

30 June 2018

Hogan Planning
PO Box 2257
Bowral NSW 2576

Attn: **Darren Hogan (Principal)**

**Re: Lot 79 Kumarna Street, Duffys Forest, NSW – Aboriginal Heritage
Due Diligence Assessment**

Dear Darren,

In May 2018, Extent Heritage Pty Ltd was commissioned by Hogan Planning to undertake an Aboriginal heritage due diligence assessment of Lot 79 Kumarna Street, Duffys Forest, NSW (hereafter the 'study area') (**Figure 1**). This assessment was undertaken to supplement a proposed Development Application for the residential and commercial development of the study area being lodged with the Northern Beaches Council. This letter provides a summary of the due diligence process, our findings, and consultation undertaken with the Metropolitan Local Aboriginal Land Council.

In brief, our investigations did not identify any Aboriginal objects, sites or deposits within the study area. However, two areas of potential sensitivity were identified, and will require further consideration as the development progresses:

- i. A tree with potential cultural modification in the southeast corner of the study area. However, it must be noted that the tree appears to be young and the shape of the scar is amorphous, both features that would make a natural formation of the scar a possibility; and
- ii. A number of exposed/partially exposed sandstone bedrock surfaces in the northeastern quadrant of the study area, upon which rock engravings may be present, although none were evident during the site inspection.

The remainder of the study area did not reveal any extant Aboriginal objects, sites or deposits, and was considered to have low potential to contain them based on regional archaeological models.

Based on these findings, we recommend the following:

- Given the uncertainty of the cultural modifications on the tree at 331687E, 6273192N (MGA Zone 56), if works are required that may affect the tree it should first be investigated by a qualified arborist to determine whether the scarring is from natural or cultural processes.
 - In the event that the tree is considered to have been culturally modified as a result of traditional Aboriginal practices, it should be listed on the OEH AHIMS database and protected during, and following development. A suitable buffer of >5m diameter

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from the edge of the canopy should be established and fenced around the tree during all on-site activities. Given the rarity of culturally modified trees, it is unlikely if identified as an Aboriginal site, that the tree could be impacted or harmed as part of the development; and re-design of the project would be the preferred option.

- In the event that the scar is found not to be of traditional Aboriginal origin, no further work is considered to be required.
- Although the potential for the presence of rock engravings and grinding grooves is low, any such sites would be of high significance. The following measures are recommended as a precaution:
 - For all development activities in the north-eastern quadrant of the study area (as shown in **Figure 7**), excavation should be avoided and/or minimised wherever possible.¹ If excavation is required, initial ground disturbance and exposure of sandstone bedrock should be undertaken carefully (ideally using manual methods) and should be monitored by an archaeologist and/or experienced member of the Metropolitan Local Aboriginal Land Council, to ensure that any identified Aboriginal engraving or art sites are appropriately recorded, managed and protected. In the event that a site is found during the course of these works, it should be recorded and registered on AHIMS, and processes should be put in place to ensure conservation.
- For all other parts of the study area, it is considered there is low risk of Aboriginal objects being present, and work may proceed with caution. In the event that unexpected Aboriginal objects, engraving or art sites, or rockshelters (or potential Aboriginal objects, engraving or art sites, or rockshelters) are discovered during development activities, all works in the vicinity should cease and a heritage consultant should be contacted to provide appropriate recording and management advice for the site.
- This document may be summarised within and/or appended to a Development Application, Statement of Environmental Effects (SEE) or Review of Environment Factors (REF). If any Aboriginal objects are later identified within the proposed activity area, this report cannot however be used to support an application for an Aboriginal Heritage Impact Permit (AHIP). Such an application would require more detailed investigation involving a formal process of Aboriginal community consultation and the preparation of an Aboriginal Cultural Heritage Assessment Report (ACHAR).
- If human skeletal material less than 100 years old is discovered, the *Coroners Act 2009* requires that all works should cease and the NSW Police and the NSW Coroner's Office should be contacted. Traditional Aboriginal burials (older than 100 years) are protected under the *National Parks and Wildlife Act 1974* and should not be disturbed. Interpreting the age and nature of skeletal remains is a specialist field and an appropriately skilled archaeologist or physical anthropologist should therefore be contacted to inspect the find and recommend an appropriate course of action. Should the skeletal material prove to be archaeological Aboriginal remains, notification of OEH and the Metropolitan Local Aboriginal Land Council will be required. Notification should also be made to the

¹ Note that, as a precaution, the management area indicated in Figure 7 is larger than the visible areas of outcropping rock.

Commonwealth Minister for the Environment, under the provisions of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*.

Should you have any questions or concerns please do not hesitate to contact Fenella Atkinson or myself on (02) 9555 4000.

Yours sincerely,

A handwritten signature in blue ink, consisting of several loops and a long horizontal stroke, likely representing 'Alan Williams'.

Dr Alan Williams FSA MAACAI • Aboriginal Heritage Team Leader

Background and Purpose of Document

In NSW, Aboriginal objects, whether recorded or as yet undiscovered, are afforded statutory protection under the *National Parks and Wildlife Act 1974*. Under Section 86 of the Act it is an offence to disturb, destroy or deface Aboriginal objects without the approval of the Director General of the Office of Environment and Heritage (OEH). A breach of Section 86 of the *National Parks and Wildlife Act 1974* could result in prosecution and fines in excess of \$1 million. The OEH provides a series of guidelines as a framework for identifying and managing Aboriginal heritage and the cultural heritage interests of Aboriginal parties within development planning contexts. The Due Diligence process is the first step and is outlined in the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (DECCW 2010) guidelines; and is intended to identify whether or not a proposed activity is likely to harm Aboriginal objects. Further information on legislation and process is provided in **Appendices 1 and 2**.

The owners of the study area propose to re-develop the study area, including construction of a dwelling house, swimming pool, horse stables, arena and paddocks. Given the known Aboriginal heritage values of the immediate locality, Hogan Planning, on behalf of the owners, has commissioned Extent Heritage to undertake an Aboriginal heritage due diligence assessment to consider whether or not impacts to Aboriginal objects/sites can be avoided through the proposed activities.

Please note that this report is an initial investigation of constraints and opportunities pertaining to identified Aboriginal heritage sites and places on and/or in the immediate vicinity of the proposed development site. It is not an Aboriginal Cultural Heritage Assessment (ACHA) prepared in accordance with the guidelines issued by the Office of Environment and Heritage (OEH). As such, it would not be sufficient to support an application for an Aboriginal Heritage Impact Permit, in accordance with s90 of the *National Parks and Wildlife Act 1974*. Similarly, the report does not consider historical heritage, and would not be sufficient to support an application for a permit under s60 or s140 of the *Heritage Act 1977*.

Aboriginal Consultation

The site inspection was undertaken with the participation of Selina Timothy and Larissa Cooper of the Metropolitan Local Aboriginal Land Council. Discussions during the site inspection focussed upon a potential culturally modified tree, exposed sandstone outcrops and the potential for the presence of associated rock engravings, and the general good quality of the bushland.

Existing Environment

The study area is situated in the northwestern quadrant of the suburb of Duffys Forest, and adjacent to Ku-Ring-Gai Chase National Park (**Figure 1**). It is situated on the shoulder of a ridgeline (~175-200m AHD) composed of Hawkesbury Sandstone, and is characterised by gentle to moderate slopes with a northwest aspect (**Figures 2 and 3**) (OEH, 2018). These types of landscape and geomorphic features dictate the type and form of Aboriginal sites potentially present in the study area, with higher potential for rockshelters, stone arrangements, rock engravings and grinding grooves associated with flat escarpments and steep overhangs of the sandstone geology; and with lesser likelihood of large-scale occupation sites, or shell middens.

The soil landscape across the study area and nearby surrounds is a combination of Blacktown and GyMEA (**Figure 4**), which are both residual soils that have formed through *in situ* weathering of the

under-lying geology (OEH, 2018). They are typically shallow soils, with the upper A1 horizon – within which cultural material is usually constrained – being usually <30-50cm in depth, and composed of a loose coarse sand matrix (Chapman and Murphy, 1989). This overlies a mixture of various clay units (B2 horizon) and/or sandstone geology (C horizon). These soils generally have high erodibility and this, combined with the relatively shallow nature (<30cm) of the topsoil has implications for the potential presence and survivability of Aboriginal objects. Even relatively minor disturbances or de-vegetation can result in the removal of the upper parts of the soil profile where objects may be present. Even in the absence of development or grazing, concentrated water flows can cause serious erosion of the topsoil deposits.

Desktop information indicates that the vegetation across the site is characteristic of Gynea soil landscapes - dry sclerophyll open-woodland that includes red bloodwood (*Corymbia gummifera*), yellow bloodwood (*C. eximia*), scribbly gum (*Eucalyptus haemastoma*), brown stringybark (*E. capitellata*) and old man banksia (*Banksia serrata*) (Chapman and Murphy, 1989). A dense understorey of various grasses and shrubs was also present. In the northwest corner of the study area, existing horse agistment paddocks are present, and in these areas, vegetation was composed of low lying grass with occasional isolated trees.

A number of major waterways are in the general location of the study area, including Cowan Creek, Cockle Creek, Smiths Creek and Apple Tree Creek (**Figure 5**). However, these are all a considerable distance from the study area, with three ephemeral first order creeks being the closest to the site – and none of these being <200m away.

Particular landforms are known to have been favoured locations for repeated or long-term occupation and are therefore more likely to retain archaeological evidence of past Aboriginal use. OEH specifies five landscape features which are likely to indicate the presence of Aboriginal objects (DECCW 2010): i) within 200 m of waters; ii) within a sand dune system; iii) on a ridge top, ridge line or headland; iv) within 200 m below or above a cliff face; and/or v) within 20 m of, or in, a cave, rock shelter or cave mouth. Of these, only (iii) can be considered relevant, with the study area being situated on the northern shoulder of the broader ridgeline upon which Duffys Forest is situated.

Archaeological Context

This region (part of the wider Sydney Basin) has been extensively investigated, with research dating back to the 1940s (e.g. McCarthy 1948). Much of our current knowledge of the region, however, comes from surveys and excavations undertaken through compliance-based archaeology associated with development, which began in the 1980s (e.g. Haglund 1980; Kohen 1986; Smith 1989) and continues to the present day (e.g. Jo McD CHM 1997, 1999, 2001; ENSR AECOM 2008a, 2008b; AHMS 2011, 2015; White and McDonald, 2010). While local variation in the archaeological record is apparent, for the most part the distribution and type of archaeological material across the region is well understood.

While focus has generally focussed on development on the broader Cumberland Plain to the west of the study area, where investigated studies have found the distribution and type of archaeological material identified across the region is influenced by its environmental context – specifically, the underlying sandstone geology. The majority of sites identified in the region are painted and engraved rock art sites and grinding grooves, found almost exclusively on areas of Hawkesbury sandstone outcrop and frequently in close proximity to watercourses (e.g. Attenbrow, 1993, 2004, 2010; McDonald, 1985, 1992, 2008; MacIntosh, 1965; Moore, 1970, 1981; Sim, 1976; Vinnicombe, 1980).

Art motifs include animals and anthropomorphic figures, as well as geometric shapes (Sim 1976). However, despite systematic investigation over the past 30 years, in the local region archaeological investigation has been constrained to surface survey only; no test excavation has occurred.

In summary:

- Studies across this region have tended to focus on the individual characteristics of sites, rather than on site patterning across the area. This is because sites tend to occur in the area in relation to sandstone formations rather than water sources or other variables. Patterning tends to not be as effective due to the relatively random and isolated occurrence of shelter formations.
- The main site types across the subregion are shelters with deposits, rock art and grinding grooves.
- On the Hawkesbury sandstone formations along the Hawkesbury River and its feeder creeks, the most common site types are Aboriginal art and occupation sites. These are located within sandstone overhangs or shelters. Sheltered, painted art/occupation sites tend to occur more frequently above valley floors or below ridge tops. There appears a general preference for northerly or north-westerly aspects.
- In other similar parts of the Sydney Basin, Attenbrow (2004) found that any overhang or rock shelter with reasonable head room, a level dry floor and a depth offering protection from extremes of sun, wind and rain could have been occupied by Aboriginal people in the past. Attenbrow (2004) also demonstrated that 70% of potential archaeological deposits (PAD) recorded within shelters are Aboriginal sites.
- Open artefact scatters are less common due to the lack of open flat areas in the steep sandstone country. However, these site types may still occur and are most likely to be situated on flat terraces adjacent to higher order streams (as in the Cumberland Plain).
- Axe grinding grooves are commonly found in creek beds, at the tops of valleys, above or along watercourses and also around rock pools or ridge tops near aquifers.
- Aboriginal burial sites may be located in rock shelter occupation deposits or within soft dry deposits such as sand bodies.

Aboriginal Heritage Information Management System (AHIMS) Database

The Office of Environment and Heritage maintains the Aboriginal Heritage Information Management System (AHIMS) database, a register of recorded Aboriginal archaeological sites in NSW. A search of AHIMS was carried out on 14 May 2018 (Client Service ID: 334632) to identify sites within one kilometre of the study area. The full search results are listed in **Appendix 4** and shown in **Figure 6**.

The search identified five previously documented sites in the vicinity of the study area, within which 13 discrete motifs and/or grooves are documented. They all consist of rock engravings (n=6) and/or grinding grooves (n=7) found on large exposures of flat or gently sloping sandstone outcrops (where such data is provided). Spatially, they appear in two main locations in the vicinity of Waratah Park (~800m southwest of the study area) or along Slades Trail (~250m west of the study area). Geomorphologically, the sites near Waratah Park appear to be in close proximity to an inlet of Cowan Creek, while the less securely located #45-6-1100 and #45-6-1101 appear to be on a headland overlooking (but in close proximity) to the same waterway. With the exception of #45-6-2664, which consists of four engravings and two grinding grooves (**Appendix 3**), there are few descriptions for the sites. #45-6-2992 reflects a duplication and expansion of #45-6-2664 incorporating a further four motifs over an area of 100m² situated at the northern end of Yanada Road. #45-6-2991 records memories

from knowledge holders of rock engraving sites in the same general vicinity as #45-6-2664 and #45-6-2991, and likely reflects the same site (**Appendix 3**). Similarly #45-6-1100 and #45-6-1101 contain no information, but are both situated in the exact same location, and likely either reflect the same site, or a closely located complex of sites.

Overall, no previously documented Aboriginal sites are located within the study area. However, a number of rock engravings and/or grinding grooves has been identified on large sandstone exposures in the general vicinity. These are commonly in close proximity to Cowan Creek.

Site Inspection

A site inspection was undertaken by Dr. Alan Williams FSA MAACAI on 21 May 2018 with the participation of two Metropolitan LALC representatives (see above). The entire study area was inspected with a focus on surface exposures, and especially sandstone outcrops. Dense undergrowth constrained visibility (**Plate 1**), but numerous outcrops were observed and inspected especially along the eastern margin of the study area.

The study area is situated primarily on the northern shoulder of a large ridgeline that encompasses parts of Duffys Forest (**Figure 7**). The top of the ridgeline extends into the southern quadrant of the study area, with the highest point in the southwest corner (**Plate 2**). The surrounding slopes are characterised by uneven gentle to moderate gradients, resulting from weathering and eroding sandstone geology. This becomes increasingly steep and crenellated on the eastern margins of the study area. A handful of tracks run across the study area, and provide some indication of the soil profile (**Plate 3**). Specifically, they suggest that the study area is primarily within the Gynea soil landscape, and reflects a shallow residual profile situated immediately above the sandstone. Exposures elsewhere suggest the soil profile is <30cm, and in places has been subject to truncation.

In the north and northwest, the study area contains a number of cleared horse paddocks with a handful of trees (**Plate 4**), and this location, while entirely top-dressed, has likely been affected by both the development and use of these areas by livestock. The remainder of the study area appears to contain well-established vegetation as documented in the desktop assessment, and which has not been subject to any form of clearance in recent years.

While no Aboriginal objects, site or deposits were identified, two areas of concern were observed. A tree (likely a red bloodwood (*Corymbia gummifera*)) that had potential cultural modification was located at 331687E, 6273192N (MGA Zone 56) (**Plate 5**). The scar was a narrow (<30cm), twisting linear gash (~2m in length) situated on the southern side of the tree. Given the relatively young appearance of the tree, and the non-typical shape and appearance of the scar (which when cultural is more commonly an oval or rectangular shape), it is considered that further investigation of this scar would be required to verify the tentative identification. The second area of concern was along the north-eastern margin of the study area where substantial sandstone exposures were observed (**Plates 6 and 7**). No engravings or grinding grooves were identified on these exposures, but they are the environment within which such site types are commonly found in the general vicinity. Given only parts of such exposures were evident, it is considered that the potential for buried engravings and/or grinding grooves remains a possibility.

Conclusions and Recommendations

Based on the existing environment, the study area is situated on an elevated Hawkesbury Sandstone geological landscape, which is characterised by flat plateaus interspersed with deeply incised trellised drainage. As such, archaeological sites in the locality are typically constrained to rockshelters, rock engravings and/or grinding grooves, with other site types less likely to be present. Indeed, a search of previously documented sites within the region identifies only a small number of rock engravings and/or grinding grooves, all in the vicinity of major water tributaries (in this case Cowan Creek).

Desktop review and a site inspection of the study area identified no Aboriginal objects, sites, or deposits being present. The potential for rockshelters is considered unlikely, since no overhangs or cave features were observed on the study area. The potential for the presence of rock engravings and/or grinding grooves is considered more likely due to the presence of flat sandstone exposures along the north-eastern margin of the study area. However, proximity to water is also a typical requirement for these sites to be present, but the study area is some distance (>500m) from any major water tributary. Further, the previously documented sites nearby are all present on substantial horizontal sandstone exposures (~100m²) – a feature that is not present in the study area. The risk that such sites are present is therefore considered relatively minor. Despite this, recommendations are made to ensure that clearance and/or exposure of sandstone bedrock on the site is monitored to ensure that if such Aboriginal sites are present, they are suitably managed.

In addition, a tree with a potential cultural modification was identified in the southeast quadrant of the study area. The location of this tree on a ridgeline some distance from accessible water and/or any evidence of other past occupation makes the identification as a site somewhat tenuous. Further, the scar does not conform with more commonly documented shapes and patterns of known cultural sites, and the tree appears to be relatively young. However, further investigation and recommendations have been recommended to verify/reject its identification in the event that harm/impact is required.

With the exceptions of those two areas described above, no other parts of the study area revealed any evidence of cultural material. Regional models further suggest that such cultural material is unlikely to be present given the distance from available water, and the lack of a well-defined ridgeline landform. As such, it is considered that there is low potential for other cultural materials to be present within the study area.

The proposed development consists of the following elements (see **Figure 8**):

- Construction of a two-storey house, and a single storey stable, with landscaping and an inground pool in the space in between the two structures.
- Rehabilitation of the three existing horse paddocks.
- Creation of three additional paddocks.
- Construction of gravel roads providing access to the house and stable, and a compound for horse floats.
- Revegetation of the northeastern and southeastern margins of the study area.

Detailed design of the proposed development is not yet available. Based on the information that is presently available, the potential Aboriginal heritage impact is as follows (see **Figure 8**):

- The potential culturally modified tree is within an area proposed for revegetation and/or retention of existing native vegetation, adjacent to the new house. It should be possible to

avoid impact to this tree, but precautions will be required during and after development (outlined below).

- The works proposed for the area of flat sandstone exposures consist of revegetation, retention of existing native vegetation, construction of a gravel access track, construction of a gravelled compound for horse floats, and creation of a paddock. If the presence of sites is confirmed in this area, it should be possible to avoid impact by avoiding excavation.
- The remainder of the proposed works are considered to have low risk of harming Aboriginal heritage.

Based on these findings (see also **Table 1**), we recommend the following:

- Given the uncertainty of the cultural modifications on the tree at 331687E, 6273192N (MGA Zone 56), if works are required that may affect the tree it should first be investigated by a qualified arborist to determine whether the scarring is from natural or cultural processes.
 - In the event that the tree is considered to have been culturally modified as a result of traditional Aboriginal practices, it should be listed on the OEH AHIMS database and protected during, and following development. A suitable buffer of >5m diameter from the edge of the canopy should be established and fenced around the tree during all on-site activities. Given the rarity of culturally modified trees, it is unlikely if identified as an Aboriginal site, that the tree could be impacted or harmed as part of the development; and re-design of the project would be the preferred option.
 - In the event that the scar is found not to be of traditional Aboriginal origin, no further work is considered to be required.
- Although the potential for the presence of rock engravings and grinding grooves is low, any such sites would be of high significance. The following measures are recommended as a precaution:
 - For all development activities in the north-eastern quadrant of the study area (as shown in Figure 7), excavation should be avoided and/or minimised wherever possible.² If excavation is required, initial ground disturbance and exposure of sandstone bedrock should be undertaken carefully (ideally using manual methods) and should be monitored by an archaeologist and/or experienced member of the Metropolitan Local Aboriginal Land Council, to ensure that any identified Aboriginal engraving or art sites are appropriately recorded, managed and protected. In the event that a site is found during the course of these works, it should be recorded and registered on AHIMS, and processes should be put in place to ensure conservation.
- For all other parts of the study area, it is considered there is low risk of Aboriginal objects being present, and work may proceed with caution. In the event that unexpected Aboriginal objects, engraving or art sites, or rockshelters (or potential Aboriginal objects, engraving or art sites, or rockshelters) are discovered during development activities, all works in the vicinity should cease and a heritage consultant should be contacted to provide appropriate recording and management advice for the site.

² Note that, as a precaution, the management area indicated in Figure 7 is larger than the visible areas of outcropping rock.

- This document may be summarised within and/or appended to a Development Application, Statement of Environmental Effects (SEE) or Review of Environment Factors (REF). If any Aboriginal objects are later identified within the proposed activity area, this report cannot however be used to support an application for an Aboriginal Heritage Impact Permit (AHIP). Such an application would require more detailed investigation involving a formal process of Aboriginal community consultation and the preparation of an Aboriginal Cultural Heritage Assessment Report (ACHAR).
- If human skeletal material less than 100 years old is discovered, the *Coroners Act 2009* requires that all works should cease and the NSW Police and the NSW Coroner's Office should be contacted. Traditional Aboriginal burials (older than 100 years) are protected under the *National Parks and Wildlife Act 1974* and should not be disturbed. Interpreting the age and nature of skeletal remains is a specialist field and an appropriately skilled archaeologist or physical anthropologist should therefore be contacted to inspect the find and recommend an appropriate course of action. Should the skeletal material prove to be archaeological Aboriginal remains, notification of OEH and the Metropolitan Local Aboriginal Land Council will be required. Notification should also be made to the Commonwealth Minister for the Environment, under the provisions of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*.

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Table 1. Site-specific responses to OEH due diligence questions.

1	Will the activity disturb the ground surface or any culturally modified trees? Yes, the proposed activity includes the establishment of horse agistment/paddocks and a structure within the study area.	<i>Proceed to question 2.</i>
2a	Are there any relevant confirmed site records or other associated landscape feature information on AHIMS? The AHIMS database does not record any sites within the study area, however multiple rock engraving and/or grinding groove sites are located within 1km of the study area.	<i>Proceed to question 2b.</i>
2b	Are there any other sources of information of which a person is already aware? No. The research undertaken for the present assessment did not identify any other relevant sources of information indicating the presence of known sites within the study area.	<i>Proceed to question 2c.</i>
2c	Are there any landscape features that are likely to indicate presence of Aboriginal objects? No. The study area is not within a landform of interest.	<i>Proceed to question 3.</i>
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? N/A	<i>Proceed to question 4.</i>
4	Does a desktop assessment and visual inspection confirm that there are Aboriginal objects or that they are likely? No Aboriginal objects, sites or deposits were identified within the study area. Two areas of concern where potential cultural heritage was identified have been documented within the study area. The nature of the proposed activity indicates that impact to these two areas can be avoided, through the recommendations proposed to verify and/or manage these through the development.	The proposed activity may proceed with caution in accordance with the provided recommendations: If the potential culturally modified tree will be affected (directly or indirectly), further investigation should first be undertaken. Ground disturbance should be avoided and/or minimised in the area of outcropping sandstone platform. Works in this area should be undertaken under the supervision of an archaeologist and/or representative of the Metropolitan LALC.



Figure 1. The location of the study area.

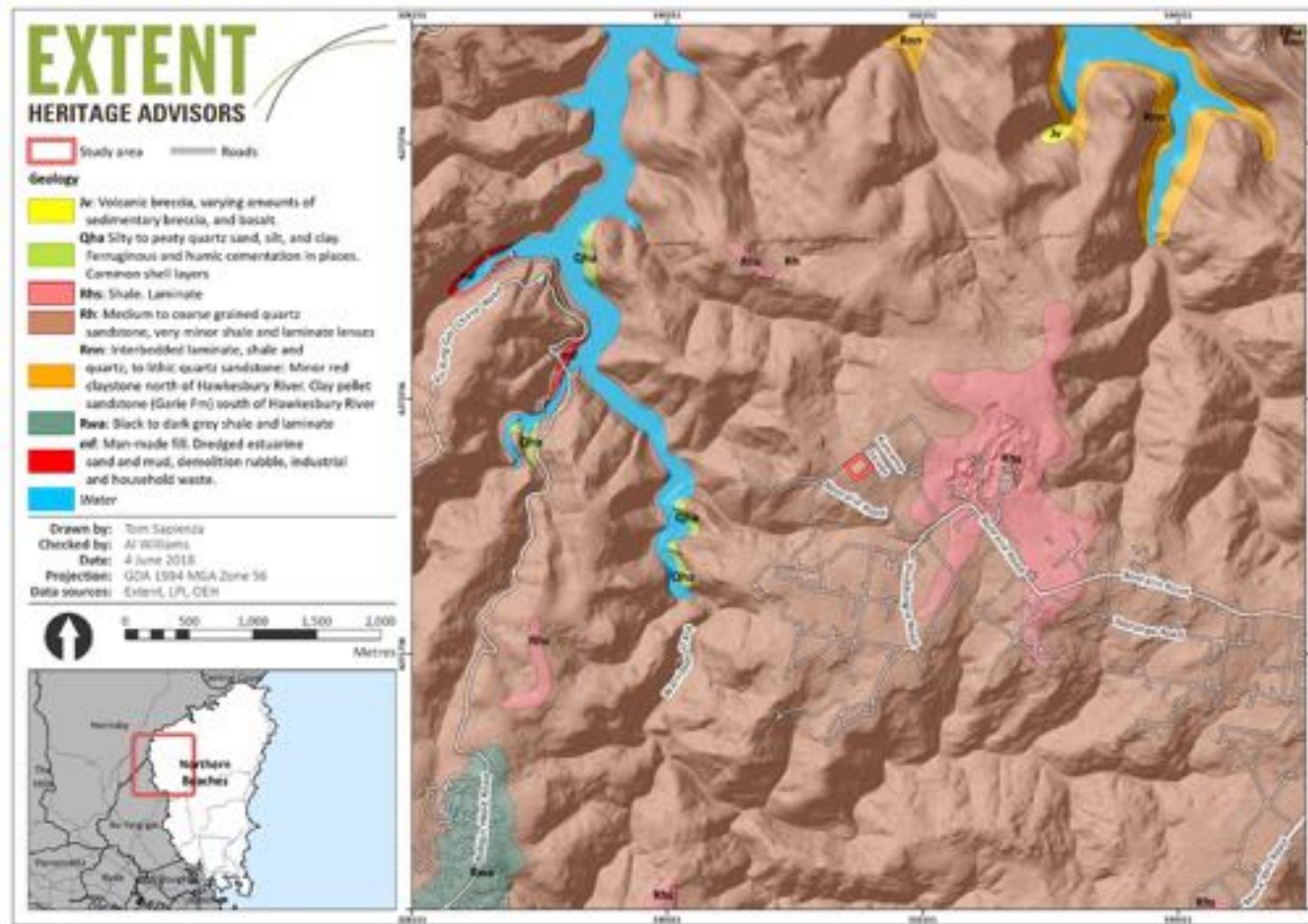


Figure 2. Geology of the study area and environs.

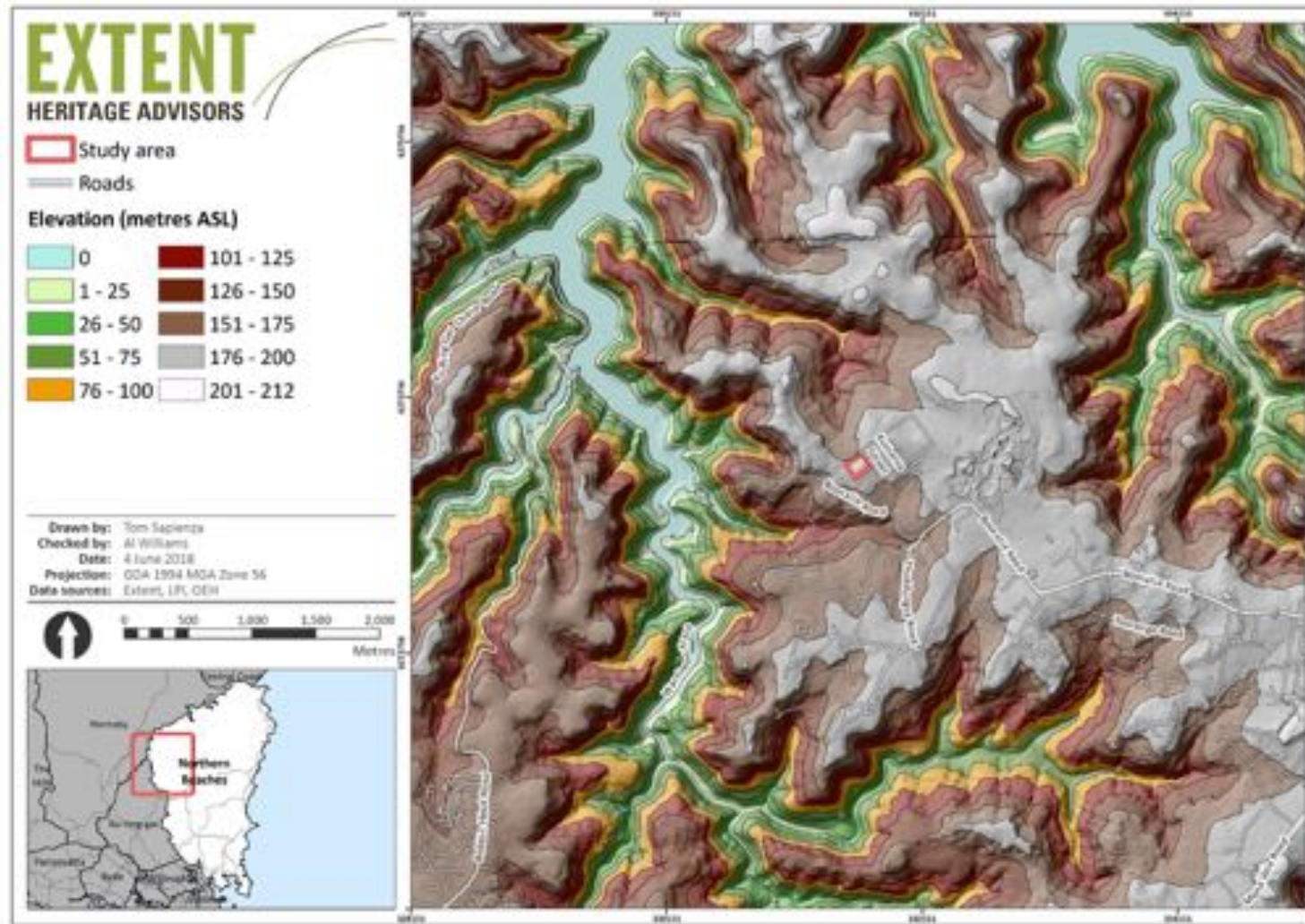


Figure 3. *Elevation of the study area and environs.*

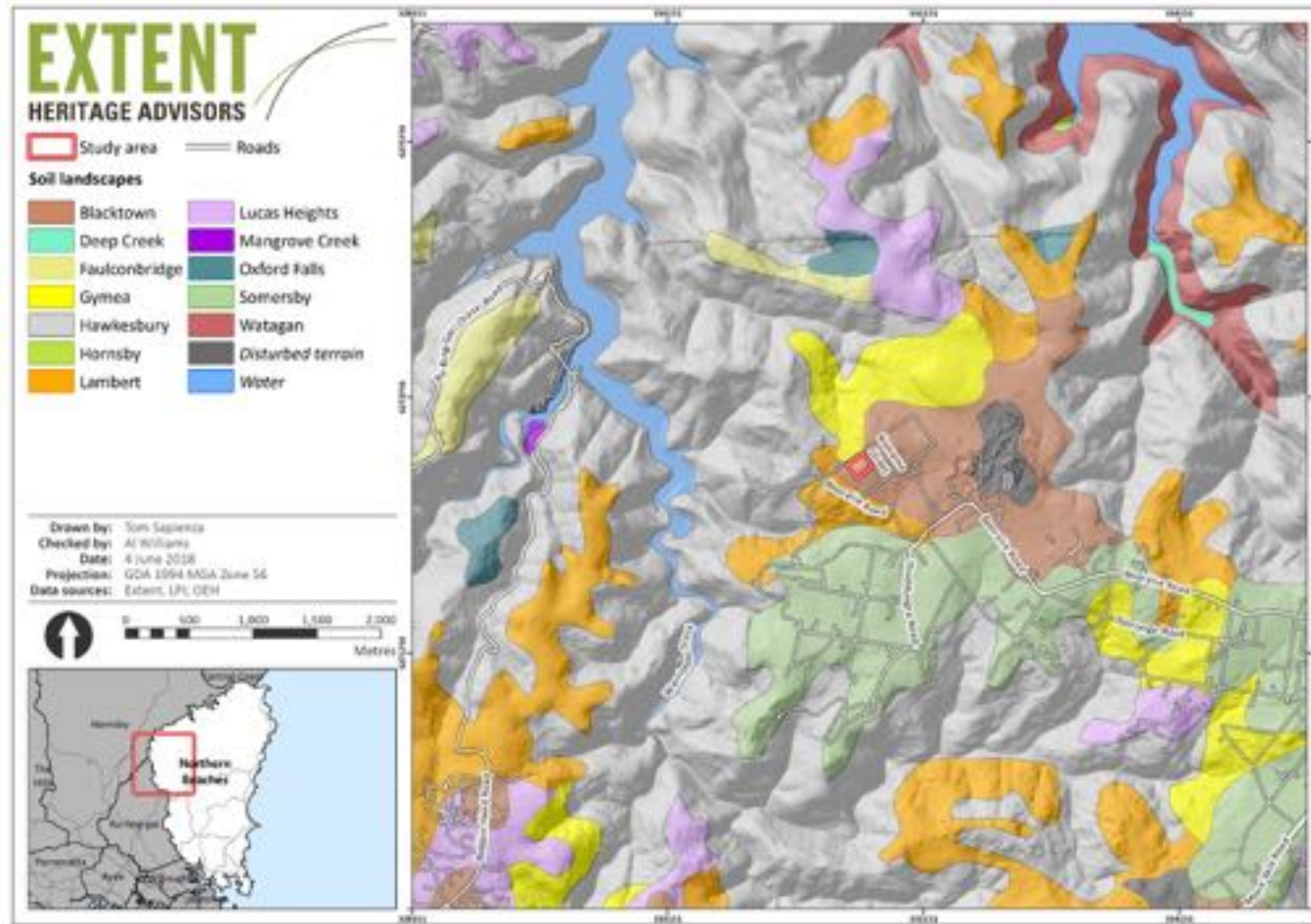


Figure 4. Soil landscapes of the study area and environs.

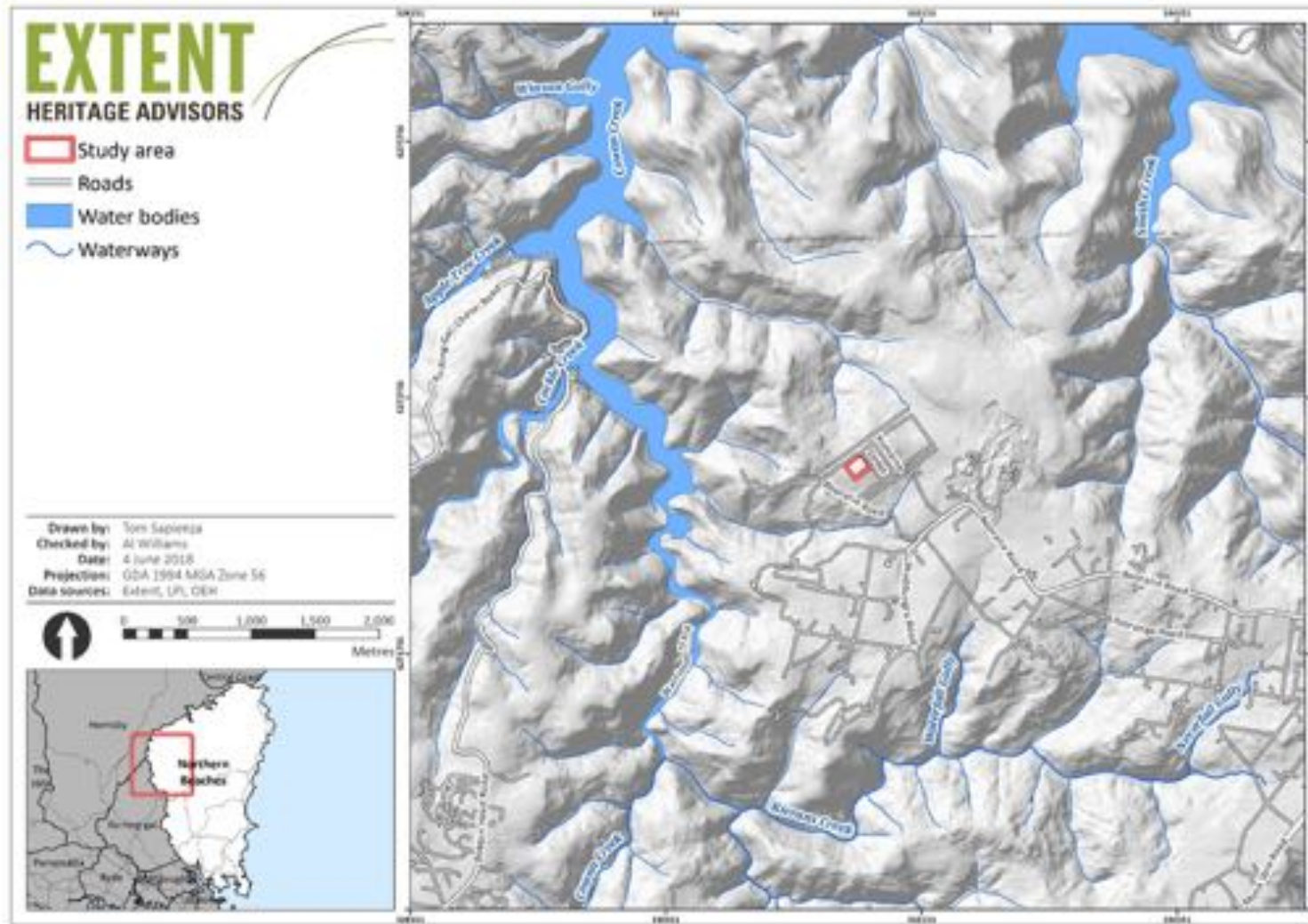


Figure 5. Hydrology of the study area and environs.

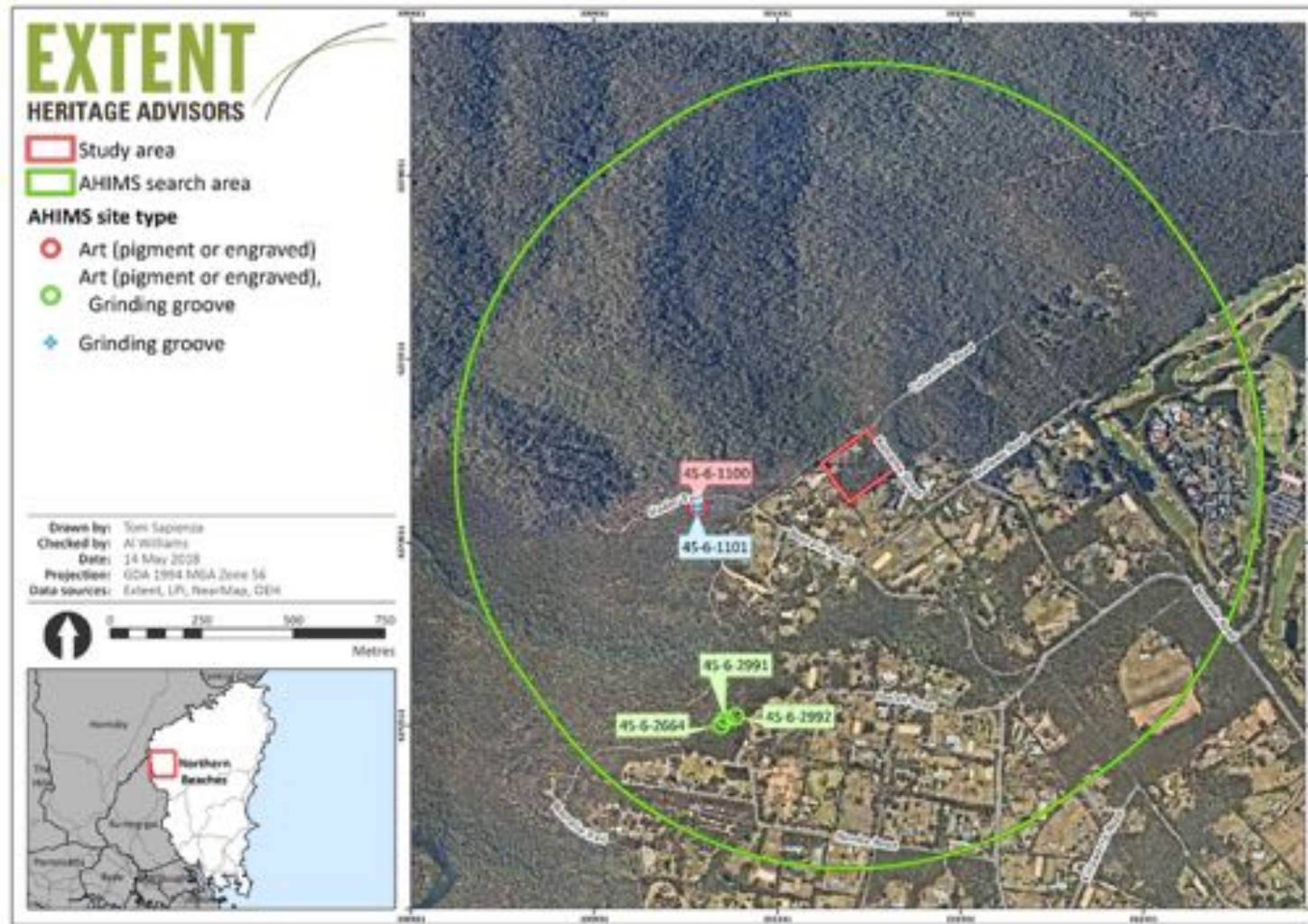


Figure 6. Previously documented (AHIMS) sites in the vicinity of the study area.



Figure 7. A recent survey plan of the study area (Survey Plus, 12/09/2017, Plan showing detail and levels over Lot 79 DP 752017, Kumarna Street, Duffy's Forest)



Figure 8. Areas of potential sensitivity identified within the study area. Note that the shaded area is larger than the visible sandstone exposures, for management purposes.

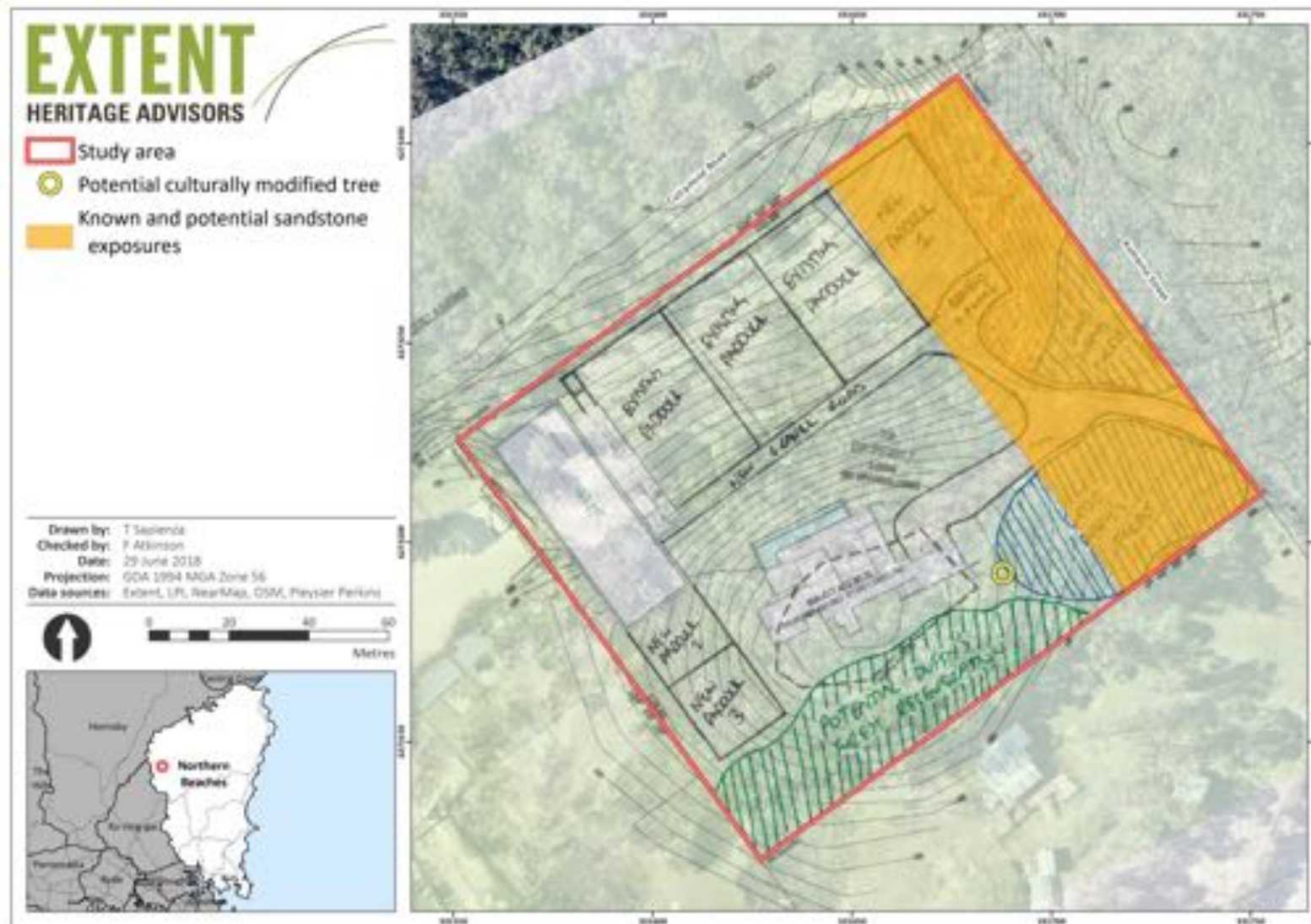


Figure 9. Proposed development concept in relation to areas of potential sensitivity.



Plate 1. Typical vegetation present within the study area.



Plate 2. The ridge top near the southeast corner of the study area.



Plate 3. A large exposure near the centre of the site revealing a residual and often truncated soil profile.



Plate 4. Existing horse agistment/paddocks in the northwest of the study area.



Plate 5. A potential culturally modified tree in the south-eastern quadrant of the study area, looking north.



Plate 7. An example of a sandstone exposure found primarily along the eastern margin of the study area.



Plate 6. An example of a sandstone exposure found primarily along the eastern margin of the study area.

Appendix 1: Legislation

Commonwealth Legislation

Aboriginal and Torres Strait Islander Heritage Protection Act 1984

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* was enacted at a Federal level to preserve and protect areas (particularly sacred sites) and objects of particular significance to Aboriginal Australians from damage or desecration. Steps necessary for the protection of a threatened place are outlined in a gazetted Ministerial Declaration (Sections 9 and 10). This can include the preclusion of development.

As well as providing protection to areas, it can also protect objects by Declaration, in particular Aboriginal skeletal remains (Section 12). Although this is a Federal Act, it can be invoked on a State level if the State is unwilling or unable to provide protection for such sites or objects.

Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* provides for the protection of natural and cultural heritage places. The Act establishes (amongst other things) a National Heritage List (NHL) and a Commonwealth Heritage List (CHL). Places on the NHL are of natural or cultural significance at a national level and can be in public or private ownership. The CHL is limited to places owned or occupied by the Commonwealth which are of heritage significance for certain specified reasons.

Places listed on the NHL are considered to be of State and local heritage value, even if State or local various heritage lists do not specifically include them.

The heritage values of places on the NHL or the CHL are protected under the terms of the EPBC Act. The Act requires that the Minister administering the EPBC Act assess any action which has, will have, or is likely to have, a significant impact on the heritage values of a listed place. The approval (or rejection) follows the referral of the matter by the relevant agency's Minister.

Native Title Act 1993

The *Native Title Act 1993* provides recognition and protection for native title. The Act established the National Native Title Tribunal to administer native title claims to rights and interests over lands and waters by Aboriginal people. The Tribunal also administers the future act processes that attract the right to negotiate under the Native Title Act 1993.

The Act also provides for Indigenous Land Use Agreements (ILUA). An ILUA is an agreement between a native title group and others about the use and management of land and waters. ILUAs were introduced as a result of amendments to the Native Title Act in 1998. They allow people to negotiate flexible, pragmatic agreements to suit their particular circumstances.

An ILUA can be negotiated over areas where native title has, or has not yet, been determined. They can be part of a native title determination, or settled separately from a native title claim. An ILUA can be negotiated and registered whether there is a native title claim over the area or not.

NSW State Legislation

Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) requires that environmental and heritage impacts are considered by consent authorities prior to granting development approvals. The relevant sections of the EP&A Act are:

- Part 3A: A single assessment and approval system for major development and infrastructure projects [note that Part 3A has now been repealed and replaced with Part 4 (Division 4.1)].
- Part 4: Development that requires consent under consideration of environmental planning instruments.
- Part 5: An assessment process for activities undertaken by Public Authorities and for developments that do not require development consent but an approval under another mechanism.

Where Project Approval is to be determined under Part 4 (Division 4.1) of the Act, further approvals under the *National Parks and Wildlife Act 1974*, are not required. In those instances, management of Aboriginal heritage follows the applicable Aboriginal assessment guidelines (the Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation, July 2005) and any relevant statement of commitments included in the Development Approval.

National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act) provides blanket protection for Aboriginal objects (material evidence of Indigenous occupation) and Aboriginal places (areas of cultural significance to the Aboriginal community) across NSW. An Aboriginal object is defined as:

... any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains.

An Aboriginal place is any place declared to be an Aboriginal place by the Minister for the Environment, under Section 84 of the Act.

It is an offence to disturb Aboriginal objects or places without a permit authorised by the Director-General of the Office of Environment and Heritage. In addition, anyone who discovers an Aboriginal object is obliged to report the discovery to OEH.

The operation of the NPW Act is administered by OEH. With regard to the assessment of Aboriginal cultural heritage, OEH has endorsed the following guidelines:

- *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (2010).
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (2010).

- *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (2010).
- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (2011).

Aboriginal Land Rights Act 1983

The *Aboriginal Land Rights Act 1983* allows for the transfer of ownership to a Local Aboriginal Land Council of vacant Crown land not required for an essential purpose or for residential land. These lands are then managed and maintained by the Local Aboriginal Land Council.

Appendix 2: Due Diligence Flow Chart



Appendix 3: AHIMS Search Results

Extent Heritage Pty Ltd - Waterloo

Date: 14 May 2018

3/73 Union Street

Pymont New South Wales 2009

Attention: Alan Williams

Email: awilliams@ahms.com.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 79, DP:DP752017 with a Buffer of 1000 meters, conducted by Alan Williams on 14 May 2018.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

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

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the [NSW Government Gazette \(http://www.nsw.gov.au/gazette\)](http://www.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Office of Environment and Heritage's Aboriginal Heritage Information Unit upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Office of Environment and Heritage and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date .Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.