

View west across the study area.

ABORIGINAL DUE DILIGENCE ASSESSMENT REPORT

SMALL SCALE SOLAR – GLEN INNES

409 GWYDIR HIGHWAY, GLEN INNES NSW November 2024

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Acknowledgement

OzArk acknowledge the traditional custodians of the area on which this assessment took place and pay respect to their beliefs, cultural heritage, and continuing connection with the land. We also acknowledge and pay respect to the post-contact experiences of Aboriginal people with attachment to the area and to the Elders, past and present, as the next generation of role models and vessels for memories, traditions, culture and hopes of local Aboriginal people.

EXECUTIVE SUMMARY

OzArk Environment & Heritage (OzArk) has been engaged by Chris Smith & Associates on behalf of Green Gold Energy (the proponent) to complete an Aboriginal due diligence heritage assessment for a proposed solar farm at Glen Innes (the proposal). The proposal is in the Glen Innes Severn Shire Local Government Area.

The study area includes a 14.6 ha parcel of agricultural grazing land immediately south of the Gwydir Highway and northwest of Furracabad Creek. The study area is approximately three kilometres (km) west of Glen Innes township and 360 metres west of Glen Innes substation and the proposed Glen Innes Battery Energy Storage System.

A 10 x 10 km search of the Aboriginal Heritage Information Management System (AHIMS) centred on the study area returned eight results for previously recorded Aboriginal sites within the search area. No Aboriginal sites are located within the study area.

The visual inspection of the study area was undertaken by OzArk Archaeologist, Jordan Henshaw on 7 May 2024. At the conclusion of the site inspection, the entire study area was determined as having low archaeological potential (surface and subsurface) due to previous vegetation clearance, land-use disturbance, and the heavy clay soils. No Aboriginal objects or potential archaeological deposits were identified within the study area during the site inspection.

The undertaking of the due diligence process resulted in the conclusion that the proposed works will have an impact on the ground surface, however, no Aboriginal objects or intact archaeological deposits will be harmed by the proposal. This moves the proposal to the following outcome:

Aboriginal Heritage Impact Permit application not necessary. Proceed with caution. If any Aboriginal objects are found, stop work, and notify Heritage NSW (02) 9873 8500 (heritagemailbox@environment.nsw.gov.au). If human remains are found, stop work, secure the site, and notify NSW Police and Heritage NSW.

To ensure the greatest possible protection to the area's Aboriginal cultural heritage values, the following recommendations are made:

- 1. The proposed work may proceed at the study area without further archaeological investigation.
- All land and ground disturbance activities must be confined to within the study area, as this will eliminate the risk of harm to Aboriginal objects that may be in adjacent landforms. Should the parameters of the proposal extend beyond the assessed areas, then further archaeological assessment may be required.
- 3. This assessment has concluded that there is a low likelihood that the proposed work will adversely harm Aboriginal cultural heritage items or sites. If during works, however,

Aboriginal artefacts or skeletal material are noted, all work should cease and the procedures in the *Unanticipated Finds Protocol* (**Appendix 2**) should be followed.

- 4. Inductions for work crews should include a cultural heritage awareness procedure to ensure they recognise Aboriginal artefacts (**Appendix 3**) and are aware of the legislative protection of Aboriginal objects under the *National Parks & Wildlife Act 1974* and the contents of the *Unanticipated Finds Protocol*.
- 5. The information presented here meets the requirements of the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*. It should be retained as shelf documentation for five years as it may be used to support a defence against prosecution in the event of unanticipated harm to Aboriginal objects.

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1 INTRODUCTION

1.1 BRIEF DESCRIPTION OF THE PROPOSAL

OzArk Environment & Heritage (OzArk) has been engaged by Chris Smith & Associates on behalf of Green Gold Energy (the proponent) to complete an Aboriginal due diligence heritage assessment for a proposed solar farm at Glen Innes (the proposal). The proposal is in the Glen Innes Severn Shire Local Government Area (LGA) (**Figure 1-1**).



Figure 1-1. Map showing the location of the proposal.

1.2 PROPOSAL OVERVIEW

The proponent is developing a series of sub-5 megawatt (MW) solar farms throughout rural NSW. Each solar farm is approximately 15–20 hectares (ha) in size and will include battery storage ancillary works. Due to the overall cost of each solar farm residing between \$5 and \$30 million, the proposals are deemed regionally significant. This means lower tier heritage and environmental assessments are acceptable and an Environmental Impact Statement (EIS) is not required.

1.3 STUDY AREA

The study area includes a 14.6 ha parcel of agricultural grazing land immediately south of the Gwydir Highway and north of Furracabad Creek. The study area is approximately three kilometres (km) west of Glen Innes township and 385 metres (m) west of Glen Innes substation and the proposed Glen Innes Battery Energy Storage System (BESS) (**Figure 1-2**).



Figure 1-2: Aerial showing the study area.

1.4 BACKGROUND

The study area at the start of the proposal was originally situated further east along Furracabad Creek but has now been redesigned to avoid the creek line. The revised study area is now situated approximately 65 m northwest from Furracabad Creek and extends an additional 150 m west into agricultural land. The study area has been reduced from 18 ha to just 14.6 ha. Due to these changes in area, an additional visual inspection was required to ensure no Aboriginal objects would be harmed by the proposal. The original study area is presented on **Figure 1-3**.



Figure 1-3: Original and revised study area.

1.5 ASSESSMENT APPROACH

The desktop and visual inspection component for the study area follows the *Due Diligence Code* of *Practice for the Protection of Aboriginal Objects in New South Wales* (due diligence; DECCW 2010). The field inspection followed the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales* (OEH 2011).

2 ABORIGINAL DUE DILIGENCE ASSESSMENT

2.1 INTRODUCTION

Section 57 of the National Parks and Wildlife Regulation 2019 (NPW Regulation) made under the *National Parks and Wildlife Act 1974* (NPW Act) advocates a due diligence process to determining likely impacts on Aboriginal objects. Carrying out due diligence provides a defence to the offence of harming Aboriginal objects and is an important step in satisfying Aboriginal heritage obligations in NSW.

2.2 DEFENCES UNDER THE NPW REGULATION

2.2.1 Low impact activities

The first step before application of the due diligence process itself is to determine whether the proposed activity is a "low impact activity" for which there is a defence in the NPW Regulation. The exemptions are listed in Section 58 of the NPW Regulation (DECCW 2010: 6).

The proposed activities of Green Gold Energy are not considered a 'low impact activity' under the Code of Practice and the installation of solar arrays will impact the ground surface. Therefore, the due diligence process must be applied.

2.2.2 Disturbed lands

Relevant to this process is the assessed levels of previous land-use disturbance.

The NPW Regulation Section 58 (DECCW 2010: 18) define disturbed land as follows:

Land is disturbed if it has been the subject of a human activity that has changed the land's surface, being changes that remain clear and observable.

Examples include ploughing, construction of rural infrastructure (such as dams and fences), construction of roads, trails and tracks (including fire trails and tracks and walking tracks), clearing vegetation, construction of buildings and the erection of other structures, construction or installation of utilities and other similar services (such as above or below ground electrical infrastructure, water or sewerage pipelines, stormwater drainage and other similar infrastructure) and construction of earthworks.

Sections of the proposed work are in previously cleared landforms which contain established electricity transmission infrastructure, property fencing, and grazing impacts and it could be considered that the proposed work is occurring in generally 'disturbed land.' However, the proposed work is not in an area where the land's surface has been changed in a clear and observable manner and the due diligence process must be applied.

In summary, it is determined that the proposal must be assessed under the Due Diligence Code of Practice. The reasoning for this determination is set out in **Table 2-1**.

Item	Reasoning	Answer
Is the activity to be assessed under Division 4.7 (state significant development) or Division 5.2 (state significant infrastructure) of the EP&A Act?	The proposal will be assessed under Part 4 of the EP&A Act as a regionally significant project.	No
Is the activity exempt from the NPW Act or NPW Regulation?	The proposal is not exempt under this Act or Regulation.	No
Do either or both apply: Is the activity in an Aboriginal place? Have previous investigations that meet the requirements of this Code identified Aboriginal objects?	The activity will not occur in an Aboriginal place. No previous investigations have been undertaken for this proposal.	No
Is the activity a low impact one for which there is a defence in the NPW Regulation?	The proposal is not a low impact activity for which there is a defence in the NPW Regulation.	No
Is the activity occurring entirely within areas that are assessed as 'disturbed lands?'	The proposal is not entirely within areas of high modification.	No
Due Diligence Code of Practice assessment is required		

Table 2-1: Determination of whether Due Diligence Code of Practice applies.

2.3 APPLICATION OF THE DUE DILIGENCE CODE OF PRACTICE TO THE PROPOSAL

To follow the generic due diligence process, a series of steps in a question/answer flowchart format (DECCW 2010: 10) are applied to the proposed impacts and the study area, and the responses documented.

2.3.1 Step 1

Will the activity disturb the ground surface or any culturally modified trees?

Yes, the proposal will impact the ground surface but will not impact culturally modified trees.

Green Gold Energy are proposing to construct a small-scale solar farm which will require ground disturbing activities during the initial installation of the solar array and associated infrastructure.

Culturally modified trees will not be impacted by the proposal as the study area has not contained any mature native trees since at least 1963 (**Figure 2-1**).



Figure 2-1: Aerial showing the study area (1963).

2.3.2 Step 2a

Are there any relevant confirmed site records or other associated landscape feature information on AHIMS?

No, there are no previously recorded sites within the study area.

A 10 x 10 km search of the Aboriginal Heritage Information Management System (AHIMS) centred on the study area returned 8 results for previously recorded Aboriginal sites within the search area (GDA Zone 56, Eastings: 364868–384725, Northings: 670058–6720055) (**Appendix 1**). No Aboriginal sites are located within the study area. The closest Aboriginal site to the study area is an Aboriginal ceremony and dreaming site (Glen Innes Rock Wells) located 2.1 km to the southeast.

The small number of AHIMS recordings within the search area limits the conclusions that can be drawn from the AHIMS data. The more common site types in the area are potential archaeological deposits (PADs) and culturally modified trees (carved or scarred). Based on the AHIMS data, the most likely site type that could be recorded at the study area would be a PAD, as the second most common site type (culturally modified trees) cannot be present due to the clearing of all mature native vegetation.

Figure 2-2 shows all previously recorded sites in relation to the study area and **Table 2-2** shows the types of sites that are close to the study area.

Site Type	Number	% Frequency
PAD	3	37.5
Culturally modified tree (carved or scarred)	2	25
Artefact scatter	1	12.5
Ceremonial ring (stone or earth)	1	12.5
Aboriginal ceremony and dreaming	1	12.5
Total	8	100

Table 2-2: Site types and frequencies of AHIMS sites near the study area.



Figure 2-2: Previously recorded sites in relation to the study area.

2.3.3 Step 2b

Are there any other sources of information of which a person is already aware?

No, there are no other sources of information that would indicate the presence of Aboriginal objects in the study area.

2.3.3.1 *Ethnohistoric background*

The Glen Innes area is within a region identified as part of the Nganyaywana language group. This is an assemblage of many small clans and bands speaking a number of similar dialects (Tindale 1974, Horton 1994, Howitt 1996). The borders were, however, not static, they were most likely fluid, expanding and contracting over time to the movements of smaller family or clan groups. Boundaries ebbed and flowed through contact with neighbours, the seasons and periods of drought and abundance.

Prior to British settlement, the tablelands and adjacent slopes between Glen Innes and Inverell supported dense woodlands, which provided habitat for a broad range of plant and animal species that formed the core of Aboriginal dietary items prior to contact with early European explorers and settlers. Groups are documented as having utilised a broad range of plant species as both food and material resources, including bracken fern, orchids, tubers and lilies, kurrajong trees and the daisy yam, to mention just a few.

2.3.3.2 Regional archaeological context

McBryde 1974

McBryde noted in her 1974 publication that suitable rock for grinding grooves is rare across the Tablelands, and therefore grinding groove sites often comprise small portable sandstone blocks (McBryde 1974: 159). She noted that the closest grooves were near Walcha at the time, and since then, several grinding groove sites have been identified in the local area. A number of these sites are noted to be on outcropping granite bedrock, but there is some ambiguity in the geological terminology.

In the later Holocene, Aboriginal occupation in upland areas became more visible in the archaeological record, including several ceremonial sites in conjunction with lagoons.

Stone arrangements in various groupings such as cairns, circles, lines, and corridors have also been identified although little is known about them. McBryde identified stone cairn sites at a number of locations across north-eastern NSW, which were often grouped along crests, ridges, and knolls (McBryde 1974: 31–33). The study noted that stone arrangements on the Tablelands did not reveal any significant landscape patterning "*apart perhaps from the preference for elevated sites with a good outlook*".

One site at Black Mountain (approximately 56 km north of the Project Area) was known as part of a Bora ground and featured 17 large heaps of stones on a "*slight hollow on the top of a peak, one of the highest points in the area*" (McBryde 1974: 41).

Bora rings in the Tablelands have been identified as circular cleared areas (typically 10–15 m in diameter) edged with a low bank of earth up to 1 m in height and nearly 2 m wide (McBryde 1974: 52).

Literary accounts suggest that Bora grounds often comprised two circles joined by a pathway, often flanked by ground drawings of human and animal figures, and carvings of geometric designs in nearby trees. McBryde listed 26 Bora sites known at the time in the Tablelands (McBryde 1974: 59–62). Archaeological evidence of burials has been identified in rock shelters, but also as open sites marked by earth mounds, piles of stones, and nearby carved trees (McBryde 1974).

Beck et al. 2015

The article published in *Archaeology in Oceania* outlines the scarcity of persistent occupation sites throughout the New England Tableland due to the lack of rock shelters recorded throughout the region. The cold, harsh environmental conditions of the Tableland were seen as a major obstacle to year-round occupation, resulting in a sparse distribution of sites (Binns & McBryde 1972). However, others including Godwin (1990) argued that the Tableland was not abandoned during winter but was occupied by small mobile groups all year. Beck et al. continues Godwin's investigations into the resource zones of the New England Tableland, specifically the focus on upland wetland landscapes or 'lagoons.'

The New England lagoons are shallow upland ponds located along the highest parts of the major drainage divides of the Northern Tablelands of NSW in south-eastern Australia. Lagoons were chosen for study, not only because water sources are an essential focus for human occupation but also because of their cultural values (Beck et al. 2015: 47). Not only did Aboriginal people interact physically with water sources, such as fish trapping, ditches, and mounds, but they are also the central locations of many myths and dreaming stories (Smith & Wobst 2005). The New England lagoons can occur in five general forms (**Table 2-3**).

Lagoons are ecologically diverse sources of food and fibre resources for Aboriginal people arriving on the Northern Tableland and provide a clustering of resources that are not available elsewhere in the region. Lagoons are most productive when they are shallow or fluctuating in depth, possibly due to increased plant growth and invertebrate breeding which supports waterbird species. Lizards, snakes, turtles, and frogs also occur in and around lagoon areas, as well as freshwater crayfish.

Beck et al. concludes that the overall productivity of New England lagoons is high when numbers of plant and animal species present in the wetland environment are stimulated by alternate wetting and drying, suggesting that these landforms could have acted as transit stations for not only migratory wildlife moving from the coast to the inland and back, but Aboriginal people who were also able to take full advantage of these isolated islands of resource abundance (Beck et al. 2015: 54).

Drying pattern	Predictability and duration of filling
Semi-permanent or near permanent	Usually holds some water; annual inflows are greater than minimum loss in 90% of years.
	May dry duning extreme drought events.
Seasonal	Alternately wet and dry every year according to season.
	Fills during wet season and dries annually.
	Surface water persists for months.
Intermittent	Alternately wet and dry, but less frequently and regularly than seasonal wetlands.
	Surface water may persist for months to years.
Episodic	Annual inflow is less than minimum loss in 90% of years.
	Dry for most of the time.
	Only rarely and irregularly flooded when water may persist for months.
Ephemeral	Only fills for a few days after unpredictable rainfall and run-off.

Table 2-3: Types of New England lagoons by drying patterns (Brock 2011).

2.3.3.3 Local archaeological context

McCardle 2007

The assessment was intended to identify areas of Aboriginal cultural heritage values and to develop management recommendations for the proposed Glen Innes Wind Farm. The study area was located approximately 12 km to the west of Glen Innes, covering approximately 8.5 km of the Waterloo Range. The area was identified as having undergone both human (predominately agricultural) and natural disturbances. Ground surface visibility was limited by rocks, grass and trees and did not exceed 55%. Of 27 wind turbine sites surveyed, only one archaeologically significant site was identified, consisting of a basalt axe head. Whilst basalt is local to the area, the artefact was not found in-situ and was likely to have been washed downhill. No PADs were identified during the survey. As such, the area was not considered to be of high significance.

RPS 2008

The assessment was undertaken for the proposed Ben Lomond Wind Farm. The assessment included a pedestrian and vehicle survey of the study area, which was located 1 km north Ben Lomond village, 30 km south of the current study area and covered a total area of 9,683 ha. The area had previously been used extensively for grazing. Visibility was limited due to dense pasture grasses. Exposures were limited to patches of track, gate openings, dam walls, cattle pads, and cuttings. No Aboriginal sites were recorded. A number of historic heritage item/sites were observed, including a number of old farm buildings, structures, and movable items which were assessed as having low significance.

NSW Archaeology 2011

In 2009, NSW Archaeology conducted an assessment for the proposed Sapphire Wind Farm which was published in 2011. A total of three Aboriginal object locales SU14/L1, SU19/L1 and SU21/L1 were recorded within the assessed survey units.

The locales were reported to have very low-density stone artefact distribution, resulting in low archaeological potential/sensitivity and therefore low archaeological significance.

In addition to the Aboriginal object locales, five trees were considered by the Aboriginal field assistants to be possible scarred trees. All survey units were assessed to hold high potential for archaeological sites to be present, but that the sites would be of low density and would be of low archaeological significance. As a result, no constraints were placed on the project.

An addendum to the original 2011 assessment was completed in 2016 for a modification to the project. It was proposed that the overall number of wind turbines be reduced from 159 to 109 and access tracks underwent minor route changes. The addendum report concluded that due to the insignificant nature of the proposed changes, no further investigation was required and no changes to the current conditions of consent were required (NSW Archaeology 2016).

<u>RPS 2011</u>

RPS was commissioned by Ark Energy to prepare a Cultural Heritage Impact Assessment for the proposed White Rock Wind Farm located approximately 14 km southwest of the study area. The survey component was completed over five days and was broken into eight individual survey units. The survey was able to record five previously unrecorded Aboriginal sites including three scarred trees (RPS White Rock 01A, RPS White Rock 01B, and PRS White Rock 04) and two artefact scatters associated with PADs (RPS White Rock 02 and RPS White Rock 03). Both artefact scatters consisted of three artefacts manufactured from quartz, silcrete, and basalt.

The survey results demonstrate that Aboriginal campsite occupation occurred on flat creek terrace areas adjacent to second order creeks. The preferred occupation areas were at lower elevations within the Tablelands and located at some distance from steep sided ridges.

Ridgetop landforms were more likely used as a resource gathering zone where flora and fauna were utilised by Aboriginal people.

OzArk 2021

In 2020, OzArk conducted an archaeological investigation for the proposed Rangoon Wind Farm, located at Ben Lomond. The impact area at the Rangoon Wind Farm of approximately 1,089 ha was surveyed over five days. No Aboriginal cultural heritage values were identified within the 2021 study area during field survey or through consultation with the Aboriginal community, and no previously unidentified significant historic items were identified in the study area. Most of the study area was situated in gentle to steeply sloping landforms.

The Rangoon survey confirmed the paradigm established by other studies in the area that slope landforms are poor preservers of archaeological evidence. It also agreed with other studies in the area in that ridge and crest landforms were either infrequently used for camping or have been subjected to greater impacts from soil loss and the subsequent dispersal of sites.

2.3.4 Step 2c

Are there any landscape features that are likely to indicate presence of Aboriginal objects?

Yes, portions of the study area contain landforms with identified archaeological sensitivity.

The Due Diligence Code of Practice refers to several landscape features which have higher potential to contain Aboriginal objects. These include:

- Within 200 m of 'waters'
- Located within a sand dune system
- Located on a ridge top, ridge line or headland
- Located within 200 m below or above a cliff face
- Within 20 m of or in a cave, rock shelter, or a cave mouth

on land that is <u>not</u> disturbed land.

The eastern portion of the study area is situated within 200 m of Furracabad Creek which constitutes 'waters' within the Code of Practice. The study area is also located on land that has not been entirely disturbed in a clear and observable manner and therefore the study area contains landforms with identified archaeological sensitivity.

The study area is entirely situated within the Inverell Plateau Granites landscape unit (Mitchell 2002). This landscape unit is generally categorised by undulating plateaus with domed peaks at an elevation of 900–1500 m above sea level with a local relief of 200 m. Domed rock outcrop is common with tors. The study area is situated at 1050 m above sea level on a flat landform.

In dry areas open forests of silvertop stringybark, broad-leaved stringybark, Blakely's red gum, narrow-leaved peppermint and yellow box are typically present. Whereas in cold areas, snow gum and black sallee woodlands are more common. However, the study area has been historically cleared of mature native vegetation.

Within the Inverell Plateau Granites landscape unit, sols area a shallow, gritty loam that thickens downslope to sands and texture-contrast soils on lower slopes and valley floors. Wide valleys, including the location of the study area, have deep, dark clay deposits in swampy streamlines.

2.3.5 Step 3

<u>Can harm to Aboriginal objects or disturbance of archaeologically sensitive landscape features</u> be avoided?

No. Landforms with identified archaeological sensitivity may be impacted by the proposal.

The proposed works will involve impacts to landforms with identified archaeological sensitivity, namely those located within 200 m of 'waters.'

2.3.6 Step 4

Does a desktop assessment and visual inspection confirm that there are Aboriginal objects or that they are likely?

No, there are no Aboriginal objects within the study area.

The initial visual inspection of the study area was undertaken by OzArk Archaeologist, Jordan Henshaw on 7 May 2024. Following revision of the study area, a subsequent inspection was undertaken by OzArk Archaeologist Imogen Crome with the assistance of Shawn Faiers from the Glen Inness Local Aboriginal Land Council.

The study area is located on a flat agricultural field adjacent to Furracabad Creek which extends around the eastern and southern side of the landform. Although the study area contains landforms within 200 m of Furracabad Creek, these landforms directly adjacent to the creek consist of alluvial material which has been deposited during periods of post-European settlement flooding (**Plate 1**, **Plate 2**). Recent alluvial deposits such as the creek flats at Furracabad Creek do not preserve archaeological material and do not increase the archaeological potential of the surrounding landscape. Several ephemeral tributary watercourses also extend through the study area in a general west–east direction (**Plate 3**). These channels appear to be overflow channels for Furracabad Creek and this reinforces the observation that much of the study area has been impacted by flooding, sedimentation, and channel migration. As observed at desktop level (**Figure 2-1**), all mature native vegetation has been cleared from the study area, however, mature exotic species are present (**Plate 4**). The study area is covered by thick ground cover including several species of grasses and weeds.

This ground cover has greatly reduced the overall level of ground surface exposure (GSE) within the study area to approximately 10% (**Plate 5**). However, within areas of exposure caused by livestock trampling, ground surface visibility (GSV) is moderate (50%). Soils consist of dark brown and black clays which are generally unsuitable for the preservation of archaeological material due to their cracking nature.

Other disturbances to the study area include boundary fencing, electricity transmission infrastructure leading to the nearby Glen Innes substation, and an access track which leads to one of the electricity towers that has been dressed with imported blue stone (**Plate 6**).

At the conclusion of the visual inspection, the entire study area was determined as having low archaeological potential (surface and subsurface) due to previous the alluvial nature of the study area, vegetation clearance, land-use disturbance, and the heavy clay soils that that would have discouraged camping activities.

As shown on the 1963 aerial (**Figure 2-1**), the study area has been intensively used for agriculture for many years and this activity will likely have dispersed sites such as artefact scatters or removed sites such as culturally modified trees from within the study area had they ever been present.

The archaeological integrity of the study area has been damaged by stock treadage, especially in wet conditions when the waterlogged, clay soils of the study area can be extensively churned.

Due to the nature of the landform and the long history of intensive agriculture, no Aboriginal objects or PADs were identified during the visual inspection. The pedestrian coverage of the study area is shown on **Figure 2-3**.





2.4 CONCLUSION

The due diligence process has resulted in the outcome that an Aboriginal Heritage Impact Permit (AHIP) is not required. The reasoning behind this determination is set out in **Table 2-4**.

Step	Reasoning	Answer
Step 1 Will the activity disturb the ground surface or any culturally modified trees?	The proposed works will disturb the ground surface through earthworks associated with the installation of the proposed solar farm. The proposal will not impact mature, native vegetation as the study area has been historically cleared of all mature native vegetation and therefore will not harm culturally modified trees.	Yes
If the answer to Step 1 is 'yes', procee	ed to Step 2	
Step 2a Are there any relevant records of Aboriginal heritage on AHIMS to indicate presence of Aboriginal objects?	AHIMS indicated that there are no Aboriginal sites within the study area.	No
Step 2b Are there other sources of information to indicate presence of Aboriginal objects?	There are no other sources of information to indicate that Aboriginal objects are likely in the study area.	No
Step 2c Will the activity impact landforms with archaeological sensitivity as defined by the Due Diligence Code?	Landforms with identified archaeological sensitivity are present as the study area is within 200 m of 'waters.'	Yes
If the answer to any stage of Step 2 is	'yes', proceed to Step 3	
Step 3 Can harm to Aboriginal objects listed on AHIMS or identified by other sources of information and/or can the carrying out of the activity at the relevant landscape features be avoided?	The proposal will impact landforms with archaeological sensitivity as identified in the Due Diligence Code: landforms within 200 m of 'waters.'	No
If the answer to Step 3 is 'no', a visua	I inspection is required. Proceed to Step 4.	
Step 4 Does the visual inspection confirm that there are Aboriginal objects or that they are likely?	The visual inspection recorded no Aboriginal objects in the study area. Landforms with identified archaeological sensitivity that were identified at a desk-top level were found during the inspection to have low archaeological potential due to unsuitable soil types and land use disturbances.	No
Conclusion		
	AHIP not necessary. Proceed with caution.	

3 MANAGEMENT RECOMMENDATIONS

The undertaking of the due diligence process resulted in the conclusion that the proposed works will have an impact on the ground surface, however, no Aboriginal objects or intact archaeological deposits will be harmed by the proposal. This moves the proposal to the following outcome:

Aboriginal Heritage Impact Permit application not necessary. Proceed with caution. If any Aboriginal objects are found, stop work, and notify Heritage NSW (02) 9873 8500 (heritagemailbox@environment.nsw.gov.au). If human remains are found, stop work, secure the site, and notify NSW Police and Heritage NSW.

To ensure the greatest possible protection to the area's Aboriginal cultural heritage values, the following recommendations are made:

- 1. The proposed work may proceed at the study area without further archaeological investigation.
- All land and ground disturbance activities must be confined to within the study area, as this will eliminate the risk of harm to Aboriginal objects that may be in adjacent landforms. Should the parameters of the proposal extend beyond the assessed areas, then further archaeological assessment may be required.
- 3. This assessment has concluded that there is a low likelihood that the proposed work will adversely harm Aboriginal cultural heritage items or sites. If during works, however, Aboriginal artefacts or skeletal material are noted, all work should cease and the procedures in the *Unanticipated Finds Protocol* (Appendix 2) should be followed.
- 4. Inductions for work crews should include a cultural heritage awareness procedure to ensure they recognise Aboriginal artefacts (**Appendix 3**) and are aware of the legislative protection of Aboriginal objects under the NPW Act and the contents of the *Unanticipated Finds Protocol.*
- 5. The information presented here meets the requirements of the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales*. It should be retained as shelf documentation for five years as it may be used to support a defence against prosecution in the event of unanticipated harm to Aboriginal objects.

References

Beck et al. 2015	Beck, W. Howarth, R. and Appleton, J. 2015. <i>Aboriginal resource change through time in New England upland wetlands, south-east Australia.</i> Archaeology in Oceania, Vol 50, No 1: 46-56.
Binns & McBryde 1972	Binns, R.A. and McBryde, I. 1972. <i>A Petrological Analysis of Ground0edge Artefacts from Northern New South Wales.</i> Australian Institute of Aboriginal Studies, Canberra.
Brock 2011	Brock, M.A. 2011. <i>Persistence of seed banks in Australian temporary wetlands.</i> Freshwater Biology 56: 13.
Burra Charter 2013	International Council on Monuments and Sites 2013. <i>The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance</i> .
DECCW 2010	DECCW. 2010. <i>Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW</i> . Department of Environment, Climate Change and Water, Sydney.
Godwin 1990	Godwin, L. 1990. <i>Inside Information: Settlement and Alliance in the Late Holocene of North-eastern NSW.</i> Unpublished PhD thesis, University of New England, Armidale.
Horton 1994	Horton, D. (ed) 1994. <i>The Encyclopedia of Aboriginal Australia: Aboriginal and Torres Strait Islander History, society and culture.</i> Aboriginal Studies Press, Canberra.
Howitt 1996	Howitt, A W. 1996. <i>The Native Tribes of South-East Australia</i> . Aboriginal Studies Press, Canberra.
McBryde 1974	McBryde, I. 1974. Aboriginal prehistory in New England. Sydney University Press, Sydney.
McCardle 2007	McCardle Cultural Heritage Pty Ltd. 2007. Proposed Wind Farm at Glen Innes: Indigenous Archaeological Assessment. Report prepared for Connell Wagner Pty Ltd.
Mitchell 2002	Mitchell, Dr. Peter. 2002. <i>Description for NSW (Mitchell) Landscapes Version 2.</i> Department of Environment and Climate Change NSW.
NSW Archaeology 2011	New South Wales Archaeology Pty Ltd. 2011. <i>Sapphire Wind Farm</i> <i>Archaeological and Cultural Heritage Assessment.</i> Report to: Wind Prospect CWP Pty Ltd.

NSW Archaeology 2016	New South Wales Archaeology Pty Ltd. 2016. Addendum Sapphire Wind								
	Farm - Modification to Road Alignment Aboriginal Cultural Heritage								
	Assessment Report. Report to: CWP Pty Ltd.								

- OEH 2011 Office of Environment and Heritage. 2011. Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in New South Wales.
- OzArk 2021 OzArk Environment & Heritage. 2021. Aboriginal Cultural Heritage & Historic Heritage Assessment Report Rangoon Windfarm. Report to: Meridian Energy Australia Pty Ltd.
- RPS 2008RPS. 2008. Archaeological Assessment for Ben Lomond Wind Farm.Report prepared for Ben Lemond Wind Farm Pty Limited.
- RPS 2011RPS. 2011. Aboriginal Heritage Impact Assessment for White Rock WindFarm. Report prepared for Ark Energy (formerly Epuron Pty Ltd).
- Smith & Wobst 2005Smith, C. and Wobst, M. (eds) 2005. Indigenous Archaeologies:Decolonising Theory and Practice. Routledge, London.
- Tindale 1974 Tindale, N. 1974. Aboriginal Tribes of Australia: Their Terrain, Environmental Controls, Distribution, Limits and Proper Names, ANU Press, Canberra.

PLATES



APPENDIX 1: AHIMS SEARCH RESULTS

tem	SiteName	Datum	Zone	Easting	<u>Northing</u>	Context	Site Status **	SiteFeatures	SiteTvnes	Reports
2-4-0004	Reddestone Creek;	AGD	56	370800	6718200	Open site	Valid	Artefact : -	Open Camp Site	219,220
	Contact	Recorders	Grab	am Connah				Permits		
1-4-0048	Northern Site	AGD	56	381650	6715000	Open site	Valid	(Carved or Scarred) :	Scarred Tree	
	Contact	Recorders] Joh	nson				Permits		
2-4-0001	Glen Innis; Glen Innis Rock Wells;	AGD	56	376700	6708700	Open site	Valid	Aboriginal Ceremony and Dreaming : •	Natural Mythological (Ritual)	
2 4 0002	Contact	Recorders	Hari	y Creamer, M	Ir.Richard Kell	/ 	17.113	Coromonic Ding	Dana (Carrowski)	
2-4-0002	Stonenenge;	Recorders	56 Isah	377700 el McBryde	6700500	Open site	Valid	(Stone or Earth) : - Permits	Bora/Ceremonial	
2-4-0021	PAD1 and PAD 2 (GLEN INNES)	GDA	56	369590	6711574	Open site	Valid	Potential Archaeological Deposit (PAD) : -		101915
	Contact	Recorders	Jim	Wheeler				Permits		
2-4-0037	Reddestone ST1	GDA	56	369184	6717233	Open site	Valid	Modified Tree (Carved or Scarred) :		
	Contact	Recorders	Mr.J	ohn Appletor	1			Permits		AT 64 (67 1913) (19
12-4-0022	PAD3 and PAD 4 (GLEN INNES)	GDA	56	368283	6711911	Open site	Valid	Potential Archaeological Deposit (PAD) : -		101915
	Contact	Recorders	Jim '	Wheeler	2000 Contraction	1945F 151	0403004	<u>Permits</u>		
12-4-0034	Reddestone L&H P1	GDA	56	369404	6717438	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	Contact	Recorders	Mr.J	ohn Appletor	1			<u>Permits</u>	3893,4108	
*** <u>Site Statu</u> Valid - The s Destroyed - Partially Des	S are has been recorded and accepted onto the system as valid The ste has been completely impacted or harmed susailly as come tryed. The ste has been only particity impacted or harmed susail	quence of permit activity but somet y as consequence of permit activity	imes als	o after natural e retimes also aft	events. There is n er natural events	othing keft of the situ There might be par	e on the ground but propo ts or sections of the origin	nents should proceed with cau	tion,	

APPENDIX 2: ABORIGINAL HERITAGE UNANTICIPATED FINDS PROTOCOL

An Aboriginal artefact is anything which is the result of past Aboriginal activity. This includes stone (artefacts, rock engravings etc.), plant (culturally scarred trees) and animal (if showing signs of modification; i.e. smoothing, use). Human bone (skeletal) remains may also be uncovered while onsite.

Cultural heritage significance is assessed by the Aboriginal community and is typically based on traditional and contemporary lore, spiritual values, and oral history, and may also consider scientific and educational value.

Protocol to be followed if previously unrecorded or unanticipated Aboriginal object(s) are encountered:

- 1. If any Aboriginal object is discovered and/or harmed in, or under the land, while undertaking the proposed development activities, the proponent must:
 - a. Not further harm the object
 - b. Immediately cease all work at the particular location
 - c. Secure the area to avoid further harm to the Aboriginal object
 - d. Notify Heritage NSW as soon as practical on (02) 9873 8500 (heritagemailbox@environment.nsw.gov.au), providing any details of the Aboriginal object and its location; and
 - e. Not recommence any work at the particular location unless authorised in writing by Heritage NSW.
- If Aboriginal burials are unexpectedly encountered during the activity, work must stop immediately, the area secured to prevent unauthorised access and NSW Police and Heritage NSW contacted.
- 3. Cooperate with the appropriate authorities and relevant Aboriginal community representatives to facilitate:
 - a. The recording and assessment of the find(s)
 - b. The fulfilment of any legal constraints arising from the find(s), including complying with Heritage NSW directions
 - c. The development and implementation of appropriate management strategies, including consultation with stakeholders and the assessment of the significance of the find(s).
- 4. Where the find(s) are determined to be Aboriginal object(s), recommencement of work in the area of the find(s) can only occur in accordance with any consequential legal requirements and after gaining written approval from Heritage NSW (normally an Aboriginal Heritage Impact Permit).

Contraction of the second MAN A retouched silcrete flake A quartz flake Microliths (scale = 1 cm) Volcanic flakes platform: proximal end cortex negative flake dorsal scars surface ventral flake scar surface ridges (under) distal end Flake characteristics (scale = 1 cm) A mudstone/tuff core from which flakes have been removed

APPENDIX 3: ABORIGINAL HERITAGE: ARTEFACT IDENTIFICATION