Appendix F

Aboriginal Heritage Assessment

MARYVALE SOLAR FARM

Aboriginal Archaeological Assessment

Prepared for Photon Energy

Dubbo Regional Local Government Area

October 2018

Ref. 1711.06

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Document Information

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Approved by	Dr Matthew Kelleher

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1 Introduction

1.1 Project background

Photon Energy (Photon) propose to construct and operate a solar farm at Maryvale NSW. The proposal was deemed State Significant Development (SSD) and an Environmental Impact Statement (EIS) was required to support the project application, prepared in accordance with the Secretary's Environmental Assessment Requirements (SEARs) issued on 13 October 2017 (SSD 8777). The project SEARs required an assessment of the likely Aboriginal heritage (cultural and archaeological) impacts of the development and include adequate consultation with the local Aboriginal community.

The proposal area, hereafter referred to as the study area, would be located at "Waroona" 121 Maryvale Road and "Scarborough House" 801 Cobbora Road and contained within part of Lot 2 DP 573426, Lot 1 DP 1095725, Lot 2 DP 1095725, Lot 1 DP 1006557, part of Lot 182 and Lot 122 DP754318. The study area also includes the proposed upgrade of the intersections of Maryvale and Seatonville Road and Maryvale and Cobbora Road in addition to the upgrade of Maryvale Road and Seatonville Road. The study area is located within the Dubbo Regional Council Local Government Area (LGA) and is approximately 15 kilometres north west of the Wellington town centre (Figures 1 and 2).

To inform the EIS and fulfil the SEARs, Kelleher Nightingale Consulting Pty Ltd (KNC) was engaged to carry out an Aboriginal heritage assessment of the land. The assessment included background research and an archaeological field survey conducted in accordance with Office of Environment and Heritage (OEH) requirements including:

Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (DECCW 2010a)

Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010b).

The assessment was undertaken in consultation with Wellington Local Aboriginal Land Council, who also participated in the field surveys.

1.2 Summary of findings

No impact to Aboriginal heritage will occur as a result of the proposed Maryvale Solar Farm or proposed road upgrade works. Background research, desktop assessment and archaeological field surveys identified seven Aboriginal archaeological sites within the study area (refer Figure 6). The sites comprised four surface artefact scatters (Maryvale Road AFT 1, Maryvale Road AFT 2, Seatonville Road AFT 1 and Seatonville Road AFT 2), two isolated surface artefacts (Maryvale Road IF 1 and Seatonville Road IF 1) and one culturally modified tree (Maryvale Road TRE 1). The seven identified sites are not within the project footprint and will not be impacted by the proposal.

The remainder of the study area was assessed as exhibiting low archaeological potential due to combinations of archaeologically unfavourable topography, agricultural activity, previous road construction activities and contemporary disturbance of the land.

Proposed works associated with the solar farm development will not impact on identified areas of Aboriginal cultural heritage significance. The seven Aboriginal archaeological sites will be retained within the riparian corridor and will be avoided. It is recommended that the identified site locations (Maryvale Road AFT 1, Maryvale Road AFT 2, Maryvale Road IF 1, Maryvale Road TRE 1, Seatonville Road AFT 1, Seatonville Road AFT 2 and Seatonville Road IF 1) should be included within the construction environment management plan.

1.3 Investigator / contributors

A full list of investigator / contributors to the current study is included in Table 1 below.

Table 1. Investigator / contributor

Investigator / Contributor	Affiliation	Role
Dr Matthew Kelleher	Kelleher Nightingale Consulting	Advisor, Survey; Reporting and Review
Alison Nightingale	Kelleher Nightingale Consulting	Advisor and Review
Madeline Harding	Kelleher Nightingale Consulting	Reporting
Ben Anderson	Kelleher Nightingale Consulting	GIS Mapping and Reporting
Mike Nolan	Wellington Local Aboriginal Land Council	Survey, Cultural Heritage Advisor
Adam Peckham	Wellington Local Aboriginal Land Council	Survey, Cultural Heritage Advisor

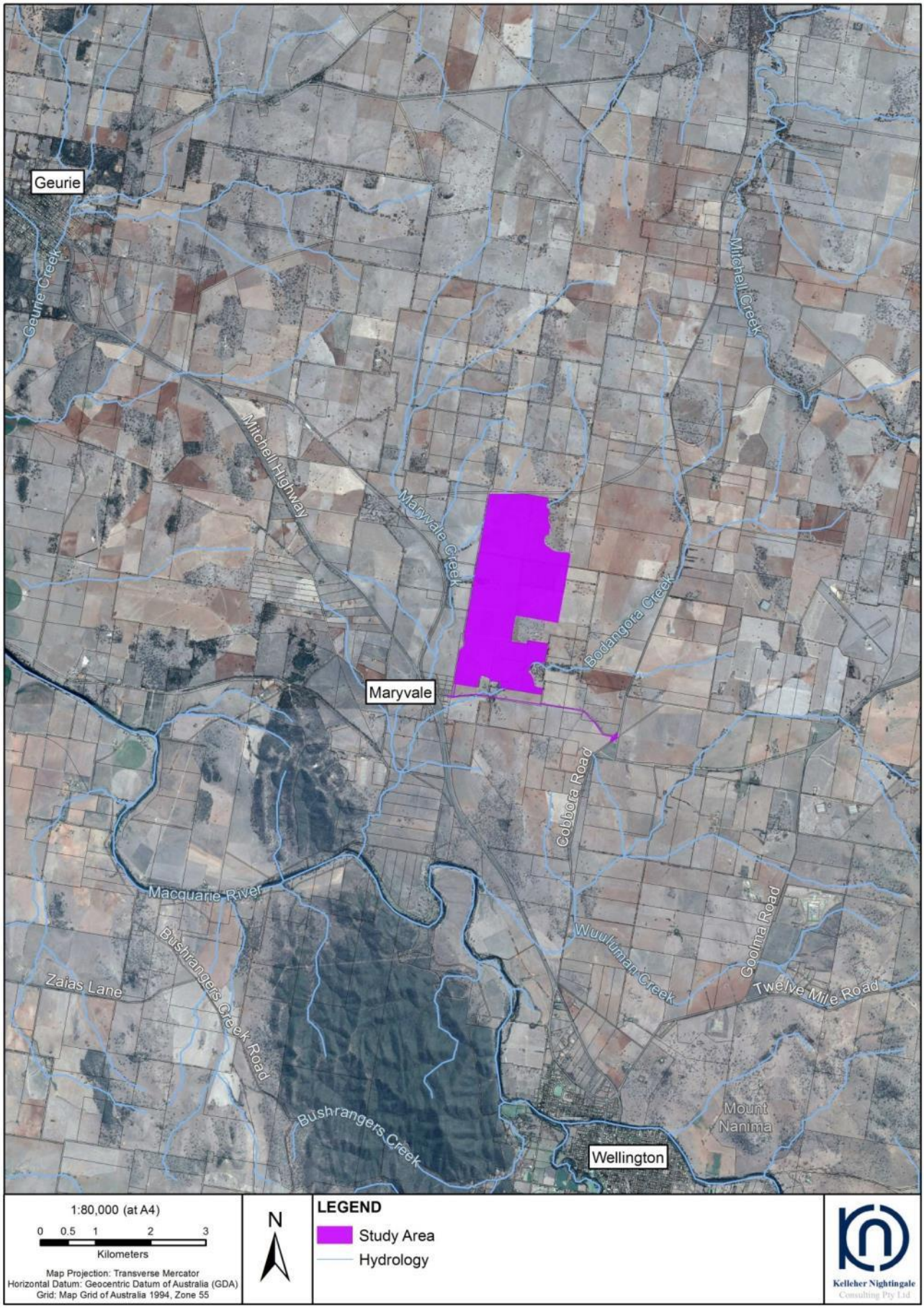

Figure 1. Study area location

Figure 2. Detail of study area

2 Description of Development

The Maryvale Solar Project will include the installation of 450,000 photovoltaic (PV) panels on a single axis tracker system across the study area. The single axis tracker system option would consist of groups of east-west facing PV modules (each approximately 2 x 1 metres in area) on mounting structures approximately 4 metres in height at full tilt. The mounting structure would be piled steel posts that would extend up to 2 metres below ground.

The proposal would consist of the following elements:

- Solar Components including:
    - 450,000 PV panels on mounting structures on mounting structures that enable the panels to track the sun (known as “single axis trackers”)
    - Electrical connections and inverter stations (where the inverters are within containers within the solar PV arrays)
    - Underground cabling / collection circuits.
- Electrical infrastructure including:
    - Transmission kiosk
    - A 132kV Substation
    - 33kV switchgear
- A main access road
- Upgrade of intersections and roads to facilitate safe access as described below
- Ancillary facilities and construction compounds
- Perimeter security fencing
- Two maintenance storage containers.

During the construction period, some additional temporary facilities would be located within the Site and may include:

- Material laydown areas
- Construction site offices
- Parking area.

The proposal would also include the following road upgrade works:

- Upgrade and sealing of Seatonville Road
- The intersection of Seatonville Road and Maryvale Road will be upgraded to allow for truck movements
- The water crossing to the east of the intersection of Maryvale Road and Seatonville Road will be upgraded to allow for truck movements (strength) and will be widened to allow for 2-way truck movements.
- The intersection of Maryvale Road and Cobbara Road will be upgraded to provide a minimum left turn deceleration lane for the trucks.
- Photon will provide maintenance to Maryvale Road during the construction phase.

Power generated by the facility will be transmitted via existing 132kV transmission lines, in an easement owned by Essential Energy that runs through the site in a north west to south east direction, and extends through to Wellington approximately 12 kilometres to the south east of the Maryvale Solar Farm Site.

A tee off connection will be used to connect to the existing Essential Energy 132kV transmission line. A section of high capacity fibre wire will then connect the new Maryvale Solar Farm Substation to Essential’s 132 kV Network.

The operational life of the solar farm is expected to be 25 years at which point the panels are either replaced and operations continue or removed and the site is decommissioned and rehabilitated.

3 Aboriginal Community Consultation and Participation

The Aboriginal heritage assessment included consultation with the local Aboriginal community. The proponent sought to prepare the assessment in consultation with the relevant Local Aboriginal Land Council to identify any Aboriginal archaeological sites or areas of cultural significance and assess the potential impact of the proposal on Aboriginal heritage values.

The assessment was undertaken in consultation with Wellington Local Aboriginal Land Council (WLALC) whose boundaries covered the study area. WLALC was contacted at the commencement of the project to discuss the development proposal and invited to participate in the site surveys. Land Council representative Mike Nolan participated in a field survey of the northern portion of the study area on Tuesday 27 February 2018. Land council representatives Mike Nolan and Adam Peckham participated in a field survey of the southern portion of the study area on 19 August 2018.

The survey identified seven archaeological sites (Maryvale Road AFT 1, Maryvale Road AFT 2, Maryvale Road IF 1, Maryvale Road TRE 1, Seatonville Road AFT 1, Seatonville Road AFT 2 and Seatonville Road IF 1) situated within the study area adjacent to Bodangora Creek and an unnamed tributary of Maryvale Creek. Figure 6 shows the location of these sites.

A written report was provided by WLALC summarising the outcomes of the site inspection and is included as Appendix A. The WLALC had no objections to the proposed solar farm development provided that impacts are avoided to the identified archaeological sites (Maryvale Road AFT 1, Maryvale Road AFT 2, Maryvale Road IF 1, Maryvale Road TRE 1, Seatonville Road AFT 1, Seatonville Road AFT 2 and Seatonville Road IF 1).

The WLALC recommended that the location of the identified archaeological sites be provided to the property owner and relevant managers to ensure that they are not impacted by other activities. The WLALC also recommended that if further culturally significant materials area identified during the construction of the solar farm, the WLALC and OEH be notified and that works cease.

4 Archaeological background

4.1 Database search (AHIMS) and known information sources

4.1.1. AHIMS web services

The Aboriginal Heritage Information Management System (AHIMS) is a database operated by the (NSW) Office of Environment and Heritage (OEH) and regulated under section 90(Q) of the *National Parks and Wildlife Act 1974* (NPW Act). AHIMS contains information and records related to registered Aboriginal archaeological sites (Aboriginal objects, as defined under the NPW Act) and declared Aboriginal places (as defined under the NPW Act) in NSW.

A search of AHIMS was conducted on 1 May 2018 to identify registered (known) Aboriginal sites or declared Aboriginal places within or adjacent to the study area (Client service ID 342156). The search results are attached as Appendix A.

The AHIMS database search was conducted within the following area:

Eastings: 677108 - 684447
Northings: 6402886 - 6411578
Buffer: 0 metres (the search coordinates included a buffer around the study area).

The AHIMS search results showed:

13	**Aboriginal sites are recorded in or near the above location**
0	**Aboriginal places have been declared in or near the above location**

The type and distribution of registered Aboriginal sites within these coordinates are shown in Figure 3. The frequencies of site features (site 'types') within the AHIMS database search area are shown in Table 2.

Table 2. Frequency of site types and context from AHIMS database search

Site Context	Site Features	Frequency	*(%)*
Open	Artefact	10	*77*
	Modified Tree (Carved Tree or Scarred)	1	*7.7*
	Stone Arrangement; Stone Quarry (Artefact)	2	*15.3*
Total		**13**	***100***

4.1.2. Other heritage registers and databases

Other sources of information including heritage registers and lists were also searched for known Aboriginal heritage in the vicinity of the study area. These included:

- Dubbo Local Environment Plan 2011
- Wellington Local Environmental Plan 2012
- State Heritage Register and State Heritage Inventory
- Section 170 Heritage and Conservation Registers
- Commonwealth Heritage List
- National Heritage List
- Australian Heritage Database
- Australian Heritage Places Inventory
- Register of the National Estate (non-statutory archive).

No items of Aboriginal heritage were listed or registered on these databases within the study area.

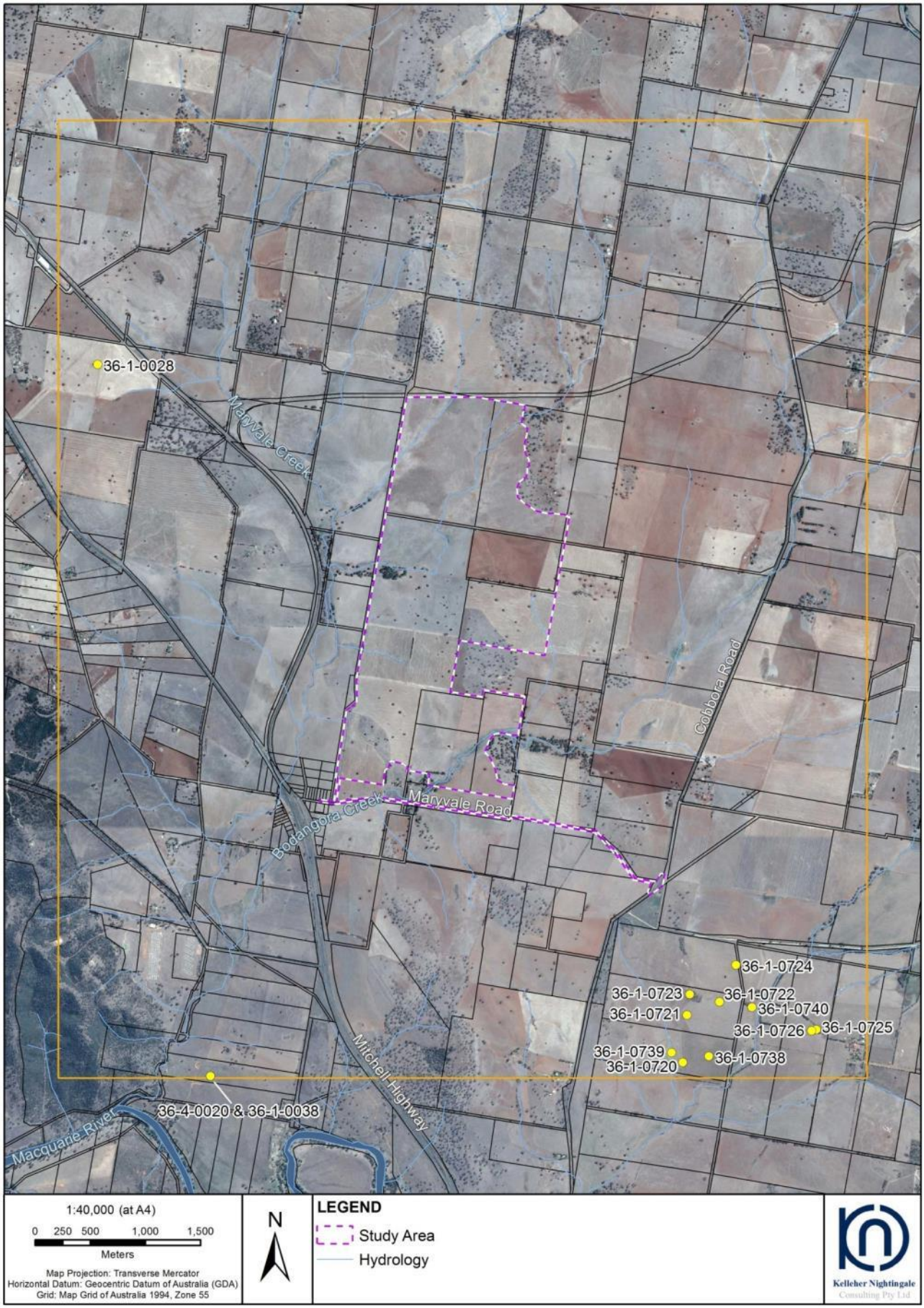

Figure 3. AHIMS search results

4.2 Previous archaeological investigations

Archaeological investigations in the region have generally been undertaken for significant infrastructure and renewable energy projects. A summary of the pertinent investigations is presented in this section.

Pearson (1981) conducted comprehensive studies for the Wellington area, focussed on the Upper Macquarie. The study was biased towards the large and/or obtrusive sites often directed by information provided from local residents. Three rock shelters were excavated as part of Pearson's study that were dated to around 5,000 years ago. Pearson developed a site pattern model based on occupation and non-occupation sites. Non-occupation sites included grinding grooves, scarred or carved trees, ceremonial sites and burial sites. According to Pearson's model, several factors should be considered in regard to Aboriginal sites within the landscape. These included:

- site distance to water varied from 10 to 500 metres, but in general larger sites were found closer to water;
- good soil drainage and views over watercourses were important site location criteria;
- burial sites and grinding grooves were situated as close to habitation areas as geological constraints would allow;
- scarred trees were variably located with no obvious patterning other than proximity to watercourses where camps were more frequently located;
- ceremonial sites such as earth rings ('bora grounds') were located away from campsites;
- stone arrangements were also located away from campsites in isolated places and tended to be associated with small hills or knolls or were on flat land; and
- quarry sites were located where stone outcrops with desirable working qualities were recognised and were readily accessible

Based on ethnohistoric information, it was considered that Aboriginal campsites were seldom used for longer than three nights and that large archaeological sites probably represented an accumulation of material over a series of short visits.

Archaeological survey was undertaken for two proposed electricity transmission lines from Wellington to Dubbo which followed the Mitchell Highway (McIntyre 1985). A total of 27 artefact scatters or isolated artefacts were identified as a result of survey. Two scarred trees, two canoe trees and two possibly historic sites were also identified. The majority of the assessment area had been disturbed as a result of ongoing agricultural land use practices. A number of sites, in particular isolated artefacts, were identified in recently ploughed fields or on tracks. Sites were predominantly identified within close proximity to water sources including the Macquarie River.

Archaeological assessment for the Wellington Gas Pipeline, Power Station and Compressor Station project was undertaken by Australian Museum Business Services (2008). The assessment area followed a route north of Wellington township approximately 2.5 kilometres south of the current study area. Targeted archaeological survey was undertaken along the proposed pipeline route and within a buffer zone of 200 metres. Four Aboriginal archaeological sites comprising three artefact scatters and one culturally modified tree were identified. The sites were located on lower slope landforms or large areas of exposed flats within immediate proximity of creek lines. The artefacts consisted of chert, silcrete and quartz flakes and bipolar flakes. Areas within close proximity to creek banks were assessed as having moderate archaeological potential to contain highly disturbed Aboriginal stone artefact sites. Most of the study area consisted of farming areas and was assessed to have low potential to contain intact, undisturbed Aboriginal archaeological sites.

Aboriginal cultural heritage assessment was undertaken for the proposed Wellington Solar Farm, approximately three kilometres southeast of the current study area (NGH Environmental 2017). Archaeological survey was undertaken for the project. Portions of the property had been subject to varying levels of disturbance as a result of vegetation clearance. Recent ploughing led to generally good surface visibility across the assessment area. As a result, a total of 27 sites were identified on alluvial plains and low slope landforms. Ten artefact scatters, 15 isolated finds, one scarred tree and a possible hearth were recorded. Artefacts identified within the archaeological survey included flakes, broken flakes and flaked pieces, cores, one grindstone, one broken grindstone, an edge-ground axe and two hammer stones. A variety of raw materials were identified, consisting of volcanics, silcrete, quartz, fine grained siliceous, quartzite and sandstone.

The majority of artefact scatter sites were identified within close proximity to creek tributaries. Isolated artefacts were identified across the property in exposures, primarily along fence lines and vehicle tracks in disturbed contexts. Higher concentrations of artefacts were identified on slightly elevated slopes or flats within close proximity to Wuuluman Creek. The majority of artefact scatters and isolated artefacts were assessed as having low or low to moderate archaeological significance. An area of potential archaeological deposit (PAD) was identified in the centre of the property in a relatively flat area containing two surface artefact scatters where a spring was believed to have been located. Two additional areas of PAD were identified on relatively flat areas located 100 metres north and south of Wuuluman Creek and were assessed to having high archaeological potential.

4.3 Previously identified sites in the vicinity of the study area

Previous archaeological investigations have identified two Aboriginal archaeological sites within 1.5 kilometres of the current study area. These sites are discussed below.

Site name: Wellington Nth IF23
AHIMS ID: 36-1-0724

Wellington Nth IF23 was an isolated artefact identified in a cleared paddock on a slope landform. The site was located off Goolma Road, approximately one kilometre south east of the current study area and five kilometres north of Wellington. The artefact was a flake made of volcanic material with 20% cortex.

Site name: Wellington Nth IF24
AHIMS ID: 36-1-0723

Wellington Nth IF24 was an isolated artefact identified in a cleared paddock on a slope landform. The site was located off Goolma Road, approximately 970 metres south east of the current study area and five kilometres north of Wellington. The artefact was a core made from a fine grained siliceous material.

5 Landscape context

The study area is located within the extensive foothills and isolated ranges of the NSW South Western Slopes bioregion. The foothills and isolated ranges comprise the lower inland slopes of the Great Dividing Range, extending from north of Cowra through southern NSW into western Victoria. The South Western Slopes lie wholly east of the Lachlan Fold Belt and are characterised by a series of complex north to north westerly trending folded bodies of Cambrian to early Carboniferous sedimentary and volcanic rocks (NPWS 2003). The northern part of the bioregion becomes lower where the study area is located and wide valleys with gentle, rolling hills and flats have filled the landscape with Quaternary alluvium and occasional lakes.

The topography of the study area is characterised by gentle slope and crest landforms of a series of south west running low ridgelines that form the watersheds that separates the flat and open depression landforms of Bodangora Creek and its tributaries in the south from Maryvale Creek and its tributaries in the north. These creek systems flow south west and join approximately 1.5 kilometres south west of the study area before flowing into the Macquarie River approximately 3.3 kilometres south west of the study area.

The underlying geology of the study area is characterised by Mid-Ordovician to Early Silurian volcanic, intrusive and sedimentary rocks within the slopes and crest landforms while Quaternary colluvials are present within the flat and open depression landforms (Figure 4). The majority of the study area comprises the Oakdale Formation (Oco), which is characterised by basalt, basaltic andesite, latite lava and intrusion, volcanoclastic breccia, conglomerate, sandstone and siltstone, minor allochthonous limestone blocks. Quaternary colluvials (Qc) are present across the north western and central portion of the study area and consist of colluvial polymictic ravel, sand, silt, and clay; with the potential to include eluvial in situ regolith deposits.

Soils within the study area consist entirely of the Bodangora Soil Landscape (Figure 4). Soils consist of Euchrozems, present on lower, gentle slopes and Non-calcic Brown Soils, present on steep slopes, outcrops and moderately inclined slopes. Terra Rossa Soils are present where limestone geological inclusions are present (Murphy & Lawrie 1998). Euchrozems are defined by dark reddish-brown clay loams to light clays in topsoils and moderate strongly structured reddish-brown light to medium clays in subsoils. Gravel increases with depth and soft nodules of calcium carbonate begin to appear at approximately 90 centimetres below the ground surface. Non-calcic Brown Soils present on steep slopes or hillcrests consist of hard setting gravelly dark reddish-brown fine sandy loams. Pockets of Terra Rossa Soils are present across the local area where associated with limestone deposits and are described as friable dark reddish-brown fine sandy clay loams to clay loams. The Bodangora Soil Landscape is slightly to moderately erodible where vegetation or earthworks are not maintained.

The distribution of native vegetation within the study area has been affected by historic and contemporary European land use practices in the region. Native vegetation is limited to areas in the vicinity of creeks or on the crest of hills as the results of tree clearance across large portions of the study area. Current land use in the area is predominantly agricultural and includes ploughed fields and pastures. Landscaping and construction activities associated with European land use practices have caused varying levels of disturbance within the study area. In areas affected by ploughing or the construction of dams, roads and utility infrastructure disturbance is generally higher while tree clearance and vehicle movement generally cause low to moderate disturbance.

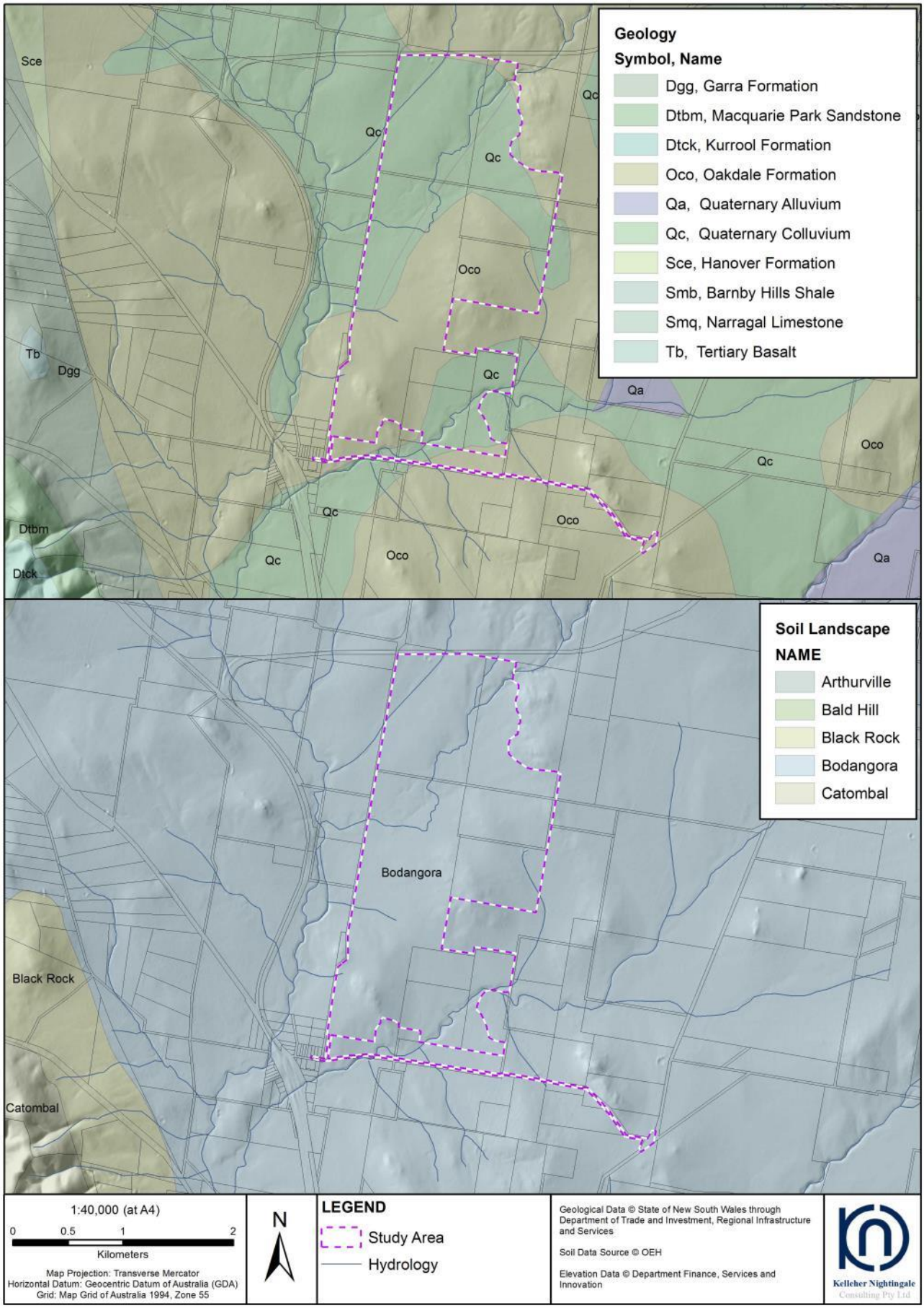

Figure 4. Geology and soil landscapes of the study area

6 Regional character and site predictions

Previous archaeological investigations within the local area have provided data on site distribution, site typology and lithic raw material use that aid in assessing the archaeological character of the Wellington region. Investigations in the Wellington Region have identified that site frequency and density can be related to key landscape factors including distance to water, landform, degree of slope, soil landscape and proximity to environmental resources.

Archaeological sites in the region generally occur as surface artefact scatters and isolated artefacts. Relatively elevated landforms along the margins of creeks, especially those offering permanent water and associated environmental resources such as Macquarie River and its tributaries would have been favourable for occupation by Aboriginal people. This is reflected in the archaeological record by higher artefact densities recorded along the major creek lines, potentially reflecting repeated or more intensive use of these locations. Other types of non-occupational sites would be directly dependent on the environmental conditions such as quarry sites which occur within landforms with suitable geological formations.

The study area is located within a landscape with varying levels of natural and human disturbance. Ploughing, the construction of roads, dams and utilities in addition to natural process such as erosion disturb both surface and subsurface deposits. Within these contexts Aboriginal objects are unlikely to survive in situ and the archaeological potential of such sites is generally low. Conversely, ground surface visibility is often increased by these processes, leading to increased identification of surface artefacts in these areas.

Based on information from previous archaeological investigations, landscape context and regional character, site predictions for the study area include the following:

- Aboriginal archaeological sites are likely to consist of open artefact scatters or isolated finds in proximity to waterways and scarred trees within areas of remnant mature vegetation.
- Silcrete, quartz, quartzite, chert and volcanics will be the most commonly encountered artefact raw material.
- Clearance of the majority of original vegetation lessens the likelihood of identifying culturally modified trees, but old growth trees may be present in the study area and have the potential to display scars or carvings of Aboriginal origin.
- Stone arrangements may be encountered on knolls or prominent landscape features.
- The identification of Aboriginal archaeological sites is likely to be affected by differential visibility of the ground surface, but successful assessment of areas of potential archaeological deposit can be made based on landform and other environmental factors such as disturbance, degree of slope and distance to reliable water resources.

7 Sampling strategy and field methods

The aim of the archaeological survey was to conduct a pedestrian survey of the study area and identify any Aboriginal archaeological sites or areas with potential to contain Aboriginal objects.

Field survey of the northern portion of the study area was completed on 27 February 2018 by Dr Matthew Kelleher (KNC) and Wellington Local Aboriginal Land Council representative Mike Nolan. Field survey of the southern portion of the study area was completed on 19 August 2018 by Dr Matthew Kelleher (KNC) and Wellington Local Aboriginal Land Council representatives Mike Nolan and Adam Peckham. The study area was divided into four survey units based upon landform divisions and paddock boundaries (Figure 5).

Survey Unit 1 comprised the portion of the study area north of Bakers Lane. Landforms were characterised by the crest of a low ridge in the eastern portion of the survey unit that sloped towards an area of flat landforms in the south western portion of the survey unit. Three unnamed south west flowing tributaries of Maryvale Creek crossed the survey unit with two forming a second order creek in the central portion of the survey unit. Vegetation within the survey unit comprised a pastured grasses and areas of dense grasses in the vicinity of creeks. Land use practices within the survey unit are predominantly linked to the cultivation of crops and include ploughing, fencing and vehicle access tracks while several dams were also present.

Survey Unit 2 encompassed the central portion of the study area south of Bakers Lane and north of a small hill. Landforms within the survey unit were characterised by the crest of a low ridge in the eastern portion of the survey unit that sloped towards an area of flat landforms in the western portion of the survey unit. Three unnamed south west to west flowing tributaries of Maryvale Creek crossed the survey unit and two joined in the north western portion of the survey unit. An unnamed tributary of Bodangora Creek flows south east from the slopes on the eastern side of the crest landform. Vegetation within the survey unit was a mixture of crops within recently ploughed areas, overgrown weed species, grassed areas within the creek channels and an area of mature trees adjacent to a tributary of Maryvale Creek. Land use practices within the survey unit were predominantly linked to the cultivation of crops and include ploughing, fencing and vehicle access tracks in addition to isolated dams which occurred along the boundaries of cultivated fields. An overhead power line also crossed the survey unit and the Seatonville Road corridor ran along the western boundary.

Survey Unit 3 comprised the portion of the study area from the small hill in the north to the Maryvale Road corridor in the south. Landforms within the survey unit were characterised by the open depression of Bodangora Creek and adjacent flats which covered a large area within the eastern portion of the survey unit. East and west of this area were gentle slopes which in the western portion of the survey unit ascended to the crest of a small hill. The survey unit contained the south west flowing Bodangora Creek. Vegetation within the survey unit was a mixture of crops within recently ploughed areas, overgrown weed species and grassed areas in addition to isolated trees and clusters of trees along fence lines. Land use practices within the survey unit were predominantly linked to the cultivation of crops and include ploughing, fencing and vehicle access tracks. An overhead power line also crossed the survey unit.

Survey Unit 4 comprised the portion of the study area within the Maryvale Road corridor and the intersection of Maryvale Road and Cobbora Road. Landforms within the survey unit were characterised by the crests and upper slopes of a south west running ridgeline that was located in the vicinity of the intersection of Maryvale Road and Cobbora Road while the remaining portion of the survey unit was characterised by open depressions, flats and gentle slopes associated with Bodangora Creek and several unnamed tributaries. Vegetation within the survey unit comprised grassed areas with isolated trees. Land use practices within the survey unit were associated with the construction and maintenance of Maryvale Road and included bulk earthworks and the construction of bridges and culverts.

Based on the archaeological background and landform context of the study area, the survey closely inspected any areas of surface exposure for artefacts, evidence of intact soils and any mature trees for evidence of culturally modified trees. Assessments of soil disturbance were also made during the survey. These included an assessment of surface visibility, vegetation coverage, modern disturbance and current land use.

The survey team was equipped with high resolution aerial photography showing the boundaries of the study area. A non-differential GPS receiver was used for spatial recordings. All GPS recordings were made using the Geocentric Datum of Australia (GDA) coordinate system.

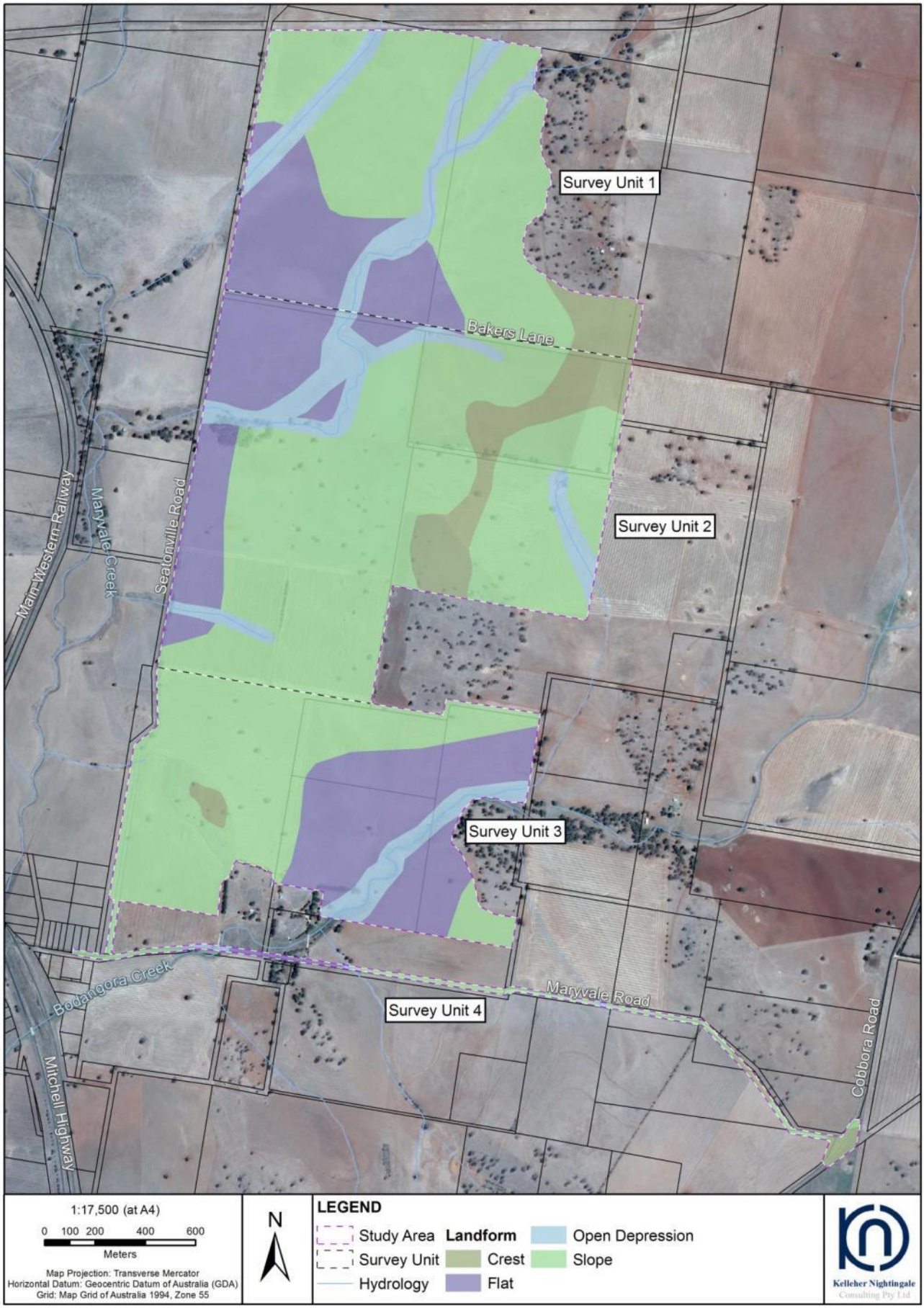

Figure 5. Survey landforms

8 Survey results

The survey identified seven Aboriginal archaeological sites within the study area. The sites comprised four surface artefact scatters (Maryvale Road AFT 1, Maryvale Road AFT 2, Seatonville Road AFT 1 and Seatonville Road AFT 2), two isolated surface artefacts (Maryvale Road IF 1 and Seatonville Road IF 1) and one culturally modified tree (Maryvale Road TRE 1). Aboriginal archaeological sites identified in the study area are listed in Table 3 and locations shown on Figure 6.

Table 3. Identified Aboriginal archaeological sites in the study area

Site Name	Feature	Survey Unit	Landform
Maryvale Road AFT 1	Artefact	3	Flat and open depression
Maryvale Road AFT 2	Artefact	3	Flat and open depression
Maryvale Road IF 1	Artefact	3	Flat
Maryvale Road TRE 1	Culturally modified tree	3	Flat
Seatonville Road AFT 1	Artefact	2	Open depression, flat and slope
Seatonville Road AFT 2	Artefact	2	Open depression
Seatonville Road IF 1	Artefact	1	Open depression

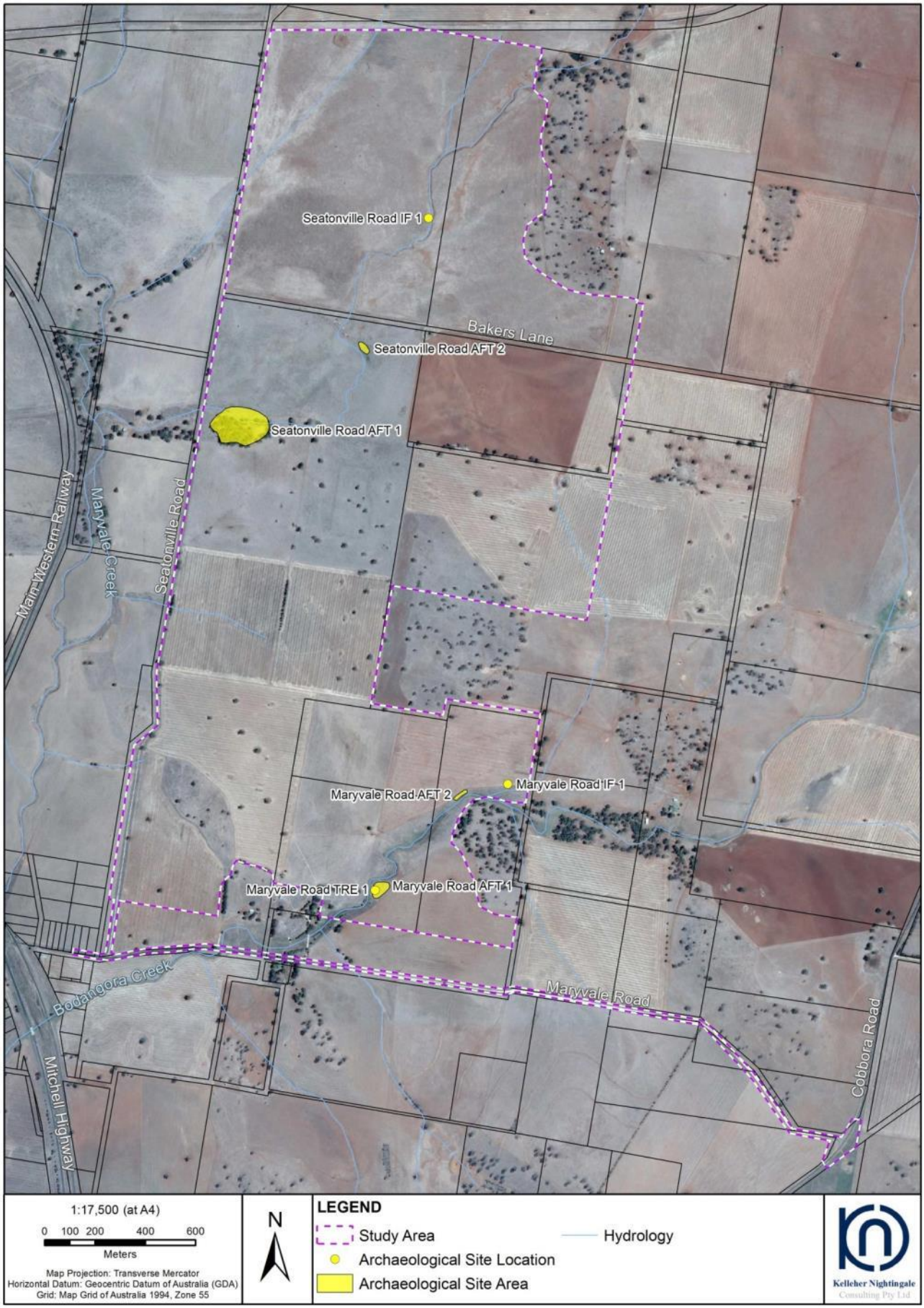

Figure 6. Survey results

8.1 Survey coverage

Survey Unit 1 encompassed the crest, slope, flat and open depression landforms which formed a low ridge in the eastern portion of the survey unit and the creek banks and flats adjacent to several south west flowing tributaries of Maryvale Creek in the western portion of the survey unit. The area had been largely cleared of native vegetation and contained a mixture of short pasture grasses and dense weeds and grasses within the drainage channels of the creeks. Visual disturbance included the construction of dams, vehicle tracks and boundary fences. Ground surface visibility was generally low due to dense grass cover; however, ground surface exposures were present where the vegetation had died, within unsealed tracks and adjacent to creek channels. The survey identified an isolated surface artefact (Seatonville Road IF 1) within the survey unit on the western bank of an unnamed south flowing tributary of Maryvale Creek.

Plate 1. Survey Unit 1 facing north east across a tributary of Maryvale Creek and gently inclined slope landform.

Plate 2. Survey Unit 1 facing south east showing dense weed growth within a creek channel and surface exposure along the incised creek bank.

Survey Unit 2 comprised the crest and slope landforms which formed a low south west running ridge line in the eastern portion of the survey unit and the flat and open depression landforms adjacent to several south west to west flowing tributaries of Maryvale Creek in the western portion of the survey unit. The area had been largely cleared of native vegetation and was predominantly vegetated with a mixture of pasture grasses or the remnants of recently harvested crops. Dense vegetation was present within the creek channels and an area of mature trees was located adjacent to the creek in the north western portion of the survey unit. This area was inspected for any evidence of cultural scarring or carving; however, none was identified. Ground surface visibility was variable with moderate visibility along the rows within harvested fields, within unsealed tracks and areas of erosion adjacent to creek channels while visibility was generally low elsewhere due to dense grass cover and detritus. The survey identified two surface artefact scatters within the survey unit along the banks of an unnamed west flowing tributary of Maryvale Creek.

Plate 3. Survey Unit 2 facing south west showing surface visibility within a harvested field.

Plate 4. View south overlooking flats adjacent to an unnamed creek.

Survey Unit 3 encompassed the crest and slope landforms which formed a small hill in the western portion of the survey unit and the flat and open depression landforms of Bodangora Creek. The area had been largely cleared of native vegetation and was predominantly vegetated with a mixture of pasture grasses or the remnants of recently harvested crops. Dense vegetation was present within the creek channels while isolated trees were present across the survey unit and clusters of trees were retained along fence lines. The trees were inspected for any evidence of cultural scarring or carving and one culturally modified tree was identified (Maryvale Road TRE 1). Ground surface visibility was

variable with moderate visibility along the rows within harvested fields, within unsealed tracks and areas of erosion adjacent to creek channels while visibility was generally low elsewhere due to dense grass cover and detritus. The survey identified two surface artefact scatters and one isolated artefact within the survey unit along the banks of Bodangora Creek.

Plate 5. Survey Unit 3 facing east across the hillock towards Bodangora Creek showing rocky outcropping in foreground

Plate 6. Survey Unit 3 facing south east across Bodangora Creek showing surface exposure within unsealed track in foreground

Survey Unit 4 comprised the southern portion of the study area within the Maryvale Road corridor and was characterised by crest and slope landforms which form a south west running ridgeline in the vicinity of the intersection of Maryvale Road and Cobbora Road while the remaining portion of the survey unit was characterised by open depressions, flats and gentle slopes associated with Bodangora Creek and several unnamed tributaries. The survey unit was predominantly cleared of native vegetation and was vegetated with dense grasses adjacent to the road and isolated trees. The corridor had been heavily disturbed from the construction of Maryvale Road which included bulk earthworks and the installation of culverts.

Plate 7. Survey Unit 4 facing west along fence line boundary of Maryvale Road

Plate 8. Survey Unit 4 facing east showing the Maryvale Road crossing at Bodangora Creek

8.2 Survey coverage analysis

Surface exposure across the study area was low and visibility within surface exposures was moderate. Surface exposures were generally found within paddocks of harvested crops, erosion scours bordering drainage lines, vehicle tracks and patches of bare earth where vegetation had died off. Surface visibility was moderate with exposures partially covered in short, patchy and dry grass, plant detritus or gravels. The majority of the study area had been subject to cultivation for a considerable period of time, including extensive clearing, cropping and construction of dams while Maryvale Road corridor had been subject to extensive disturbance from the construction of Maryvale Road. Details of survey and landform coverage are outlined in Table 4 below.

Table 4. Survey coverage

Survey Unit	Landform	Area (m^2)	Exposure (%)	Visibility (%)	Effective Coverage (m^2)	Effective Coverage (%)
1	Crest	68,281	10	50	3,414	5
1	Flat	341,835	20	50	34,183	10
1	Open Depression	190,815	30	60	34,347	18
1	Slope	810,036	10	50	40,502	5
2	Crest	211,880	30	60	38,138	18
2	Flat	347,742	20	60	41,729	12
2	Open Depression	209,848	20	70	29,379	14
2	Slope	1,362,142	30	70	286,050	21
3	Crest	16,270	20	60	1,952	12
3	Flat	424,185	30	60	76,353	18
3	Open Depression	85,666	30	60	15,420	18
3	Slope	746,723	30	50	112,008	15
4	Crest	17,757	20	60	2,131	12
4	Flat	7,705	20	60	925	12
4	Open Depression	5,815	20	60	698	12
4	Slope	45,356	20	60	5,443	12

The survey coverage table above demonstrates some limitations imposed on the effectiveness of the survey by infrequent exposures but generally moderate visibility within exposures. Flat and open depression landforms exhibited fairly consistent levels of ground surface exposure varying between 20% and 30% that were due to erosion scours adjacent to creeks. Ground surface exposures of between 10% and 30% were found on crest and slope landforms generally due to the presence or absence of crops and unsealed tracks. A summary of effective coverage and results by landform is presented in Table 5.

Table 5. Landform coverage

Landform	Area (m^2)	Area Effectively Surveyed (m^2)	% of Landform Effectively Surveyed	# of Sites
Crest	314,189	45,636	15	0
Flat	1,121,466	153,190	14	5
Slope	492,145	79,843	16	0
Open Depression	2,964,256	444,003	15	2

8.3 Newly recorded sites

Site Name: Maryvale Road AFT 1
AHIMS ID: tbc
Site Coordinates: 680715E 6405665N
Landform Context: Flat

Maryvale Road AFT 1 was a surface artefact scatter that was situated on the southern bank of Bodangora Creek. The site was located within the south eastern portion of Lot 1 DP1031281, approximately 300 metres north of Maryvale Road and one kilometre north east of the intersection of Maryvale Road and Seatonville Road.

Plate 9. View facing west towards Maryvale Road AFT 1 with unnamed creek channel in background

Plate 10. View facing north east across Maryvale Road AFT 1 with unnamed creek left.

The artefact scatter consisted of one quartz flake, one quartz core and one fine grained siliceous core which were identified on an elevated landform adjacent to the creek and a culturally modified tree (Maryvale Road TRE 1). Visible disturbance was low and the site was assessed as having moderate archaeological potential.

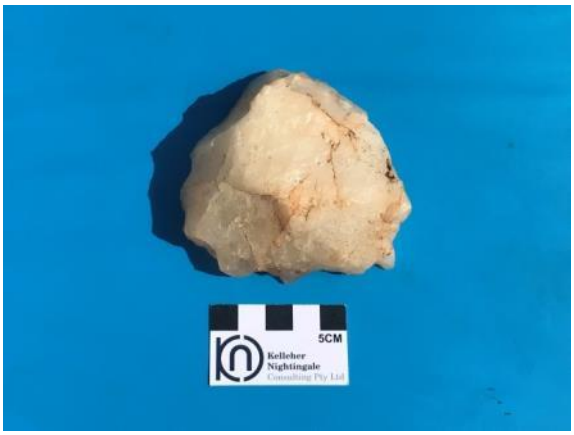

Plate 11. Quartz unifacial rotated core

Plate 12. Multiplatform core of fine grained siliceous material from Maryvale Road AFT 1

Table 6. Artefact at Maryvale Road AFT 1

Artefact type	Raw material	Length (mm)	Width (mm)	Thickness (mm)	Notes
Core	Quartz	75	70	30	Unifacial Rotated
Proximal flake fragment	Quartz	70	35	20	Plain platform
Core	FGS	90	70	50	Multiplatform, cortex 30%

Site Name: Maryvale Road AFT 2
AHIMS ID: tbc
Site Coordinates: 681027E 6406036N
Landform Context: Flat

Maryvale Road AFT 2 was a surface artefact scatter that was situated on the northern bank of Bodangora Creek. The site was located within the northern portion of Lot 130 DP754318, approximately 730 metres north of Maryvale Road and 1.5 kilometres north east of the intersection of Maryvale Road and Seatonville Road. The site was approximately 400 metres north east of Maryvale Road AFT 1, 470 metres north east of Maryvale Road TRE 1 and 160 metres west of Maryvale Road IF 1.

Plate 13. View facing south east across Maryvale Road AFT 2 with unnamed creek channel in background

Plate 14. View facing south across Maryvale Road AFT 2 with unnamed creek left.

The artefact scatter consisted of one flake of fine grained siliceous material and one quartzite flake which were identified within an area of ground surface exposure adjacent to Bodangora Creek. Visible disturbance was moderate due to fluvial activity from Bodangora Creek which had eroded the creek bank and the site was assessed as having low archaeological potential.

Table 7. Artefact at Maryvale Road AFT 2

Artefact type	Raw material	Length (mm)	Width (mm)	Thickness (mm)	Notes
Flake	FGS	70	40	20	Plain platform, hinge termination
Flake	Quartzite	22	18	10	Plain platform, feather termination

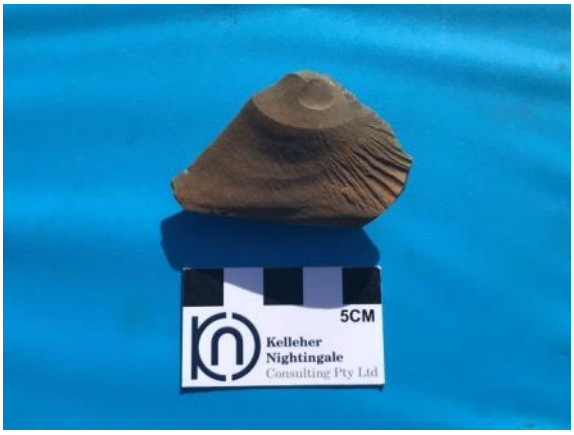

Plate 15. Flake of fine grained siliceous material from Maryvale Road AFT 2

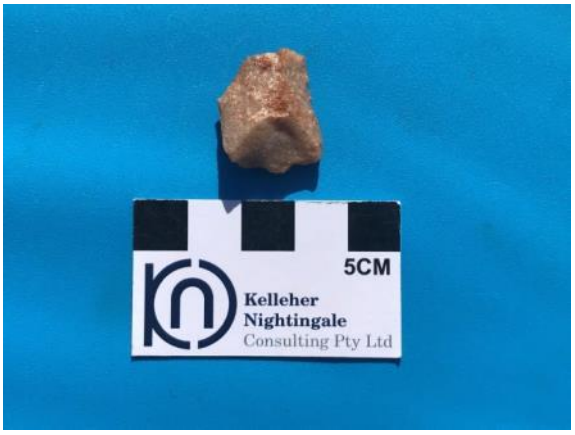

Plate 16. Quartzite flake from Maryvale Road AFT 2

Site Name: Maryvale Road IF 1
AHIMS ID: tbc
Site Coordinates: 681208E 6406071N
Landform Context: Flat

Maryvale Road IF 1 was an isolated surface artefact that was situated on the northern bank of Bodangora Creek. The site was located within the northern portion of Lot 130 DP754318, approximately 800 metres north of Maryvale Road and 1.7 kilometres north east of the intersection of Maryvale Road and Seatonville Road. The site was approximately 160 metres east of Maryvale Road AFT 2.

Plate 17. View facing south west with Maryvale Road IF 1 right and Bodangora Creek left

Plate 18. View facing north across Maryvale Road IF 1

The artefact was a flake of fine grained siliceous material that was identified within an area of ground surface exposure between a fence line and a planted field. Visible disturbance was moderate due to modern land use practices including ploughing. The site was assessed as having low archaeological potential.

Plate 19. Flake from Maryvale Road IF 1

Table 8. Artefact at Maryvale Road IF 1

Artefact type	Raw material	Length (mm)	Width (mm)	Thickness (mm)	Notes
Flake	FGS	60	45	15	Plain platform, feather termination

Site Name: Maryvale Road TRE 1
AHIMS ID: tbc
Site Coordinates: 680681E 6405650N
Landform Context: Flat

Maryvale Road TRE 1 was a culturally modified tree that was situated on the southern bank of Bodangora Creek. The site was located within the south eastern portion of Lot 1 DP1031281, approximately 310 metres north of Maryvale Road and one kilometre north east of the intersection of Maryvale Road and Seatonville Road. The site was situated adjacent to a surface artefact scatter (Maryvale Road AFT 1).

Plate 20. View facing west towards Maryvale Road TRE 1 with unnamed creek channel in background

The culturally modified tree was a grey box that had a single bark removal scar on the northern face. The bark removal scar was situated 10 centimetres above the ground surface and the scar dry face was 200 centimetres long and 80 centimetres wide. The bark overgrowth was approximately 10 centimetres thick. One horizontal indentation was present on the dry face that may have been caused during the bark removal process. The tree was dead and the dry face was cracked and uneven due to the partially removal of the hardwood and the growth of a tree at the base of the scar.

Plate 21. Maryvale Road TRE 1 scar detail

Plate 22. Maryvale Road TRE 1 detail of horizontal indentation on dry face

Site Name: Seatonville Road AFT 1
AHIMS ID: tbc
Site Coordinates: 680159E 6407540N
Landform Context: Flat

Seatonville Road AFT 1 was a surface artefact scatter that was situated on elevated landforms adjacent to an unnamed west flowing tributary of Maryvale Creek. The site was located within the northern portion of Lot 2 DP573426, approximately 40 metres east of Seatonville Road and 750 metres south east of the intersection of Seatonville Road and Bakers Lane. The site was approximately 460 metres south west of Seatonville Road AFT 2.

Plate 23. View facing south east towards Seatonville Road AFT 1 with treed area in background

Plate 24. View facing south west across unnamed creek to treed area within Seatonville Road AFT 1.

The artefact scatter consisted of one quartz flake and one quartz core which were identified within a furrowed field on the northern side of the creek. Visible disturbance was variable across the site with the northern side of the creek moderately disturbed by modern land use practices while the southern side of the creek retained an area of trees and appeared to have a lower level of disturbance. The site was assessed as having moderate archaeological potential.

Table 9. Artefact at Seatonville Road AFT 1

Artefact type	Raw material	Length (mm)	Width (mm)	Thickness (mm)	Notes
Flake	Quartz	30	22	12	cortex 100%, cortical platform, feather termination
Core	Quartz	40	25	20	multiplatform, three negative scars

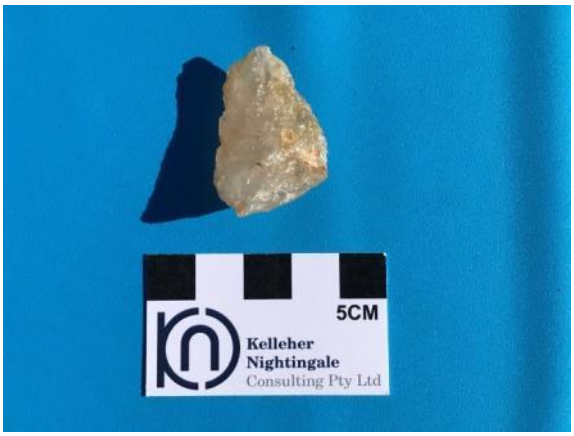

Plate 25. Quartz flake from Seatonville Road AFT 1

Plate 26. Quartz core from Seatonville Road AFT 1

Site Name: Seatonville Road AFT 2
AHIMS ID: tbc
Site Coordinates: 680627E 6407810N
Landform Context: Open depression

Seatonville Road AFT 2 was a surface artefact scatter that was situated on the northern bank of an unnamed west flowing tributary of Maryvale Creek. The site was located within the north eastern portion of Lot 2 DP573426, approximately 100 metres south of Bakers Lane and 570 metres south east of the intersection of Seatonville Road and Bakers Lane. The site was approximately 460 metres north east of Seatonville Road AFT 1.

Plate 27. View facing north with Seatonville Road AFT 2 in foreground towards Bakers Lane

Plate 28. View facing south west across unnamed creek from Seatonville Road AFT 2 towards treed area of Seatonville Road AFT 1.

The artefacts consisted of one ground stone hatchet piece of igneous material in addition to one flake and one proximal flake fragment of fine grained siliceous (FGS) material. Visible disturbance was moderate due to modern land use practices including ploughing. The site was assessed as having low archaeological potential.

Table 10. Artefact at Seatonville Road AFT 2

Artefact type	Raw material	Length (mm)	Width (mm)	Thickness (mm)	Notes
Ground hatchet fragment	Igneous	80	60	30	One face appears to have been flaked before ground to edge
Proximal flake fragment	FGS	70	45	15	Plain platform
Flake	FGS	60	27	17	Linear platform, feather termination

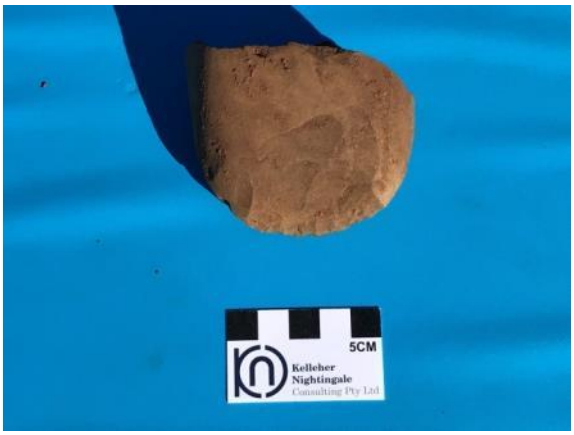

Plate 29. Ground hatchet fragment from Seatonville Road AFT 2

Plate 30. Flakes made of fine grained siliceous material from Seatonville Road AFT 2

Site Name: Seatonville Road IF 1
AHIMS ID: tbc
Site Coordinates: 680893E 6408320N
Landform Context: Open depression

Seatonville Road IF was an isolated surface artefact that was situated on the western bank of an unnamed south flowing tributary of Maryvale Creek. The site was located within the south eastern portion of Lot 1 DP1095725, approximately 400 metres north of Bakers Lane and 870 metres north east of the intersection of Seatonville Road and Bakers Lane. The site was approximately 560 metres north east of Seatonville Road AFT 2.

Plate 31. View facing north east across unnamed creek with Seatonville Road IF 1 in foreground

Plate 32. View facing south east across unnamed creek with Seatonville Road IF 1 in foreground

The artefact was a hatchet of igneous material which was identified on the exposed creek bank. The artefact had been ground along one edge while the opposite end had been flaked. Visible disturbance was moderate due to fluvial activity the creek which had eroded the creek bank. The site was assessed as having low archaeological potential.

Table 11. Artefact at Seatonville Road IF 1

Artefact type	Raw material	Length (mm)	Width (mm)	Thickness (mm)	Notes
Ground hatchet	Igneous	140	70	40	Ground into sharp edge and flaked on opposite edge. Additional negative flake scar near ground edge

Plate 33. Ground hatchet from Seatonville Road IF 1

Plate 34. Ground hatchet from Seatonville Road IF 1

9 Analysis and discussion

Background research and archaeological field survey identified seven Aboriginal archaeological sites within the study area. The sites comprised four surface artefact scatters (Maryvale Road AFT 1, Maryvale Road AFT 2, Seatonville Road AFT 1 and Seatonville Road AFT 2), two isolated surface artefacts (Maryvale Road IF 1 and Seatonville Road IF 1) and one culturally modified tree (Maryvale Road TRE 1).

The sites were located on flat and open depression landforms in close proximity to Bodangora Creek and an unnamed tributary of Maryvale Creek. The spatial distribution of sites identified within the study area is consistent with the results of other archaeological investigations in the area which indicates that sites were predominantly located in association with water sources. The low density of artefacts at sites within the study area is also consistent with previous archaeological investigations in the region where similar results have been interpreted as reflecting less intensive use of the hinterland areas away from permanent water sources. The raw materials used to make the artefacts are not found within the local geology and must have been brought to the study area.

The spatial distribution of sites within the study area indicate that Bodangora Creek and the unnamed tributary of Maryvale Creek were focal points for past Aboriginal land use and may have functioned as pathways between the Macquarie River to the south west of the study area and the inland creek systems further to the east. The presence of two ground stone artefacts and a culturally modified tree with a bark removal scar also indicate that the areas adjacent to larger creeks in the region were being utilised for a range of activities including the procurement of raw materials.

The survey found that the majority of the study area contained no potential for subsurface archaeology due to unfavourable topography or ground surface disturbance.

9.1 Aboriginal settlement history of the study area

The physical evidence of Aboriginal landscape use in the region predominantly consists of artefact scatters and isolated artefacts while culturally modified trees and stone arrangements or stone quarries have been identified in lower numbers.

The archaeological evidence indicated that a range of activities were being undertaken within the study areas that were focused on Bodangora Creek and an unnamed tributary of Maryvale Creek. The presence of a culturally modified tree with a bark removal scar demonstrate that these areas were being utilised as sources of perishable raw materials while the low density distribution of sites along the creeks indicates that they may have also functioned as pathways between the Macquarie River and areas further inland.

10 Significance assessment

One of the primary steps in the process of cultural heritage management is the assessment of significance. Not all sites are equally significant and not all are worthy of equal consideration and management (Sullivan and Bowdler 1984; Pearson and Sullivan 1995:7). The determination of significance can be a difficult process as the social and scientific context within which these decisions are made is subject to change (Sullivan and Bowdler 1984). This does not lessen the value of the heritage approach, but enriches both the process and the long term outcomes for future generations as the nature of what is conserved and why, also changes over time.

The assessment of significance is a key step in the process of impact assessment for a proposed activity as the significance or value of an object, site or place will be reflected in resultant recommendations for conservation, management or mitigation.

The *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010) requires significance assessment according to criteria established in the *Australia ICOMOS Burra Charter* (Australia ICOMOS 2013). The *Burra Charter* and its accompanying Practice Notes are considered best practice standard for cultural heritage management, specifically conservation, in Australia. The *Burra Charter* defines cultural significance as "aesthetic, historic, scientific, social or spiritual value for past, present and future generations" (Australia ICOMOS 2013:2) and the accompanying Practice Note on *Understanding and assessing cultural significance* sets out five key criteria for assessing cultural significance:

- Aesthetic value - relates to the sense of the beauty of a place, object, site or item;
- Historic value - relates to the association of a place, object, site or item with historical events, people, activities or periods;
- Scientific value - scientific (or research) value relates to the importance of the data available for a place, object, site or item, based on its rarity, quality or representativeness, as well as on the degree to which the place (object, site or item) may contribute further substantial information;
- Social value - relates to the qualities for which a place, object, site or item has become a focus of spiritual, political, national or other cultural sentiment to a group of people. In accordance with the OEH *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW*, the social or cultural value of a place (object, site or item) may be related to spiritual, traditional, historical or contemporary associations. "Social or cultural value can only be identified though consultation with Aboriginal people" (OEH 2011:8); and
- Spiritual value - refers to the intangible values and meanings embodied in or evoked by a place which make it important to the spiritual identity, traditional knowledge, art or practices of a cultural group. Spiritual value is strongly connected to social value.

10.1 Statements of significance

Background research and archaeological field survey identified seven Aboriginal archaeological sites within the study area. A statement of significance has been developed based on the background research and the current archaeological assessment (field survey). The statements of significance are presented below.

Sites Maryvale Road AFT 1 and Seatonville Road AFT 1 exhibit *moderate archaeological significance*. Although the sites represent a commonly occurring type of site in the region (artefact scatter), they exhibit a relatively low level of disturbance and are located in a spatially significant locations. In addition, Maryvale Road AFT 1 is located in close proximity to a culturally modified tree (Maryvale Road TRE 1). The archaeology present at these locations offers scientific insight into past Aboriginal activities along the creeks and the archaeology present at Maryvale Road AFT 1 may relate to the activities evidenced at site Maryvale Road TRE 1.

Site Maryvale Road TRE 1 exhibits *moderate archaeological significance*. Culturally modified trees have not been recorded in large numbers in the vicinity of the study area; however, this is likely a reflection of the limited number and spatial extent of previously undertaken archaeological investigations in the region. The tree is in a very poor condition and is likely to degrade further. The archaeology present at this location offers scientific insight into past Aboriginal activities along the creek and may relate to the activities evidenced at site Maryvale Road AFT 1.

Sites Maryvale Road AFT 2, Maryvale Road IF 1, Seatonville Road AFT 2 and Seatonville Road IF 1 exhibit *low archaeological significance.* The sites represent commonly occurring site types within the region. While the cultural significance of the ground stone artefacts identified at sites Seatonville Road AFT 2 and Seatonville Road IF 1 would be high, the site integrity and intactness of the four sites were low, with little potential for any associated subsurface archaeological deposit.

Table 12. Identified Aboriginal archaeological sites and significance assessment

Site Name	AHIMS ID	Assessed Significance/ Potential
Maryvale Road AFT 1	tbc	Moderate
Maryvale Road AFT 2	tbc	Low
Maryvale Road IF 1	tbc	Low
Maryvale Road TRE 1	tbc	Moderate
Seatonville Road AFT 1	tbc	Moderate
Seatonville Road AFT 2	tbc	Low
Seatonville Road IF 1	tbc	Low

11 Impact assessment

The impact footprint of the proposed solar panels, substation, maintenance compound and buildings, fencing and access roads will be situated within the Solar Farm Boundary in addition to the area of the proposed road upgrades works are shown on Figure 7. Based on this proposal, an impact assessment can be made for the identified Aboriginal archaeological heritage features.

The seven identified Aboriginal archaeological sites were located within the riparian corridors of Bodangora Creek and the unnamed tributary of Maryvale Creek. These corridors, including the Aboriginal sites, are outside the Solar Farm Boundary proposed impact footprint. Sites Maryvale Road AFT 1, Maryvale Road AFT 2, Maryvale Road IF 1, Maryvale Road TRE 1, Seatonville Road AFT 1, Seatonville Road AFT 2 and Seatonville Road IF 1 will not be impacted by the proposed solar farm development.

The remainder of the study area was assessed as exhibiting low archaeological potential due to combinations of archaeologically unfavourable topography, agricultural activity, previous road construction activities and contemporary disturbance of the land.

Based on desktop review, consultation with the local Aboriginal community, archaeological survey of the study area and proposed impact footprint, provided the identified Aboriginal archaeological sites are avoided, the proposed construction and operation of the Maryvale Solar Farm and the road upgrade works on Maryvale Road and Seatonville Road would not impact on Aboriginal heritage.

Cumulative Impacts
The proposed Maryvale Solar Farm will avoid impact to Aboriginal heritage objects, in this regard, no cumulative impact will occur to Aboriginal heritage.

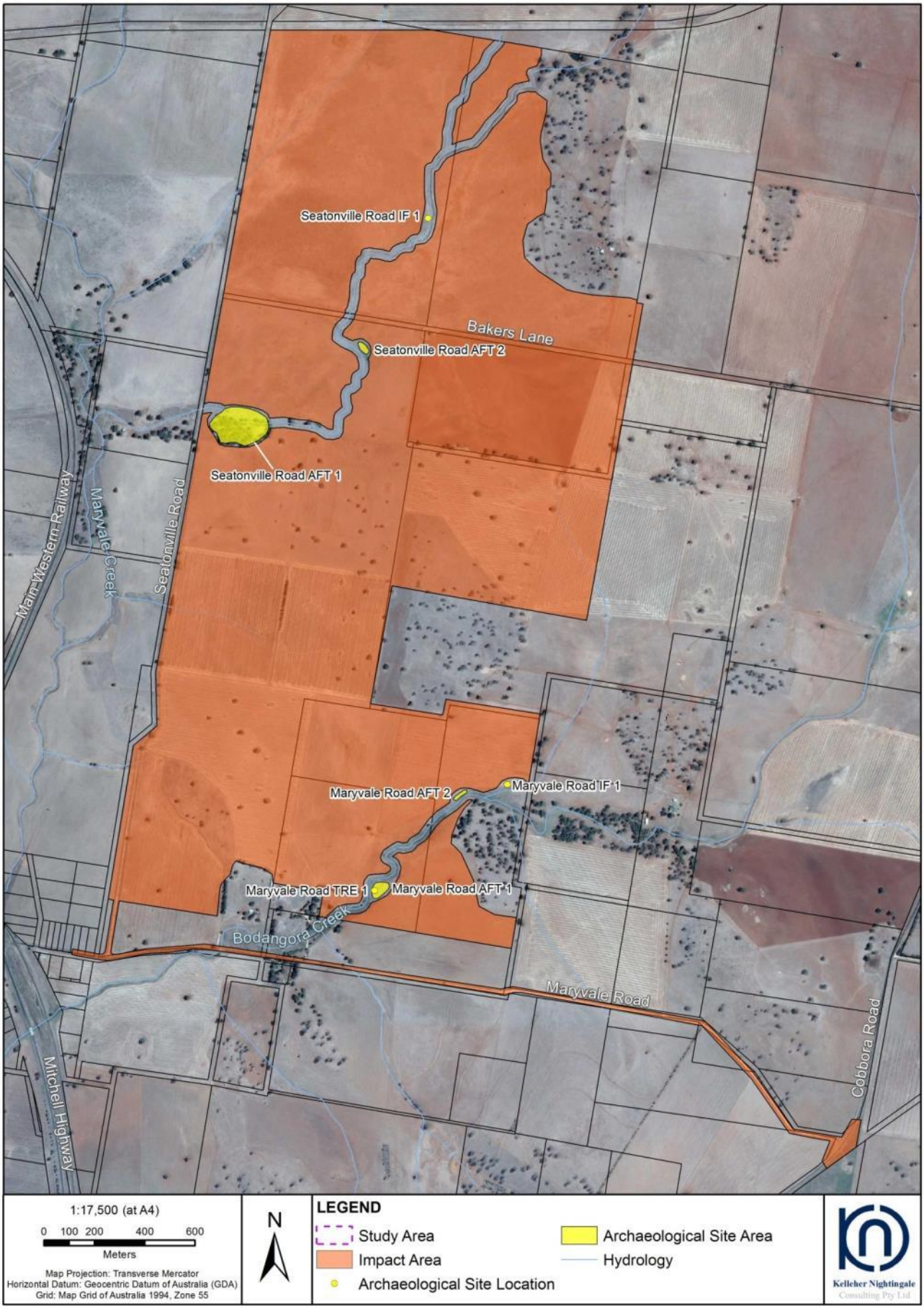

Figure 7. Proposed impact area and archaeological sites

12 Conclusions and recommendations

No impact to Aboriginal heritage will occur as a result of the proposed Maryvale Solar Farm or road upgrade works to Maryvale Road and Seatonville Road.

Background research, desktop assessment, consultation with the local Aboriginal community and archaeological field survey identified seven Aboriginal archaeological sites within the study area; however, the sites are not within the project footprint and will not be impacted by the proposal as stated below:

- Aboriginal archaeological sites Maryvale Road AFT 1, Maryvale Road AFT 2, Maryvale Road IF 1 and Maryvale Road TRE 1 are located along a creek bank and retained within the riparian corridor; and
- Aboriginal archaeological sites Seatonville Road AFT 1, Seatonville Road AFT 2 and Seatonville Road IF 1 are located along the bank of Bodangora Creek and retained within the riparian corridor.

All of the other areas within the study area exhibited low archaeological potential due to combinations of archaeologically unfavourable topography, agricultural activity, past road construction activities and contemporary disturbance of the land.

Proposed works associated with the solar farm development will not impact on identified areas of Aboriginal archaeological sites. The seven Aboriginal archaeological sites will be retained within the riparian corridor and will be avoided.

Provided the identified Aboriginal archaeological sites are avoided, the proposed construction and operation of the Maryvale Solar Farm and road upgrade works along Maryvale Road and Seatonville Road would not impact on Aboriginal heritage. In accordance with the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* the proposed activities can proceed with caution.

It is recommended that the identified site locations (Maryvale Road AFT 1, Maryvale Road AFT 2, Maryvale Road IF 1, Maryvale Road TRE 1, Seatonville Road AFT 1, Seatonville Road AFT 2 and Seatonville Road IF 1) should be included within the construction environment management plan.

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Appendix A Wellington Local Aboriginal Land Council Report

1

Maryvale Cultural Survey

February and July 2018

Mike Nolan / Adam Peckham

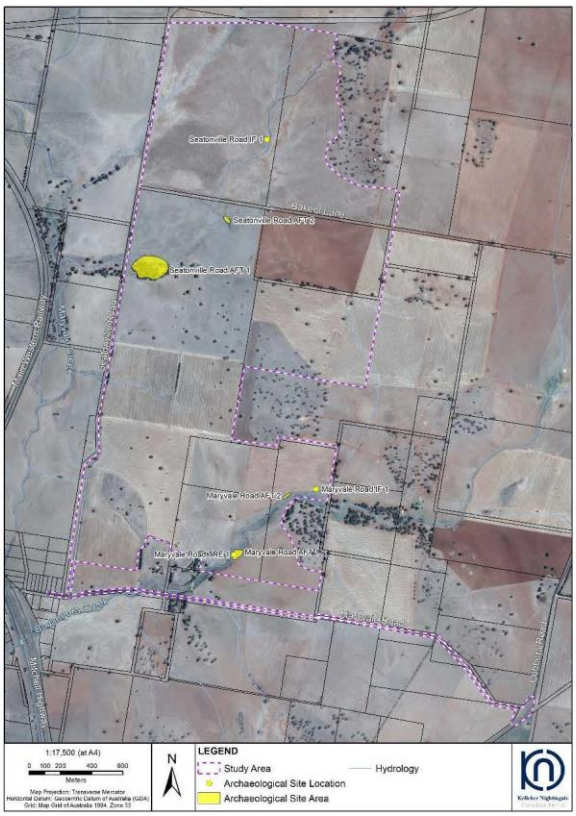
Wellington Aboriginal Land Council

2

Introduction.

We have been engaged by the Wellington LALC to participate in a cultural heritage assessment for a proposed development on 2 properties around 15km to the north west of Wellington at, "Waroona" 121 Maryvale Road and "Scarborough House" 801 Cobbora Road. The proposed activity is the construction of a Solar farm. The archaeological consultants carrying out the main assessments are Kelleher Nightingale Consulting Pty Ltd. The archaeologist accompanying us was Dr Matthew Kelleher. The assessment was conducted on the 27th of February and the 19th of July 2018.

Location of the survey including results:



3

Considerations of the survey

Prior to carrying out the survey, several considerations were made. Given our local knowledge of the area and the landscape in which the study was conducted, particular attention was taken when identifying the following site types:

- Open camp sites
- Culturally significant modified trees
- Grinding grooves
- Quarry sites
- Stone arrangements
- Isolated artefacts

The site is located around 3km from the Wambool (Macquarie) River where there is a greater concentration of culturally significant materials and sites. It is also noted that there have been no recorded sites registered on the Aboriginal Heritage Information Management System (AHIMS) managed by the Office of Environment and Heritage within the survey area but there are other sites within 5km.

The survey area has been greatly modified. It appears that land clearing has been carried out along with farming/agricultural activities. This has included the constructions of buildings, fences, power lines, internal roads, dams, and activities such as grazing, cropping and rock picking (rocks have been collected and placed in piles).

Conducting the Survey

The method in which the survey was to be conducted was discussed onsite. It was decided that the survey would be done both from the vehicle and on foot. Particular attention was given to the following:

- Water sources, creeks, channels, dams, springs
- High and low points (it is my practice to inspect both the highest and the lowest points on the property)
- Old growth trees, any trees with a decent girth and in particular Box trees
- Places showing significant erosion
- Any area where there will be significant disturbance to the ground

4

Findings

During the survey the following artefacts were found.

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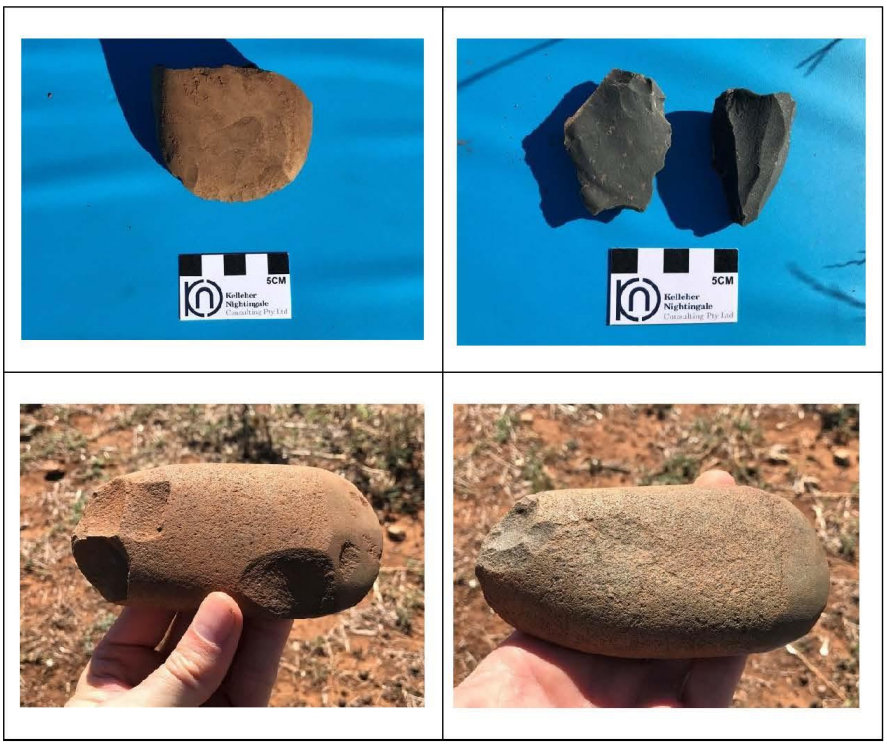

Recommendations

1. Isolated artefacts

These were found within the riparian area and we have been informed that they will not be impacted by the development. We would like them recorded on AHIMS.

2. Modified Tree

The modified tree should be protected and recorded on AHIMS and the property owner informed to ensure that it is not impacted by other activities.

3. Other Material

If further culturally significant materials are identified during the construction of the solar farm, the LALC requests that OEH and the Wellington LALC itself be informed immediately and that works cease.

In Conclusion

The Wellington Local Aboriginal Lands Council have no objections to the proposed solar farm development as presented to the LALC provided that the cultural values identified are not impacted on.

As mentioned, the Wellington LALC requests that the artefacts be recorded and that the property owner and relevant managers be informed. This includes anyone involved with construction activities that have the potential to impact on them, i.e. any contractors and sub-contractors. They should also be informed of their legal responsibilities in relation to protecting these artefacts with special mention to ensure that they not be removed from the site.

Appendix B AHIMS Extensive Search Results

Office of Environment & Heritage

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : 1711.06

Client Service ID : 342156

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
36-1-0038	Maryvale Creek	AGD	55	678375	6402718	Open site	Valid	Stone Arrangement: -, Stone Quarry: -, Artefact: -	Quarry	102211
	Contact	Recorders	Michael Pearson					Permits		
36-1-0028	Grange View;	AGD	55	677350	6409180	Open site	Valid	Modified Tree (Carved or Scarred): -	Carved Tree	65
	Contact	Recorders	David Bell					Permits		
36-4-0020	Maryvale Creek;	AGD	55	678375	6402718	Open site	Valid	Stone Quarry: -, Stone Arrangement: -	Stone Arrangement	102211
	Contact	Recorders	G.W. Althofer,Michael Pearson					Permits		
36-1-0720	Wellington Nth IF27	GDA	55	682775	6403027	Open site	Valid	Artefact: -		
	Contact	Recorders	Mr.Matthew Barber,NGH Heritage - Fyshwick					Permits		
36-1-0721	Wellington Nth IF26	GDA	55	682812	6403457	Open site	Valid	Artefact: -		
	Contact	Recorders	Mr.Matthew Barber,NGH Heritage - Fyshwick					Permits		
36-1-0722	Wellington Nth IF25	GDA	55	683109	6403576	Open site	Valid	Artefact: -		
	Contact	Recorders	Mr.Matthew Barber,NGH Heritage - Fyshwick					Permits		
36-1-0723	Wellington Nth IF24	GDA	55	682838	6403645	Open site	Valid	Artefact: -		
	Contact	Recorders	Mr.Matthew Barber,NGH Heritage - Fyshwick					Permits		
36-1-0724	Wellington Nth IF23	GDA	55	683257	6403913	Open site	Valid	Artefact: -		
	Contact	Recorders	Mr.Matthew Barber,NGH Heritage - Fyshwick					Permits		
36-1-0725	Wellington Nth IF22	GDA	55	683986	6403324	Open site	Valid	Artefact: -		
	Contact	Recorders	Mr.Matthew Barber,NGH Heritage - Fyshwick					Permits		
36-1-0726	Wellington Nth IF21	GDA	55	683943	6403314	Open site	Valid	Artefact: -		
	Contact	Recorders	Mr.Matthew Barber,NGH Heritage - Fyshwick					Permits		
36-1-0738	Wellington Nth AFT7	GDA	55	683012	6403083	Open site	Valid	Artefact: -		
	Contact	Recorders	Mr.Matthew Barber,NGH Heritage - Fyshwick					Permits		
36-1-0739	Wellington Nth AFT8	GDA	55	682672	6403117	Open site	Valid	Artefact: -		
	Contact	Recorders	Mr.Matthew Barber,NGH Heritage - Fyshwick					Permits		
36-1-0740	Wellington Nth AFT9	GDA	55	683403	6403528	Open site	Valid	Artefact: -		
	Contact	Recorders	Mr.Matthew Barber,NGH Heritage - Fyshwick					Permits		

Report generated by AHIMS Web Service on 01/05/2018 for Madeline Harding for the following area at Datum :GDA, Zone : 55, Eastings : 677108 - 684447, Northings : 6402886 - 6411578 with a Buffer of 0 meters. Additional Info : Archaeological assessment. Number of Aboriginal sites and Aboriginal objects found is 13

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