

4 Field survey

4.1 Method

Survey is an important aspect to assessing the potential and significance of heritage items and is used to either verify the existence of sites or to discover sites that archival research was not able to identify. Survey methods are adapted to the type and size of project area and the outcomes of archival research. The most common survey method is one that is targeted to areas identified in historical research, visual information such as remnant buildings and landform (refer also to the predictive model Section 5.2).

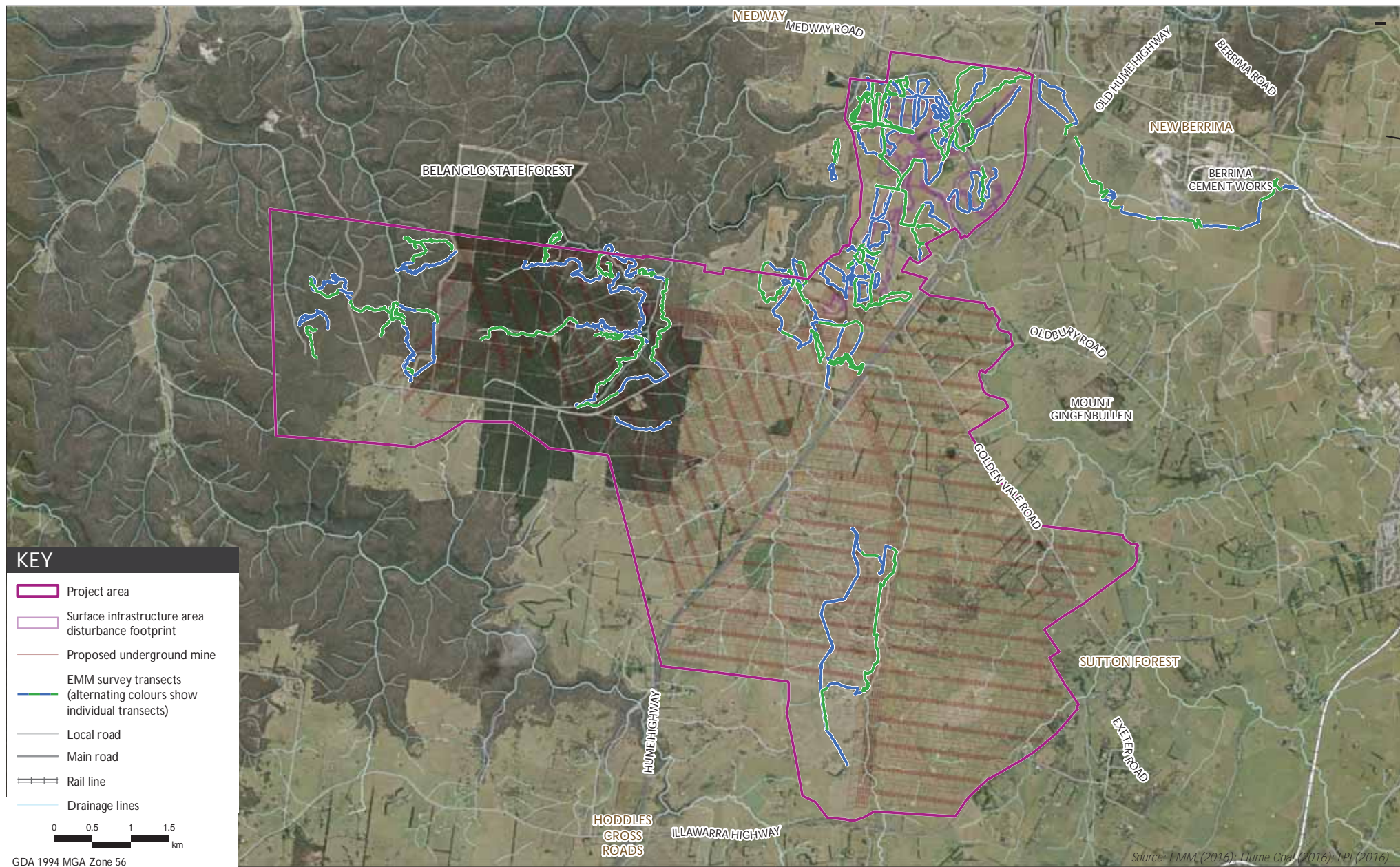
The survey strategy for this project was developed using the information gathered in the background research for this report including the historical summary and the heritage listings. Field survey was conducted on foot and targeted areas that were predicted to hold tangible evidence of the historical development of the project area as well as the locations that will be physically impacted by the project. The areas that were extensively surveyed for the historical assessment are the surface infrastructure area, the drift entry and exit points and the two ventilation shafts. Further survey for historical values was conducted in tandem with the Aboriginal survey.

Items and places were recorded through digital photography, GPS coordinates and written descriptions. The areas that were surveyed are shown in Figure 4.1. The photographic locations are shown in Appendix B.

The purpose of the field survey was to:

- identify the potential relics or known relics in the project area;
- ascertain the existence of structures across or in close proximity to the project area;
- identify significant cultural landscapes within the project area, and in particular, above the underground mining area;
- assess views and vistas relating to heritage listings and to the cultural landscape; and
- identify potential historical sites suggested by exotic plantings, glass and ceramic where survey was undertaken.

Field survey associated with the Aboriginal heritage survey was completed on various dates in 2014 and 2015 with supplementary site visits undertaken in 2016.



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The archaeological and heritage survey effort
Hume Coal Project
Historic Heritage Assessment and Statement of Heritage Impact
Figure 4.1

4.2 Results

4.2.1 Summary

The results of the field survey are presented below and are divided into property units rather than landform units, as the main focus was on the areas of surface impacts. The results are discussed below. Generally, the highest heritage values were found to be on the Mereworth property. The main focus of heritage significance is the house, the garden surrounding it and the avenue of trees; these items will not be physically impacted by the project. The other focus for surface infrastructure will be on *Evandale*, which was also surveyed. *Evandale* did not display any areas of archaeological sensitivity, and the cluster of farm buildings does not demonstrate heritage values other than conforming to the landscape values identified by (JRC 1991) and the National Trust of Australia (NSW) (1998).

4.2.2 Mereworth house and garden

i The setting

The *Mereworth* house and garden is an item of local heritage significance listed on the WLEP as item I027. The house and grounds were surveyed on 26 March 2015 and again on 29 April 2016 by the EMM heritage team. The focus of the field surveys was to assess the views and vistas to and from the house and garden as physical impacts to these components is not part of the project. Survey was also undertaken in the vicinity of the farm buildings to ascertain if any evidence of the fabric visible in the 1949 aerial photograph could be seen on the ground.

Mereworth comprises a house surrounded by an established garden. The property is composed of a large pastoral landscape with conifer windbreaks, rolling hills and dammed creeks. The present house is at 80 Mereworth Road, on the western side of the Hume Highway, south of Medway Road. The house is accessed from Mereworth Road by a long driveway that turns into an avenue of trees lined with conifers and golden elms on both sides, ending at a porte-cochere.

The existing house was built in 1965 and was designed by John Amory. It is a two-storey brick building with associated outbuildings. Stylistically, *Mereworth* is a French Provencal style house.

The dwelling is separated from the larger pastoral landscape that surrounds it by a double-level ha-ha², on the northern side of the grounds, which creates a physical boundary from the surrounding paddocks but maintains the visual continuity with the landscape to the north (Plate 4.9). The view from the ha-ha, framed by weeping elms, described as reminiscent of the English Landscape School (Ratcliffe 1990, p.98), maintains a sense of order in the immediate vicinity but sweeping out to views of “nature” in the distance. In the Australian context the converse can also be said – that “nature” represented by the Sorensen “forest” is part of the garden, and has sweeping views to the highly modified landscape, which is the farmland beyond. To the north of the house, the grounds are characterised by an area of open lawn approximately 1,500 m², surrounded by conifer and pine trees.

² A ha-ha is barriers created by retaining walls or ditches to allow for uninterrupted views across a landscape while keeping livestock out.



The core residential and farm complex at Mereworth
Hume Coal Project
Historic heritage assessment and statement of heritage impact
Figure 4.2

Most of the ancillary buildings on Mereworth are outside of the nucleus created by the main dwelling and garden (Figure 4.2). A stable block dating from the 1965 construction is located on the perimeter of the garden on the southern side and is therefore considered to be within the core garden area (Plate 4.3). The farm buildings just beyond the main garden to the north-east are operating work sheds and structures such as stock yards and a residence that it presently unoccupied.



Plate 4.1 The John Amory designed house at Mereworth (b.1965). The cold climate garden is behind the house and the sunken lawn at the front. View south-east.

The house was built on this location to “take advantage of the existing mature cypress and radiata pine windbreaks” (Ratcliffe 1990, p.96; also refer to Plate 5.4), and also because, as discussed in Section 5.2.1, there would have been an existing building platform on which to place a new structure.

The garden surrounding the house, the avenue of trees and driveway were designed by the landscape architect, Paul Sorensen (refer to Section 3.3.6viii). Sorensen’s tree-lined driveway and surrounding garden is a combination of native and exotic plantings that incorporated existing plantings (refer to Plate 5.4). It is a largely an introverted design with fruit trees and clusters of pines and elms surrounding the house and separating it from the adjoining fields. The line of trees leading to a cluster of mature pines and elms is a recognisable landmark from some locations on the Old Hume Highway to the south-east, as it is on a ridge (refer to Plate 7.11). The garden surrounds the house with a forest on the south side, a sunken lawn on the north and a rose garden on the north-east.



Plate 4.2 Rows of golden elms and flowering cherries lining the avenue to the house at Mereworth (Ratcliffe 1991, p.98). View north.



Plate 4.3 A corner of the stable on the southern perimeter of the garden. View south-east.

The yard to the south of the dwelling is planted with cold-climate trees, separated by manicured lawns, creating a space of filtered light (Plate 4.12). The result is akin to a northern hemisphere forest. The southern and eastern perimeter is also lined with tightly planted pines and conifers (Plate 4.15). On the eastern side, an in-ground pool separates the house from a formal rose garden designed by Sorensen, with a fountain inside a wisteria covered stone gazebo (Plate 4.8).

Field survey and consultation with the Mereworth landscape gardeners confirmed that the Sorensen-designed garden is still largely intact, with some of the original plantings removed. Key trees that have been removed include the flowering cherries (*Prunus precera* 'Vanhouttei') on the western side of the avenue; weeping white cherries (*Prunus subhirtella*) along the path that leads from the house to the rose garden; a white-flowered almond (*Prunus amygdalus*) in the sunken lawn; and the Deodar cedar (*Cedrus deodara*) that was growing from the island in the swimming pool (Ratcliffe 1990, p.96). Hume Coal has engaged horticultural specialists that are familiar with Ratcliffe's analysis of Sorensen's design to maintain the garden and take care of tasks such as lawn mowing and tree and hedge pruning.

A long section of the driveway that originally led from the Hume Highway (now the Old Hume Highway) to the house was interrupted by the Hume Highway duplication in 1985 and Mereworth is now entered from Mereworth Road, which joins a remaining section of the original driveway closer to the house (Figure 6.1). This change moved the entrance to the property from just south of Oldbury Creek to the end of the motorway slipway just north of Medway Rivulet, a distance of approximately 1 km to the south. Mereworth Road can also be accessed from the Old Hume Highway.

Sorensen's design (Plate 4.4) entered the property from the Old Hume Highway, almost directly east of the house and gardens (see view icon 'property entrance' and Plate 4.7). The driveway then travelled south, parallel to the Old Hume Highway, before sweeping to the north-west, where a break in the trees afforded views of "magnificent" rural scenery in the next valley (see view icon south of avenue of trees) (Ratcliffe 1990, p.98). The views from this break are still of the rolling hills of farmland, native trees and the mature deciduous plantings for which the Southern Highlands are known (Plate 5.6). The break in the trees (Plate 4.5) was probably enlarged when the driveway was remodelled. Plate 4.6 is of the original driveway where it meets the new, which is out of sight to the right; the trees on the left are remnants of the driveway plantings (cf. with Plate 4.5).

Two breaks in the trees are evident today which were recorded by Ratcliffe in 1990 (refer to Plate 4.4). It is not clear if the second break closest to the avenue of trees is part of Sorensen's design as his intentions are not described in his diaries but this view is also worth taking in. Continuing on toward the house, the driveway meets a double avenue of golden elms, flowering cherries (*Prunus serrulata*) and a tall hedge of Bhutan Cypress (*Cupressus torulosa*) (Ratcliffe 1990, p.98).

The changes to the configuration of the driveway as a result of the Hume Highway duplication in 1985 have reduced the experience of arriving at Mereworth (Ratcliffe 1990, p.104).

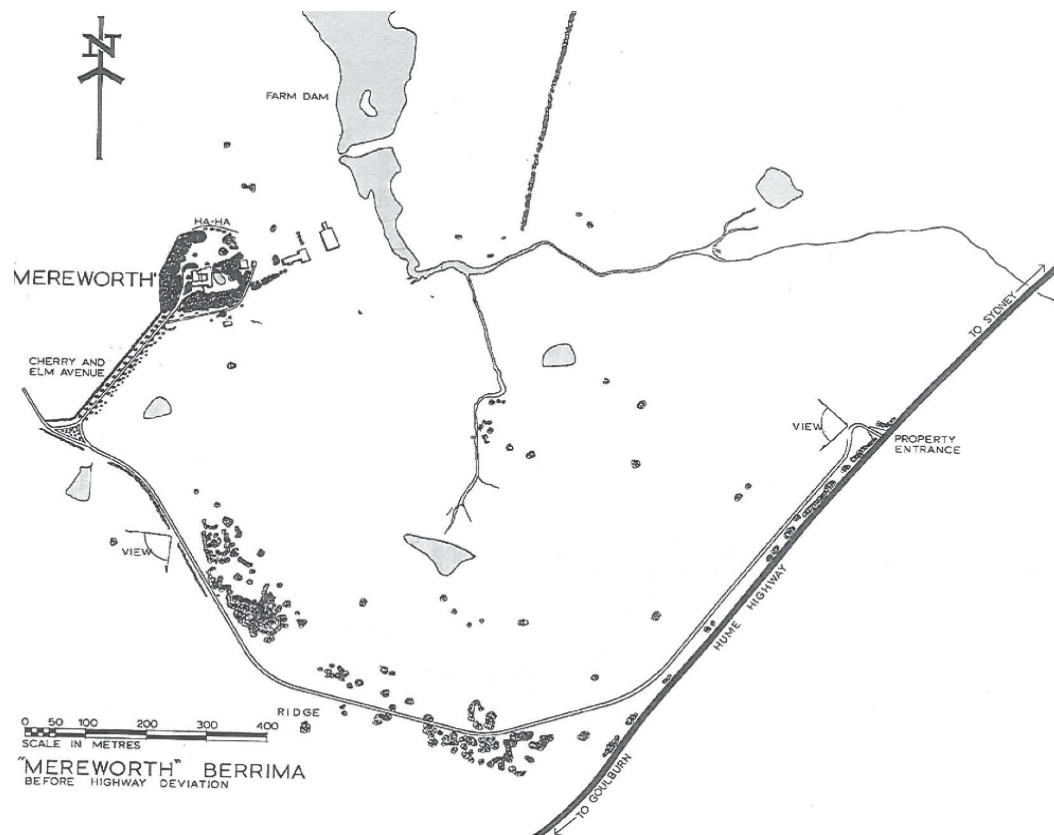


Plate 4.4 Mereworth with driveway and avenue of trees. This plan is of the driveway before the Hume Highway deviation in 1985. Refer also to Plate 4.5. Source: Ratcliffe 1990, p.97.



Plate 4.5 View south-west at the junction where the new Mereworth driveway meets the old. See view icon in Plate 4.4.



Plate 4.6 The original driveway to the Old Hume Highway. View east.



Plate 4.7 The original entrance to the Mereworth Driveway on the Old Hume Highway. Refer to the eastern view point in the sketch plan in Plate 4.4. View west.

ii View inside Mereworth

Views and vistas from Mereworth house were assessed from the second floor of the house and from the gardens. The view from the master bedroom veranda, across the sunken lawn and beyond the ha-ha was photographed (Plate 4.9) and is discussed in the impact assessment chapter (Section 7.5.2ii).

Views out in other directions, including from the north-west are obscured by the densely planted perimeter trees, some of which were planted prior to 1949. The tall perimeter trees of Bhutan cypress, set against the golden elms, create a striking contrast in the colour (Plate 4.15). The Bhutan cypresses form not only a barrier to the outside, but also to the strong winds that blow across the ridge.

Views from the house to the farmland are rare and only toward the north where they can be glimpsed across the ha-ha and the frame of golden elms. The ha-ha is double-level and constructed of extruded brick laid English bond. The lower wall of the ha-ha is approximately 130 cm in height and the top wall is approximately 60 cm. It has been suggested that Sorensen's intention was for the trees along the ha-ha to be pruned to keep the view to the north open (Ratcliffe 1990, p.98), which is an intention that is being maintained.

Views to the house and garden from within the property are striking, with the more open colours of the paddock grasses complementing the darker evergreens surrounding the garden and the deciduous trees that make up the avenue to the house. The view from the southeast crosses a large expanse of paddock to fall on the garden, signalling the possibility of a substantial residential complex amongst the farmland; ancillary buildings visible on the outskirts support this assumption.

The garden at Mereworth is visible from the north-western corner of the property where it meets Evandale (Plate 4.16). The tree line surrounding the house on Mereworth is visible in the middle distance; Mt Gingenbullen can be seen in the distance to the right. The pine trees to the left are a windbreak between paddocks which will screen the product stockpiles from north-westerly views from the house (refer to the impact assessment, Section 7.5). The ROM stockpile will be visible from the outside of the garden.



Plate 4.8 The gazebo and fountain surrounded by the rose garden. View east.



Plate 4.9 The view from the master bedroom veranda, across the sunken lawn and beyond the ha-ha. View north.



Plate 4.10 The ha-ha around the northern and western perimeter of the house complex. View south west.



Plate 4.11 The ha-ha on the northern side of the Mereworth garden. This view is to the south, facing the house.



Plate 4.12 The grounds of Mereworth on the southern side of the dwelling. The light on this side is filtered and soft and the tree species are predominantly European. View south-west.



Plate 4.13 View through the ha-ha at Mereworth. View north-west toward the surface infrastructure area.



Plate 4.14 View to the rolling hills north-east from a paddock on Mereworth. The farm buildings are visible to the left.



Plate 4.15 View to the avenue of trees from the same field in Plate 4.14. The colour of the golden elms offsets the deeper shade of the Bhutan cypresses behind them.



Plate 4.16 View east, south-east from the gate dividing Mereworth and Evandale. View to the garden and Mount Gingenbullen in the distance.

iii Mereworth from the public domain

Views to Mereworth from the public domain were assessed from various locations within and outside the property and are described in brief here. A detailed visual assessment was prepared by EMM 2017c and should be referred to for an explanation of views across the project area.

Views to the tree lined avenue leading to the house and garden are visible from the Hume Highway when travelling north. The view is fleeting as it emerges from behind a deep cutting and is viewed from 110 km per hour. Views to the avenue and garden from the southbound lane are as just as fleeting and therefore, not as prominent as they would have once been from various locations on the Old Hume Highway. Public access from this part of the Hume Motorway is not permitted (Plate 4.17).



Plate 4.17 Views to the avenue of trees and garden surrounding the house on Mereworth; from the southbound lane of the Hume Highway (view south-west).

iv Potential relics

The potential for relics was also investigated given the age of the property. No areas that indicated the existence of relics in the field were noted. Research indicates that one of Atkinson's homesteads (c.1820s) was within the area of the existing house and garden and the outbuildings and stock yards visible in the 1949 aerial photograph where the current farm outbuildings and stock yard have been placed (refer to Section 5.2.1 and Figure 5.2).

Figure 4.2 is a detail of the current aerial photograph showing the house and gardens at Mereworth and the ancillary farm buildings. Note that it is likely that one of the homes that John Atkinson built was where the swimming pool is now and the modern ancillary buildings overlie the area that the historic ancillary buildings were shown in the 1943 aerial photograph (Plate 5.4).

One other area of interest was surveyed in the vicinity of the *Mereworth* house and garden. A small rise approximately 160 m from the northern edge of the garden was initially thought to be a possible location of the earlier homestead (Figure 5.1). Survey and the 1949 aerial photograph indicate that it is a rise in the landscape that appears to be the result of land preparation in the surrounding area. Currently a corrugated iron shed that was not present in 1949 occupies the north-western edge of the rise. A timber window frame with mullioned glass and fragments of a wagon wheel have been leant up against the southern elevation of the shed (Plate 4.18). The manufacturing style of six-pane sashes, the simple joinery profile and the transom mechanism suggests that it dates to the early nineteenth century, although may be later as it is a vernacular style. These may be fragments related to the earlier homestead but as they have been removed from the original location, it is not possible to positively identify them as such. Although this landform is not within the construction footprint these items have been identified in the management measures for re-location to the main house within the *Mereworth* garden for safekeeping.



Plate 4.18 Window frame and wagon wheel fragment dating from the early to possibly the late nineteenth century. View north-west (Refer to Figure 5.1)

4.2.3 Evandale

Evandale is not a listed heritage item.

The north-western corner of *Evandale* was surveyed on 10 February 2014. This area was surveyed specifically because it will be impacted by mine infrastructure and while historical research did not indicate previous structures in this area, the potential for unrecorded relics exists as in any area that has the history of the project area. The surveyed area is a large paddock that has been historically ploughed over the last 150 years.

One site that may be a relic (under the Heritage Act) was recorded at the edge of a paddock and present within an open Aboriginal artefact scatter. This site, HC_127 (Figure 5.1), comprises glass fragments, a metal buckle and ceramic sherds with Aboriginal artefacts made of indurated mudstone, quartz and silcrete (three Aboriginal artefacts recorded by survey; refer to Plate 4.20). A mature yucca plant was recorded within 4 m of the scatter (Plate 4.21). Verification of HC_127 as a relic has not been possible as records of structures in this area have not been located and no other suggestion of fabric was visible (refer to Plate 4.21). However, as this paddock has been ploughed regularly, the most likely scenario is that the yucca is self-seeded and has been avoided in subsequent ploughs as it is too close to the edge of the bushland. The glass, ceramic and metals are likely to be redeposited refuse.

The southern extent of *Evandale* was surveyed over four days, as a higher concentration of the mine infrastructure area was initially proposed to be located south of Medway Rivulet and north of the main homestead. The revised mine design now locates the majority of the infrastructure on *Mereworth* with only two drifts, conveyors and an upcast shaft in proximity to the cluster of buildings on *Evandale*.



Plate 4.19 HC_127 (also an Aboriginal site) with a ceramic tea cup handle, a plate fragment and a metal buckle.



Plate 4.20 HC_127 (also an Aboriginal site) with a collection of glass from the surface.



Plate 4.21 HC_127 (also an Aboriginal site) is in the middle ground in the photograph close to the deep green plant (yucca). View north.

The area was found to be consistent with the surrounding land: cleared land used for cultivation and grazing. Trees are a mix of natives, endemics and exotic plantings along the main driveway surrounding the primary dwelling. Since 1949 windbreaks, which have now matured, have been planted and are recognisable features of the area. These lines of trees are visually pleasing and important to the aesthetic appeal of the Southern Highlands today. Some of the structures that are visible in the 1949 aerial photograph (Plate 5.3) remain.

Survey confirmed that the areas where infrastructure that is associated with the underground/surface transition are proposed, are cleared paddocks with no evidence of former structures or archaeological sites. Photographs of the main areas of impact are shown in Plate 4.23– view to the north-west across Medway Rivulet to the goods and personnel drift portal; Plate 4.23 – view to the south-east across the laydown area and conveyor with Mount Gingenbullen in the distance; Plate 4.24 – view to the north-west from the northern side of Medway Rivulet looking toward the corner of the tree line where the goods and personnel drift portal and surrounding infrastructure is located; Plate 4.25 is the location of the upcast ventilation shaft with the view to the south west; and Plate 4.26 is a hay storage shed which is currently on the boundary of two paddocks. This shed does not have heritage value. The shed is adjacent to the laydown area by the conveyor drift portal and is directly adjacent to a gate between the two paddocks.



Plate 4.22 View across the location for the proposed conveyor and sediment dam at the southern extent of the surface infrastructure area. The tree line indicates the Medway Rivulet. View north-west.

i Sutton Farm House

Sutton Farm House is a brick and stucco two-storey coaching inn dating from the 1830s. It is currently a residence with a riding school. A derelict building exists to the northeast of the former inn.



Plate 4.23 Sutton Farm House (formerly the Red Cow Inn). Photograph from the Illawarra Highway. View northwest.

Sutton Farm House was not accessed for this report. It is located within the underground mining area where subsidence has been assessed to be negligible.

ii The Pines

The main cottage (Plate 4.24) stands on their original lots of Portion 67, Parish of Bong Bong. The SHI listing mentions an additional two cottages to the north, but these were not recorded as The Pines was viewed from the public domain only. Two large pine trees either side were removed many years ago. The Pines was an early slab cottage on the Great Southern Road, but the whole cottage was covered in fibro and painted in the 1970s but the original slabs remain underneath. It has a high roof of iron, and handmade brick chimneys. The cottage has four rooms with a detached kitchen, the area between these two buildings now being enclosed. Windows at the back of the house have iron bars. Originally the two 12 pane windows either side of the front door had wooden shutters, without louvres, but they were removed and stored by the owners in the 1970s (SHI 2680029).



Plate 4.24 The Pines viewed from the Illawarra Highway. View north-west.

The Pines was not accessed for this report. The property is within the project area (but the building is not), where subsidence has been assessed to be negligible and the building will not be undermined.

iii The Harp

Built of small sandstock bricks in the 1830s as an inn, The Harp was previously known as *Bindagundra*. The house is 45 ft x 24 ft, with gabled roof and attics in the gables, reached by a small stairway leading from one of the rear rooms. The dormer window which lights the attic rooms has been enlarged. Twelve feet from the rear of the house is the detached kitchen, 16ft x 12ft, also built of the same bricks. All the joinery appears to be original and is of cedar except for the joinery on a four panel door and the dormer window mentioned above. Doors are six panelled with fine mouldings and casement windows have fine glazing bars. The veranda is paved with bricks in a diagonal pattern. The fireplaces retain their cedar mantelpieces. The house is also set in a garden which features several fine mature trees including oaks.

Alterations include enlarging the original attic dormer, a weatherboard addition to the east of the house and a new bathroom added to the west of the kitchen (SHI).

The Harp was not accessed for this report, therefore it was not photographed. The property is within the project area, where subsidence has been assessed to be negligible and the building will not be undermined; refer to Table 7.1 for the total area (ha) of the heritage items in the project area.

iv Newbury

Newbury was established by John Nicholson on a land grant at the same time as James Atkinson's *Oldbury* and John Atkinson's *Mereworth*.

Newbury was not accessed for this report, therefore it was not photographed. Only part of the property is located within the underground mining area where subsidence has been assessed to be negligible; refer to Table 7.1 for the total area (ha) of the heritage items in the project area.

v Bunya Hill House

Built in the 1870s, *Bunya Hill House* is a large, two-storey free-standing house. The rear section of the house and the outbuildings, including what is understood to be a bakehouse, may be older.

Bunya Hill House was not accessed for this assessment report, therefore it was not photographed. Only part of the property is located within the underground mining area where subsidence has been assessed to be negligible; refer to Table 7.1 for the total area (ha) of the heritage items in the project area.

vi Eling Forest Winery, house, ground and outbuilding

The *Eling Forest Winery* group consists of an earlier homestead site, which is now an archaeological site. The homestead was built in 1834. A later home (1840), another stone cottage and a sandstone quarry all make up the listing for this property. The property was named after the town of Eling in Hampshire.

Eling Forest Winery was not accessed for this report, therefore it was not photographed. Part of it is located within the underground mining area where subsidence has been assessed to be negligible; refer to Table 7.1 for the total area (ha) of the heritage items in the project area.

vii Comfort Hill

The *Comfort Hill Group* is listed as an LEP item on the Wingecarribee LEP. The group includes the main house (single storey sandstone cottage with attic, rear kitchen block, extensive 1948 additions to rear of house, internal sculpture by Tom Bass) and outbuildings, garden including mature trees, stone walls and a pond, aviaries as well as extensive remnant natural bushland. The original single storey homestead was constructed from locally quarried sandstone in c.1840. This stage of the property's development is significant as an example of the local area's early homesteads. In 1949 extensive additions were made to the sandstone structure and display highly sympathetic design and aesthetic elements in relation to the original residence. The additions contribute to the significance of the site due to the high level of integrity and association with prominent architects Stephenson & Turner (SHI 2680356).

The Comfort Hill garden is focused around the residence and looks out over extensive undulating pastoral countryside. Stone walls at the rear of the property define the curtilage of the immediate garden with hedges, ponds, aviaries, statues and seats adding to the visual diversity of the gardens. The gardens also include an internal courtyard, front rose garden, herb garden, peony courtyard and a polar lined driveway (SHI 2680357). The remnant natural bushland is significant as it displays "rare evidence of the change to the environment created by clearing, agricultural practice and tree planting in the region" (SHI 2680021).

Comfort Hill was not accessed for this report, therefore it was not photographed. Only part of it is located within the underground mining area where subsidence has been assessed to be negligible; refer to Table 7.1 for the total area (ha) of the heritage items in the project area.

The Belanglo State Forest was surveyed extensively although the focus was on landforms that would have been conducive to providing shelter and resources for Aboriginal people. Only one location within the state forest will be affected by surface infrastructure, being a ventilation shaft, close to the inside edge of the plantation. Although recent graffiti was noted and a number of rock shelters were recorded, no evidence of historical European use was evident within the forest.

4.2.4 Significant cultural landscapes

Despite the concept of cultural landscapes arising in 1929 (NSW Heritage Office 2003, p.5) significant historical cultural landscapes are difficult to define, particularly when they are the result of only two hundred years of human-environment interaction where after initial (Aboriginal) activity, change has been gradual. Cultural landscapes represent both a process and a product (NSW Heritage Office 2003, p.10) as they are formed through the addition of elements for continuity of use rather than through major changes in land use, and they have high interpretive value; they are formed through the interaction of nature and people, the past and the present and the physical and social (NSW Heritage Office 2003, p.5).

The *Wingecarribee Heritage Study* identified historically significant landscapes in the Southern Highlands area. Of those identified, Sutton Forest (Landscape 6) is within the study area (Figure 2.3). It is described as follows:

The combination of landform, vegetation and landuse [*sic*] result in a broad, open rolling landscape with remnant areas of Eucalypts on ridges and scattered eucalypt timber dotting the country...

...The extensive rolling landscape is complemented by the large scale paddocks associated with grazing, predominantly for beef cattle. Pastoral properties are extensive and homestead sites are marked by distinctive groups of introduced planting. In addition there are various late nineteenth century houses and gardens...A nucleus of the larger pastoral properties date from the 1820's period of settlement. Smaller homesteads, now disappeared, have their sites marked by groups of introduced tree plantings...

...The overall character is that of a rich and varied cultural landscape shaped by associations with early land grants and settlement of the region. Spatial organisation is large scale in relation to the rest of the study area. Variety in the landscape is a result of the range of tree species and the importance placed on planting by landholders. There is a high degree of sense of stewardship of the landscape.

JRC 1991, p.82

The Exeter/Sutton Forest Landscape Conservation Area is another separately identified landscape classified by the National Trust of Australia (NSW). This landscape includes Sutton Forest, Exeter and the southern area of Moss Vale (Figure 2.3). Its valued qualities are its pastoral landscapes, low-key roads (with the exception of the Hume Highway), churches and historic estates. The description makes particular reference to the "exceptional collection of historic country estates with intact landholdings...dating from the 1826 Georgian-style "Oldbury", and the second Badgery "Vine Lodge" (1840s) to the Vice-Regal Residence [*sic*] "Hillview (1850s) and the very grand 1936 Tudor-style "Invergowrie" with its huge Paul Sorensen designed grounds" (National Trust (NSW) Listing Proposal 1998).

Field survey confirmed that the landscapes identified in the two studies above still exist today although changes have introduced new elements. The changes to the Hume Highway and the introduction of the Hume Motorway to the north have provided motorists with the chance to avoid the narrow, rural road while travelling though but the upgrade has taken away the experience of driving along a country road. The Old Hume Highway and Illawarra Highway retain their charm but the route upgrade also provides a safer, faster way to travel through the area.

Photographs of the landscape have been included in various sections of this report and should be reviewed in association with this section.

5 Analysis of the project area

5.1 Methods

The analysis of the project area was undertaken by combining the information gathered during the preceding sections. A review of the historical development of the region, the existing environment, evidence from maps, plans and photographs, information provided by various community members and review of existing reports have all provided information with which to assess the potential for heritage items, including relics, and to assist with the assessment of significance (Section 6).

Sections in this chapter include excerpts from historical sources, which have been included here so that they are incorporated into the discussion on the predictive model.

5.2 Development of a predictive model

Much like predictive models used in Aboriginal archaeological assessment, patterns can be observed in the settlement of the colony by the early settlers. In general, the availability of water, the predominantly gentle slopes and the natural resources in the form of timber and soils conducive to grazing uses, combined with the temperate climate, made the region desirable to settlers starting on their commercial endeavours.

In his 1992 doctoral thesis, Higginbotham defines topographic features that would have been desirable for settlers to acquire by firstly identifying locations that were not. Landscapes of Hawkesbury Sandstone and slopes of greater than 8 degrees were avoided and preference was given to land that had access to fresh water, alluvial soils and gravels and lightly timbered land (Higginbotham 1992, Vol 1, p.7). The preference for land in these areas is understandable as life depends on abundant water supply for people, stock and irrigation.

Availability of fresh water is a factor in the selection of land by Aboriginal people as well; but Aboriginal people were also able to live in a landscape that required less modification than that occupied by the settlers. Rock shelters were sought out and impacts to the surrounding environments by the Aboriginal groups inhabiting the area were more visually subtle than the changes made by the settlers. The possibility that early settlers could use rock shelters was also considered but survey of these sites (EMM 2017b) did not yield evidence of historic significance.

Generally settlement in the early colonial period up to the 1850s followed the pattern of granting land along rivers and where common rights to water were available (Higginbotham 1992, Vol 1, p.8). Higher population densities were established in the more favourable areas (Higginbotham 1992, Vol 1, p.7). The availability of Crown land influenced land tenure as well as landowners who were locked by other landowners and could only move their stock across their neighbour's property with permission (Higginbotham 1992, Vol 1, p.8).

John Atkinson's observations of the County of Argyle, to the south of the Southern Highlands and which includes the Southern Tablelands describes it as possessing *large tracts of open forest where the basis of the soil is granite...though pleasing to the eye, having a beautiful park-like appearance, is poor and seldom adapted for cultivation* (Atkinson 1975 p.5–6). Lachlan Macquarie also described the region as pretty and resembling a fine extensive pleasure ground in England (Jervis 1986, p.15). Conditions attached to land grants saw wide-scale clearing of land and a heavily wooded area would require higher capital outlay and physical effort and so it was the less wooded areas that were most attractive to settlers, who moved in and displaced the incumbent Aboriginal communities. Trees were removed by various methods depending upon the financial capabilities of the landowner, with grubbing being the preferred method (Atkinson 1844, p. 125) but also the most expensive. Other, less costly methods involved cutting the tree low to the ground, ringbarking it and covering it with either branches or sods (turf) and burning it – a practice that can occasionally be seen in the archaeological record.

Huts were one of the first dwelling structures in newly opened areas, housing recent landowners and contractors alike:

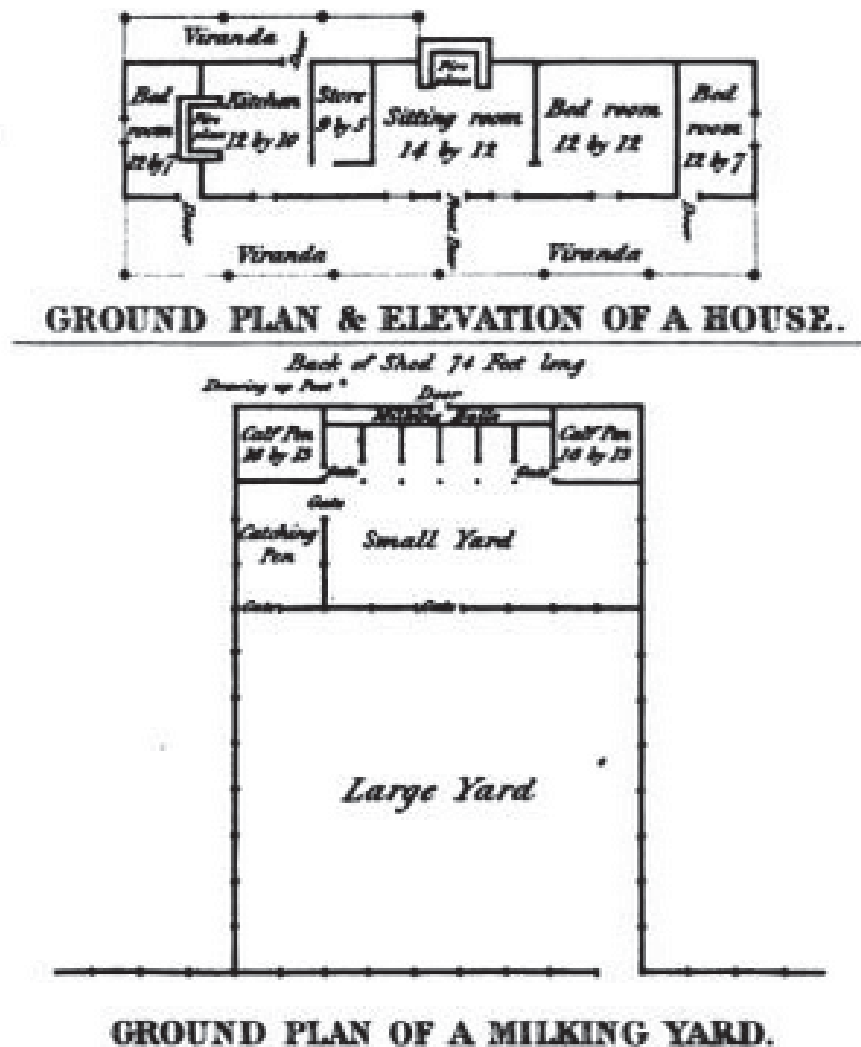
Many persons first taking possession of land, content themselves with the shelter afforded by a bark hut, while they put in their first crop, or carry on their first and most important operation; and may having once accustomed themselves to living in this way, will rest content with no better habitation for perhaps several years, until absolutely compelled, by the advancing state of population around them, to think of erecting a better (Atkinson 1844 p.135 – 137).

Brick buildings are now becoming very general throughout the colony; but new settlers can seldom make use of that style of building at their first commencement ... Sawyers usually construct a temporary hut in the bush where there is plenty of timber, and reside there while the job they are hired for is in hand (Atkinson 1844, p.139 – 140).

In Atkinson's account, even though the cost of stocking the land could delay building a more substantial home, the owner should consider the building of a permanent, secure home, of modest proportions as soon as practicable. He provides a plan of a house showing a sitting room, three bedrooms, a kitchen and storeroom, and a milking yard (Plate 5.1). A loft should cover the entire building (house) for "stowing away many articles in perfect security" (Atkinson 1844, p.137) and skillions on either side provide space for additional bedrooms, which can be extended, if need be, under the veranda (Atkinson 1844, p.137).

The earliest available aerial photography dates from 1949 and shows that the project area has undergone little development after it was initially cleared (Plate 5.4). The most obvious changes are the removal of what appear to be native trees from around Oldbury Creek, Medway Rivulet and Wells Creek, the growth of tree-lined windbreaks and the increase in the number of dams across the farmland. Comparison of the aerial photographs also clearly illustrates that the mature garden plantings, windbreaks and privacy screens on property boundaries and fence lines are more recent aspects of the characteristic landscape in this area. The relative newness of the plantings does not detract from the significance of the place, but does add another layer to its development as a rural landscape, the character of which has almost completely dominated the industrial aspects of its history.

The land surrounding the homesteads has largely been subject to repeated ploughing and used for agriculture for the last 150 years. Now much of the land continues to be used for grazing cattle, cultivation of animal fodder and vineyards.



London. Published January. 1844 by J. Cross. 18. Holborn. opposite Furnival's Inn.

Plate 5.1 Atkinson's template for building a home and milking yard in the early years of taking possession of a property (Atkinson 1844, page between 136 & 137, ie, no page number).

To the west, the Belanglo State Forest has mainly been used as a pine plantation since 1919 (Forestry Corporation 2015), but there are large tracts of remnant native vegetation where steep and rocky terrain has made it inaccessible to machinery and unsuitable for timber plantations. This has left most of the scarps and sandstone landscapes protected from historic clearing. There are also corridors of remnant vegetation surrounding Medway Rivulet, Oldbury Creek and Wells Creek in the north and north-western part of the project area where the underlying Hawkesbury Sandstone is found to outcrop occasionally. Outside of these areas, only small pockets of remnant or regrowth vegetation exist which are generally discrete and isolated.

It is possible that relics related to historic period activities such as timber-getting, or camps may survive in the Belanglo State Forest in areas that have been unaffected by plantation works.

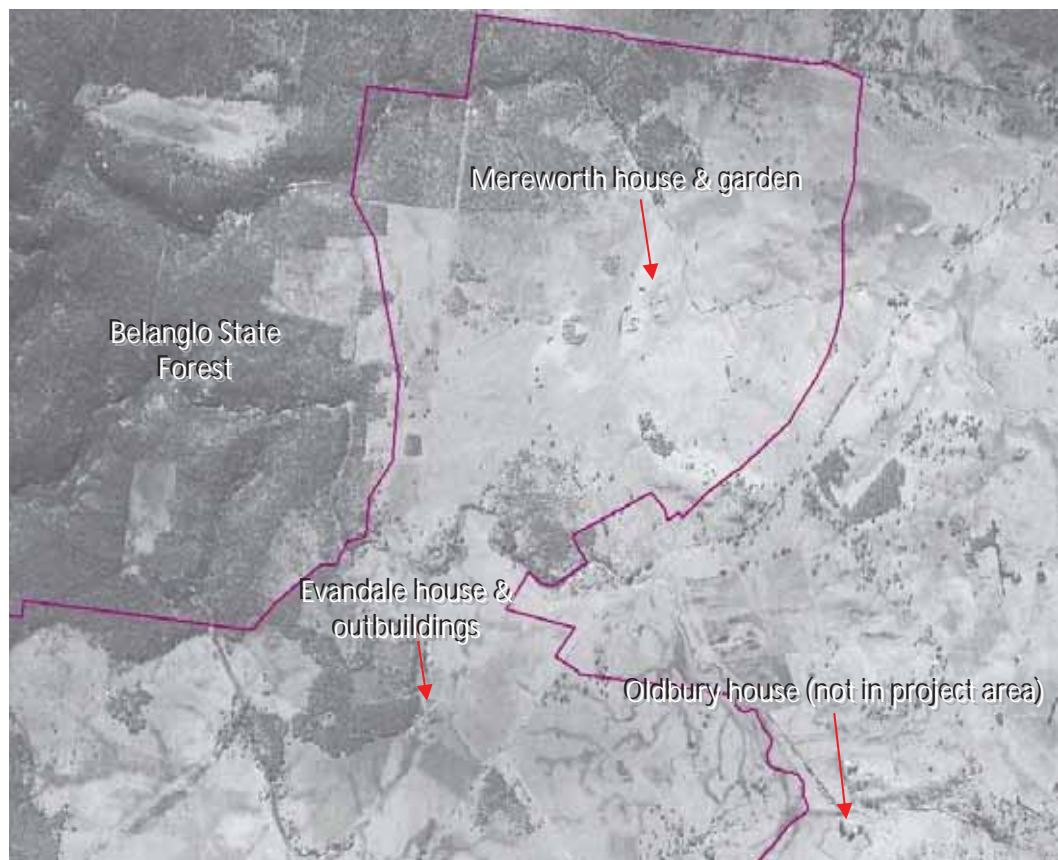


Plate 5.2 The 1949 aerial photograph over the northern side of the project area.

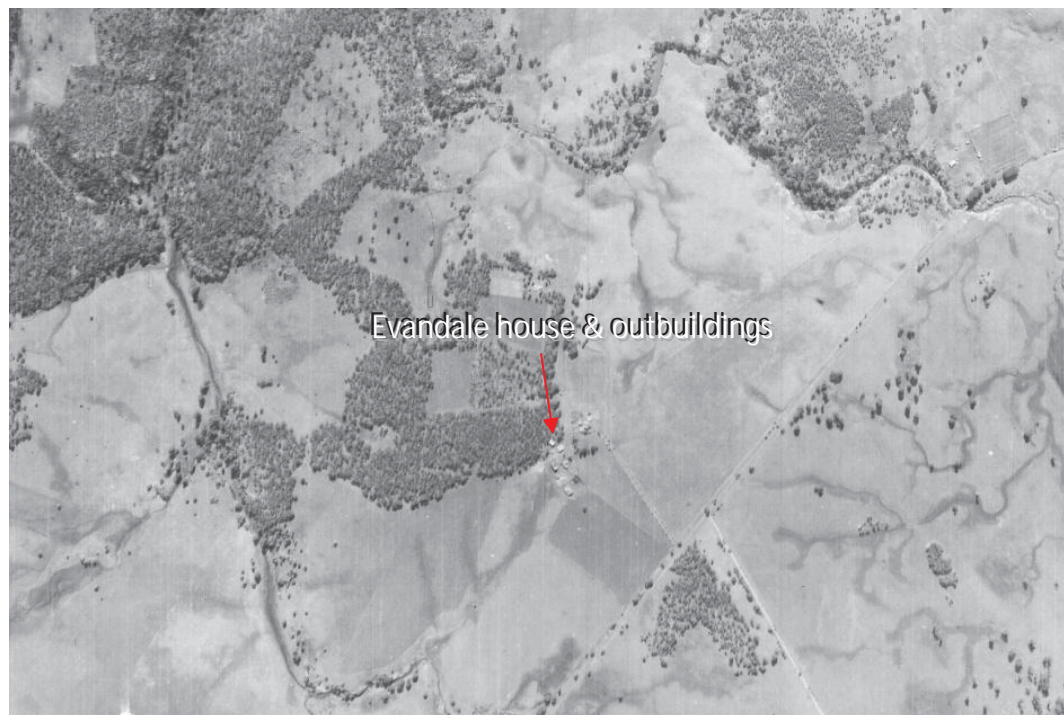


Plate 5.3 The southern extent of *Evandale* showing the collection of buildings in the centre of the image, the extent of native forest and young tree lines (1949).

5.2.1 Potential archaeological sites in the project area

i Earlier homestead (Mereworth 1)

The existing house on *Mereworth* was built in 1965 and replaced an earlier structure, which is likely to have been built by John Atkinson by the early 1820s and was recorded by census in 1841.

The inn that Atkinson built was in addition to the ‘plain cottage’, which is believed to be where the current house on *Mereworth* is now. A demolition sale notice for the inn, described a large quantity of galvanised iron “in splendid condition” floorings, lining, solid cedar doors amongst a large inventory of building materials. These materials also included 100,000 bricks and “1000 tons of squared sandstone, flagging &c”. This advertisement clearly names the building: “Another old landmark gone – Mereworth House originally known as “The Three Legs of Man”” (*Scrutineer and Berrima District Press*, 24 April 1918, p.3). Refer also to Plate 3.2. It is interesting that although the inn was sold off in John Atkinson’s time, when it converted to a residence, the name chosen for it was “Mereworth House”.

In contrast to the description of the inn, the 1841 census records John Atkinson’s household living in a timber building two years before the inn was sold. The household consisted of ten adults and four children, suggesting an arrangement where the landowner and employees shared living quarters, especially given that John and Jane Atkinson had three children. This apparently, was typical for the time (Higginbotham 1992 vol 2, p.39-40).

The locations of another three timber buildings were recorded on the Atkinson’s property, indicating a tenant settlement arrangement for another three of Atkinson’s employees. These buildings have been identified on land between the Hume Highway and the Old Hume Highway (Figure 5.1), outside the project area.

Other evidence pointing to the Atkinson’s residence being somewhere other than the inn is an auction notice for Atkinson’s well-known milking herd (40 head) to be held at the Kentish Arms on 8 March 1839 (Higginbotham Vol 2, p.38). “This is the earliest evidence relating to dairy farming on Mereworth” (Higginbotham Vol 2, p.38). The existence of a dairy farm raises the question of where the Atkinsons lived while the inn was operating. It is likely that the cottage referenced in the *Southern Highland News* (2 May 2011) as ‘plain’ was a separate building to the inn, built elsewhere on the property. This then raises the possibility that the cluster of buildings shown in the 1949 aerial photograph in the location of present-day Mereworth being the Atkinsons’ homestead and dairy farm (a supposition also made by Higginbotham 1992 Vol 2, p.49). Further evidence to support this hypothesis is the presence of a timber window frame built in a style suggesting early nineteenth century manufacture (Plate 4.18).

If the location of the early homestead is the cluster of buildings in the 1949 aerial photograph, then most relics were removed, or disturbed, by the 1965 construction of the current house and garden. Plate 5.4 shows extent of the structures visible in the 1949 aerial photograph over a current aerial photograph. The area of archaeological sensitivity on Mereworth is shown in Figure 5.1.

Field survey did not locate evidence of relics but judging by the 1949 aerial photography and supported by Higginbotham (1992) what appears to be the main cottage would have largely been removed by the 1965 house construction and the in-ground swimming pool. Outbuildings, fences and stockyards associated with the previous homestead are visible to the northeast in the photograph but were not seen on the ground. Further, the structures to the east have been superseded with newer buildings and a regularly repaired farm track of crushed gravel. Nevertheless, relics may survive in truncated form around the core of the residential and farm cluster, particularly if they had been demolished by the time of the 1949 aerial photograph but it is more likely that surviving relics on the periphery of this homestead group are ephemeral and very likely, disturbed. Fences and stock yards are a feature at the eastern end of this cluster, providing little opportunity for substantial archaeological deposits to be present.



Plate 5.4 The collection of buildings in the centre of this 1949 photograph is likely to be one of Atkinson's homestead (referred to as Mereworth 1 in this report).

5.3 Potential archaeological sites directly adjacent to the project area

5.3.1 Three legs of Man

i The Kentish Arms/Three legs of Man

Analysis of the former inn site, the Three Legs of Man, was completed using archival as the inn was found to be outside the project area. It has been included in this report because of its proximity to the project boundary and its association with other potential relics within the project area, in particular to one of the earliest settlers in the region. Its legal boundary is Lot 1 DP 780173.

The 1839 auction notice in *The Sydney Gazette and New South Wales Advertiser* (Thursday 19 September 1839, p.4) describes the inn property as containing:

...five Parlours, Tap Room, nine Bed Rooms Kitchen, Stable for fourteen Horses, Men's Hut, Stock Yards, &c, a beautiful Garden of One Acre and a Half, in a high state of cultivation, planted with the choicest APPLES AND PEAR TREES.

The extent of the Land is 20 Acres, being part of the magnificent Estate of the Property of John Atkinson, Esq. It is beautifully watered on two sides by the never-failing and pure stream known by the name of Midway Rivulet [*sic*], which bounds the Estate from the trespass of the Neighbourhood.

The derelict inn building was demolished in 1918 (*Scrutineer and Berrima District Press* 24 April 1918, p.3; SHI Mereworth House and Garden; Higginbotham 1992).

ii Employee residences

The 1941 census names another four households, all living in timber buildings and all recorded as living on Mereworth. This suggests the tenant settlement arrangement. The households were recorded as those of John Hancock, George Kemp, James Parmenter and Charles Sculthorpe. The likely location of three of the timber buildings have been recorded by Higginbotham on the eastern side of the Old Hume Highway and shown as Mereworth 2, Mereworth 3 and Mereworth 4 on Figure 5.1 of this report; they are all outside the project boundary and will not be impacted.

5.3.2 Archaeological predictive statement

It is possible that unrecorded relics exist, particularly where they may be associated with the larger estates or where early industry may have left the ruins of ephemeral structures. The historical development of the region includes structures related to industries, the footprints, of which may survive only in archaeological form: timber getting and sawyer's huts and small mills by rivers; mining and huts or adits, mullocks or rail corridors; and agriculture with timber structures for dwellings and sheds. Other industries developed around mining and agriculture, and then later around tourism include accommodation and related services. As with the observable cultural landscape that exists today, the majority of structures that have survived the effects of time and an increase in affluence are those made of masonry – brick and stone. Environmental heritage listings tend to show a bias towards the larger, more “stately” buildings such as the large homesteads, inns and churches. Moreover, archaeological sites are generally invisible and listings are made infrequently.

Consultation was undertaken with members of the community to collect information about potential archaeological sites or structures that have not been listed but fall within the project area. The individual members that were interviewed were asked about old buildings such as sheds and old houses that they remember from their childhood. Areas of potential archaeological significance were not identified through consultation.

The *Hume Coal Phase 3 Exploration Activity Review of Environmental Factors* report prepared by Hume Coal (August 2014) identified a short adit in the valley of Longacre Creek and workings at Black Bobs Creek as surviving evidence of nineteenth century mining operations in the area (Hume Coal 2014, p.1-2). Although it is in the vicinity, Black Bobs Creek and associated features are at a substantial distance outside the project area.

The existence of archaeological sites across the landscape should not be discounted and recorded when encountered. Conservation or protection of such features is only possible if their location is known and in many cases, small or vernacular structures were not recorded.

The historical summary and site analysis indicate that archaeological resources may survive within the project area in various states of preservation:

- John Atkinson's homestead (Mereworth 1), beneath the existing house and gardens and associated farm buildings;
- The fourth timber residence recorded in the 1841 census not located by Higginbotham (1992) (refer to Section 5.2.2ii);
- sawyer's huts (most likely adjacent to creeks);
- sawyer's mills (most likely adjacent to creeks);
- temporary dwellings and yards adjacent to later-built more substantial homes; and
- mining infrastructure such as mullocks, huts and equipment emplacements.

It is considered unlikely that the project will impact on any of these features as the design generally avoids creek banks and land adjacent to creek banks, the majority of roads will be made from upgrading existing farm tracks and infrastructure will be built on ploughed paddocks.

The 1965 residence at Mereworth, the garden and associated development more than likely destroyed earlier relics related to components of the earlier homestead within the existing complex. Evidence of fence lines and stockyard may survive but if so would be ephemeral in nature (Plate 5.4).

Despite the assessed low potential for impacts on archaeological sites (relics), as a precaution, management measures for the protection of unanticipated finds will be included in the recommended management plan (refer to management measures in this report).



Plate 5.5 The possible location of the inn, *The Three Legs of Man*, (red arrow) and the general location of three employees' houses (blue ellipsis).



Area of archaeological sensitivity on Mereworth and adjacent to the project area

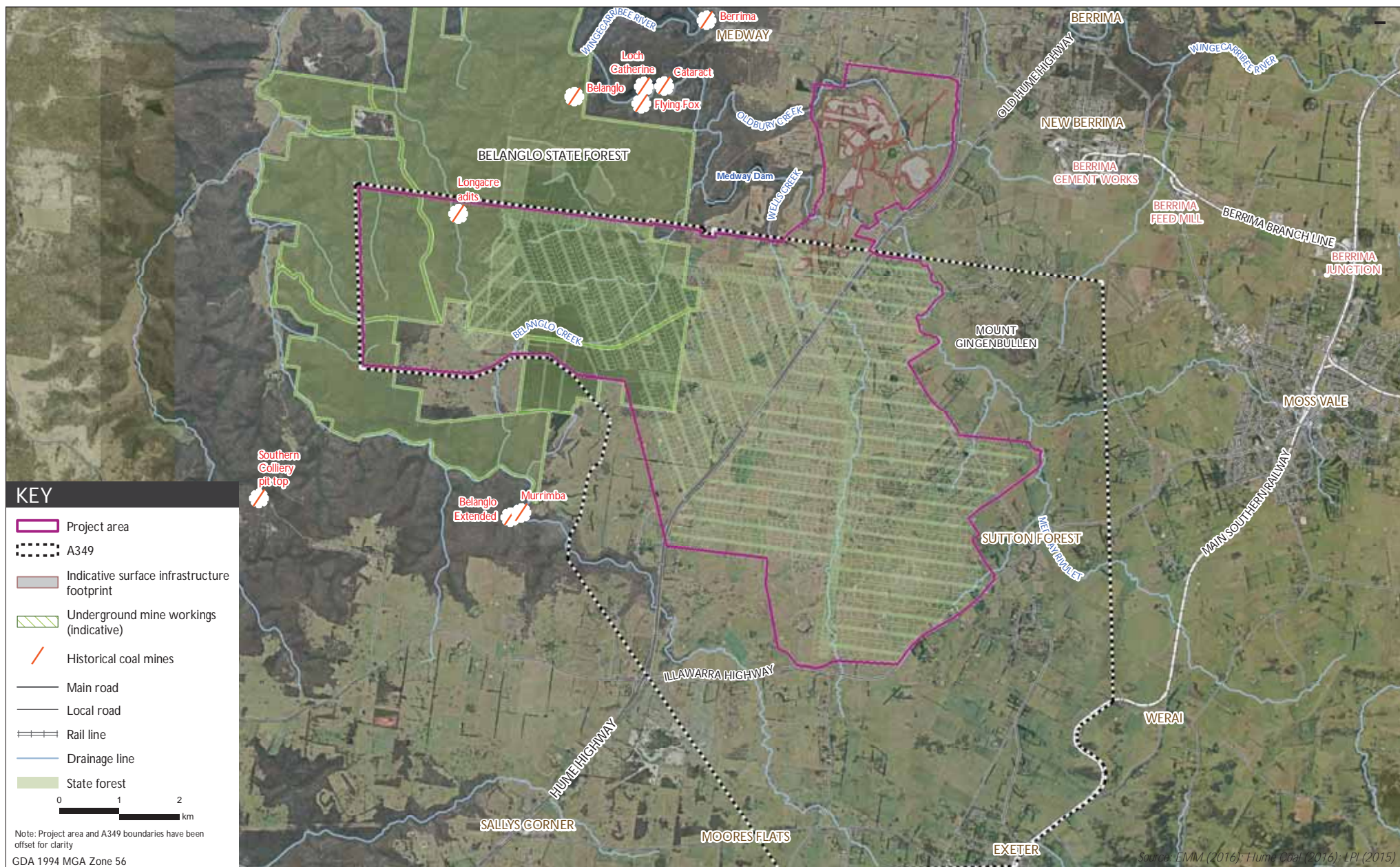
Hume Coal Project

Historic Heritage Assessment and Statement of Heritage Impact

Figure 5.1



Overlay of 1949 aerial photograph on current aerial photograph at Mereworth
Hume Coal Project
Historic heritage assessment and statement of heritage impact
Figure 5.2



Historical mining activity in the region

Hume Coal Project

Historic Heritage Assessment and Statement of Heritage Impact

Figure 5.3

5.4 Significant cultural landscapes

A landscape assessment focuses on the interpretation of the landscape from the point of view of the historical and social values of a place. Because they are strongly influenced by human activity, cultural landscapes will have patterns in which natural features and cultural processes have combined to provide a view that is a recognisable representation of its function (or former function) and provides a sense of place. Examples of cultural landscapes include pastoral, industrial, ceremonial or rural and they can be pre- or post-colonial, historic or current. This report assesses the historical landscape of the project area.

Archival research, a review of current aerial photography and field survey support the assertion that the landscape crossing Sutton Forest and Exeter is recognisable and largely intact. Other than the upgrade of the Hume Highway and the introduction of the Hume Motorway at the northern end, the landscapes in this area appear to have undergone little abrupt and significant change. Clearly, change has occurred but at a gradual enough rate that it has been largely unnoticeable to each generation.

From an historic perspective, the most visible cultural landscapes in the study area are those associated with early homesteads and their gardens, particularly with the placement of the buildings and of the villages along the Hume and Illawarra highways. A number of early and stately homes were built in the area. They were placed on hillsides for protection from the elements or on hill crests to view the surrounding area and be viewed as prominent structures. A number of vernacular structures would also have been built in the area; it is logical to assume that in addition to structures that are known to us through historical documents, a number would also have been built to “make do” until more permanent homes could be built. The resulting viewed landscape consists of a scattered collection of historic and modern homes separated by rolling hills and pastures, which today do not support the numbers of stock that the area would have historically. Mature gardens and tall windbreaks of deciduous trees mark boundaries.

The cultural landscape within the study has been shaped by Aboriginal people, post-1799 pastoral uses and the activities involved in maintaining and administering the Belanglo State Forest. It is largely characterised by landscapes of vernacular creation but also includes designed landscapes in the ordered historical gardens and industrial complexes to a lesser degree. The current character of the Sutton Forest landscape is more vegetated than it was in 1949 and possibly in the early historic period as conditions of land grants included “improvements” such as removing trees and making the land yield. Timber-getting was also a thriving industry, and one of the historic uses was grazing, leaving the landscape relatively denuded. Nevertheless, the present landscape is an important aspect of the identity of the Southern Highlands today. Newer developments that mimicked the earlier homesteads and stately homes have added to the feel of landscape of country estates and many of the windbreaks of mature trees also post-date 1949. Now exotic trees line the roads partially screening large industrial enterprises (such as the Boral Cement Works), to define boundaries and create a visually changing landscape with the change of seasons.

In addition to the elements that contribute to the rural character of the study area, large industrial complexes are also present. The Berrima Cement Works, operating since 1927 and owned by Boral Cement Limited (Boral) is situated on the southern fringe of New Berrima. The Berrima Feed Mill is located in visual proximity to the cement works and presents tall infrastructure that stands prominently in the location. Moss Vale is home to the Dux hot water plant and the Wingecarribee Shire Council resource recovery centre. These loci of industry stand out in what has become to be known as an area with historic, rural character comprised predominantly of homes and farmland, but the area has also been known historically for its industrial uses and landscapes.

All elements in the current landscape in the Berrima/Sutton Forest/Exeter area are set in a context that retains its rural character and blends with currently operating and decommissioned industrial sites. Prominent in the study area is Mount Gingenbullen directly west of the project area and Mount Gibraltar to the north, in Bowral. The paths that the rivers have etched have created the more dramatic landscape to the west and the rivers themselves have provided the means by which early settlers were able to establish their homes and businesses here. The Wingecarribee River is the largest river in the area but by no means the only substantial watercourse. Medway Rivulet and Oldbury Creek have also played their part in the formation of the landscape. Water and topography made it a suitable place for Aboriginal people to live, hunt and practice their social and ceremonial life (refer to ACHA, EMM 2017b) and for the new settlers to establish homes and businesses.

5.5 Significant views and setting

The setting of a heritage item is the result of the views to and from the subject item and how it sits within, and relates to, its surrounding landscape. Views and setting are strongly linked with landscape values (significant cultural landscapes) but can also occur singularly. This section of the report discusses views that have been identified in prior assessment (Ratcliffe 1990) and those that were noted during field survey and background research but is not a detailed visual assessment of the project. A comprehensive visual assessment is presented in a separate report (EMM 2017c).

Views from the garden that were identified in Ratcliffe (1990) as being important aspects of Sorensen's design are shown in Figure 5.4. View 1 is from the ha-ha looking north-east across rolling hills. The view does not extend far beyond the tree line visible in the figure as the topography inhibits a clear line of sight. The north-west view in View 1 is also of paddocks on a gently undulating landform with the dam on Oldbury Creek beside the house in the frame (Plate 4.14).

View 2 is also to the north-east and has a less inhibited view to the tree-line and the hills beyond (refer to Plate 4.14). View 3 is similar to View 2 but it looks down the slope towards the Hume Motorway (at this point the main road is a "motorway" rather than a "highway"). Prior to construction of the motorway, the view would have been able to take in the hills towards Oldbury Creek. The view from the driveway entrance to the house and garden, which is shown in Ratcliff's plan, has been obscured by the Hume Motorway and plantings along the road's edge. The last two views, Views 4 and 5 face south-south-west, with View 5 being one of those identified by Ratcliffe (1990, cf Plate 4.4, Plate 4.5 and Plate 5.6).

The house, built in 1965, was sited in a location that had supported earlier buildings and where pines and elms had been established by at least 1949. The setting of the house is one that sits in a wider pastoral landscape, surrounded by paddocks, dams and creeks. In contrast to the open spaces surrounding it, the house and garden forms an enclosed space that, from a distance appears to be a huddle of trees at the end of a well-ordered and long avenue. Up close, the huddle of trees reveals itself to be a combination of a northern hemisphere forest species on the southern side of the house, a rose garden with gazebo and fountain on the east and a sunken lawn ending in a ha-ha on the north. While all other views from the inside of the garden are closed to the outside, the ha-ha has been purpose-built to allow views to the north-east. The result is a landmark that distinguishes itself from the farmland around it but at the same time, locks itself into the ridge on which it has been built.

5.6 Intangible values

Intangible heritage values are those that have been inherited from our ancestors such as “oral traditions, performing arts, social practices, rituals, festive events, knowledge and practices concerning nature and the universe or the knowledge and skills to produce traditional crafts”. For a cultural expression to be considered “heritage” it must be identified as such by the community that “create, maintain and transmit it” (UNESCO).

Intangible historical values were not identified in the project area.



Plate 5.6 One view from the break in the trees along the driveway at Mereworth to the rolling hills of Sutton Forest (View 5). View south-west.

6 Significance assessment

6.1 Defining heritage significance

In NSW the assessment of heritage significance is based on the Burra Charter (Australia ICOMOS 1999) and further expanded upon in the Heritage Manual's Assessing Heritage Significance (Heritage Office 2001). It lists seven criteria to identify and assess heritage values that apply when considering if an item is of state or local heritage significance as set out in Table 6.1.

Table 6.1 NSW heritage assessment criteria

Criterion	Explanation
a)	<i>An item is important in the course or pattern of NSW's (or the local area's) cultural or natural history (Historical Significance).</i>
b)	<i>An item has strong or special association with the life or works of a person, or group of persons of importance in NSW's (or the local area's) cultural or natural history (Associative Significance).</i>
c)	<i>An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area) (Aesthetic Significance).</i>
d)	<i>An item has a strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons (Social Significance).</i>
e)	<i>An item has the potential to yield information that will contribute to an understanding of NSW's (or the local area's) cultural or natural history (Research Significance).</i>
f)	<i>An item possesses uncommon, rare or endangered aspects of NSW's (or the local area's) cultural or natural history (Rarity).</i>
g)	<i>An item is important in demonstrating the principle characteristics of a class of NSW's (or the local area's) cultural or natural places or environments (Representativeness).</i>

The following section presents the statements of significance for each historic heritage item identified in the project area. An assessment of each item against the above criteria is listed in Appendix A. Table 6.2 provides a summary.

It is worth noting that one of the recommendations of this report is for the preparation of a conservation management plan (CMP) for *Mereworth* house and garden. An updated assessment of significance will form part of the CMP.

6.2 Statements of heritage significance

6.2.1 Mereworth house and garden

Mereworth house and garden is a group of items including a house built in 1965 and its associated garden. The significant elements include the house and the surrounding garden, which includes the avenue of trees and the original section of driveway.

It has local historical and associative significance as a house designed by John Armoury and a garden designed by Paul Sorenson, a renowned cold climate garden designer. The house is also associated with the Oxley family, the first tea merchants (Bushells) in Australia. The lands on which the house and garden are situated are connected to the Atkinsons, a prominent settler family in the district. The garden is of local significance as a rare and representative example of cold climate garden design and vacation home construction from the twentieth century. It is able to provide research information on the history of garden design.

It is an item of local heritage significance. The heritage curtilage is shown in Figure 6.1.

6.2.2 The Harp

The Harp (formerly known as *Bindagundra*) is a sandstone brick building built in the 1830s. It has historical significance for its ability to provide information on the recreational pastimes of the Southern Highlands communities during the nineteenth century. It is also able to provide historical information on the development of the settlement in this area through its connections with the road network. The building is in fair condition with few alterations from its original state providing local research potential and aesthetic significance. The Harp is a good representative example of inns built and operated in the nineteenth century.

It is an item of local heritage significance.

6.2.3 The Pines

The Pines is a timber slab cottage built in the 1820s. Despite renovations which have covered the original timber slabs the cottage remains a rare and representative example of timber slab cottages the majority of which have been removed. Timber slab cottages were the first buildings erected privately by settlers and are of historical significance for their ability to provide information on the historical development of Sutton Forest and the Great Southern Road.

It is an item of local heritage significance.

6.2.4 Sutton Farm

Sutton Farm house is a brick and stucco building likely built in the 1830s. It has historical and research significance for its ability to provide information on the development of the coaching trade and then the re-use of buildings with the change of use. Coaching inns are rare in the local area and Sutton Farm is a good representative example.

It is an item of local heritage significance.

6.2.5 Bunya Hill

Bunya Hill is one of the large Victorian houses which grew up around the village of Sutton Forest, settled in 1822 (SHI 2680018).

It is an item of local heritage significance.

6.2.6 Comfort Hill

Comfort Hill is of local significance for the existing house, gardens and other features that make up the property. The statements of significance below are from entries in the SHI. There are no statements of significance on the SHI for the gardens (SHI 2680357; WLEP I10357) or the listing for *Comfort Hill* including outbuildings, trees, stone wall and pond", which is the Illawarra Regional Environmental Plan No.1 listing. The earliest elements of the *Comfort Hill* group include potential relics dating from the 1820s. The statement of significance is reproduced below:

Comfort Hill House is significant within the local area as an early and important component of the area's stock of 19th century homesteads and as a building which still retains much of its original setting of natural and human made landscape. The 20th century changes to the house illustrate the importance of the region as a desirable place to live at a time when properties were being sought as "rural retreats". The extensive 1948 additions to the house also contribute to its significance through the high degree of integrity of their aesthetic qualities and sympathetic relationship to the original structure and their association with a prominent firm of architects.

SHI 2680356; WLEP I0356

Comfort Hill Group is significant within the local area and region as one of the original large pastoral properties which spread around Black Bob's Creek. The 1840's house is an important and early component of the area's significant stock of early buildings and the site retains mature early tree plantings. The extensive 1948 additions to the house display a high degree of integrity in their aesthetic qualities and a sympathetic relationship to the original building. The site also has significance as a wildlife refuge and area of remnant natural bush which provides rare evidence of the changes to the environment created by clearing, agricultural practice and tree planting in the region.

SHI 2680021; WLEP ID I0021

6.2.7 Newbury

Newbury is of local significance for its ability to demonstrate the aesthetic qualities of an early historic period farming property. It is associated with the Nicholson family, and specifically with John Nicholson who was a prominent member of the local community. The property is likely to contain relics from the early historic period in NSW and analysis of these as well as the standing structures are likely to have a high level of research potential.

6.2.8 Eling Forest Winery Group

The *Eling Forest Winery Group* has historical significance for its ability to demonstrate, through surviving buildings on the property, the historical development of Sutton Forest. It possesses research potential embodied in the archaeological site of the first homestead, as well as in the former school rooms and stables and the sandstone quarry.

The *Eling Forest Winery Group* is of local significance.

6.2.9 Mereworth 1 (former homestead)

Mereworth 1 represents the archaeological remains, if they exist, of the former homestead, the second home built by John Atkinson, which is thought to be located in the curtilage of the currently listed *Mereworth* house and garden. The former homestead was built in the 1820s/1830s by John Atkinson, brother of James, and one of the earliest settlers in the district. Should archaeological remains survive they would be of historical and research significance for their ability to provide information about early dwellings in the Southern Highlands, first generation migrant life in the new country and life in a new region of the colony away from the material and psychological comforts of an established town. Mereworth 1 would have associative significance for its connection to James Atkinson and his family; a prominent, early settler family in the Southern Highlands. As an archaeological site, it has research potential and it is rare in the local area as well as for its relationship to other similar sites that are believed to exist in the area.

If intact archaeological evidence of Mereworth 1 survives, it would be of local heritage significance.

6.2.10 Evandale scatter HC_127

HC_127 is a scatter of glass, ceramic and iron artefacts near an exotic plant (yucca) identified on the Evandale property. This may have been a workers camp or remains of a timber structure but equally may have been discarded refuse. Should archaeological remains be present they would be of historical and research significance for their ability to provide information about workers camps and the ways in which early settlers managed their land through the construction of ephemeral dwellings. The site has been repeatedly ploughed over 100 years, which would have affected the integrity of the archaeological site in the approximately upper 20–30 cm of soil.

Archaeological sites are rare in the local area. It may be an item of local heritage significance if the scatter represents an historic structure, and if it survives intact within deeper deposits. Unless it is determined to be a relic, the current significance of this site is nil.

6.2.11 Sutton Forest – Unit 6 Wingecarribee Heritage Study (1991 JRC)

The Sutton Forest cultural landscape is significant for its ability to demonstrate early circulation routes still evident in the alignments of Golden Vale Road, the Illawarra Highway and the Old Hume Highway, all of which encouraged the development of settlements in the early colonial period.

The historic character of the landscape is evident in the clusters of residential nuclei comprised of exotic plantings, homes, farm outbuildings and fences. Old roads are lined with old post and rail as well as post and wire fences and fruit trees. The landscape unit is also recognisable for its position fanning to the south-west of Mount Gingenbullen, overlooking large paddocks and tree-lined windbreaks and remnant areas of native forest (JRC 1991 Part 2, p.82).

6.2.12 Exeter/Sutton Forest Landscape Conservation Area (1998 National Trust (NSW))

The Exeter/Sutton Forest Landscape Conservation Area has historic significance for its association with the Badgery Family from its settlement in 1822 to the Badgery Family dynasty's vital role in the development of the Australian cattle and horse breeding/racing industries. The Area [sic] was the country residence for sixteen Governors of NSW from 1879 to 1957 as well as a range of prominent citizens who built architecturally significant buildings from 1826 to the late 1930s. These estates – their "manor buildings", grounds and landscaping combine to form an "English style" countryside of the highest aesthetic appeal which also has considerable research and archaeological potential. The Landscape Conservation Area is remarkably intact with its full range of settlement heritage features from original, remnant native vegetation lined country lanes, to historic railway station complex [sic], town centres unchanged from 1900, churches and graveyards, original subdivisions, cricket ground unchanged since its use by Don Bradman in the days of his youth, simple barns and outbuildings to grand mansion in a sumptuous cool climate landscape.

National Trust (NSW) Listing Proposal 1998

Generally, the landscape in the local area has high values as it retains a version of a historic, rural aesthetic. Elements such as early buildings such as homesteads, inns, shops and sheds combine with rolling hills, fence lines of mature pines, elms and other deciduous trees in groups, pastures and stock animals and the low level of modern development to produce a landscape that is reminiscent of the past.

What is missing in previous descriptions of the landscape is the long history of heavy industry that has characterised the development of the Southern Highlands in this location.



Mereworth heritage curtilage and associated driveway
 Hume Coal Project
 Historic Heritage Assessment and Statement of Heritage Impact
 Figure 6.1

Table 6.2 **Significance assessment: items in the project area**

NSW Heritage criteria (NSW <i>Heritage Act</i> 1977)								
Item name	(a) Historical significance	(b) Associative significance	(c) Aesthetic significance	(d) Social significance	(e) Research significance	(f) Rarity	(g) Representativeness	Overall significance assessment
The Harp	✓	✗	✓	✗	✓	✗	✓	Local
Mereworth House	✓	✓	✓	✗	✓	✓	✓	Local
The Pines	✓	✗	✓	✗	✓	✓	✓	Local
Sutton Farm house, grounds and outbuildings (former Red Cow Inn)	✓	✓	✓	✗	✓	✓	✓	Local
Evandale scatter (archaeological)	✗		✗	✗	✗	✗	✗	Nil
Mereworth 1 (former homestead - archaeological)	✓	✓	✗	✗	✓	✓	✓	Local
Eling Forest Winery	✓	✗	✓	✗	✓	✓	✓	Local
Bunya Hill	✓	✗	✓	✗	✓	✓	✓	Local
Newbury	✓	✓	✓	✗	✓	✓	✓	Local
Sutton Forest Unit 6 Landscape	✓	✗	✓	✓	✗	✓	✓	Local
Exeter/Sutton Forest	✓	✗	✓	✓	✗	✓	✓	Local

7 Impact assessment

7.1 Overview

The project has been carefully planned to minimise impacts to environmental heritage, including historic and Aboriginal heritage. Potential impacts through subsidence have been eliminated or minimised through the use of a non-caving coal extraction method. Similarly, the infrastructure areas have been designed with the smallest footprint possible to minimise the physical and visual impacts on the surrounding environment.

The main changes have been to move impacts associated with construction away from the riparian corridors and vegetated edges of paddocks and to constrain those impacts within paddocks, which have been historically modified by successive ploughing activities.

Impacts that will have a significant effect on heritage values will primarily be visual. They will be long-term, but not permanent, and will cease when the mine is closed and the landscape is rehabilitated and returned to its current state.

The following activities have the potential to impact known and unknown historic heritage items:

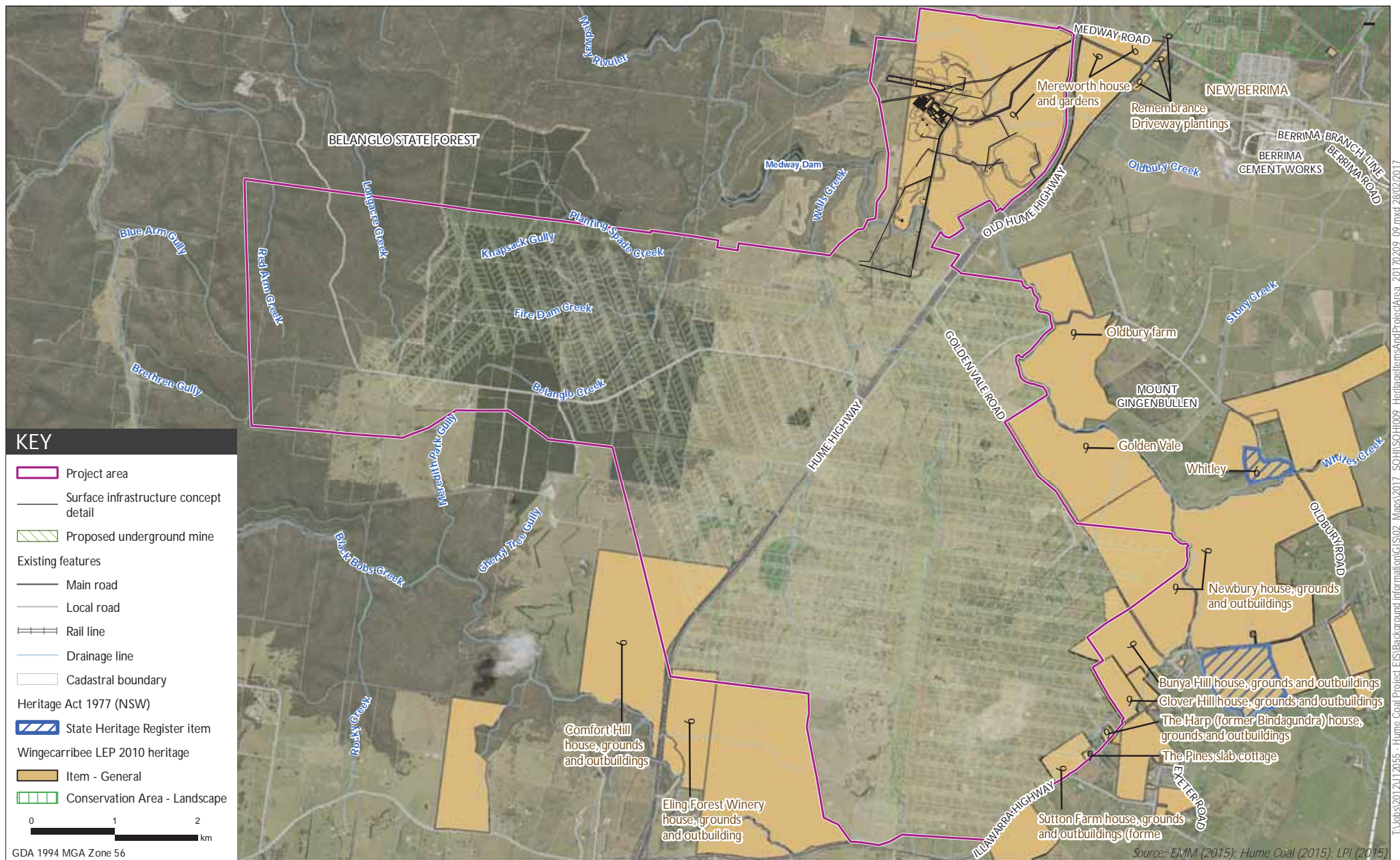
- the construction and operation of mine infrastructure which includes mine access and ventilation systems, surface and groundwater management and treatment facilities, the CHPP, an overland conveyor system and communication and electricity infrastructure; and
- negligible or imperceptible subsidence from the underground mining (Mine Advice 2016).

This impact assessment has been prepared in accordance with the document *Statements of heritage impact* (Heritage Office *et al*, 2002). The questions posed in the guidance document are implicit in the discussion of impacts in this section of the report.

7.2 Mine infrastructure

Mine infrastructure (refer to Figure 1.1 and Figure 1.2 for detailed information on individual infrastructure areas and Figure 7.1 presents the project area with the indicative design and identified heritage values) will be predominantly placed on cleared land owned by Hume Coal, which has been selected through extensive study as it has low environmental constraints. The final location of the surface mine infrastructure has been modified throughout the investigation period to reduce impacts to environmental values such as Aboriginal and historical heritage, biodiversity and groundwater. The design also aims to avoid rows of mature trees, which contribute to the current pastoral landscape and definitively avoids physical impacts to the *Mereworth* house and garden.

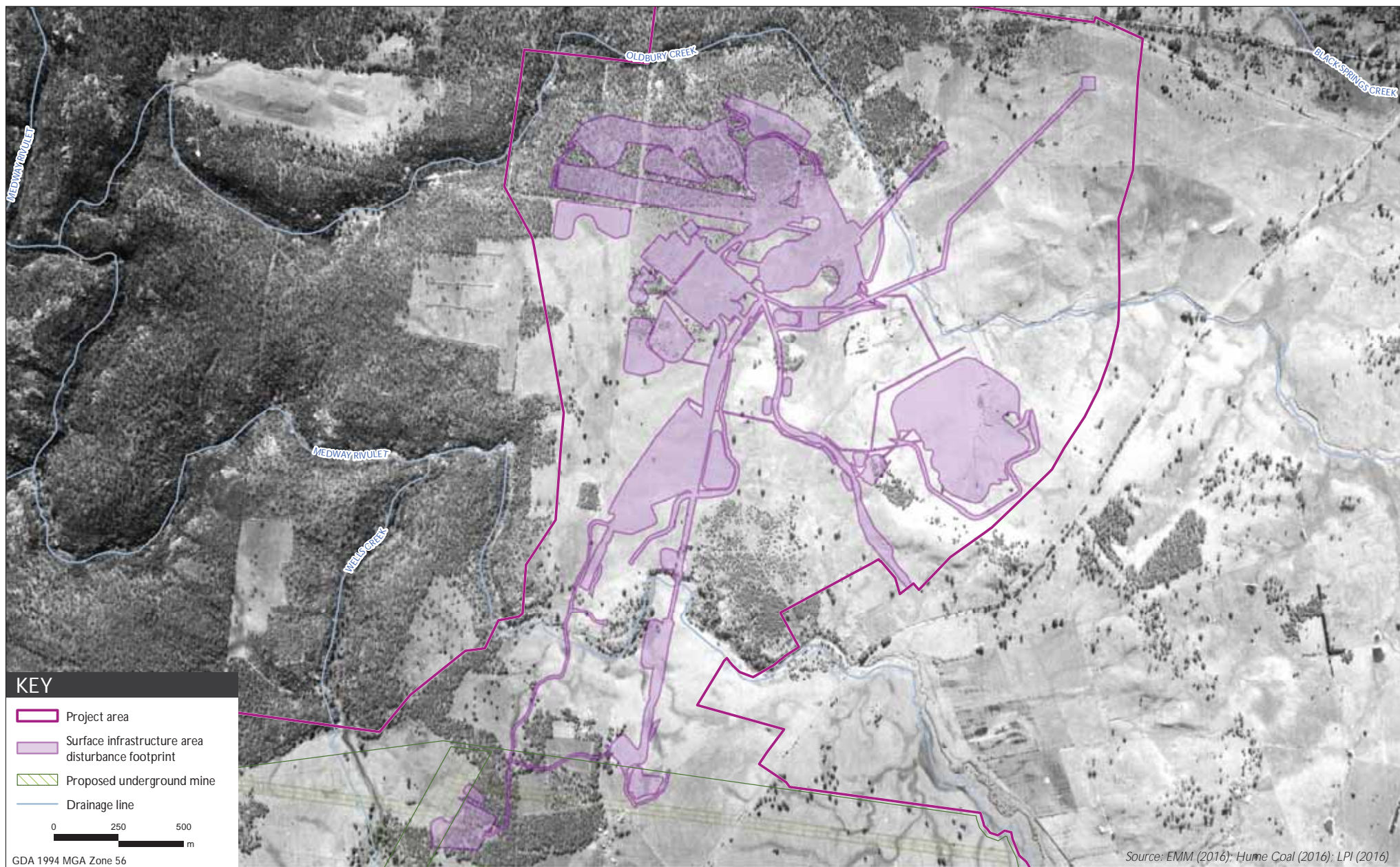
The other built elements of the project will be on Evandale where two drifts comprising the exit portal and the personnel and materials portal, access roads and the upcast ventilation shaft will be located. This access point will be used for entry and exit the underground mine area by personnel and vehicles. The exit portal will be located to the north-east and within 230 m of the main house. A spillway/diversion drain will be constructed on the south-eastern and south-western sides to divert water away from the entrance to the portal (Refer to Figure 1.4).



Heritage items and the project area

Hume Coal Project
Historic Heritage Assessment and Statement of Heritage Impact

Figure 7.1

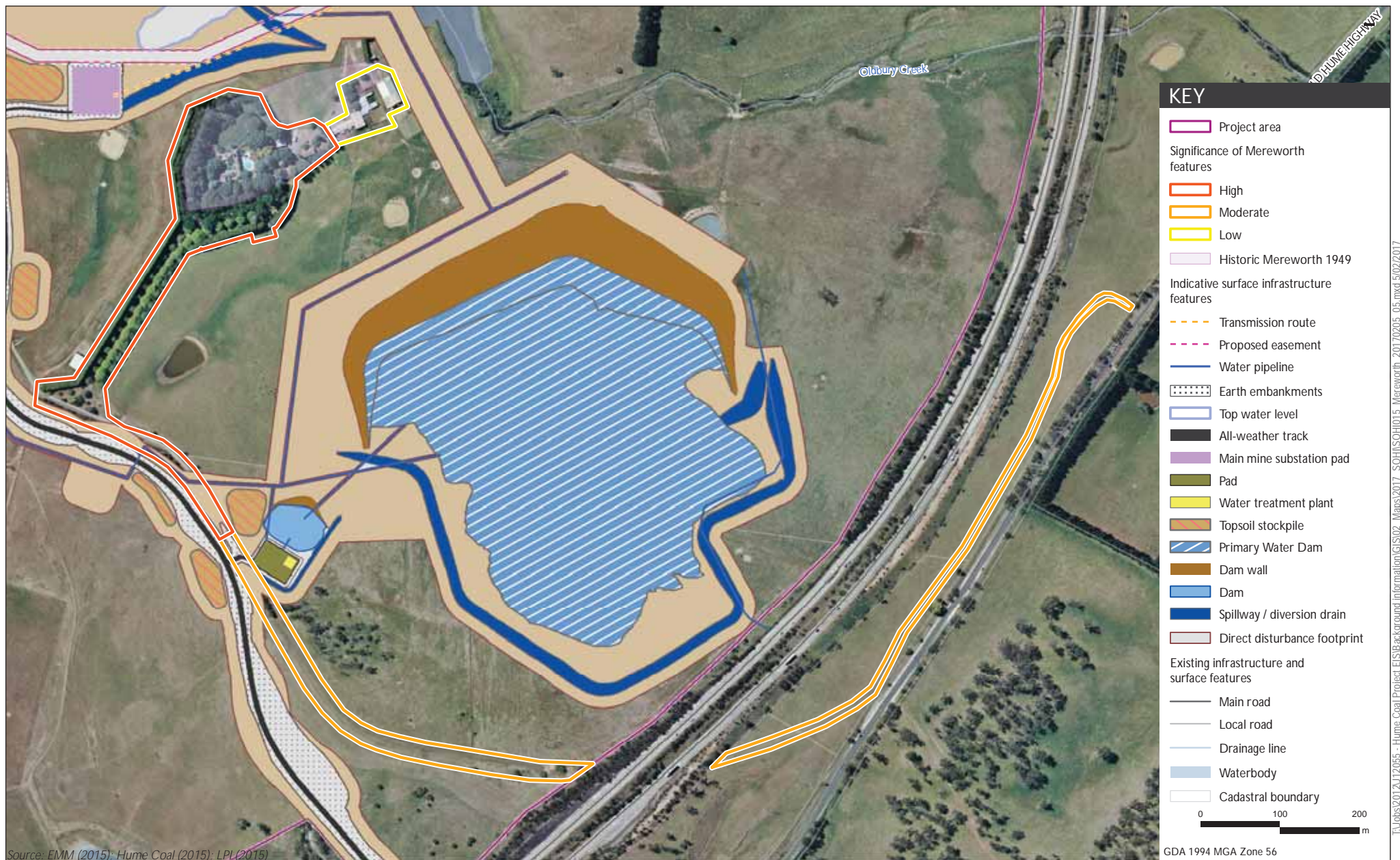


Indicative mine infrastructure overlaid on the 1949 aerial photograph

Hume Coal Project

Historic heritage assessment and statement of heritage impact

Figure 7.2



Mine infrastructure directly adjacent to Mereworth house and garden

Hume Coal Project

Historic Heritage Assessment and Statement of Heritage Impact

Figure 7.3

7.3 Subsidence predictions for the project area

In order to manage the effects of mining on subsidence, the mining method to be used will leave long-term stable coal pillars in place. Mine Advice Pty Ltd (2016) has estimated the predicted subsidence, tilt and horizontal strain arising from the proposed underground mining method. The maximum predicted subsidence above mine panels is 20 mm.

The Mine Advice report concluded that “the predicted maximum subsidence parameters are sufficiently low such that any associated impacts fall into the ‘imperceptible’ or ‘negligible’ category for all of the surface features that can be evaluated according to pre-set or established numerical criteria” (Mine Advice 2015, p.85).

7.4 Underground mine area

i Underground mining

The underground mine area is shown in Figure 1.3. Areas of archaeological sensitivity for historical relics have not been identified in areas above the underground mining area as this is considered to be unnecessary because the maximum predicted level of subsidence is 20 mm. Consequently, impacts to heritage items and relics on the surface due to the underground mining activities are anticipated to be negligible.

ii Downcast shafts

The two downcast shaft sites are proposed areas as shown in Figure 1.3. The disturbance footprints of both shaft locations were surveyed and are not considered to be in areas of archaeological sensitivity. The footprint of the downcast shaft in the Belanglo State Forest is within a highly disturbed section of pine plantation and the downcast shaft on Carlisle Downs is in a cleared and ploughed paddock.

Historical heritage impacts in relation to the downcast shafts are not anticipated.

iii Upcast shaft

One upcast shaft will be constructed on *Evandale* approximately 450 m from the main house. The shaft will be placed on the western side of a row of trees and will be shielded from the homestead buildings and the Hume Motorway.

Historical heritage impacts in relation to the upcast shaft are not anticipated.

7.5 Potential impacts to specific heritage items

7.5.1 Overview

A total of eight listed heritage items are located in the project area. One occurs within the surface infrastructure area while the others are located above the underground mining area. All eight heritage listed items are listed on the WLEP (refer to Table 2.1). They are:

- *Mereworth* house and garden (surface infrastructure area);
- *The Harp* (formerly “Bindagundra”);
- *The Pines*;

- *Sutton Farm* house, grounds and outbuildings (formerly the Red Cow Inn);
- *Newbury* house, grounds and outbuildings (paddocks only);
- *Eling Forest Winery*, house, grounds and outbuildings (paddocks only);
- *Bunya Hill* house, grounds and outbuildings (paddocks only); and
- *Comfort Hill* house, grounds and outbuildings (paddocks only).

In addition to the listed heritage items, there are two potential archaeological sites that (if present) may reach the threshold of “relics”. They are:

- Mereworth 1 – possibly Atkinson’s house, c. 1820s on the current Mereworth property; and
- Evandale Scatter: A scatter of brick, glass and ceramic in the vicinity of a yucca plant and recorded as part of the Aboriginal site HC_127.

Two additional items, being the Key Historic Unit 6 (Sutton Forest; 1991) and the Exeter/Sutton Forest Landscape (National Trust of Australia (NSW) 1998) were identified through background research.

7.5.2 Mereworth house and garden

i Physical impacts

Mereworth house and garden is listed on the WLEP 2010 as an item of local significance. At present the house is vacant and the gardens are being maintained by Hume Coal. The surrounding paddocks are licensed to Princess Pastoral, a farm management company, which is raising cattle and sheep and will be producing fodder crops. *Mereworth* is one of a number of Hume Coal-owned properties that have recently been leased for raising stock and commercial crops, which will result in an increase of farming activity in the project area. Farming is one of the dominant historical activities that produced the landscape in Sutton Forest.

While most of the surface infrastructure is located on the *Mereworth* lot boundary, no physical impacts to the house, gardens or the avenue of trees, that is, the significant elements identified in the SHI listing will occur (refer to Figure 6.1). Nor are impacts anticipated to the landform to the north-west of the house and garden where the modern shed is situated; it is this landform where the window frame and wagon wheel fragment were recorded during field survey. Further, surrounding ancillary structures, including sheds and farm buildings will not be subject to physical impacts; these buildings are utilised by the farming activities on the property.

One discrete area of the driveway will be excavated to install a water pipeline but its value will not be affected as it will be made good after the water pipe is installed. Although the disturbance footprint shown in Figure 7.3 significantly crosses into the original 1965 driveway, impacts will be reduced to the trench and the existing trees will not be removed. It is important to note that the proposed driveway has been designed to avoid the existing driveway, which is a positive outcome for the significance and conservation of the heritage item.

ii Visual impacts within Mereworth

The most significant impact identified in this investigation is of a visual nature as it will affect the setting of the house and garden at *Mereworth* from within the property. *Mereworth* is the closest heritage-listed item to where the main physical impacts are proposed. It is also in the Exeter/Sutton Forest Landscape Conservation Area, which is a classification by the National Trust. While the entire lot is listed on the Wingecarribee LEP, the significant elements are the house and the garden immediately surrounding it.

Construction of the surface infrastructure area will change some aspects of the *Mereworth* landscape and immediate surrounds. Generally however, views from the house to the surrounding landscape are constrained by the perimeter plantings of Bhutan cypress and the design of the garden, which is deliberately inward-looking. The only place where views from the house and garden will be affected is to the north and north-east across the ha-ha to the surrounding paddocks and dam. There will be some noticeable change in that parts of the current pastoral landscape will be modified with the construction of a conveyor, train load-out and a rail loop (refer to the Berrima Rail Project EIS; Hume Coal 2016). These impacts will be visible from within the property and affect only Hume Coal and farming personnel.

The views that were recorded in Section 5.5 will be affected to various degrees by the design of the surface infrastructure. View 1, which is to the north-east and north-west of the ha-ha will be obstructed by the conveyor, the load-out to the rail line and the ROM stockpile (Plate 7.2). Compare the predicted changes with the exiting environment in Plate 7.1. This impact will be from within the property and therefore will not affect views from the public domain.

View 2, which is to the north-east from the driveway before it reaches the avenue of trees (Plate 4.14), will undergo minor changes with glimpses of the rail loop, which is part of the Berrima Rail Project. Generally however, this view will not be affected significantly because of the undulating landscape.

View 3 is similar to View 2 in that it looks north-north-east toward the Hume Motorway. Changes to this view include the addition of the primary water dam. This is not considered to be a significant intrusion as the dam will easily fit into the pastoral landscape.

View 4 is from the driveway to the south and south-west. This is one of the breaks in the tree-lined driveway in Sorensen's design but was not specifically identified by Ratcliffe as being a viewpoint (Plate 4.4). It has been considered in this assessment because it shares a view that is similar to View 5, which was identified by Ratcliffe. The break in the trees at this point also has the appearance of being deliberate.

View 5 is identified by Ratcliffe as a Sorensen viewpoint according to Ratcliffe. It was photographed and is shown in Plate 5.6. Similarly to View 4, this view directly south will not be affected but surface infrastructure such as the conveyor and tracks to the personnel and materials drift will be visible to the west.

A new drive from Mereworth Road will be built parallel to the existing driveway on the southern side avoiding impacts to it and the avenue of trees as well as the southernmost section of the row of Bhutan pines. Plate 7.4 is a screen grab from the 3D visualisation model demonstrating the view south from the proposed driveway. The road will be visible and impact on the landscape immediately around the house and garden but it has been placed here specifically to avoid impacts to the original (and in-use driveway) that leads to the avenue of trees. The 'magnificent' view described by Ratcliffe to the south will not be lost, but infrastructure will be visible toward the west. The views that will be affected however are from the inside of the property boundary.



Plate 7.1 View from the northern side of the ha-ha to the proposed surface infrastructure area.

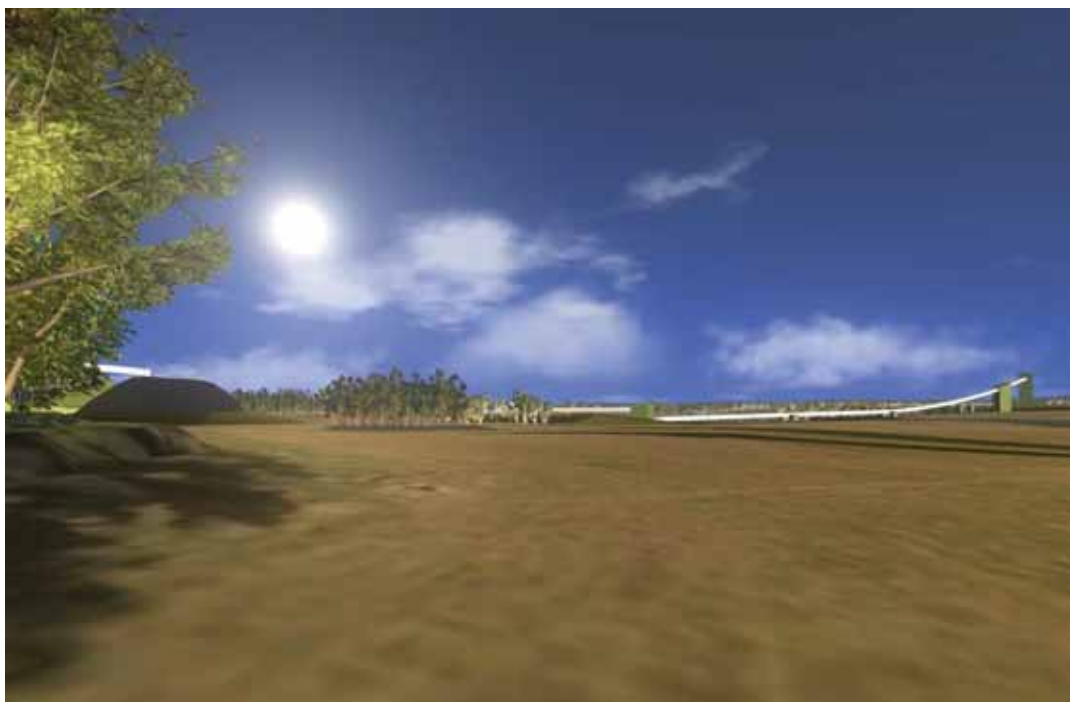


Plate 7.2 3D model screen grab of the view from the lower side of the ha-ha at Mereworth to the surface infrastructure area.

Changes relating to the proposed driveway from Mereworth Road are acceptable as views from the original driveway that will be obscured are only accessible when on the property and not from any public locations. Moreover, the proposed alignment, which will be directly adjacent and parallel, will offer virtually the same views (Plate 7.3).

Other surface infrastructure that will be close to the main house and gardens will be the ROM stockpile, the coal handling plant and temporary stockpiles to the north-west; these elements will be visible from outside of the gardens. To the south-east, the primary water dam and water treatment plant will be visible from the outside of the gardens and from the driveway but they are unlikely to be visible from within the gardens. The dam to the north of the house and grounds will be approximately 95 m from the ha-ha.

The rail loop (Berrima Rail Project), rail line, train load-out and conveyors will also be introduced features on the landscape that will detract from the current setting when viewed from within the lot. The conveyor is shown in the 3D screen grab in Plate 7.6.

A temporary accommodation village is proposed approximately 140 north-west of the house and garden at Mereworth. The buildings associated with this component of the development will be single-storey and will be removed within two years of construction.

When viewed from within the Mereworth lot boundary but outside the garden, all of the elements of the surface infrastructure will have an effect on the setting of the house and garden in the wider pastoral landscape for the duration of the mine operations. However, this effect will last only as long as the mine is operating, which is anticipated to be 21 years; 23 years including the rehabilitation phase. Infrastructure will be removed when the mine ceases operations (refer to management measures regarding demobilisation).

In contrast, views to the surface infrastructure area from *Mereworth* house are obscured by the surrounding garden and no noticeable visual impacts will be evident.

The broader setting of *Mereworth* will be modified for the term of mine operations. Built elements of the project will be within approximately 540 m of the house and include the stockpiles, accommodation village, the conveyor to the rail loop and the rail loop itself. These are the structures that will have the largest impact on the views within the property. The primary water dam that will be created between the house and the Hume Highway will have a minor temporary impact as it is standard farm infrastructure and will be absorbed into the landscape readily. The main mine substation will be directly north-west of the house and garden but will largely be obscured by the perimeter plantings of the garden.

These changes to the landscape and setting of the house and garden within the property boundary are the main heritage impacts of the project. The infrastructure will be a new collection of elements in what is currently a pastoral landscape. These elements will have varying effects – the new dams in the landscape will be visible but their introduction will be in keeping with the current agricultural use of the land.



Plate 7.3 A similar view to that shown in Plate 7.4 in its current state. This view is from current ground level to the south-east.

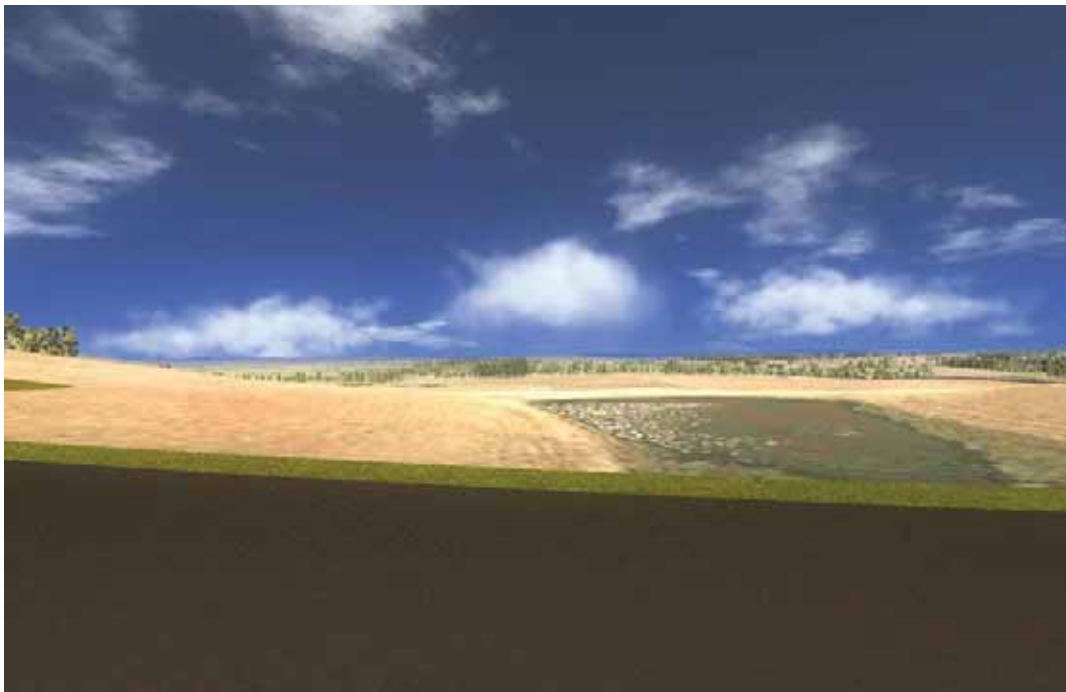


Plate 7.4 Views south-east (model screen grab) from the proposed road that will run parallel to the original driveway.

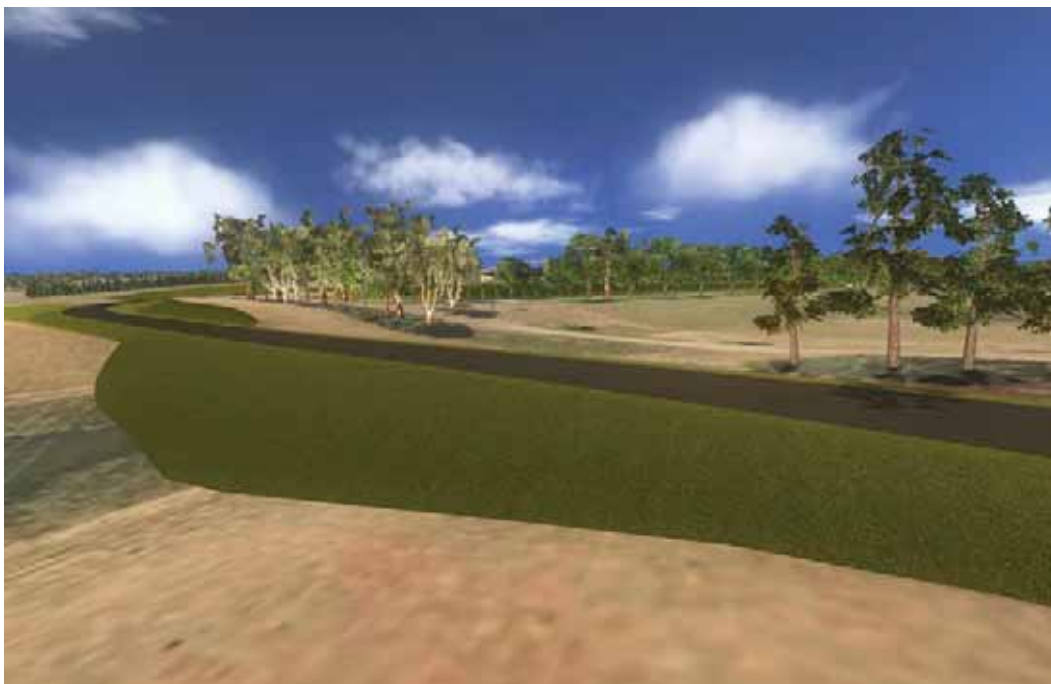


Plate 7.5 3D model screen grab of the elevated view of the proposed road (dark alignment) adjacent to the existing and historic driveway.



Plate 7.6 3D screen grab of the view taken from the north-west corner of the property and the view to the conveyor.

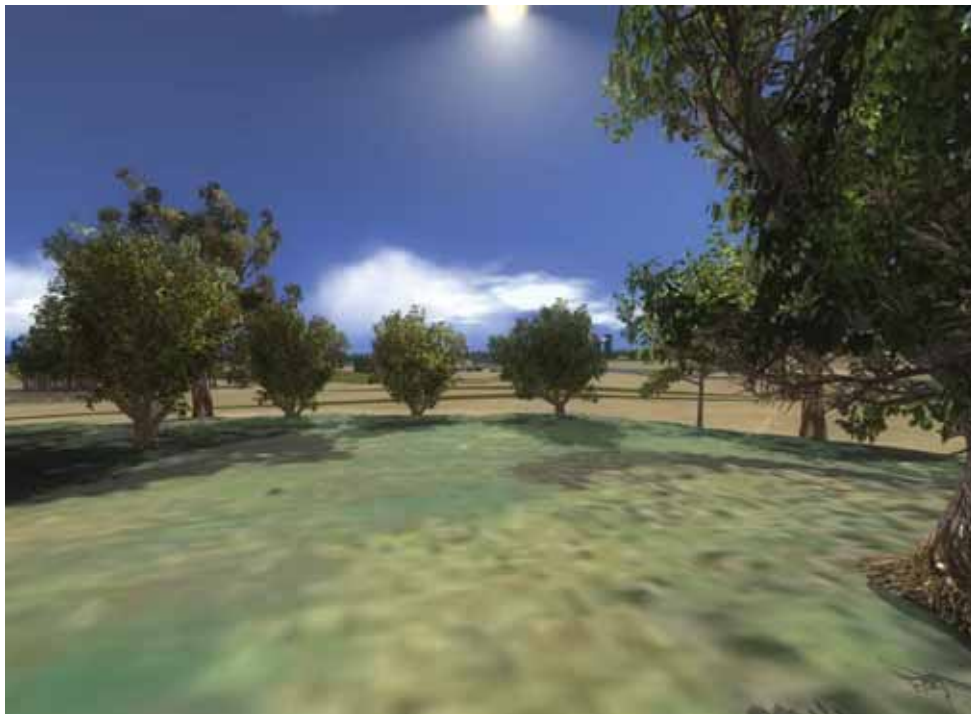


Plate 7.7 3D model screen grab of another view from the ha-ha inside the garden. View north.

iii Views to Mereworth from the public domain

A visual assessment has been prepared for the Hume Coal Project, which focuses on the impacts to views from the public domain. Reference should be made to that report (EMM 2017c) for details and photomontages. This section of statement of heritage impact includes discussion about potential iconic views to heritage items from the public domain. While the two investigations were completed independently, the results are consistent.

Surface infrastructure will be visible from a limited number of viewpoints along the Hume Highway/Motorway and from one main viewpoint on the Old Hume Highway. View lines from the southern approach of the Hume Highway are obscured due to the screening effect of the undulating landscape and plantings along the road. Similarly on the Old Hume Highway to the east of the house and garden complex on *Mereworth*, the landscape obscures the views except where it rises over a crest for approximately 500 m before dipping down again to meet Mereworth Road. At this point, views to the avenue of trees and the garden surrounding *Mereworth* are prominent and the surface infrastructure area will be visible to a minor extent, also as a result of the placement of structures in an undulating landscape (Plate 7.11).

When viewed from public locations such as Medway Road, the Hume Highway and the Old Hume Highway, some mine-related infrastructure will be visible above existing tree-lines (Plate 7.8). This will cause some changes (low to moderate) in the character of the affected landscape.

When viewed from the northbound lane, the views to *Mereworth* will have the addition of the primary water dam but the house and garden are mostly obscured by a road cutting and the speed of the traffic; there is little time to enjoy the view before it has been passed (Plate 4.17). The overland conveyor will emerge from a drift to the north of the cluster of buildings on Evandale and travel north across the landscape. This infrastructure will be intermittently visible from the Hume Highway although it is not anticipated to have a high impact as the rolling landform will obscure it to a high degree.



Plate 7.8 The current view to the south-west towards Mereworth from the Hume Highway.

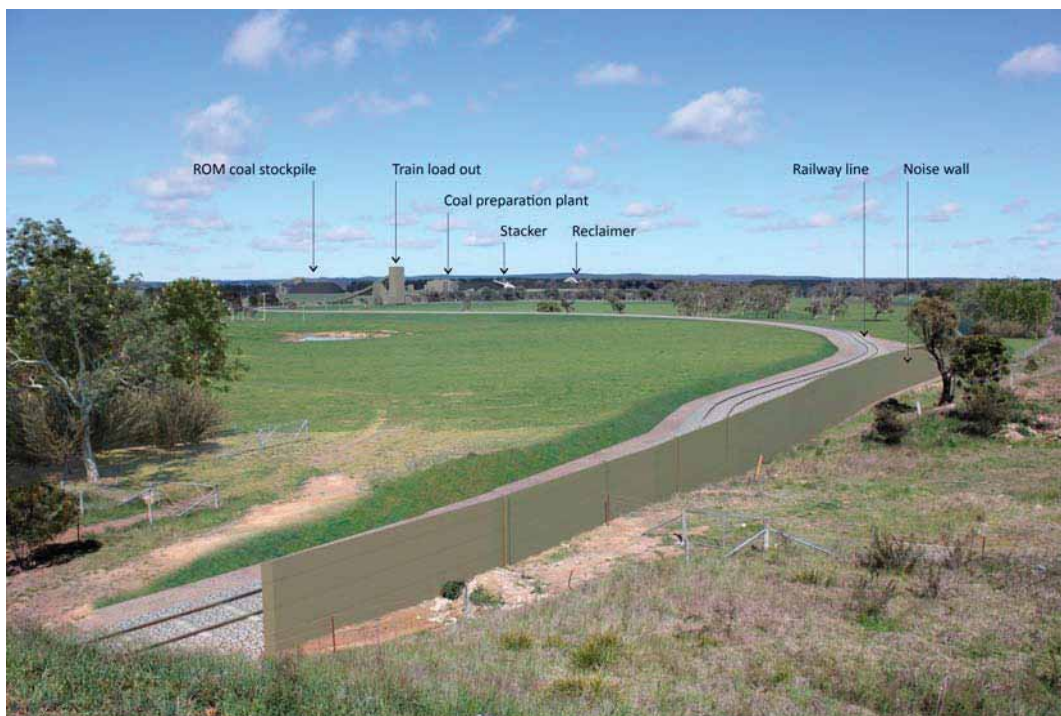


Plate 7.9 The view as it is anticipated to be in 15 years. View south-west. Source EMM 2017c.



Plate 7.10 3D model screen grab from a side road off the Hume Highway. View north-west to Mereworth. Infrastructure would be to the left but is hidden from view by a rise in the landscape.



Plate 7.11 Photomontage view to the avenue of trees and garden at *Mereworth* from the rise on the Old Hume Highway (image from the visual assessment EMM 2017c).

7.5.3 Evandale

The southern extent of the surface infrastructure area will be placed on *Evandale*. *Evandale* is not a statutory listed heritage property but it is a component of the rural landscape and is within the Sutton Forest key historic unit (Unit 6). The character of this historic unit will change as industrial structures will be introduced within it and the magnitude of change will be low to moderate as the proposed infrastructure will be confined to a discrete area of the total landscape unit. Surface infrastructure will be visible from Mereworth Road; however Mereworth Road provides access to two properties, one of which is Mereworth and is owned by Hume Coal.

7.5.4 Former homestead (Mereworth 1)

Research indicates that a timber homestead built by John Atkinson was built in the location of present-day Mereworth, with the pool appearing to be directly over the old house (refer also to Higginbotham 1992, p.49). Moreover, there is no development proposed for the core building and garden, and any relics, should they survive in this location, would not be impacted by the project.

The earlier homestead complex extends to the east (Plate 5.4) and in the direction of the mine water pipeline. At present, the exact location of the pipeline has not been confirmed but relics that may exist away from the main complex are likely to be ephemeral with little structure or integrity due to more recent changes associated with the modern farm. As a result, it is considered that an archaeological test excavation prior to a decision on the final location of the pipeline would be unjustified at this time and not a suitable method for discovering relics in this instance. It is very likely that construction of the pipeline can avoid relics related to the fence lines visible in the 1949 aerial photograph.

The general location of the mine water pipeline is appropriate because of the flexibility Hume Coal has in determining its exact location within the construction corridor. The pipeline excavation works in the vicinity of the earlier homestead elements will be accompanied by archaeological monitoring which will make route changes should any relics be uncovered.

7.5.5 Evandale scatter (HC_127)

The project has been designed to avoid the Evandale scatter HC_127, and as a result, this item will not be subject to surface or subsurface impacts as a result of the project.

This area has been previously ploughed, which will have substantially compromised any ephemeral site in the paddock, and it is highly possible that the scatter is the result of rubbish dumping.

7.5.6 The Harp

The Harp was not surveyed due to access restrictions. The lot is within the underground mining area; mine infrastructure will not cause impacts and subsidence is predicted to be negligible, therefore there are no predicted subsidence related impacts as a result of the project. Views to the surface infrastructure area are not possible from this item.

7.5.7 The Pines

The Pines was not surveyed due to access restrictions. The lot is within the underground mining area but the structure is not; mine infrastructure will not cause impacts and therefore there are no predicted subsidence related impacts as a result of the project. Views to the surface infrastructure area are not possible from this item.

7.5.8 Sutton Farm

Sutton Farm was not surveyed due to access restrictions. It is within the underground mining area. Mine infrastructure will not cause impacts and therefore there are no predicted subsidence related impacts as a result of the project. Views to the surface infrastructure area are not possible from this item.

7.5.9 Bunya Hill

Bunya Hill was not surveyed due to access restrictions. Some of the surrounding paddocks are within the underground mining area but the structures are not. Mine infrastructure will not cause impacts and subsidence is predicted to be negligible, therefore there are no predicted subsidence related impacts as a result of the project. Views to the surface infrastructure area are not possible from this item.

7.5.10 Comfort Hill

Comfort Hill was not surveyed due to access restrictions. Some of the surrounding paddocks are within the underground mining area but the structures are not. Mine infrastructure will not cause impacts and subsidence is predicted to be negligible, therefore there are no predicted subsidence related impacts as a result of the project. Views to the surface infrastructure area are not possible from this item.

7.5.11 Newbury

Newbury was not surveyed due to access restrictions. Some of the surrounding paddocks are within the underground mining area but the main structures are not. One shed is visible in aerial photography to be above the underground mining area. Mine infrastructure will not cause impacts and subsidence is predicted to be negligible, therefore there are no predicted subsidence related impacts as a result of the project. Views to the surface infrastructure area are not possible from this item.

7.5.12 Significant cultural landscapes

The Sutton Forest Landscape Key Historic Unit 6 (JRC 1991) and the Exeter/Sutton Forest Landscape (National Trust of Australia (NSW) 1998) will be impacted to a minimal degree for the duration of mine operations (refer to Table 7.1 for percentage of landscapes in the proposed surface infrastructure area).

7.6 Cumulative impacts

The impacts of the Hume Coal Project should be viewed in the context of local development by reviewing the impacts of surrounding developments. Consideration of industry in the vicinity, whether existing or proposed, will assist with the assessment of impacts with respect to the broader landscape and the loss of heritage values.

Other currently operating industry in the local area includes the Berrima Cement Works situated approximately 3.8 km from the project surface infrastructure area and, the Berrima Feed Mill is approximately 1 km to the south-east of the cement works. Approval has been granted for further extraction of clay/shale at the New Berrima Quarry, which is approximately 10 km from the Hume Coal Project surface infrastructure area. The location of a proposed sand quarry (the Sutton Forest Sand Quarry) is approximately 12 km to the south of the Hume Coal Project surface infrastructure area along the Hume Highway bound to the south by Paddy's River. It has been reported that the proposal would extract sand from a 39 ha area of land with 6.1 ha set aside for processing (*Quarry Magazine* accessed online 7 June 2016).

The Moss Vale Enterprise Corridor is an area of land between Moss Vale and New Berrima zoned for general industrial and heavy industrial land. This corridor incorporates existing industry such as the Boral Cement Plant and the Berrima Feed Mill and will result in an accumulation of new industries and enterprises. The overall effect on the region will be minimal as the intention is to concentrate industrial buildings and activities in one area.

Berrima Colliery is no longer extracting coal and is in a care and maintenance phase (Mining <https://australianmining.com.au/news/boral-puts-berrima-colliery-into-care-and-maintenance-40-jobs-cut/>); the rail corridor that transported the coal to the main rail line survives. The rail corridor is a manifestation of a previous use of the local area and part of the industrial heritage of the place.

The Retford Park Estate is a new residential area south of Bowral and is currently in pre-development phase. The historic residence, built in 1887, will be preserved and the rest of the estate has been subdivided into lots. The Redford Park mansion and grounds are listed on the WLEP 2010 (I152, I495, I496). The listing that takes in the grounds will have to be removed from the WLEP and the curtilage of the house will need to be amended.

The proposed Berrima Rail Project is another Hume Coal proposal for the movement of coal from the surface infrastructure area to the rail link in New Berrima. The most prominent impact to Mereworth from the Berrima Rail Project is the rail loop, which will be constructed to the north of the Mereworth house and garden complex. The rail loop will meet the conveyor to load coal from the conveyor, which will be approximately 35 m high. The conveyor will climb at a steep angle from where coal will be carried and loaded into carriages waiting below. The rail loop will be built on a bund approximately 6 m above current ground level.

The conveyor to the train load-out will be on trestles and will run from the coal processing plant across the dam that exists currently to the north of *Mereworth* house and garden; at its connection with the rail loop, the conveyor will become more visible as it will rise to transfer product to the train wagons.

The impacts associated with the rail loop will create an additional visual impact to the setting of the house and garden at Mereworth. Impacts to relics are not anticipated as there is no evidence of relics in this part of the project area.

Moreover, these impacts will be temporary as infrastructure and constructed landforms will be removed at mine closure.

The cumulative impacts that the Hume Coal Project will contribute to will largely be visual impacts to the landscape directly south of Oldbury Creek and to the setting of the house and garden of Mereworth. Changes to the landscape are considered to be moderate to high within the property and low to moderate when viewed from certain vantage points outside; none of the visual impacts will be permanent. Rehabilitation at mine shut-down will return the landscape to farmland with the removal of infrastructure. Moreover, the surface infrastructure area has been designed to create as minimal a visual impact as possible when viewed from the public domain.

Physical impacts to significant fabric are not anticipated.

7.7 Positive residual impacts

If the project is approved, it will result in positive residual impacts because of the ancillary activities that Hume Coal proposes on its land. The heritage value of the location, which includes built structures and significant landscapes, is recognised and impacts to some areas will be ameliorated by two main activities:

7.7.1 Maintenance and repair of Mereworth house and gardens

The house is currently unoccupied and although in what appears to be generally fair to good condition, it will start to deteriorate if it is not used and maintained. The garden, avenue of trees and driveway also require maintenance or replacement, and removal of weeds. Hume Coal has engaged qualified horticulturalists to carry out works that will halt the dilapidation of the garden and will engage a builder to undertake repairs to the house once approval is obtained. A CMP will be prepared which will specify necessary repair and maintenance activities, which will then be undertaken. Reinstating Paul Sorensen's vision for the garden at *Mereworth* and repair the house so that it can be used once again will be an excellent outcome of the project.

7.7.2 Research

Approval of the project will be accompanied with a commitment by Hume Coal to repair and maintain the house and to care for the Sorensen-designed garden (as stated above). The process of repair and maintenance will be supported by a conservation management plan that will be based on sound research centred on the property and the local area. Archival research of the property is considered to be one of the positive residual impacts of the project.

7.7.3 Farming

Hume Coal has licensed its farmland, which includes land on *Mereworth*, *Evandale*, *Stonington*, *Wongonbra* and *Leets Vale*, for agricultural purposes. The licence has been acquired by Princess Pastoral Company Pty Ltd, which raises grass-fattened cattle and sheep and provides high-quality produced beef and lamb for sale. In addition to stock, other activities include canola and wheat crops for sale to local markets. Buckwheat, oats and turnips will also be grown to provide livestock with high quality feed.

While farming has commenced on Hume Coal-owned land, it is not associated with the Hume Coal Project, but is a direct result of the ownership of the land. From a cultural landscape perspective, undertaking the activities that shaped the landscape in the historic period is a positive outcome because it will maintain a continuity of historic use and therefore will be a type of maintenance of the landscape.

7.8 Negative residual impacts

Residual impacts are impacts that permanently affect the significance of heritage values after mitigation measures have been put in place. While the assessment of impacts identifies changes to those heritage values and how they will occur, residual impacts are those that are left when operations cease or when a project itself is incorporated into the landscape.

At the end of mine operations (approximately 21 years), Hume Coal will decommission infrastructure and rehabilitate the area to support land uses similar to the current land uses. Rehabilitation is anticipated to take two years to complete.

Residual negative heritage impacts at decommissioning are not anticipated to be high but will include:

- the removal of Aboriginal objects (assessed in a separate report by EMM);
- possibly the removal of historical relics as unexpected finds (only in the infrastructure areas); and
- changes to the setting through the removal of some tree lines and the establishment of others.

7.9 Neutral residual impacts

Neutral or inconsequential impacts from the project will be:

- growth of tree lines planted as screens during the project; and
- construction of six dams for the project, most of which will be of average size relative to existing dams (0.3 ha, 0.06 ha, 0.34 ha, 0.79 ha and 0.68 ha) in the project area and one of which will be approximately 13 ha in area (Figure 1.4).

7.10 Summary

Eight listed heritage items have been identified in the project area, one of which, *Mereworth* is located in the surface infrastructure area where impacts through construction and operation will occur.

The setting of *Mereworth* house and garden will experience noticeable change while seven heritage items (*The Harp*, *The Pines*, *Sutton Farm*, *Bunya Hill*, *Comfort Hill*, *Newbury* and *Eling Forest Winery*) located either wholly or partially in the underground mining area will not be impacted. One potential archaeological site, which is possibly Atkinson's early homestead (the 'plain cottage'), is predominantly within the current house and garden curtilage, or is currently beneath existing farm buildings which will not be demolished for the project. It is very unlikely that substantial and intact relics will be impacted by the project. If, during construction of the mine water pipeline, relics are uncovered, they may be of research value.

The newly discovered potential site, HC_127 will also be avoided by the project. Project impacts to heritage items and potential heritage items outside the project area are not anticipated. The potential impacts are summarised in Table 7.1 with the percentage of items in the study area and in the surface infrastructure also included. It should be noted that % total in surface infrastructure does not equate with physical impact; it is a calculation showing how much of an item is within the area where impact will be occurring. Construction and operation will avoid impacts to heritage items except where unanticipated finds are encountered. Some features at the rear of the earlier property shown in the 1949 aerial may be impacted if they survive in the location of the mine water pipe. This area will be archaeologically monitored when the pipe is being installed and if relics are discovered the location of the pipe will be moved within the allocated corridor if practicable; and if not, the relics will be recorded before they are removed.

The project will result in positive and negative impacts to *Mereworth* house and gardens. Hume Coal will prepare a CMP for the site, which will include new research and will re-assess the significance of the place and identify areas that require maintenance and how that maintenance will be carried out. The CMP will be prepared in accordance with relevant guidelines to manage and record changes and to guide maintenance.

Table 7.1 Summary table of impacts on heritage items

Place	Item ID	Significance	Project location	Physical impact	Impact to setting (visual)	Total area (ha)	Ha inside project area	% total project area	% total infrastructure area
Mereworth house and garden	I351	Local	Surface infrastructure area (over paddocks only)	Partial to non-significant curtilage	Moderate	500.70	425.76	85%	19%
The Pines	I029	Local	Underground mining area	None	None	0.64	0.64	100%	0%
The Harp	I027	Local	Underground mining area	None	None	1.97	1.97	100%	0%
Sutton Farm House, grounds and outbuildings	I035	Local	Underground mining area	None	None	19.35	19.35	100%	0%
Comfort Hill	I021 I356 I357	Local	Underground mining area	None	None	216.57	59.07	28%	0%
Newbury	I202 I036	Local	Underground mining area	None	None	161.85	72.02	45%	0%
Bunya Hill	I018	Local	Underground mining area	None	None	48.44	12.66	26%	0%
Eling Forest Winery	I004 I009 I010	Local	Underground mining area	None	None	64.46	5.79	9%	0%
Mereworth 1 (potential relics)	None	Local	Surface infrastructure area (will be avoided)	Possible (unlikely)	None	2.68	2.68	100%	100%
Evandale scatter HC_127 (potential relics)	None	Local/Nil	Surface infrastructure area (HC_127 will be avoided)	None	None	0.0002	0.0002	100%	100%
Key Historic Unit 6 (1991)	None	Local	Surface infrastructure area and underground mining area	Part	Low to moderate	3492.11	2770.35	79%	1%
Landscape Exeter/Sutton Forest (1992)	None	Local	Surface infrastructure area and underground mining area	Part	Low to moderate	10152.89	3492.11	34%	0.02%

8 Management of impacts

8.1 Heritage management objectives

The overriding objective in managing heritage significance is the avoidance of impacts. Avoidance removes the need for mitigation or amelioration and is in keeping with the philosophy of the *Burra Charter 2013*.

In all cases where significant heritage values may be affected by a project, it is prudent to take a precautionary approach by excising the construction disturbance footprint where it intersects with heritage items or with areas that have been identified as having potential to contain relics. This has been the approach accepted in planning the Hume Coal Project.

The following overarching strategy to protect the significance of heritage items within the project area has been followed to date and will as needed:

1. A precautionary approach will be followed to all activities that could impact on heritage items or potential heritage items. That is, the items will either be completely excluded from the disturbance footprint or its heritage values will be investigated and recorded prior to the works.
2. Impacts to heritage items including buildings, bridges, landscapes and landscape elements will be avoided through the project design.
3. Following project approval and prior to any work commencing, an historical heritage management plan (HHMP) will be prepared to guide the conservation of heritage items and unexpected finds for the duration of the project. The relevant measures in the HHMP will be incorporated into the project construction environmental management plan (CEMP) to avoid inadvertent impacts during the construction phase of the project.
4. The management measures outlined in Section 8.2.1 will be specified in detail in the HHMP.
5. The Department of Planning and Environment as well as the Heritage Division (OEH) will be consulted on the content of the HHMP and the relevant sections of the CEMP.
6. Tree line windbreaks will be retained to the greatest extent practicable and/or replaced as soon as possible if their removal is unavoidable.
7. The window frame and wagon wheel fragment leaning against the shed on the north-west of the house and garden at *Mereworth*, to the main house within the garden for safekeeping.

8.2 Specific management

The heritage management measures below will be included in the HHMP:

8.2.1 Historic heritage management plan

A HHMP will be prepared for the project that identifies heritage items and addresses processes and protocols for managing known and potential historic heritage. The HHMP will include provisions for the listed measures, which are described in more detail following:

- avoidance;
- archaeological monitoring of mine water pipeline;
- archival recording;
- unexpected finds;
- preparation of a conservation management plan (CMP) for Mereworth house and garden;
- tree wind-breaks and screens; and
- fencing.

i Avoidance

Avoidance is the best way of protecting an item and its heritage values. Construction and operation activities will not occur within the heritage curtilage of the item where those activities do not need to occur. Mine activities will not occur within the identified significant curtilage of the Mereworth house and garden complex. Where there is potential for surface infrastructure to physically impact on the curtilage of a heritage item, modifications to the design will be made to avoid those impacts.

ii Archaeological monitoring of mine water pipeline

Prior to commencing construction of the mine water pipeline where it will be installed adjacent to the existing farm building, a CMP will be developed (refer to Section 8.2.1v), which will consider development of an archaeological research design to support an archaeological monitoring program, if deemed required. The archaeological monitoring program would focus on investigating the association of relics (if they exist) in the area. It is likely that relics in this area, should they survive, will be ephemeral.

iii Archival recording

Archival recording will be undertaken prior to changes being made by the surface infrastructure area and the surrounding landscape. In particular, as the setting of Mereworth is going to be affected for the life of the mining operations, and because the landscape will have to be “made good” (rehabilitation) at the cessation of mining operations, a good quality record of the existing environment will be made. The record would take the form of a report, which includes photographs, sketches and descriptions of the place. Additionally, a photographic archival record should be made of the house and gardens at Mereworth and used as a baseline for maintenance and repair.

Archival recording preserves the technical, environmental, historical and aesthetic information from heritage items for future generations. Archival recording is usually undertaken prior to works occurring that may impact the item. It varies in detail depending on the heritage significance and the potential impact to the item. A photograph-only archival record of all buildings, settings and the cultural landscape is sufficient. For items which may be directly impacted by project activities, such as unexpected relics, a more detailed archival record will need to be prepared. This should include technical specifications, measured drawings, detailed descriptions and photographs. Refer also to Section iii “unexpected finds” below for related management measures.

Archival recording is also part of other management strategies such as during archaeological excavation. Where monitoring is necessary, archival recording establishes a baseline against which monitoring results can be compared.

Guidelines for preparing archival records are available on the OEH website at <http://www.environment.nsw.gov.au/Heritage/publications/index.htm>:

- *How to prepare archival records of heritage items* (Heritage Office 1998); and
- *Photographic recording of heritage items using film or digital capture* (Heritage Office 2006).

iv Unexpected finds

If unexpected finds are unearthed, assessment will be required to ascertain their significance and, if necessary, archaeological excavation will be undertaken. Salvage excavation is a last resort where an item of archaeological value will be destroyed by the project. Excavation will be used to obtain as much information as possible from a site before it is destroyed and will require research and a research design as a framework for the excavation. Should unexpected finds be discovered, consultation will be undertaken with the Department of Planning and Environment.

v Conservation management plan

A CMP for *Mereworth* will be prepared and include the house and significant outbuildings (to be determined), the garden and garden elements, the avenue of trees and the tree-lined drive. An investigation into the surviving tree line along the original drive from the Old Hume Highway should also form part of the investigation to determine if it requires maintenance. Attention to the rose garden, the cold-climate plantings and the sunken lawns will also be required. The garden is a significant aspect of the complex and should be maintained in a suitable manner with attention to ensuring that Sorensen’s original plan is not overly modified.

The CMP will include the contents outlined below:

a. Significance

The CMP will investigate the history, fabric and significance of the place, including the gardens, and provide management measures and a maintenance schedule to halt deterioration. Guidelines for preparing CMPs are available online at the Office of Environment Heritage website:

- *The conservation plan* (Kerr 2013);
- *Conservation management plan: a checklist* (Heritage Office 2003b); and

- *Conservation management documents* (Heritage Office and Department of Urban Affairs & Planning 2002).

b. Maintenance

Maintenance and care of heritage items in Hume Coal's ownership including *Mereworth* house and garden will be undertaken to:

- revitalise and maintain the gardens and ancillary structures so that loss of significance through dereliction does not occur;
- maintain and repair the main house so that loss of significance through dereliction does not occur; and
- consider using the house for its intended purpose (as a residence or accommodation) as this will contribute to its upkeep and condition.

c. Ongoing monitoring

This measure applies to the house and garden at *Mereworth* and includes the ha-ha. Basic monitoring will include regular condition inspections to capture inadvertent impacts and halt further damage or degradation and, if necessary, vibration monitoring.

vi Tree line wind breaks and screens

To reduce any potential impacts on tree line wind breaks, the following measures are proposed:

- tree line wind breaks will be conserved to the greatest extent practicable;
- new tree line wind breaks will be planted to replace those that have to be removed;
- tree species in new tree lines will be consistent with the existing species; and
- new tree lines of suitable species will be planted to act as visual screens to infrastructure such as the screening used by Boral Cement in New Berrima.

vii Fencing

Fencing will be used to protect items from damage during construction or operational activities. Some fences may be temporary while others may be erected for the duration of the project.

8.2.2 Summary

The mine plan has avoided the area occupied by and beneath items listed on the SHR. By excising the land beneath SHR items from the mine plan, Hume Coal removed all potential for subsidence to occur to these items and the low subsidence mine design, has eliminated the potential for significant impacts to other heritage items in the mining area.

Where avoidance is not possible the HHMP will guide measures to avoid the deterioration of significant elements, or where approved impacts occur, they will be controlled and recorded. Monitoring of these measures will be required to check for their efficacy and to survey for inadvertent impacts.

A CMP will be prepared for *Mereworth* house and garden. This document will record the significance of the house site in more detail than is presently available and will identify areas that require immediate repairs. The CMP will include a cyclical maintenance plan for the house and the garden and provide guidance on suitable uses.

Long-term residual impacts to the landscape and built environment will be low as the project does not involve any demolition of heritage items and when mining operations come to an end, an approved rehabilitation plan will be implemented. Changes that may remain include dams, which are utilitarian items in rural landscapes, and the improvement of *Mereworth* house and garden.

Abbreviations

ADB	Australian Dictionary of Biography
AGHS	Australian Garden Historical Society
AHD	Australian height datum
ARTC	Australian Rail Track Corporation
cf.	Compare
CEMP	Construction environmental management plan
CHL	Commonwealth Heritage Register
CHPP	coal handling and preparation plant
CMP	conservation management plan
DMR	Department of Main Roads
DP&E	Department of Planning and Environment
EMM	EMM Consulting Pty Limited
EP&A Act	<i>NSW Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
ha	hectares
HHMP	historic heritage management plan
Heritage Act	<i>Heritage Act 1977</i>
km	kilometres
LEPs	local environmental plans
LGA	local government area
Louisa Atkinson	Caroline Louisa Warring Atkinson
LPI	Land and Property Information
m	metres
MIA	mine infrastructure area
mm	millimetre
Mt	million tonnes
Mtpa	million tonnes per annum
NHL	National Heritage List
NSW	New South Wales
NT	National Trust of Australia (NSW)
OEH	Office of Environment and Heritage
RMS	Roads and Maritime Services
RNE	Register of the National Estate
ROM	run of mine
S170 register	The Heritage and Conservation Register
SEARS	Secretary's environmental assessment requirements
SHI	State Heritage Inventory
SHR	State Heritage Register
SIA	surface infrastructure area
SMH	Sydney Morning Herald
SSD	State significant development
TfNSW	Transport for New South Wales
UNESCO	United Nations, Scientific and Cultural Organisation
WHS	<i>Wingecarribee Heritage Study</i>
WLEP 2010	<i>Wingecarribee Local Environmental Plan 2010</i>

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Appendix A

Significance assessment

Table A.1 **Significance assessment**

NSW Heritage criteria (NSW *Heritage Act* 1977)

Item name	(a) Historical significance	(b) Associative significance	(c) Aesthetic significance	(d) Social significance	(e) Research significance	(f) Rarity	(g) Representativeness	Overall significance assessment
The Harp	The Harp is located on the Illawarra Highway and has historical significance for its ability to provide information on the development of settlement in this area, as well as the transport routes taken by settlers and travellers. As an inn the site represents the importance of places such as inns for the community. It has local historical significance.	The Inn is associated with John Sewell and may be associated with other notable members of the Southern Highlands community. It has local associative significance.	The Harp is of sandstone and brick construction with a gabled roof and attic and a detached kitchen. It has local aesthetic significance.	The research conducted to date has not indicated that the group fulfils this criterion.	The inn has strong research potential and would be able to provide information on the construction and operation of inns during the nineteenth century, through both standing and archaeological evidence. It has not been substantially modified and retains many original features including cedar mantelpieces, windows and gardens. It has local research significance.	Inns are present throughout the Southern Highlands including examples of sandstone and brick construction from throughout the nineteenth century. The research conducted to date has not indicated that the group fulfils this criterion.	The Harp is representative of inns built and operated in the early to mid nineteenth century. It is in moderate condition. It is of local representative significance.	Local

Table A.1 **Significance assessment**

NSW Heritage criteria (NSW *Heritage Act* 1977)

Item name	(a) Historical significance	(b) Associative significance	(c) Aesthetic significance	(d) Social significance	(e) Research significance	(f) Rarity	(g) Representativeness	Overall significance assessment
Mereworth house and garden	<p>The house and particularly its garden are able to provide historical information on the design and style of holiday houses and gardens in the Southern Highlands including the use of plantings and features such as a ha-ha to link to the earlier garden and house designs in this area. Significant plantings include mature <i>Cedrus</i>, <i>Pinus</i>, <i>Cupressus</i> and <i>Tilia</i> specimens creating an open parkland character around the house.</p> <p>The item has local historical significance.</p>	<p>Mereworth house and garden is associated with the garden designer Paul Sorensen, the renowned cold-climate garden designer and who has designed a number of gardens in the local area. The house was built for descendants of the Bushell family.</p> <p>The house and garden are on land granted to the Atkinson family, a well know and important family in the development of the Southern Highlands.</p> <p>This item has local historical significance.</p>	<p>The house and garden present as a large brick, two storey house. Its roof was of shingle. Significant plantings include mature <i>Cedrus</i>, <i>Pinus</i>, <i>Cupressus</i> and <i>Tilia</i> specimens creating an open parkland character around the house. A rear terrace offers distant views across the property from the house. A ha-ha wall lies to the northwest of the house. The house and its grounds visually dominate the area and are recognisable for some distance.</p> <p>This item has local aesthetic significance.</p>	<p>The research conducted to date has not indicated that the group fulfils this criterion.</p>	<p>The house and garden are able to provide research information on the designs of gardens, particularly those by Paul Sorensen.</p> <p>It has local research significance.</p>	<p>Gardens designed by Paul Sorenson are rare in the local area. The house itself is also rare and a reflection of its period of construction.</p> <p>It is rare at a local level.</p>	<p>The house and garden are a representative example of the gardens designed for houses in the 1960s and those designed by Paul Sorensen.</p> <p>It is representative at a local level.</p>	Local

Table A.1 **Significance assessment**

NSW Heritage criteria (NSW *Heritage Act* 1977)

Item name	(a) Historical significance	(b) Associative significance	(c) Aesthetic significance	(d) Social significance	(e) Research significance	(f) Rarity	(g) Representativeness	Overall significance assessment
Mereworth 1 (archaeological) – former homestead site	This archaeological site would be of historical significance as one of the earliest homesteads and industries in the region. If it has survived, this item may be of local significance.	The site is very likely associated with John Atkinson, a free settler and brother of James Atkinson. John arrived in the colony in the 1820s and promptly set about acquiring land to make a name for himself. He was a prominent person in the Southern Highlands. If it has survived, this item may be of local significance.	Not applicable	Not applicable	This archaeological site would have research value for its potential to answer questions relating to the age of the homestead complex, its relationship in time to other establishments in the region as well as questions related to lifestyle and potentially individuals. If it has survived, this item may be of State significance.	Early rural homestead sites are becoming rare as Sydney expands. Some early rural homesteads have now been subsumed into Sydney and have either been lost to development or surrounded by urban expansion. A site such as this, is likely to be rare at a local level.	The site is likely to be representative as an early dairy farm and homestead belonging to free settlers and prominent persons in the colony. If it has survived, this item may be of State significance.	Local,.

Table A.1 **Significance assessment**

NSW Heritage criteria (NSW *Heritage Act 1977*)

Item name	(a) Historical significance	(b) Associative significance	(c) Aesthetic significance	(d) Social significance	(e) Research significance	(f) Rarity	(g) Representativeness	Overall significance assessment
The Pines	The Pines cottage is of local historical significance for its ability to provide information on early housing in Sutton Forest and is located on its original lots. This item is able to assist in our understanding of the development of settlement in this area particularly along the Great Southern Road. The item has local historical significance.	The research conducted to date has not indicated that the group fulfils this criterion.	The timber slabs have been covered by fibro renovations in the 1970s, though it retains its overall form. The research conducted to date has not indicated that the group fulfils this criterion.	The research conducted to date has not indicated that the group fulfils this criterion.	The original slab building remains under the renovations and has the potential to contribute information relating to the construction of timber slab cottages and the development of the area. It has local research significance.	Timber slab cottages are rare in the local area. Generally these structures were demolished to make way for stone structures or destroyed through the passage of time. Timber slab structures were less able to withstand weather events. This item is rare in the local area.	The cottage is representative of timber slab buildings from the 1820s. It is representative at a local level.	Local
Bunya Hill	Built in the 1870s, Bunya Hill has historical significance as it is one of many homesteads in the area that demonstrates the later nineteenth century development of the area/	The place was leased as a Vice Regal residence before Hillview, therefore, it has associations with government.	A substantial two storey Victorian home, potentially with an older section at the rear. The exterior of the home appears to be largely intact and features period elements such as window shutters, iron veranda posts and balustrades. The window frames appear to be intact.	The research conducted to date has not indicated that the group fulfils this criterion.	Bunya Hill has research potential in terms of relics as well as in the chronology of the buildings and phases of development.	Large rural homesteads from the late Victorian period are becoming increasingly rare as Sydney expands. In particular, properties that are relatively undeveloped and retain a large portion of the original lot are becoming increasingly rare.	Bunya Hill is also representative of substantial buildings of its time.	Local

Table A.1 **Significance assessment**

NSW Heritage criteria (NSW <i>Heritage Act 1977</i>)								
Item name	(a) Historical significance	(b) Associative significance	(c) Aesthetic significance	(d) Social significance	(e) Research significance	(f) Rarity	(g) Representativeness	Overall significance assessment
Sutton Farm house, grounds and outbuildings (former Red Cow Inn)	Sutton Farm has local historical significance for its ability to provide information on the transport and travel through the Southern Highlands as a coaching inn, and part of a coach network. Sutton Farm is also able to provide information on the development of properties from one use to another as it existed as both a coaching inn and a farmhouse. The item has local historical significance.	The research conducted to date has not indicated that the group fulfils this criterion.	The research conducted to date has not indicated that the group fulfils this criterion.	The research conducted to date has not indicated that the group fulfils this criterion.	Sutton Farm has the potential to contain archaeological and research information relating to the period of the site as a coaching inn and as a farm. It has local research significance.	Evidence specific to coaching inn is rare in the local area. This item is rare in the local area.	Sutton Farm is representative of both a coaching inn and a mid to late nineteenth century farm complex. It is representative at a local level.	Local

Table A.1 **Significance assessment**

NSW Heritage criteria (NSW *Heritage Act* 1977)

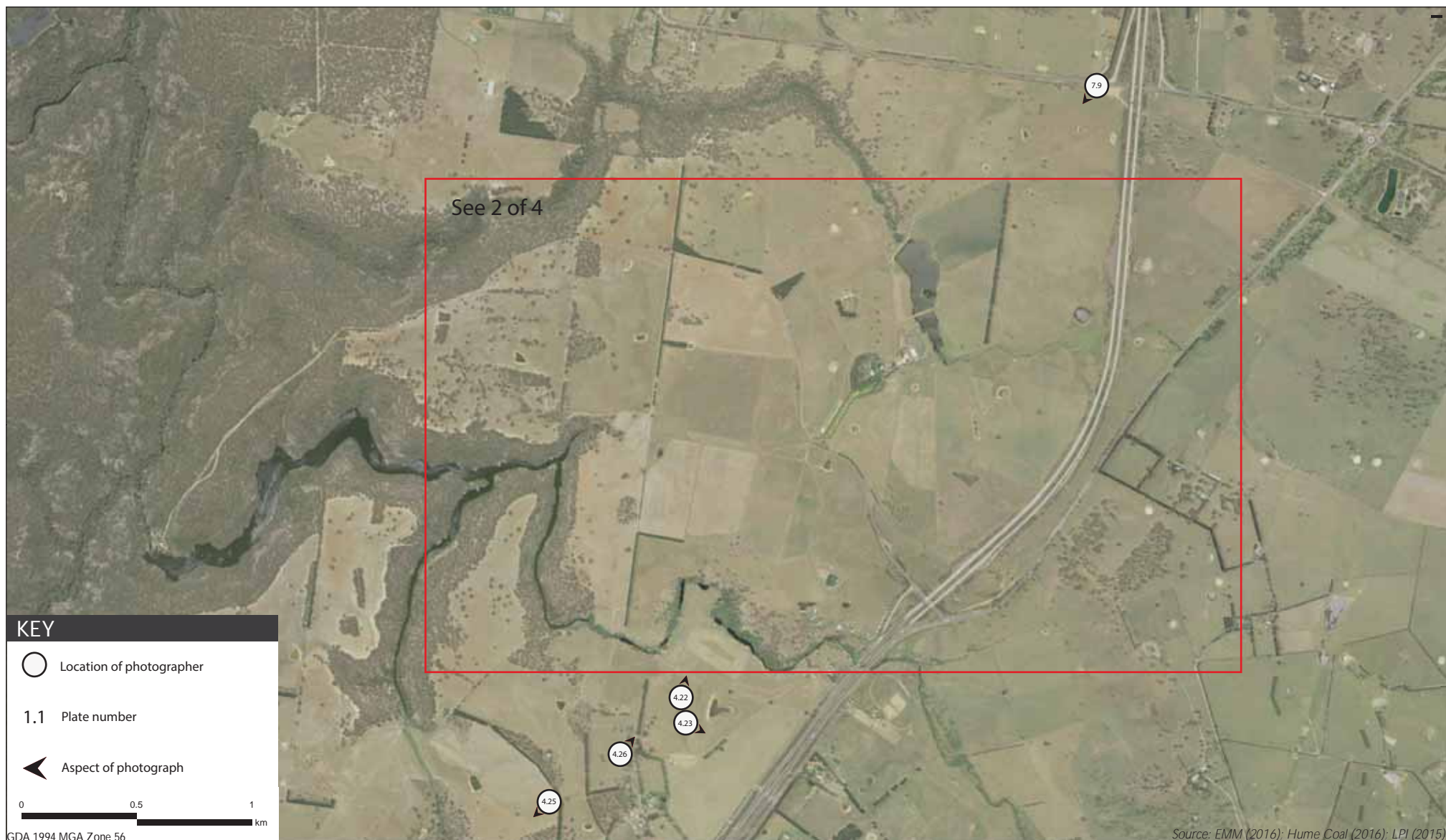
Item name	(a) Historical significance	(b) Associative significance	(c) Aesthetic significance	(d) Social significance	(e) Research significance	(f) Rarity	(g) Representativeness	Overall significance assessment
Evandale scatter (archaeological)	This item has the potential to contribute to our understanding of the early settlers and camps particularly those associated with itinerant workers and pastoralists. The item has local historical significance.	The research conducted to date has not indicated that the group fulfils this criterion.	The research conducted to date has not indicated that the group fulfils this criterion.	The research conducted to date has not indicated that the group fulfils this criterion.	The item has archaeological research significance for its potential to provide details about early settlement. It has local research significance.	Areas with evidence of early settlement are rare in the local area. This item is rare in the local area.	The research conducted to date has not indicated that the group fulfils this criterion.	Local
Comfort Hill	The Comfort Hill Group has regional significance as one of the original large pastoral properties around Black Bobs Creek.	The buildings are situated on an early grant issued to John and William Morrice.	The property retains remnant natural bush which provides rare evidence of the changes to the environment from clearing and agriculture. The original single storey section (c1840) was constructed of stone quarried from the property. Additions are sympathetic to the original structure.	The research conducted to date has not indicated that the group fulfils this criterion.	Remnant natural bush provides rare evidence of the changes to the environment from clearing and agriculture. It is a wildlife refuge.	The research conducted to date has not indicated that the group fulfils this criterion	The item is aesthetically representative statewide. Mid 20 th century changes (1948) illustrate the importance of the region as desirable as a rural retreat.	Local

Table A.1 **Significance assessment**

NSW Heritage criteria (NSW <i>Heritage Act 1977</i>)								
Item name	(a) Historical significance	(b) Associative significance	(c) Aesthetic significance	(d) Social significance	(e) Research significance	(f) Rarity	(g) Representativeness	Overall significance assessment
Newbury house, grounds and outbuildings	Newbury has regional significance as the 1821 grant to John Nicholson was one of the original three grants in Sutton Forest. This item is able to assist in our understanding of the development of the early settlement of Sutton Forrest. This item may be of State significance.	Newbury has associative significance with John Nicholson, a prominent person in the Southern Highlands, and the Nicholson family. John Nicholson joined the Royal Navy in 1804 and in less than a decade had risen to the station of Master on the H.M.S. <i>Nemesis</i> (1812), then H.M.S. <i>Pique</i> (1813) and then H.M.S. Venerable. Nicholson was responsible for transporting the first coffee plants to Norfolk Island. This item may be of State significance.	The simple garden, established in 1932, retains the original form. The garden includes lawn, paving, driveway and archway elements that all complement the Newbury homestead. The item has local aesthetic significance.	The research conducted to date has not indicated that the group fulfils this criterion.	The item has archaeological research significance for its potential to provide details about early settlement. As the property dates from as early as 1821 there is potential for archaeological evidence of early development to be retained. This item may be of State significance.	Areas with evidence of early settlement are rare in the local area. This item is rare in the local area.	The site is likely to be representative as an early homestead belonging to free settlers and prominent persons in the colony. This item may be of State significance.	Local
Eling Forest Winery	Eling Forest Winery Group has the ability to demonstrate the historical development of Sutton Forest including activities associated with pastoralism. It has local historical significance	Research conducted to date has not indicated that the group fulfils this criterion	This early homestead, built in 1834, retains some original features such as the front door and sidelights. It has local aesthetic significance.	Research conducted to date has not indicated that the group fulfils this criterion.	Has research potential embodied in the archaeological site of the first homestead, former school rooms, stables and sandstone quarry. It has local research significance.	Early rural homestead sites are becoming rare as Sydney expands. A site such as this is likely to be rare at a local level.	Eling Forest winery is representative of an early sandstone homestead and outbuildings. It has local representative significance.	Local

Appendix B

Photographic plan



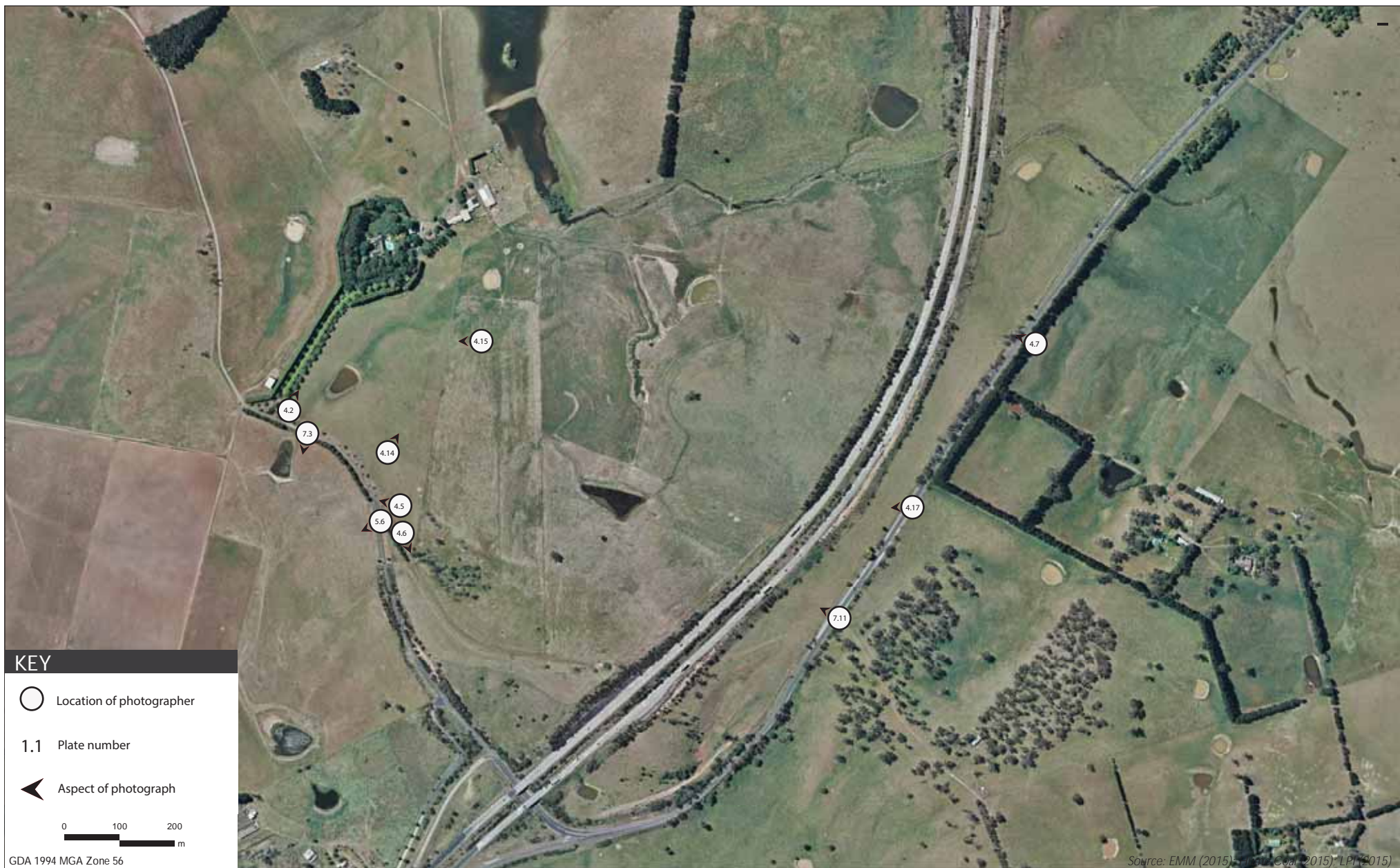
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Photographic catalogue 1 of 4

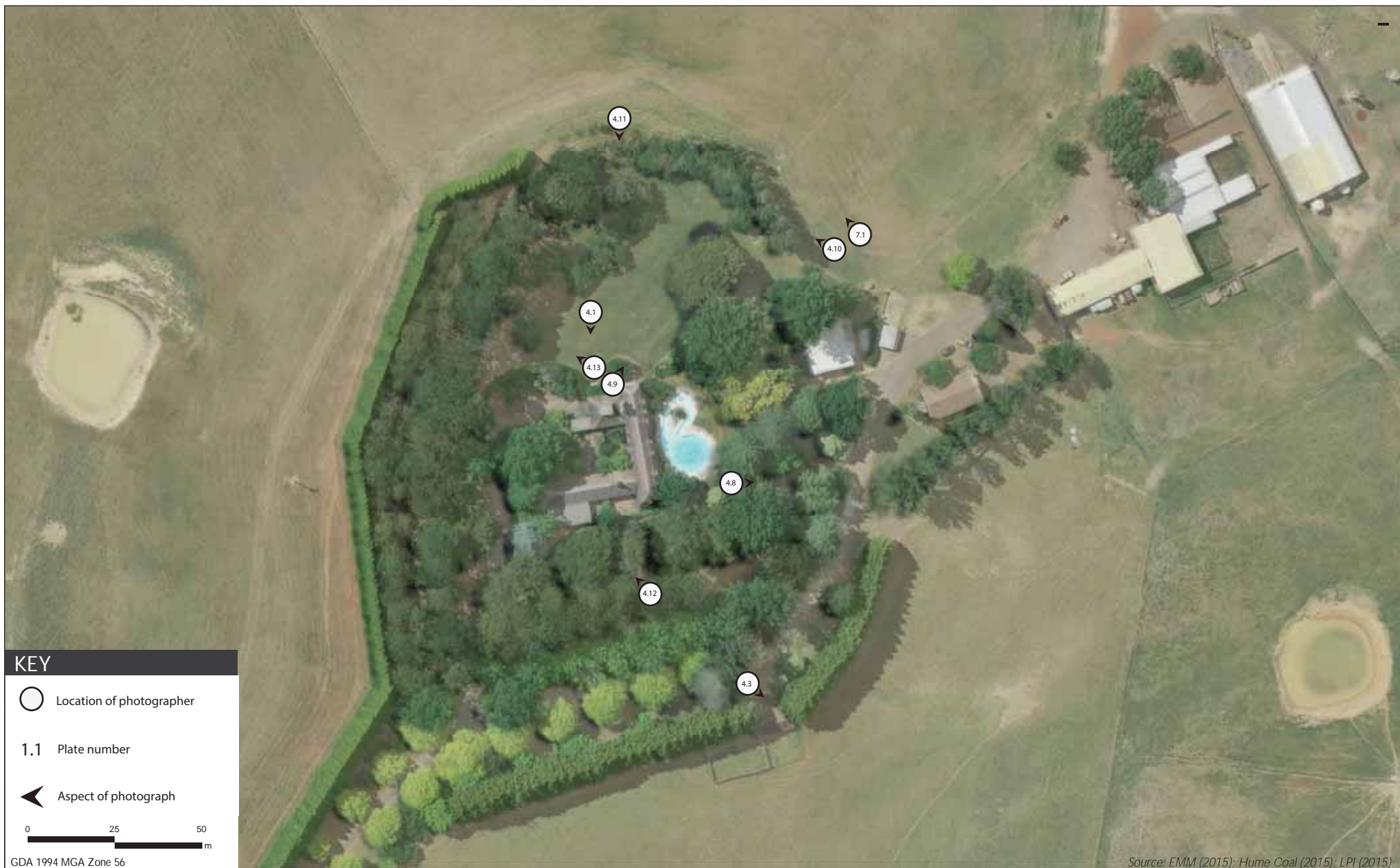
Hume Coal Project
Historic Heritage Assessment and Statement of Heritage Impact
Appendix B





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