community-members but they do not have the association with those people that the homestead does (criterion [b]). They do not meet the threshold for aesthetic significance (criterion [c]) and do not appear to be of social significance to the community (criterion [d]). They have low potential to contain historical archaeological relics that might yield information about the local area (criterion [e]). Being heavily disturbed farmland, they are neither rare nor good representative examples of a class of place in the region (criteria [f] and [g]).

In summary, the Bengalla Homestead is of local heritage significance. It will not be impacted by the Modification. The agricultural land to the homestead's south is included in the LEP's listing of the Bengalla Homestead but it does not embody the same heritage values as the homestead itself. It would be appropriate to reduce the heritage curtilage of the homestead for the purposes of the LEP listing to exclude large parts of the area to the homestead's south. It is these areas through which the proposed road and rail infrastructure would pass.

8.7 MP13

The VAHS report (2014:182) assessed the site of MP13 as being of moderate local significance for satisfying the following criteria:

- Criterion (a): The site shows evidence of significant human activity in the development of a mechanised dairy in the early 1900s.
- Criterion (b): The site may be associated with a significant person, i.e. Thomas Blunt who was instrumental in introducing mechanisation to the farming industry, developing dairying and butter production on a large scale.
- Criterion (e): Site has potential to yield further substantial archaeological information on an early mechanised dairy.
- Criterion (f): The site demonstrates a process that is in danger of being lost i.e. small family operated dairy.

The VAHS report concluded that:

The site represents an attempt to manage a dairy on non-irrigated land. It has evidence of mechanisation of the milking process and secondary use of skimmed milk. Due to these features, it is of importance to the history of the dairy industry and land use. There is very little evidence as to the accommodation type, size or material and this should be examined further.

In fact, few above-ground remains survive at the site of MP13. Only the cracked and partial slabs of the house and dairy survive, together with a derelict timber tank stand shaded by trees. MP13 is better understood and assessed as an archaeological site. The extant structures (such as they are) and trees do not display evidence of significant human activity (criterion [a] according to the VAHS report). The site's historical significance is more appropriately assessed against criterion (e) i.e. for the potential of the archaeological resource to yield information that will contribute to an understanding of NSW's or the local area's history. In this regard, MP13 has limited ability to yield data that:

- Cannot be gained from other sources – the mechanisation of dairying is well-understood and documented by academic works over many years (Burley 1962).
- Cannot be gained from other sites/dairies, many of which include structures from the early 20th century that are still standing and in use.
- Would address substantive research questions about the well-understood mechanisation of dairies in the region.

These conclusions are reinforced by the high levels of disturbance evident at the site since it was abandoned, which will have disturbed the potential archaeological resource. Section 9.4 discusses the potential archaeological resource in detail, concluding that the site is unlikely to yield information that will contribute to the understanding of NSW's cultural or natural history at a state or local level and does not satisfy criterion (e).

Further, the association of the remains of the structures at the site with Thomas Blunt (criterion [b] according to the VAHS report) is tenuous. VAHS (2014:171) states that the property was sold by Blunt in 1912 to William F Robey. At that time, the sale lithograph for Overton Estate showed "...the well, no buildings" (VAHS, 2014:172), indicating that the dairy was likely not erected by Blunt or associated with his methods for dairying in the region. VAHS (2014:172) also states that the dairy "was most likely set up by the Humphries Bros".

MP13 is not a heritage place and has low potential to contain 'relics' as defined by the NSW *Heritage Act 1977* (for more on the potential archaeological resource see Section 9 below).

9 THE POTENTIAL ARCHAEOLOGICAL RESOURCE

9.1 Overdene Homestead

AECOM and Hansen Bailey (2015:28) reported that no evidence of former structures was noted to the rear of the house where the kitchen may have been located. Remnant flashing and chasing on the rear wall indicate where some parts of the former structures were attached. While various outbuildings as well as fences, etc. must have existed around the house, no documentary evidence has been sighted that would indicate their location. AECOM and Hansen Bailey did note, however, that there is a high potential for *in situ* sub-surface archaeological evidence to exist in the area indicated in Figure 47a and 47b. This report agrees with that assessment. This area would not be impacted by the Modification.

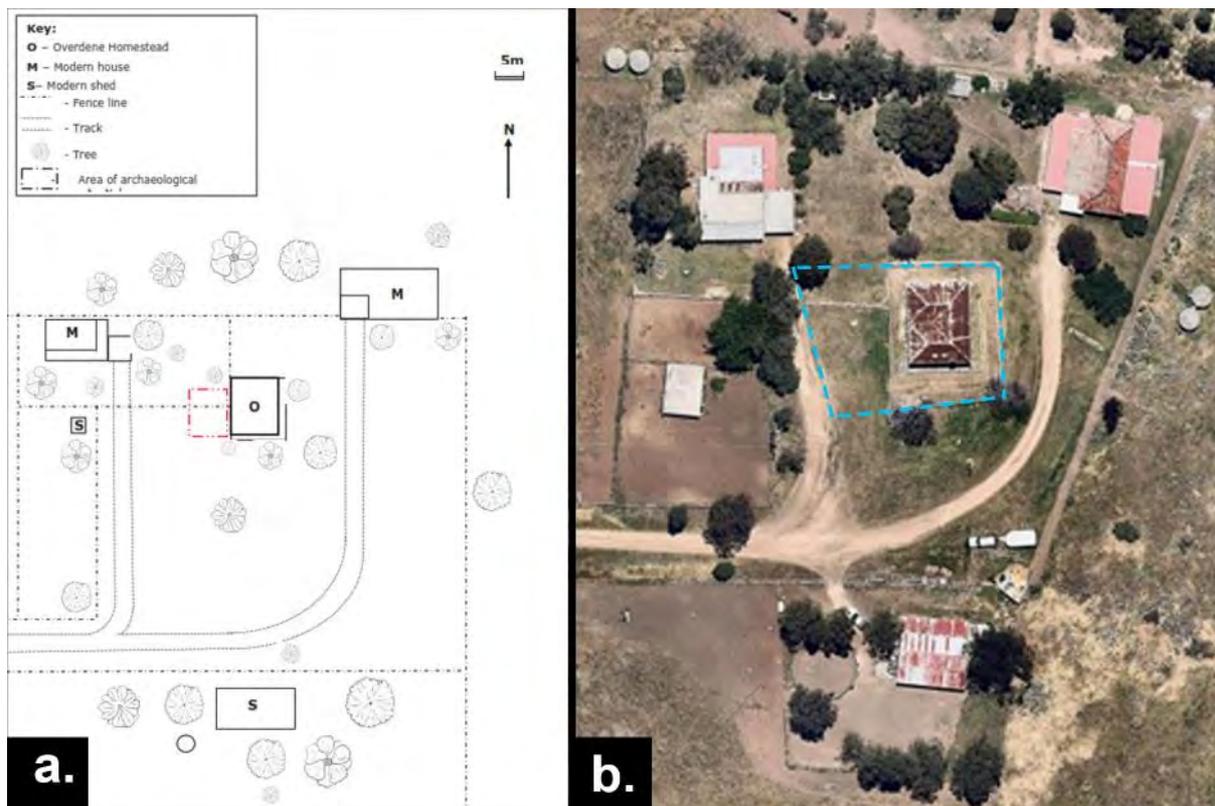


Figure 47a Areas of high archaeological potential from AECOM and Hansen Bailey (2015) and **Figure 47b** the same curtilage area overlain on a recent aerial image for additional clarification. Note that the proposed alignment is 100 m west of the westernmost boundary of the curtilage area, passing through the heavily disturbed paddock to the west, closest to Overton Road.

9.2 Overton Orchard and Race Track

As noted in Figure 6 and Figures 8–26 and Section 7.1.3, discrete locations within the orchard area contain stone kerbing, concrete slabs and other evidence of former structures. These locations were identified during the 2017 fieldwork underpinning this SOHI. They would not be impacted by the Modification provided the recommendations contained in this report are followed.

The proposed rail infrastructure would pass to the immediate west of these locations. The area that it would pass through was also surveyed by an archaeologist in 2017 and no surface indicators of archaeological 'relics', as defined by the NSW *Heritage Act 1977*, were observed. There is low potential for sub-surface remains to survive in this area. If any unanticipated sub-surface features were encountered during the construction activities, these would likely comprise isolated and disturbed garden/orchard features with limited potential to address substantive research questions about the operation of the orchard. In the part of the orchard through which the rail infrastructure would pass, there is low potential for archaeological 'relics' to survive.

This SOHI has assessed the Overton Race Track itself as a structure (or 'work') rather than as an archaeological site (or 'relic').

9.3 Blunt's Butter Factory

The site inspection carried out in September 2017 identified an area around the former butter factory that has the potential to contain archaeological materials, some of which may constitute 'relics' as defined by the NSW *Heritage Act 1977* (see area indicated by the orange boundary in Figure 33). This area would not be impacted by the Modification provided the recommendations contained in this SOHI are followed. There is low potential for 'relics' relating to the Blunt Butter factory to survive outside of the boundary marked in orange in Figure 33.

9.4 MP13

VAHS (2014) assessed the potential archaeological resource at MP13 and concluded (page 182) that 'test excavation' should be undertaken there because:

The site represents an attempt to manage a dairy on non-irrigated land. It has evidence of mechanisation of the milking process and secondary use of skimmed milk. Due to these features, it is of importance to the history of the dairy industry and land use. There is very little evidence as to the accommodation type, size or material and this should be examined further.

This SOHI re-assesses MP13 as having low potential to contain 'relics' as defined by the NSW *Heritage Act 1977*. The structures that once existed at MP13 date to 1915 and later. All the buildings on the site, aside from the extant tank stand, appear to have been intentionally demolished in the mid-to-late 20th century. In broad terms, it is possible that the following kinds of artefacts exist at MP13:

- Evidence of dwelling footprints (but most of these are presently visible anyway, as damaged concrete slabs).
- Evidence of dairying equipment (but the useful equipment has clearly been stripped from the buildings for reuse elsewhere, prior to the demolition of the buildings).
- Footpaths and garden beds (kerbing etc).
- Cesspits and drains.
- Garbage pits and dumps.
- Isolated artefacts.

However, such artefacts, if they exist, will have limited ability to yield information that will contribute to an understanding of the local area's history. As noted above, the Heritage Division's guideline document entitled '*Assessing Significance for Historical Archaeological Sites and 'Relics'*' (NSW Office of Environment and Heritage, 2009) provides three questions to assist practitioners to assess the scientific significance of archaeological sites:

- Can the site contribute knowledge that no other resource can?
- Can the site contribute knowledge that no other site can?
- Is this knowledge relevant to general questions about human history or other substantive questions relating to Australian history, or does it contribute to other major research questions?

In fact, the potential archaeological resource at MP13, such as it is, has limited ability to yield data that:

- Cannot be gained from other sources – for example, the mechanisation of dairying is well-understood and documented by academic works over many years (Burley, 1962).
- Cannot be gained from other sites/dairies, many of which include structures from the early 20th century that are still standing and in use.
- Would address substantive research questions about the well-understood mechanisation of dairies in the region.

These conclusions are reinforced by the high levels of disturbance evident at the site since it was abandoned, which will have disturbed the potential archaeological resource.

This conclusion is reflected in the management recommendations provided in Section 11.2.

Figure 44 above captures a timber-lined well at MP13. This well constitutes a 'work' rather than a 'relic' under the NSW *Heritage Act 1977*. There is some potential for objects to have fallen into the well over the course of the 20th century and these might constitute 'relics'. This is reflected in the management recommendations provided in Section 11.

10 ASESSMENT OF HERITAGE IMPACTS

10.1 Overdene Homestead

Overdene Homestead is listed in the Muswellbrook LEP as a place of local significance.

The proposed rail alignment would be located 135 m west of Overdene Homestead. The homestead, and its potential archaeological resource, would not be physically impacted by the Modification (Figure 47a and 47b).

A dilapidation inspection report prepared by Parsons Brinkerhoff (2015) noted that the structure has a number of structural defects. Vibration from passing trains has the potential to exacerbate existing structural defects. However, we understand that the potential for further damage to the structure of Overdene Homestead resulting from vibration is unlikely (Wilkinson Murray, 2017). Providing the recommendations in Section 11.2 are followed, this would therefore not constitute an adverse heritage impact.

Overdene Homestead has not been used or occupied for many years. There are no adverse impacts in relation to the use of the homestead. The homestead is located in a compromised setting with the views to the west already altered by the Bengalla Mining Company waste emplacement. The dominant views out of the property to the east will not be impacted.

10.2 Overton Orchard and Race Track

The Overton Orchard and Race Track form part of the former Overdene Estate but do not form part of the listing of the homestead on the Muswellbrook LEP (2009). This reflects the fact that the former estate has been much sub-divided and altered through the 20th century, with most of the former buildings there demolished. The Overton Orchard and Race Track have not been functional for many years, further reducing the relationship between them and the house. Nevertheless, at one time they were functionally and physically associated with the homestead and they assist people to 'read' the former relationship between the early homestead and its agricultural and recreational areas. They make a contribution to the homestead's local heritage significance in this respect.

The Modification would physically impact approximately the western 40% of these areas. The western half of the avenue of trees leading down the driveway from the west, garden beds at the entry gate, and other cultural plantings and previous areas of cultivation would be removed. About a 40% of the Overton Race Track would be removed, on its western side. This would be an adverse heritage impact, especially in terms of the former estate's readability. However, the impact would be partly mitigated by the retention of the remainder of the Overton Orchard and Race Track and retention of the homestead itself, within a generous curtilage. If the Modification proceeds, it would still be possible to gain an appreciation of the former layout of the estate and the ways in which it operated.

Discrete areas containing garden beds and the remains of work areas were identified within parts of the Overton Orchard area in 2017 (Figure 6). These would not be impacted by the Modification. The parts of the orchard and race track that would be impacted have low potential to contain archaeological 'relics'.

In relation to the identified impacts on the Overton Orchard and Race Track see Table 2 below.

Table 2 Responses to ‘Statements of Heritage Impact’ Questions for the Overton Orchard and Race Track (from: *Statements of Heritage Impact* [Heritage Office and DUAP, 2002]).

Question	Reply
How is the impact of the new development on the heritage significance of the item or area to be minimised?	<p>The movement of heavy vehicles and machinery over the retained parts of the Overton Race Track and orchard will be minimised.</p> <p>Extant cultural plantings within retained areas will be retained <i>in situ</i>, although do not require ongoing maintenance.</p> <p>The Overton Orchard and Race Track will be recorded prior to works proceeding, and a copy of the record deposited with the Muswellbrook Shire Council Library.</p> <p>Identified areas east of the Modification (but still within the former Orchard area) that have the potential to contain relics will not be disturbed.</p>
Why is the new development required to be adjacent to the heritage item?	Engineering requirements, including integration with pre-existing infrastructure.
How does the curtilage allowed around the heritage item contribute to the retention of its heritage significance?	The heritage values for the former estate are principally embodied by the Overdene Homestead. This will be retained <i>in situ</i> within a generous curtilage. The relationship between the house and work/recreational areas will be still be readable.
How does the new development affect views to, and from, the heritage item? What has been done to minimise negative effects?	Views to and from Overdene Homestead will not be adversely impacted. Views to and from the western parts of the Overton Orchard and Race Track will be impacted but views to and from the retained parts on the east will not be significantly impacted. Views to the east over the Hunter and out to Muswellbrook will be maintained.
Is the development sited on any known or potentially significant archaeological deposits?	There is low potential for ‘relics’ in the impacted area. Identified areas east of the Modification (but still within the former orchard area) that have the potential to contain relics will not be disturbed.
Is the new development sympathetic to the heritage item? In what way (e.g. form, siting, proportions, design)?	The new development would retain approximately 60% of the Overton Race Track and Orchard area <i>in situ</i> .
Will the additions visually dominate the heritage item? How has this been minimised?	The proposed rail spur and loop will be a low new feature in the landscape. It will be visible but not dominant.
Will the public, and users of the item, still be able to view and appreciate its significance?	The public is not currently able to access the Homestead or Orchard and Race Track, which are adjacent to operational mine sites. The new work would result in no new impacts in this regard.

10.3 Blunt’s Butter Factory

This SOHI has identified the location of the former butter factory, including ruined structures and potential archaeological remains (Figure 33). These features would not be impacted by the Modification provided the recommendations in Section 11.2 are followed.

10.4 Overton Colliery

The proposed rail infrastructure would be located adjacent to the former Overton Colliery. Were the project approved, the rail batters may encroach slightly into the general area of the former colliery. Also, construction of the rail infrastructure may necessitate the movement of heavy plant and equipment over the site area depicted in Figure 39. These activities would not result in any adverse heritage impacts.

10.5 Bengalla Homestead and Former Estate

Bengalla Homestead is of local heritage significance. It would be located 330 m from the proposed road alignment and 750 m from the proposed rail spur and loop. The homestead complex at Bengalla would not be physically impacted by the proposed development. In non-physical terms, the homestead is already located adjacent to operational mining facilities and within a compromised setting. The proposed road and rail infrastructure would not result in any additional impacts to the homestead's setting.

The Muswellbrook LEP listing of the Bengalla Homestead also captures vacant land to the south of the homestead, extending to the Hunter River. This land once formed part of the Bengalla Estate. The proposed infrastructure would pass through some of this vacant land, but these former farm areas do not embody the same heritage values as the homestead itself. The construction of the proposed infrastructure in these areas would not constitute an adverse heritage impact. These areas were inspected in September 2017 and were found to contain no built heritage places and low potential for archaeological 'relics'.

10.6 MP13

MP13 has low potential to contain archaeological 'relics' and removal as part of the Modification would not constitute an adverse heritage impact.

10.7 M404, Cuttings, Two Sheds and a Possible Pump House

M404 would be removed by the construction of the rail spur and loop. This structure is not a heritage item. Two sheds, cuttings and a possible pump house were identified during the 2017 field survey (Figure 1). These would not be impacted by the Modification.

11 CONCLUSION AND RECOMMENDATIONS

11.1 Conclusions

Provided the recommendations presented in Section 11.2 are followed, the Modification would have no impact on:

- Overdene Homestead.
- The garden/orchard features within the former Overton Orchard, identified in 2017 (blue areas in Figure 6).
- Blunts Butter Factory.
- Bengalla Homestead and the broader estate.
- Miscellaneous sheds, cuttings and the pump house visible in the wider landscape.

There would be an adverse impact on the Overton Orchard and the Race Track in that they would experience partial demolition. These places once formed part of the Overdene Estate and they contribute to the local heritage significance of the Overdene Homestead. The impact would be partly mitigated by the retention of the remainder of the Overton Orchard and Race Track, and retention of the homestead itself, within a generous curtilage. If the Modification proceeds, it would still be possible to gain an appreciation of the former layout of the estate and the ways in which it operated.

The former Overton Colliery would not be impacted by the proposed works.

MP13 would be removed. However, this is not a heritage place. It has low potential to contain 'relics' as defined by the NSW *Heritage Act 1977*. Should any archaeological remains be encountered (e.g. the base of the extant timber-lined well) these could be removed subject to the procedures recommended in Section 11.2 below.

M404 would be removed but this is not a heritage place.

11.2 Recommendations

In relation to Overdene Homestead it is recommended that:

- Maintenance of the building should continue to be undertaken by the owner (consistent with the CMP [AECOM, 2015]).

In relation to the Overton orchard and race track it is recommended that:

- The movement of heavy vehicles and machinery over the parts of the Overton Orchard and Race Track that will be retained, should be kept to a minimum. Those areas illustrated in blue in Figure 6 should be marked off during construction of the proposed infrastructure to prevent any movement of vehicles and machinery across them.
- In those parts of the Overton Orchard and Race Track that will be retained, the extant cultural plantings should be retained *in situ*, although do not require ongoing maintenance.
- Prior to the works proceeding, a photographic record should be made of the Overton Orchard and Race Track. This need not be to the level achieved by photographic archival recording prepared in accordance with the guideline document entitled *How to Prepare Archival Records of Heritage Items* (NSW Heritage Office, 1998), but it should comprise a bound report containing colour images with supporting text. A copy of this report should be deposited with the Muswellbrook Shire Council Library.

In relation to Blunt's Butter Factory it is recommended that:

- The movement of heavy vehicles and machinery be prevented within the area bounded in orange in Figure 33. If construction requirements make this impossible, relevant contractors must work with an archaeologist to identify appropriate points of access and routes through the area of archaeological sensitivity.

In relation to MP13 it is recommended that:

- The Modification could proceed without the need for an excavation permit pursuant to section 140 of the NSW *Heritage Act 1977* or the presence of an archaeologist (with the following exception).
- If artefacts are exposed at the base of the well, works are to cease while an archaeologist is engaged to advise on whether or not they constitute 'relics' under the NSW *Heritage Act 1977* and whether or not works might proceed pursuant to an application for an 'exception' or excavation permit.

In relation to M404, it would be appropriate for its demolition to proceed without further involvement of a heritage practitioner. No conservation measures are required. It is not a heritage place.

In relation to the visible sheds within the Modification area (see Figure 1) it would be appropriate for the works to proceed without any particular management measures being put in place. They are not heritage places.

In relation to the cuttings (illustrated in Figure 1), steps should be put in place to prevent the movement of heavy machinery and vehicles across them.

In relation to the possible pump house (illustrated in Figure 1), steps should be put in place to prevent the movement of heavy machinery and vehicles across it.

In relation to Bengalla Homestead and the broader Bengalla Estate, there are no adverse heritage impacts and no recommendations for heritage management.

12 REFERENCES

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