



Response to Submissions

for the

New Berrima Clay/Shale Quarry

Modification 2

Project Approval No. 08_0212

June 2017

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THE AUSTRAL BRICK COMPANY
PTY LIMITED

ABN: 52 000 005 550

New Berrima Clay/Shale Quarry

Response to Submissions

Modification 2

Project Approval No. 08_0212

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1. INTRODUCTION

The following response is provided in relation to the five government agency submissions received regarding the New Berrima Clay/Shale Quarry – Modification application. A summary of issues raised by each government agency is provided in *bold italics* followed by response. Further detail is also provided in relation to an amendment of the proposed modification as a result of the submissions received.

2. AMENDMENT OF PROPOSED MODIFICATION

As a result of the various submissions, Austral Bricks has sought further engineering advice in relation to the replacement of the existing bridge rather than construction of a causeway across Stony Creek. As outlined within Section 2.1 of the Environmental Assessment for the modification, three options were considered, namely:

- replacement of the bridge with a causeway within the existing bridge footprint; and
- construction of a level crossing; or
- a causeway south of the existing bridge.

At that time, replacement of the bridge was not considered a practical or cost effective option. However, a further engineering inspection and advice has confirmed that the placement of a pre-fabricated steel and concrete bridge that has adequate load capacity will be feasible without excavations to Stony Creek.

A summary of the bridge replacement process is provided as follows.

- Removal of the existing bridge using a crane and truck located on the existing roadway. The existing bridge would be removed from site for appropriate disposal.
- Installation of the pre-fabricated bridge using a crane. The existing abutments would be retained and minimal excavation would be required, all of which will remain within the footprint of the existing roadway.
- Concrete aprons (6m x 4.2m x 0.2m) would be laid on the approaches to the new bridge to allow for the increased bridge height and minimise the potential for potholing and sediment entrainment as vehicles enter and exit the bridge surface.

No access would be required from within the creek zone with all equipment working from the existing roadway or transported to the creek crossing via an adjoining property.

Figure A presents the engineering designs for the bridge whilst **Figure B** provides the approximate overlay of the bridge replacement.



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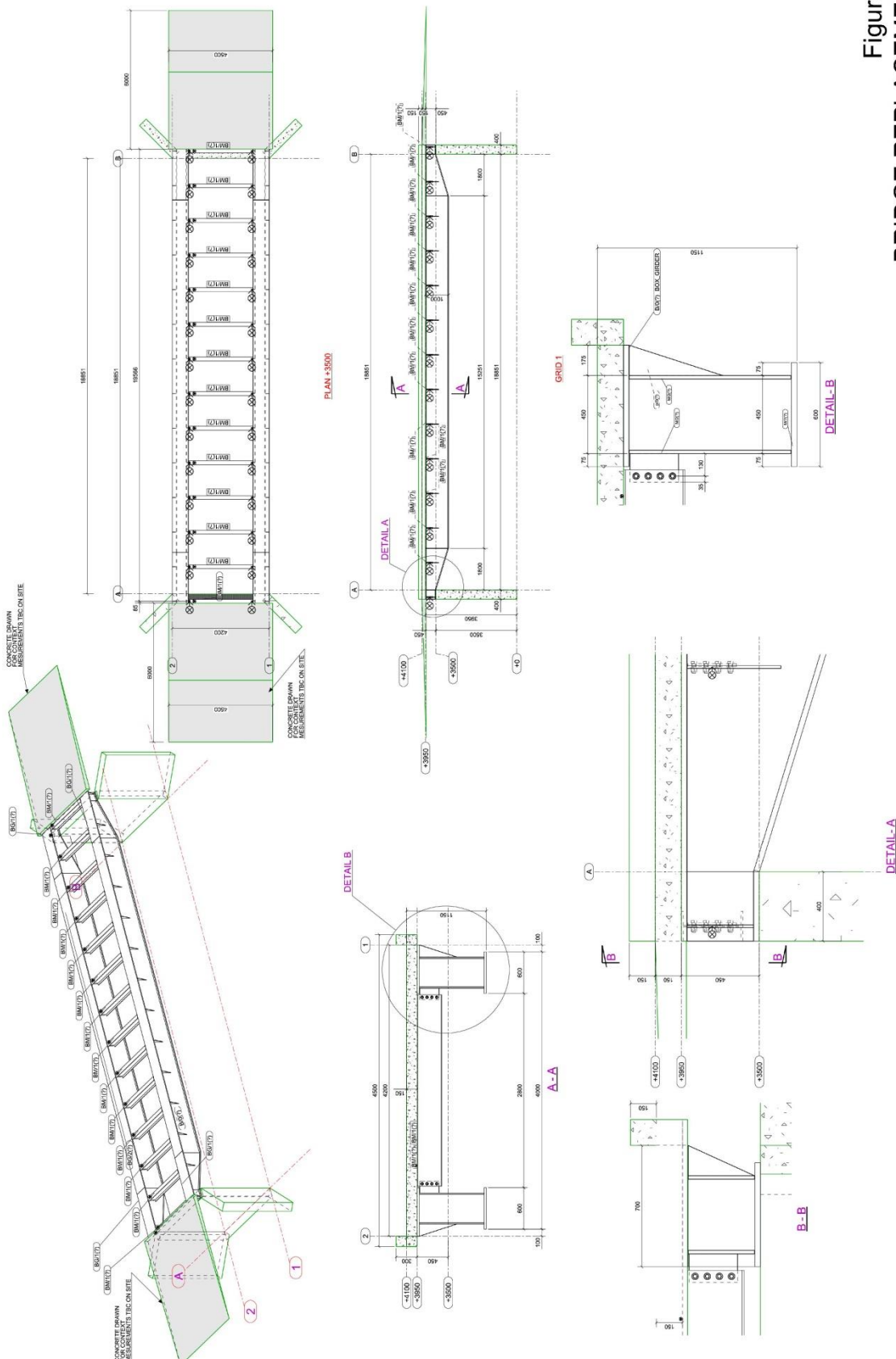
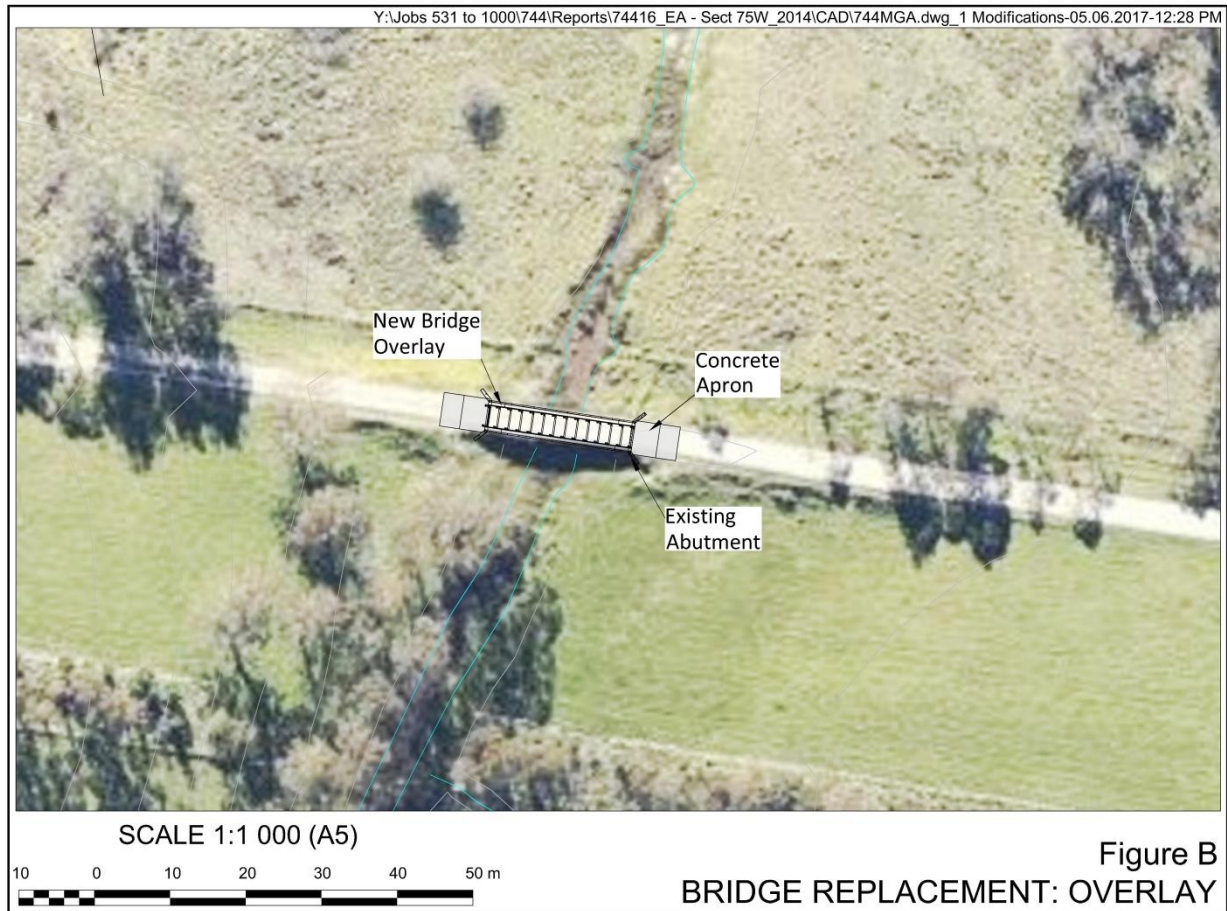


Figure A
 BRIDGE REPLACEMENT:
 ENGINEERING DESIGNS

Source: DUNSTEEL





3. OFFICE OF ENVIRONMENT AND HERITAGE

3.1 ISSUE 1 – CAUSEWAY LOCATION

Alternatives within the access handle to the site are already constrained, as the cleared area to the north of the exiting bridge is not within the subject site. The current option is therefore seen as the least impact on the riparian area and Paddys River Box species. However we query why the proposed causeway is not located slightly further to the north, to avoid impacts on the existing stand of Paddys River Box.

Response

The original proposed causeway location was determined based on the practical grades and horizontal alignment for heavy vehicle access. In any event, the proposed replacement of the bridge rather than construction of a causeway (see Section 2) would result in no disturbance to the Paddy River Box species adjacent to Stony Creek.

3.2 ISSUE 2 – BIODIVERSITY OFFSET

We are supportive in principle of a negotiated offset approach that achieves a “maintain or improve” outcome in accordance with the Policy principles. The suggested offset by Kevin Mills & Associates (2017), which includes replanting elsewhere onsite at a ratio of ten to one and maintenance for a period of five years, is likely to achieve this outcome. Should the modification be approved, a condition requiring an offset strategy should be imposed requiring the proposed replanting area to be documented and established on site within an appropriate timeframe.

Response

As no Paddy River Box would be disturbed as a result of the amended modification, there would no longer be the need to implement an offset strategy.

3.3 ISSUE 3 – ARCHAEOLOGICAL ASSESSMENT

a) *....three sites close to Stoney [sic] Creek and the proposed new crossing....These sites are 52-4-0197, 52-4-0196 and 52-4-0175. The site locations are on AHIMS are located approximately 80m to 150m from the boundary of Lot 1 DP 414246. The AHIMS database provides dot point data only. The site card for 52-4-0175 shows the distribution of artefacts extending into the southern boundary of Lot 1 DP 414246 at the intersection of Stoney [sic] Creek.*

An archaeologist should survey the proposed new causeway at Stoney [sic] Creek. This is because of the archaeological potential associated with site 52-4-0175 and the proposal to build a new crossing over Stoney [sic] Creek on land that has been subject to much lower levels of disturbance than the existing access track.

An archaeologist should survey the proposed new causeway at Stoney [sic] Creek. The archaeologist must advise whether additional archaeological investigation such as test excavation is required.

Response

Further archaeological survey and investigation was completed by Biosis Pty Ltd (Biosis) in conjunction with the Illawarra Local Aboriginal Land Council (ILALC) (see **Appendices 1 and 2**). It was noted that the site card for 52-4-0175 states that the extent of the site has simply been determined by applying a generic buffer to the site features (i.e. a potential archaeological deposit) located north of Lot 1 DP 414246 resulting in the ‘site’ extending for a substantial distance from the actual site. Notwithstanding this, whilst no sites were identified during the further survey, the possibility of sites along Stony Creek could not be discounted without further archaeological test excavation.

However, Biosis also conclude that the amended modification, involving replacement of the bridge rather than construction of a causeway, would result in no impacts to Site 52-4-0175. Furthermore, no archaeological test excavation would be required if the bridge is replaced within the footprint of the existing road. The ILALC also concluded that, if the replacement of the bridge is undertaken such that the work does not cause disturbance outside of the footprint of the existing road and its batters, they have no issue (see **Appendix 2**).

-
- b) *An archaeologist should also be engaged to survey the location of the proposed underground power line and removal of overhead power lines in the south eastern corner of the development area. This location does not appear to have been assessed by ASR (2010, p.8-19).*

Response

Whilst OEH's assertion that this location was not surveyed is not accepted, Austral Bricks commissioned Biosis to undertake additional archaeological investigation of this area. This area was concluded to have low archaeological potential and no further archaeological work was recommended (see **Appendix 1**).

4. DIVISION OF RESOURCES AND ENERGY

DRE has no objection to MOD 2 being approved by the Department of Planning and Environment.

Response

DRE's comment is noted.

5. DEPARTMENT OF PRIMARY INDUSTRIES

5.1 ISSUE 1 – GUIDELINES AND DESIGN

-
- a) *Any works in or around watercourses should be undertaken in accordance with DPI Water Guidelines for Controlled Activities (2012) and DPI Fisheries Policy and Guidelines for Fish Habitat Conservation and Management (2013).*

Response

Given that the proposed amended modification to replace the bridge would not result in any disturbance of the Stony Creek channel bed or banks and would utilise the existing abutments, they do not specifically apply. Notwithstanding this, it is noted that the use of bridges for waterway crossings is the preferred crossing in fish habitat areas. The bridge design, which spans the entire channel without footings or supports within the channel, is also consistent with the preferred design considerations included in these guidelines.

-
- b) *A culvert should be designed with the floor recessed a minimum of 100mm below the invert level of the stable stream bed, or the centre cell of the culvert is recessed a minimum of 100mm below the side cells to maintain a channel navigable by fish at low flows. It should also incorporate elevated dry cells for the movement of terrestrial fauna.*

Response

Given the proposed amended modification to replace the bridge rather than construction of a causeway, these design considerations are no longer applicable.



5.2 ISSUE 2 – RIPARIAN LAND

The proponent should provide details on the total area of riparian land that will be permanently affected by the new crossing and the total area that will be temporarily disturbed during construction including a scaled plan showing the location of:

- *Stony Creek;*
- *top of bank;*
- *the 40m wide riparian corridor along either side of the creek;*
- *existing native vegetation;*
- *the footprint of the proposed works within the riparian corridor;*
- *total area of riparian land that will be affected by construction of the crossing;*
- *the site boundary*

Response

Given the proposed amended modification to replace the bridge utilising the existing abutments and retention of all disturbance within the existing road footprint, no additional riparian land would be affected.

5.3 ISSUE 3 – MONITORING

The EA indicates that once all works are stabilised the bunding, diversion piping and swale would be removed. These areas should be monitored and maintained until certified as stable.

Response

Given the proposed amended modification to replace the bridge utilising the existing abutments, no bunding, diversion piping, swales or temporary crossings would be required. The use of concrete aprons for 6m on the approaches to the bridge would also reduce the potential for potholing and sediment entrainment.

5.4 ISSUE 4 – DETAILED DESIGN

Any approval for the modification should include a Condition of Consent requiring the proponent to consult with DPI Fisheries (ahp.central@dpi.nsw.gov.au) on the detailed design of the proposed watercourse crossing.

Response

Given the proposed amended modification to replace the bridge utilising the existing abutments would result in no disturbance to the channel bed or banks, no further consultation with DPI Water is considered necessary. Notwithstanding this, detailed engineering drawings of the bridge are provided in **Figure A**.

5.5 ISSUE 5 – MANAGEMENT PLANS

The proponent should be required to update the water management plans and landscape management plan, and any other relevant management plans, as required, for example to include any rehabilitation, monitoring and maintenance requirements.

Response

Given the proposed amended modification to replace the bridge utilising the existing abutments and with no disturbance beyond the existing roadway, no additional management measures are required and therefore an update of the management plans is considered unnecessary.

6. ENVIRONMENT PROTECTION AUTHORITY

6.1 ISSUE 1 – REGULATION

On the basis of a review of the EA documents for Mod 2, we consider that matters regulated by the EPA for the purposes of the Protection of the Environment Operations Act 1997 (POEO Act) can generally be addressed by the existing conditions of consent issued by DPE on 6 July 2012, and in the EPL.

Response

EPA's comment is noted.

6.2 ISSUE 2 – WATER MANAGEMENT PLAN

DPE may wish to consider amending the existing condition (Schedule 3 Condition 18) requiring that Austral prepare a Surface water Management Plan, and include specific details on the construction and use of the proposed Stony Creek crossing.

Response

Given the proposed amended modification to replace the bridge utilising the existing abutments and with no disturbance beyond the existing roadway, no additional management measures are required and therefore update of the management plans is considered unnecessary.

7. WATER NSW

7.1 ISSUE 1 – SEDIMENT CONTROL

The proposed new access road and causeway creates an additional 1000 square metres of sealed impervious surface area. The EA does not address how stormwater runoff from the realigned access road will be treated during the use of the facility. WaterNSW is concerned that there is potential for sediment to be deposited on this facility. (due to spillage from vehicles and from tyres) and unless treated and managed may enter the adjacent watercourse.

Response

Given the proposed amended modification to replace the bridge utilising the existing abutments and with no disturbance beyond the existing roadway, there would be negligible change to the impervious area. The use of concrete aprons for 6m on the approaches to the bridge would also reduce the potential for potholing and sediment entrainment, thereby resulting in an improvement to the existing bridge.

7.2 ISSUE 2 – WATER MANAGEMENT PLAN

WaterNSW considers that the applicant should incorporate adequate stormwater management measures and/or offsets into an updated Water Management Plan to ensure that both the construction and use of the access road does not impact water quality.

Response

Given the proposed amended modification to replace the bridge utilising the existing abutments and with no disturbance beyond the existing roadway, no additional management measures are required and therefore update of the management plans is considered unnecessary.

Appendices

(Total No. of pages including blank pages = 8)

- Appendix 1 Additional Archaeological Investigations
(4 pages)
- Appendix 2 Extract for Illawarra Local Aboriginal Land
Council Site Inspection Report (2 pages)

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Appendix 1

Additional Archaeological Investigations

(Total No. of pages including blank pages = 4)



8 June 2017

Scott Hollamby
Senior Environmental Consultant
RW Corkery & Co Pty Ltd
Suite 5, Building 3 Pine Rivers Office Park
205 Leitchs Road
Brendale QLD 4500

Dear Scott,

New Berrima Clay/Shale Quarry report
Our Ref: Matter 24806

A survey of the proposed new causeway at Stony Creek and proposed underground power line in the south east portion of the study area was conducted on Tuesday 28 March 2017 by Alexander Beben, Principal Archaeologist at Biosis. During the survey, it was determined that the site 52-4-0175 was likely to be present in the adjacent paddock approximately 50 metres from the access track, with the artefacts located along a fence line on a small crest which did not extend into the proposed impact area.

The causeway and associated access track are located within a gradual slope and small terrace associated with Stony Creek (see Figure 1). Visibility was poor (>5%) with no exposure present except for areas of exposure at the causeway location which appears to have shallow soil horizons with areas of exposed bedrock present. Based upon the surface characteristics the site 52-4-0175 appears to be confined to the crest and is likely to have been previously disturbed in the immediate vicinity of Rocky Creek (and therefore the causeway) due to the shallow soil horizons and levels of inundation that this area is likely to have experienced.

The site card states that the site extent for 52-4-0175 has been determined through applying a generic buffer to the site features with the site boundary extending across the access track and Rocky Creek by a substantial distance. The site card also indicates that an extensive series of grinding grooves are present at seven locations with a concentration of artefacts located in areas of disturbance. The site card further concludes that 52-4-0175 may have an extensive PAD associated with it in the shallow soils overlaying the bedrock. Total Earth Care (2003) has assessed site 52-4-0175 as possessing a high degree of scientific significance. Based upon a review of the site card, the characteristics of site 52-4-0175 and prevalence of sites along Stony Creek, the possibility of Aboriginal objects being present cannot be discounted.

The underground power line in the south east corner of the study area is located on the upper slope of a crest within a cleared paddock with approximately 60% visibility and 40% exposure. The area is assessed as having low potential due to its distance from water and slope.

The following management recommendations have been developed relevant to the study area and influenced by:

- Predicted impacts to Aboriginal cultural heritage.
- The planning approvals framework.

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Wollongong Resource Group

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- Current best conservation practise, widely considered to include:
 - Ethos of the Australia ICOMOS Burra Charter; and,
 - The *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010)

Prior to any impacts occurring within the study area, the following is recommended:

Recommendation 1: Replacement of bridge

Austral Bricks have determined that given the Aboriginal heritage potential, whilst resulting in higher costs, replacement of the bridge, and therefore completion of the works within the existing disturbance footprint of the road is the preferable access option and will result in no impacts occurring to AHIMS site 52-4-0175 (Figure 2). Furthermore, archaeological test excavation is not required if the replacement of the bridge is kept within the footprint of the existing road.

Recommendation 2: No further archaeological assessment is required in the south east portion of the study area

No further archaeological work is required in the south east corner of the study area due to it being assessed as having low archaeological potential.

Recommendation 3: Discovery of Unanticipated Aboriginal Objects

All Aboriginal objects and Places are protected under the NSW National Parks and Wildlife Act 1974. It is an offence to knowingly disturb an Aboriginal site without a consent permit issued by the Office of Environment and Heritage (OEH). Should any Aboriginal objects be encountered during works associated with this proposal, works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist. If the find is determined to be an Aboriginal object the archaeologist will provide further recommendations. These may include notifying the OEH and Aboriginal stakeholders.

Recommendation 4: Discovery of Aboriginal Ancestral Remains

Aboriginal ancestral remains may be found in a variety of landscapes in NSW, including middens and sandy or soft sedimentary soils. If any suspected human remains are discovered during any activity you must:

1. Immediately cease all work at that location and not further move or disturb the remains
2. Notify the NSW Police and OEH's Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location
3. Not recommence work at that location unless authorised in writing by OEH.

Please contact me on 0407 808 527 if you have any enquiries.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Alexander Beben', written over a horizontal line.

Alexander Beben
Principal Archaeologist

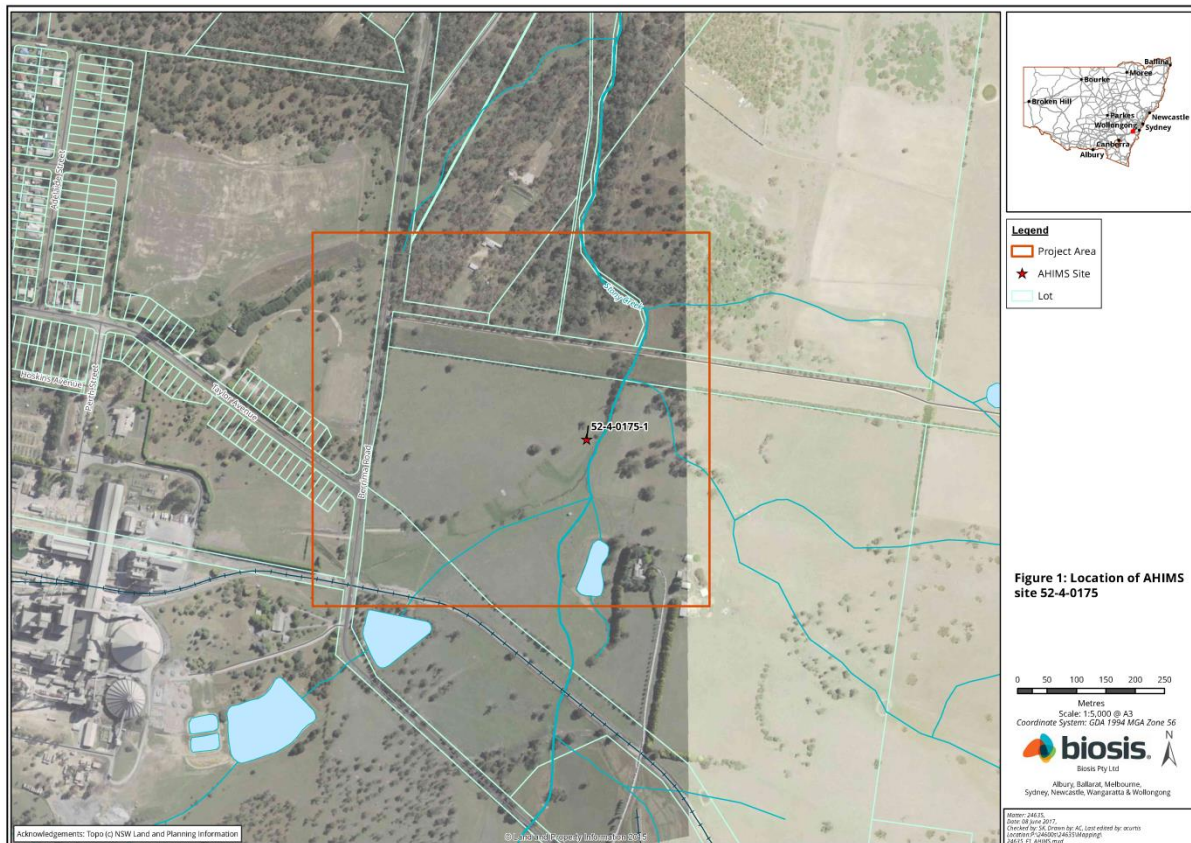


Figure 1: Location of AHIMS site 52-4-0175



Figure 2: Existing area of disturbance

Appendix 2

Extract from Illawarra Local Aboriginal Land Council Site Inspection Report

(Total No. of pages including blank pages = 2)

New Bridge Proposal

The current 30T wood bridge that crosses 'Stony Creek' (figure 2) entering the site is to be replaced/swapped with a stronger steel bridge with a higher weight load in the future. The bridge is located within a recorded Aboriginal site area where there are axe grooves and scattered artifacts that have been recorded nearby.



Figure 2: Stony Creek wood bridge and workable boundaries

The road that enters and exits the bridge has been built up off the original ground using compacted sand and stone and it sits in some areas approximately 3m off the original ground. Provided the works to complete the bridge swap out does not impede past the foot of the built up road (outlined in figure 2) there are no issue from ILALC.

Again however, if there is anything of Aboriginal significance found during the bridge swap I would ask that work be ceased and I be contacted to determine moving forward what should occur. If there are only stone artifacts found I would ask that I could gather them and rebury them at a location outside of the bridge footprint but within the same area.

A handwritten signature in blue ink, appearing to read 'Nathaniel Kennedy'.

7/6/12

Nathaniel Kennedy
Cultural Heritage and Environmental Officer
0406924258