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Martins Creek Quarry

Aboriginal Cultural Heritage Assessment

Prepared for Buttai Gravel

08 June 2016

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Cover photograph: Access track on southern side of West Pit, photo facing west.

Executive summary

Project outline

Niche Environment and Heritage Pty Ltd (Niche) was commissioned by Site R&D Pty Ltd on behalf of Buttai Gravel trading as Daracon Quarries (the Proponent) to prepare an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the proposed expansion of Martins Creek Quarry, in the Dungog Local Government Area, NSW (Figure 1).

The proposed quarry expansion will increase the quarry's production limit, extracting up to 1.5 million tonnes of hard rock material per annum and will involve the clearing and expansion of approximately 28.2 hectares of land for new extraction areas (Figure 2). The new expansion area requires an assessment for cultural heritage values.

The aim of this assessment was to assess the potential harm of the proposed quarry expansion on Aboriginal objects, places or potential archaeological deposits (PADs) located within the Subject Area. The objective was to satisfy the Secretary's Environmental Assessment Requirements (SEARs) for such a study as part of an Environmental Impact Statement (EIS) being prepared under Part 4 of the *Environmental Planning and Assessment Act* 1979.

The assessment included background investigations, consultation with Aboriginal stakeholders, and a cultural heritage survey conducted with Aboriginal stakeholders. The assessment identified three Aboriginal objects within the proposed extraction area, namely #38-4-0214 comprising an isolated artefact, #38-4-0217 and #38-4-0218 both comprising one scarred tree. The assessment also identified two Aboriginal objects AHIMS38-4-0213 and #38-4-0215 that are in close proximity to the proposed new access road that connects the main haul road and Dungog Road. The assessment concluded that the proposed activity will harm Aboriginal object AHIMS #38-4-0214.

The previously recorded scarred tree Site 38-4-0217 was found during the field survey and was determined not to be a culturally modified tree, and hence not an Aboriginal object as defined by the *National Parks and Wildlife Act 1974*. This determination should be confirmed by an arborist. The previously recorded scarred tree 38-4-0218 could not be re-located and it was concluded that it no longer exists. It is recommended that, upon the arborist's confirmation, OEH be advised of the status of these two scarred trees: 38-4-0217 should be recommended to be changed to a "non-valid" AHIMS record; for 38-4-0218 an *Aboriginal Site Impact Recording Form (ASRIF)* advising AHIMS that the tree is no longer extant should be submitted. The process to manage the scarred tree recordings must be undertaken in consultation with the field team that assessed the trees and the Office of Environment and Heritage.

Site 38-4-0214 could not be re-located during the survey and the listed isolated artefact could not be found. The assessment concluded that Site 38-4-0214 is located on highly disturbed land and it is highly unlikely that artefacts survived in sub-surface deposits due to the lack of soil observed in the area.

As a result of this assessment the following recommendations have been made.

- An *ASRIF* should be submitted to AHIMS for AHIMS Site #38-4-0214 before the start of proposed works in the vicinity of the site. This procedure should be listed in the proposed management plan for the new extraction area.

- AHIMS #38-4-0217 must be assessed by an arborist, and pending further confirmation that it is not an Aboriginal object, a submission should be made to the Hunter Central Coast Region OEH office recommending the record be changed to a “non-valid” AHIMS record;

- An *Aboriginal Site Impact Recording Form (ASIRF)* advising AHIMS that the tree is no longer extant, and explaining the reasons for this conclusion, should be submitted to AHIMS for Site #38-4-0218. The above activities should be conducted in consultation with the Registered Aboriginal Parties and the OEH.

- The management plan for the proposed new extraction areas should include management recommendations and measures for site 38-4-0213 and 38-4-0215 to avoid any accidental harm during the construction of the new access road.

- While this assessment indicates that the proposed works are unlikely to impact on Aboriginal cultural heritage values, an appropriate management process for the discovery and management of Aboriginal objects should be in place prior to the commencement of works. The process put in place should include appropriate incident reporting procedures during initial ground disturbance works (e.g. any vegetation clearance that may occur) to ensure that unexpected finds of Aboriginal objects are reported to OEH and then managed to meet regulatory requirements.

- Personnel and sub-contractors involved with the proposed works should complete a relevant cultural heritage induction, training or information session prior to commencing work on-site. This induction could form part of the broader induction program for project personnel. The induction should include making personnel aware of the potential for Aboriginal objects, types of objects and places that might be found, and why they are important.

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1. Introduction

1.1 Background and need for the project

Niche Environment and Heritage Pty Ltd (Niche) was commissioned by Site R&D Pty Ltd, on behalf of Buttai Gravel trading as Daracon Quarries (the Proponent), to prepare an Aboriginal Cultural Heritage Assessment Report (ACHAR) to support an Environmental Impact Statement (EIS) for the proposed expansion of Martins Creek Quarry, in the Dungog Local Government Area, NSW (Figure 1) (hereafter referred as the Subject Area). The proposed Martins Creek Quarry expansion project has been determined to be a State Significant Development (SSD 14 6612).

The proposed quarry expansion will increase the quarry's production limit, extracting up to 1.5 million tonnes of hard rock material per annum and will involve the clearing and expansion of approximately 28.2 hectares of land for new extraction areas. The new expansion area requires an assessment for cultural heritage values (Figure 2).

This ACHAR was prepared in accordance to the Secretary's Environmental Assessment Requirements (SEARs).

The SEARs list the following environmental planning instruments, policies, guidelines and plans as being relevant for the assessment:

- *The Burra Charter (The Australia ICOMOS charter for places of cultural significance)*
- *Draft Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation (DP&E)*
- *Aboriginal Cultural Heritage Consultation Requirements for Proponents (OEH)*
- *NSW Heritage Manual (OEH)*
- *Statement of Heritage Impact (OEH)*
- *Hunter Regional Environmental Plan 1989 (Heritage)*

The SEARs also identify the following "standard requirements" with regard to Aboriginal cultural heritage:

1. A description of any Aboriginal objects and declared Aboriginal places located or associated with the area of the proposed development.
2. A description of the cultural heritage values, including the significance of the Aboriginal objects and declared Aboriginal places, that exist across the whole area that will be affected by the proposed development, and the significance of these values for the Aboriginal people who have a cultural association with the land.
3. A description of how the requirements for consultation with the Aboriginal people as specified in clause 80C of the National Parks and Wildlife Regulation 2009 have been met.
4. The views of the Aboriginal people regarding the likely impact of the proposed development on their cultural heritage. If any submission shave been received as a part of the consultation requirements, then the report must include a copy of each submission and your response.

5. A description of the actual or likely harm posed to the Aboriginal objects or declared Aboriginal Places from the proposed activity, with reference to the Aboriginal cultural heritage values identified.

6. A description of any practical measures that may be taken to protect and conserve those Aboriginal objects or Aboriginal places.

7. A description of any practical measures that may be taken to avoid or mitigate any actual or likely harm, alternatives to harm or, if this is not possible, to manage (minimise) harm.

8. A specific 'Statement of Commitment' that the proponent will complete an Aboriginal Site Impact Recording Form and submit it to the Aboriginal Heritage Information Management System (AHIMS) Registrar for each AHIMS site that is harmed through the proposed development.

This ACHAR was prepared in accordance with:

- *The Burra Charter* (The Australia ICOMOS charter for places of cultural significance)
- *National Parks and Wildlife Act 1974 (NPW Act)*
- *The National Parks and Wildlife Regulations 2009*
- *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH, 2011)*
- *Code of practice for Archaeological Investigation of Aboriginal Objects in New South Wales(DECCW, 2010)*
- *Aboriginal cultural heritage consultation requirements for proponents (DECCW, 2010) and*
- *Draft Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation (DP&E)*

Incorporating the SEAR's standard requirements, the purpose of this ACHAR was to provide an assessment of the likely impacts to Aboriginal cultural heritage values from the proposed expansion of Martins Creek Quarry, by contributing to the Environmental Impact Statement. Broadly the objectives of this ACHAR were the following:

- Investigate and assess the archaeological research potential and Aboriginal cultural heritage values of the identified site.
- Assess the level of impact that the proposed development will have on the identified site and its values.
- Provide management strategies and if possible mitigation measures to manage the proposed impact.
- Provide recommendations for the implementation of the identified management strategies.
- Prepare a draft ACHAR to the client and the RAPS for comment.
- Prepare a final ACHAR addressing all comments and feedback.

1.2 Site Location

The Subject Area is located at Martins Creek, a town situated 27 km south west of Dungog and 25 km north of Maitland. It is within the Hunter Valley region and the Dungog Local Government Area, NSW (Figure 1).

The Subject Area for this project is defined as the proposed expansion area which covers approximately 28.2 hectares of land divided into five separate areas around the existing Martins Creek Quarry (Table 1), (Figure 2).

Table 1: Proposed Expansion

ID of expansion area	Area (ha)	Lot/DP
East Pit A	14.8	Lot 21 DP 773220
West Pit south eastern expansion	1.4	Lot 5 and 6 DP 242210
West Pit southern expansion	4.5	Lot 5 DP 242210 and DP 815628
West Pit north-eastern expansion	1.2	Lot 6 DP 242210
West Pit northern expansion	5.3	Lot 6 DP 242210
Proposed Pugmill	1	Lot 1 DP 204377

Date: 19/06/2015
Project Number: 2360
Project Manager: BH
Drawn by: GT

Regional Project Location

Martins Creek Quarry - Aboriginal Cultural Heritage Assessment

FIGURE 1

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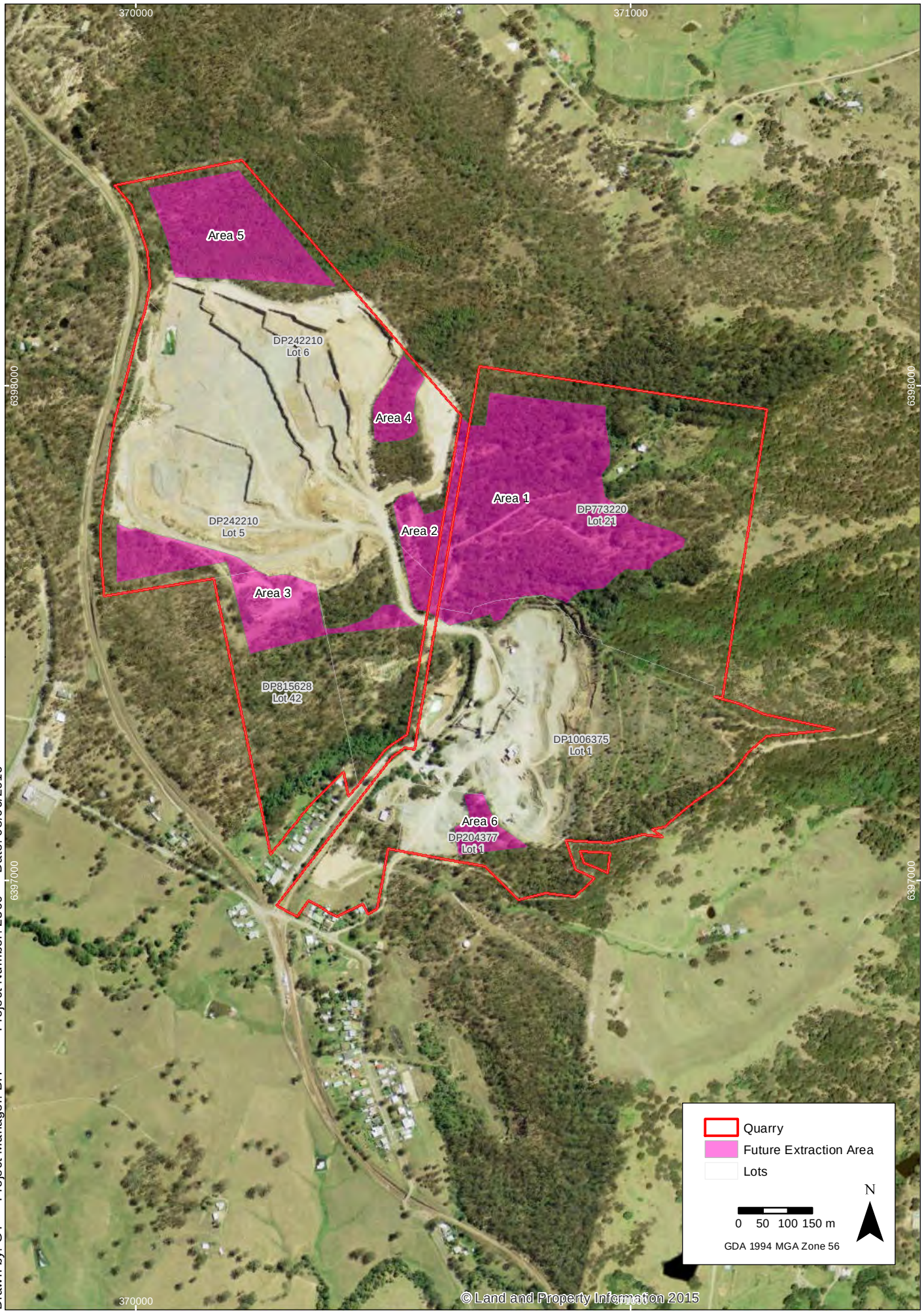

Drawn by: GT Project Manager: BH Project Number: 2360 Date: 08/06/2016

Location and Extent of Martins Creek Quarry

Martins Creek Quarry - Aboriginal Cultural Heritage Assessment

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FIGURE 2

Imagery (c) LPI 2012-12-04

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2. Investigators and Contributors

The investigation was led by Balazs Hansel (MA in Arch., MA in Hist.) Senior Archaeologist with 14 years of experience as a professional archaeologist and heritage consultant. Balazs supervised the field work, coordinated community consultation and contributed to the report writing. Lydia Sivaraman (BA Hons, Grad Dip.) assisted with the report writing. Jamie Reeves (BA Hons), Company Director and Project Director provided overview and quality assurance.

Table 2: Contributors-affiliations and roles

Contributor	Affiliation	Role
Balazs Hansel	Niche	Project Manager/Fieldwork/Report Author
Aleisha Buckler	Niche	Fieldwork
Lydia Sivaraman	Niche	Report Writing
Jamie Reeves	Niche	Q/A Review
Adam McSweeney	Tocomwall Pty Ltd	Fieldwork
Adam Sampson	Cacatua Cultural Consultants	Fieldwork
Allen Paget	Ungoroo Aboriginal Corporation	Fieldwork
James Sinclair	Todd Heard	Fieldwork
Jenny Lee Chambers	JLC Cultural Services	Fieldwork
Shane Heard	Mindaribba Local Aboriginal Land Council	Fieldwork
Stephen Talbot	Gomeroi-Namoi	Fieldwork
Tom Miller	Lower Hunter Wonnarua Council Inc	Fieldwork

3. Description of Development Proposal

Buttai Gravel Pty Ltd proposes to expand the West Pit extraction area and to expand the quarry preparation plant into a new exploration area called East Pit. The proposed quarry expansion will increase the quarry's production limit, extracting up to 1.5 million tonnes of hard rock material per annum and expanding into new extraction areas and clearing approximately 28.2 hectares of land. The proposed expansion will involve vegetation clearing, land preparation and levelling, cutting, quarry rock resource extraction and filling of the land. These activities, in particular vegetation clearing and initial ground disturbance will have the potential to directly impact and harm any cultural heritage objects that may exist within the Subject Area.

The Proponent is preparing an EIS for the expansion of the existing quarry to increase the annual output of the quarry up to 1.5 million tonnes. The expansion will include the clearing of vegetation and the extraction of new areas which will have significant impact on the existing environment.

The proposed expansion covers 28.2 hectares and includes two separate parts, the expansion of the existing West Pit, and the proposed new East Pit (Figure 2). The proposed East Pit covers approximately 14.8 hectares and it is located north from the old quarry pit (now the preparation plant) and west of West Pit. The expansion of the West Pit will include 4 separate sections adjacent to the existing pit and cover altogether 12.4 hectares. The area of the proposed Pugmill will cover approximately 1 hectares located south of the Processing Area. Niche has numbered the separate areas with a unique number for easy referencing throughout this report. The details of the separate expansion areas are provided in Table 3.

Table 3: Expansion Areas

ID of expansion area	Area (ha)	Archaeological Report ID
East Pit A	14.8	Area 1
West Pit south eastern expansion	14	Area 2
West Pit southern expansion	4.5	Area 3
West Pit north-eastern expansion	1.2	Area 4
West Pit northern expansion	5.3	Area 5
Proposed Pugmill	1	Area 6

It is a requirement of the proposed quarry operation that resources of a particular grade and quality are accessed for production. Therefore, within the confines of the proposed development, there are few alternatives for accessing the resources.

4. Aboriginal Community Consultation Process

4.1 Consultation process

The consultation process was carried out according to the *Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCCW)* (the consultation requirements). As there was no approved determination of native title over the Subject Area, all steps were followed through as outlined below:

- Stage 1 – Notification of project proposal and registration of interest.
- Stage 2 – Presentation of information about the proposed project.
- Stage 3 – Gathering information about cultural significance.
- Stage 4 – Review of draft cultural heritage assessment report.

4.2 Stage 1 – Notification and registration

Notification was initiated on 9 February 2015 to all relevant organisations named under Section 4.1.2 of the consultation requirements to identify Aboriginal people who have cultural knowledge relevant to the Subject Area and may have interest in the proposed project. The list of the contacted organisations is provided in Table 4.

Table 4: List of contacted organisations

Name of Organisation	Date of notification sent	Date of response received
Dungog Shire Council	9 February 2015	N/A
Mindaribba Local Aboriginal Land Council	9 February 2015	13 March 2015
Hunter Local Land Services	9 February 2015	N/A
Native Title Services Corporation Limited	9 February 2015	11 February 2015
National Native Title Tribunal	9 February 2015	N/A
NSW Office Of Environment and Heritage, Newcastle	9 February 2015	February 2015
Office of The Registrar Aboriginal Land Rights Act 1983 (NSW)	9 February 2015	February 2015

In accordance with Section 4.1.3 a newspaper advertisement was placed in the *Dungog Chronicle* on 11 March 2015 to provide additional opportunity for Aboriginal people who may be interested in the project to come forth. The copy of the advertisement is included in Annex 1.

A list of potential cultural knowledge holders was compiled from submissions and information collected during the notification and registration. All potential stakeholders were contacted to provide opportunity to register their interest in the project. The copy of the notification letter is provided in Annex 2.

As a result of Stage 1, the following 17 individuals and organisations have become Registered Aboriginal Parties (RAPs) for the project:

- Aboriginal Native title Elders Consultation (ANTEC) – Margaret Matthews
- Cacatua Culture Consultants (CCC) – George Sampson
- Hunter Traditional Owner (HTO) – Paulette Ryan

- Hunter Valley Cultural Consultants (HVCC) – John Matthews
- Hunter Valley cultural Surveying (HVCS) – Luke Hickey
- Hunters & Collectors (H&C) – Tania Matthews
- JLC Cultural Cervices (JLC) – Jenny Chambers
- Lower Hunter Wonnarua Council Inc. (LHWC) – Tom Miller
- Mindaribba Local Aboriginal Land council (MLALC) – Donna Matthews
- Murrawan Cultural Consultants Pty Ltd (MCC) – Robert Smith
- Smith Dhagaans Cultural Group (SDGG) – Tim Smith
- Gomaroi Namoi – Stephen Talbot
- Tocomwall Pty Ltd – Scott Franks
- Todd Heard
- Ungooroo Aboriginal Corporation – Alan Paget
- Upper Hunter Heritage Consultants (UHHC) – Darrell Matthews
- Wonnarua Culture Heritage – Gordon Griffith

The consultation log of all correspondence with the RAPs is included in Annex 3.

4.3 Stage 2 – Presentation of project information and gathering cultural heritage information

Project information was presented to all RAPs on 16 April 2015 in the form of a short letter outlining the methodology for the. The purpose of these documents was to:

- Describe the project, outline the project scope, time frame and proposed impact.
- Describe the environment of the Subject Area and information relevant to the ACHAR process.
- Provide opportunity for RAPs to understand the process and comment on the proposed methodology.
- Set a time frame for providing feedback and comments on the methodology and project information.

A copy of the letter with the information regarding methodology is included in Annex 4.

Written comments on regarding the methodology and the results of the due diligence investigation was received from Cacatua, LHWC, Mindaribba LALC and Tocomwall. The submissions were considered, and are included in Annex 5.

4.4 Stage 3 – Gathering information about cultural significance

Information about cultural heritage significance and cultural information relating to the Subject Area has been sought throughout the entire consultation process, including during the field survey. Opportunity was provided for all RAPs to express their views and provide information on cultural heritage matters and significance.

Written comments on regarding the methodology and the results of the due diligence investigation was received from Cacatua, LHWC, Mindaribba LALC and Tocomwall. The submissions were considered, and are included in Annex V.

4.5 Stage 4 – Review of draft

A draft of this report was provided to the RAPs for their review and comment on 25 August 2015 in accordance with the consultation requirements (DECCW 2010a). A minimum of 28 days were provided to each of the RAPs with a request for comments to be provided by 22 September 2015.

A copy of the final ACHA report will also be available to all RAPs during the public exhibition period for the EIS. During this exhibition period all RAPs will have the opportunity to review and provide additional comment on the final ACHA report.

Niche has followed up with phone calls and emails for all RAPs during the last week of Stage 4 of the consultation process to encourage RAPS to provide feedback. As at 23 September 2015, no written submissions on the draft ACHA had been received from the RAPs.

5. Register Searches

5.1 National Heritage Registers

Under the EPBC Act Amendments (No. 88, 2003), two mechanisms have been created for the protection of heritage places of National or Commonwealth significance: the National Heritage List (NHL) and the Commonwealth Heritage List (CHL) (http://www.environment.gov.au/heritage/places/national/index.html).

The NHL provides protection to places of cultural significance to the nation of Australia, while the CHL comprises natural, Aboriginal and historic heritage places owned and controlled by the Commonwealth. The Australian Heritage Database (AHD) is maintained by the Department of Sustainability, Environment, Water and Population and Communities (DOSEWPC) and contains information about more than 20,000 natural, historic and Indigenous places including places listed on the world, national and commonwealth heritage list and those under consideration.

- A search of the Australian Heritage Database was undertaken on 6 May 2015. There are no heritage listings relevant to the Subject Area.

5.2 NSW State Heritage Register

The State Heritage Register (SHR) lists items that have been assessed as being of State heritage significance to New South Wales. Items appearing on the SHR are granted protection under s.60 of the *Heritage Act* 1977.

- A search of the SHR was completed on 15 February 2015. There are no Aboriginal heritage sites listed on the SHR within the Subject Area.

5.3 State Heritage and Conservation (s.170) Registers

Section 170 of the Heritage Act requires that State Government Agencies establish and maintain a Heritage Conservation Register for heritage items located on land under their control or ownership. Items listed on a s.170 Register are listed on the State Heritage Inventory (SHI) and bound by the regulations of the Heritage Act.

- A search of the SHI was completed on 6 May 2015. No Aboriginal heritage sites are listed in the register.

5.4 Dungog Local Environmental Plan (LEP) 2014

Each Local Government Area (LGA) is required to create and maintain an LEP that identifies and conserves Aboriginal and historical heritage items. These items are protected under the EP&A Act.

- A search of the Dungog LEP (2014) was undertaken on 6 May 2015. No Aboriginal heritage sites were listed in the LEP.

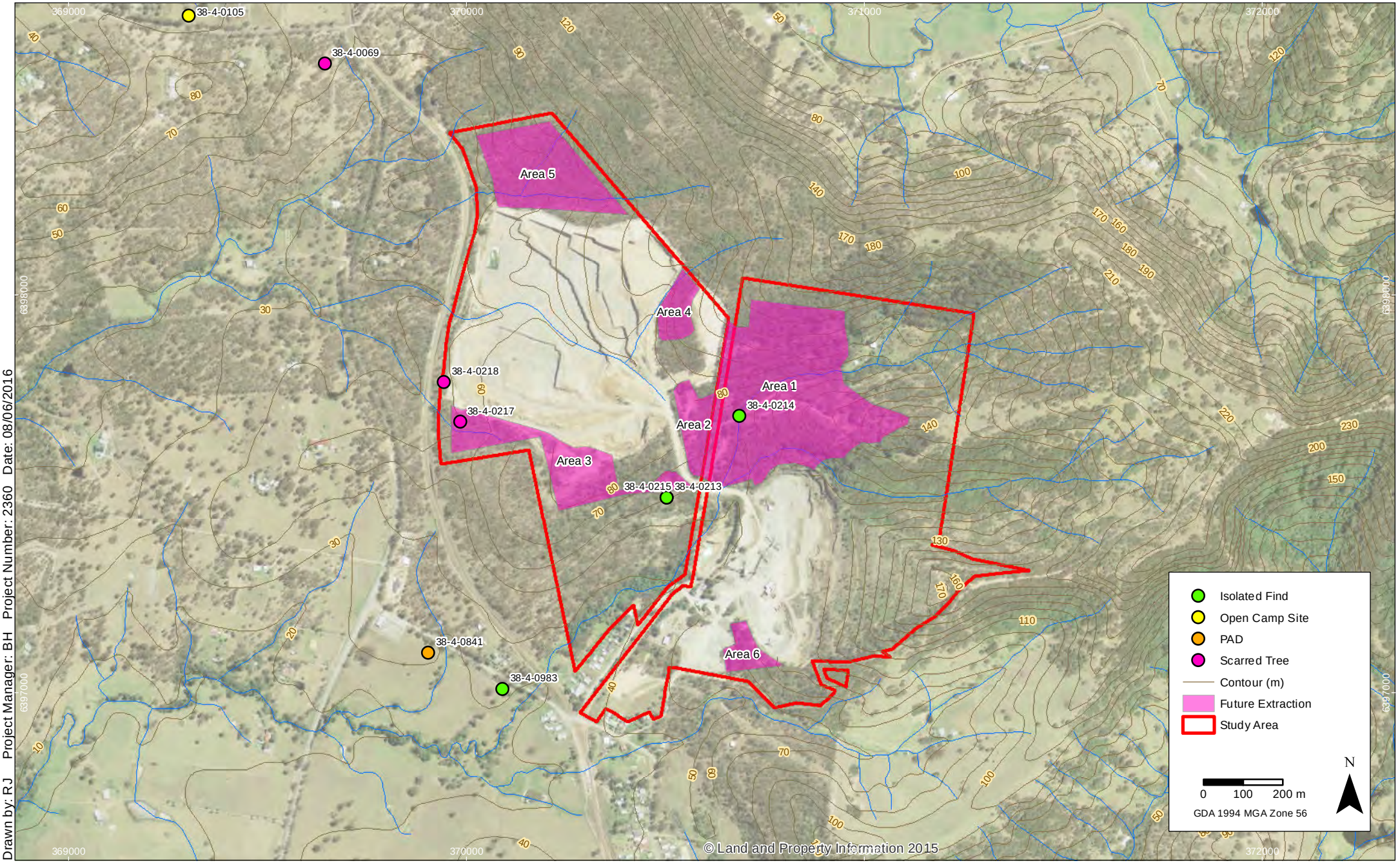
5.5 National Parks and Wildlife Act Registers (AHIMS)

The basic search for a 400 km² was conducted on 6 February 2015 (AHIMS ID 161626), and identified 37 Aboriginal objects within the search area. A subsequent extensive search was conducted on the same day and confirmed that five objects area located within the quarry site boundaries and three of these objects

are located within the Subject Area (Figure 3). During the background research Niche identified discrepancies in the provided coordinates for Site 38-4-0214. The GPS location of the site provided on the site card is not consistent with the location identified in the original report (Dunnet and Packard 1990). Following further investigation it was decided that the valid location of the site is the location provided by the report and co-ordinates for Site 38-4-0214 were rectified. The list of the sites within, and in close proximity to, the Subject Area is outlined in Table 5 and the full results of the AHIMS search is provided in Annex 6.

Table 5: AHIMS sites identified by search ID#161626.

Site ID	Site Name	Site Type	Distance from the Subject Area
38-4-0103	Vacy No.2 Martins Creek	Open Site	1000 m
38-4-0104	Red Hill 4	Open Site	1100 m
38-4-0105	Vacy Site 1 Martins Creek	Open Site	800 m
38-4-0069	Martins Creek	Open Site	400 m
38-4-0213	Martins Creek 1	Open Site	Inside quarry boundaries and 30 m from Subject Area
38-4-0214	Martins Creek 2	Open Site	Inside Subject Area
38-4-0215	Martins Creek 3	Open Site	Inside quarry boundaries and 30 m from Subject Area
38-4-0216	Martins Creek 4	Open Site	3000 m
38-4-0217	Martins Creek 5	Open Site	Inside Subject Area
38-4-0218	Martins Creek 6	Open Site	Inside Subject Area
38-4-0294	Paterson Road	Open Site	1500 m
38-4-0841	Martins Creek PAD 1	Open Site	300 m
38-4-0983	Grace Avenue Martins Creek	Open Site	200 m
38-4-1383	Gostwyck Bridge PAD 1	Open Site	1500 m



Drawn by: RJ Project Manager: BH Project Number: 2360 Date: 08/06/2016

Location of AHIMS sites

Martins Creek Quarry - Aboriginal Cultural Heritage Assessment

FIGURE 3

Imagery: (c) LPI 2012-12-04

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6. Landscape Context

6.1 Geology and soils

The Subject Area is located within the Sydney Basin and in the Hunter Valley Central Lowlands topographic zone, a belt approximately 15 km wide characterised by undulating to rolling low hills at elevations ranging from 10 m – 140 m (Kovac and Lawrie 1991:7). The Central Lowlands are bounded by rugged steep country except in the far west where a more gentle landscape allows access to the interior (McCardle 2003:5).

The landscape of the Central Lowlands was described in 1827 by Peter Cunningham (in Brayshaw 1986:25) as follows:

> *The ridges upon the upper part of the Hunter's River are almost uniformly flat on top, forming little miniature hills and valley's covered with fine soil of moderate depth, and abounding in the grass which makes them the great resort of the kangaroo's and cattle in the winter season*.

There are three geological units that underlie the soils within the Subject Area, they include the Martins Creek Ignimbrite Member; Wallaringa Formation; and the Newtown Formation all of which were formed from the Gilmore Volcanic group, approximately 350 million years ago during the Caboniferous period (Figure 4) (Gorbert V. & Chesnut W., 1975).

The majority of the Subject Area is within the Martins Creek Ignimbrite Member characterised by blue-grey, red-mottled welded andesitic ignimbrite with minor interbeds of beige to grey dacitic ignimbrite (Australian Stratigraphic Units Database, Martins Creek Ignimbrite Member).

The eastern section of the Subject Area is the Wallaringa Formation characterised as pink to brown, thickly bedded lithic sandstone, conglomerate and granitoids, minor sandstone which underlies the Martins Creek Ignimbrite Member. (Australian Stratigraphic Units Database, Wallaringa Formation)

A small section in the west of the Subject Area is the Newtown Formation which overlies the Wallaringa Formation. The Newtown Formation is described as red to purple lithic sandstone, red, purple, or green siltstone, pebble conglomerate with interbedded rhyolitic and rhyodacitic ignimbrite and tuff . (Australian Stratigraphic Units Database, Newtown Formation).

The Subject Area contains four different soil landscapes as defined in Kovac and Lawrie 1991: Birdsview colluvial, Ten Mile Road and Brecon residual, and Disturbed Terrain (Figure 5).

Disturbed Terrain (xx) referes to some of the existing quarry site where most of the soil and rock has been removed through quarring activity.

The Birdsview colluvial (bi) landscape is found in the east of the Subject Area and is characterised by rolling steep hills on the Wallaringa Formation and was originally vegetated with open tall forests. In the case of the Subject Area the rugged westerly slopes of Mount Douglas are typical of this landscape. The topsoils of the landscape are dark brown sandy loam and brown earthy loamy sand to sandy clay loam. The subsoils comprise of brown pedal roughped clay reddish brown structured clay and mottled sandy to silty clay. Soil depths on the sides of slopes are up to 50 cm whilst on crests and gentle slopes range from a depth of 60 cm - 130cm. On the upper slopes soil depths can exceed 200 cm (Austral Archaeology 2009: 14).

The Eastern section of Subject Area within the Birdsview colluvial landscape covers a westerly, mid to lower, steep mountain slope dissected by two creek lines and a low crest. The landscape is characterised by

steep mid to lower slopes associated with incised eroded creek banks. The highest elevation is 142 m and is located in the north-west corner of the area. There are two second order ephemeral creeks that cross the area and drain into the Paterson River to the south-west of the quarry.

Ten Mile Road (tm) is an erosional landscape which covers the majority of the Subject Area. It is characterised by undulating low hills on the Martins Creek Ignimbrite Member. The local vegetation is open forest. The dominant soil materials found in this landscape include topsoils of weakly pedal sandy clay loam and bleached sandy loam and subsoils of brown dense medium clay with depths ranging from 55 cm - 200 cm (Austral Archaeology 2009: 15). As well as the disturbed terrain Landscape large portions of the landscape within the quarry area have been extensively quarries.

Brecon residual (br) is a landscape characterised by undulating rises to low hills on the Newtown Formations the original vegetation of the landscape was open tall forests. The topsoils of this landscape are a weakly brown sandy loam on a bleached sandy clay loam. The subsoil is a sticky brown strongly pedal plastic clay. Generally the soil depths are 50 cm -130 cm and can be up to 180 cm on alluvial deposits, drained lower slopes and drainage lines (Austral Archaeology 2009: 14).

The remainder of the Subject Area (with the exception of the Disturbed Terrain landscape) consists mainly of the Ten Mile Road landform with two small pockets of the Brecon residual landscape. The area is characterised by low crests and mid to lower slopes of the remaining low hills around the already extracted area which once featured a long knoll described in the previous archaeological assessment carried out in 1990 (Dunnet and Packard 1990).

All the soil landscapes except the disturbed terrain have some archaeological potential. This archaeological potential will be relatively higher in the residual landscapes, which will have had the potential to preserve traces of past Aboriginal land use.

The undulating low hills would have been the most ideal location for Aboriginal camp sites within the Subject Area as they are easy to traverse. Camp sites would be located near access to fresh water which would attract animals for hunting as well as provide an easy supply of water.

The sites that may be expected to occur within these landscapes are stone artefacts and scarred trees. However the Ten Mile Road landscape typical of low hills is erosional and stone artefacts could be displaced through erosion. The creeklines within the Subject Area may also be exposed to gully and sheet erosion which is most common along the banks of watercourses. The potential horizontal and vertical movement of artefacts caused by gully and sheet erosion alters archaeological assemblages and is known to change the density of artefact scatters, and can bury artefacts through the re-depositing of sediments (McCardle 2003:10).

The vegetaion of all the landforms in the Subject Area were originally open tall forests which have been extensivly cleared. Scarred trees could survive if remnant forest have survived and would be likely to exist in the low hills. The archaeological potential of the Subject Area is discussed further in Section 9.

6.2 Recent Land Use Activities

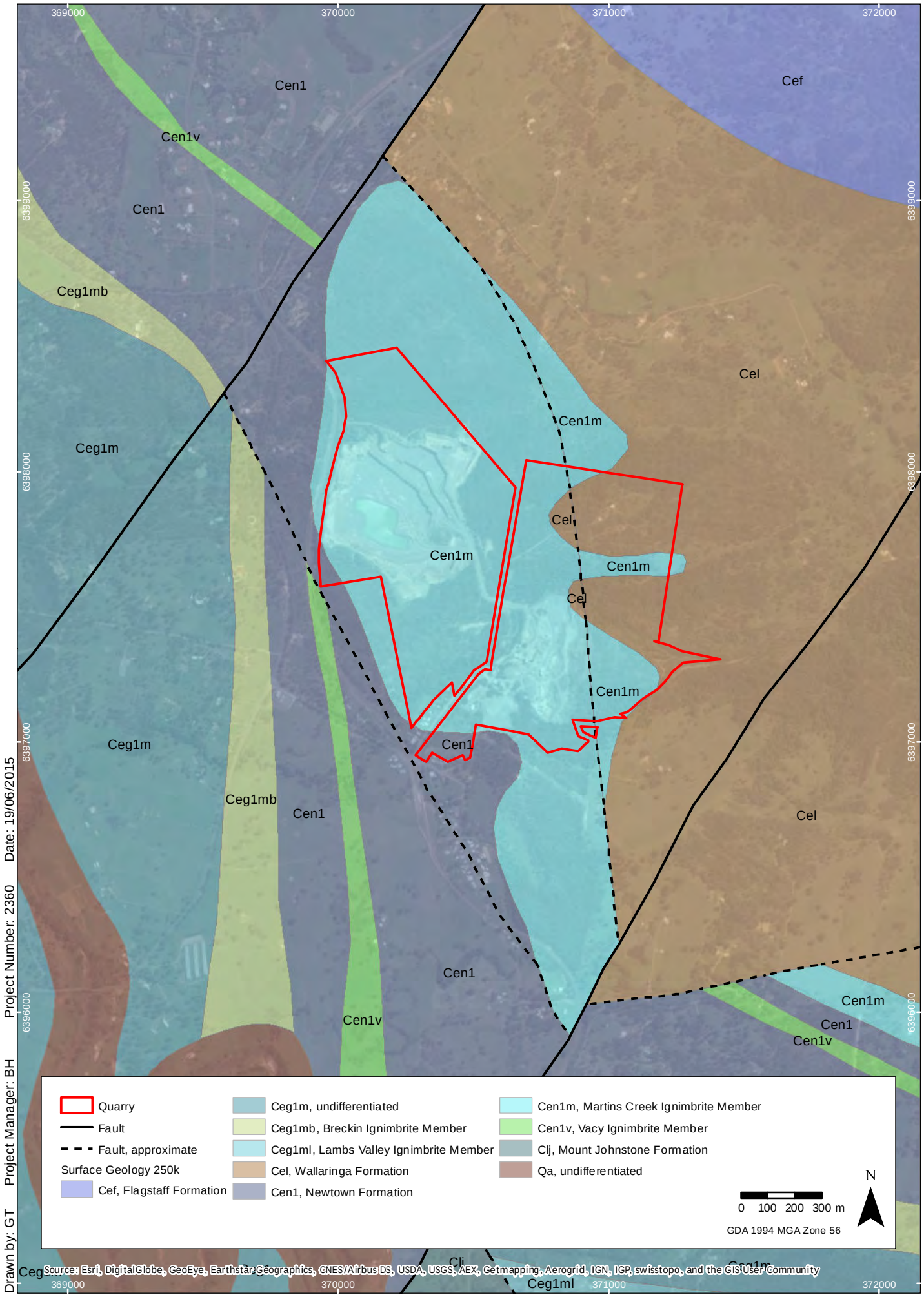
Area 1 of the Subject Area (East Pit) was historically part of a Travelling Stock Reserve (TSR) notified on 22 March 1876 which was cancelled on 17 January 1891 (Figure 6). Once cancelled the land within the TSR became available for selection. This section of land whilst reserved as a TSR may have provided as a hunting ground and safe haven for the local Aboriginal people as it was crown land which would have subjected to limited clearing and disturbance. It is thought that most Travelling Stock Reserves were developed from

Aboriginal travelling routes and that the reserves were originally Aboriginal camping grounds. Aboriginal travel routes connected food and water and the routes were along the least difficult terrain avoiding natural obstacles (Smiles et.al 2011:18). On 18 June 1891 the section of the TSR in the Subject Area (Area 1) was sold by private selection. Any Aboriginal people continuing to camp on that land would soon after have been forced off.

Historical aerial photographs illustrate land use patterns over time. Three historical aerial photographs were sourced for the Martins Creek area, dating from 1952, 1974 and 1992 (Figure 7). The quarry has expanded significantly during the last six decades. One group of buildings is evident directly north of the open quarry pit, within the Project area.

Table 6: Aerial Imagery / Disturbance Analysis Summary

Year	Notes
1952	• Illustrates the extent of quarrying at Martins Creek. • Buildings exist in the east of the project area • A number of tracks leading to and around the quarry particularly in the south. • Trees are scattered across the site with the greater density in the east • A drainage line runs across the Subject Area west of the quarry
1974	• Quarry has expended • Regrowth of vegetation around the quarry is evident • There are fewer tracks but those that remain are more prominent • Buildings still exist in the east
1992	• The quarry has expanded and a second extraction quarry has begun which is linked the original by a wide road. • Vegetation regrowth is quite dense all around the quarrying area. • Buildings still exist in the east



Date: 19/06/2015
Project Number: 2360
Project Manager: BH
Drawn by: GT

Surface Geology and Structures of the subject area

Martins Creek Quarry - Aboriginal Cultural Heritage Assessment

FIGURE 4

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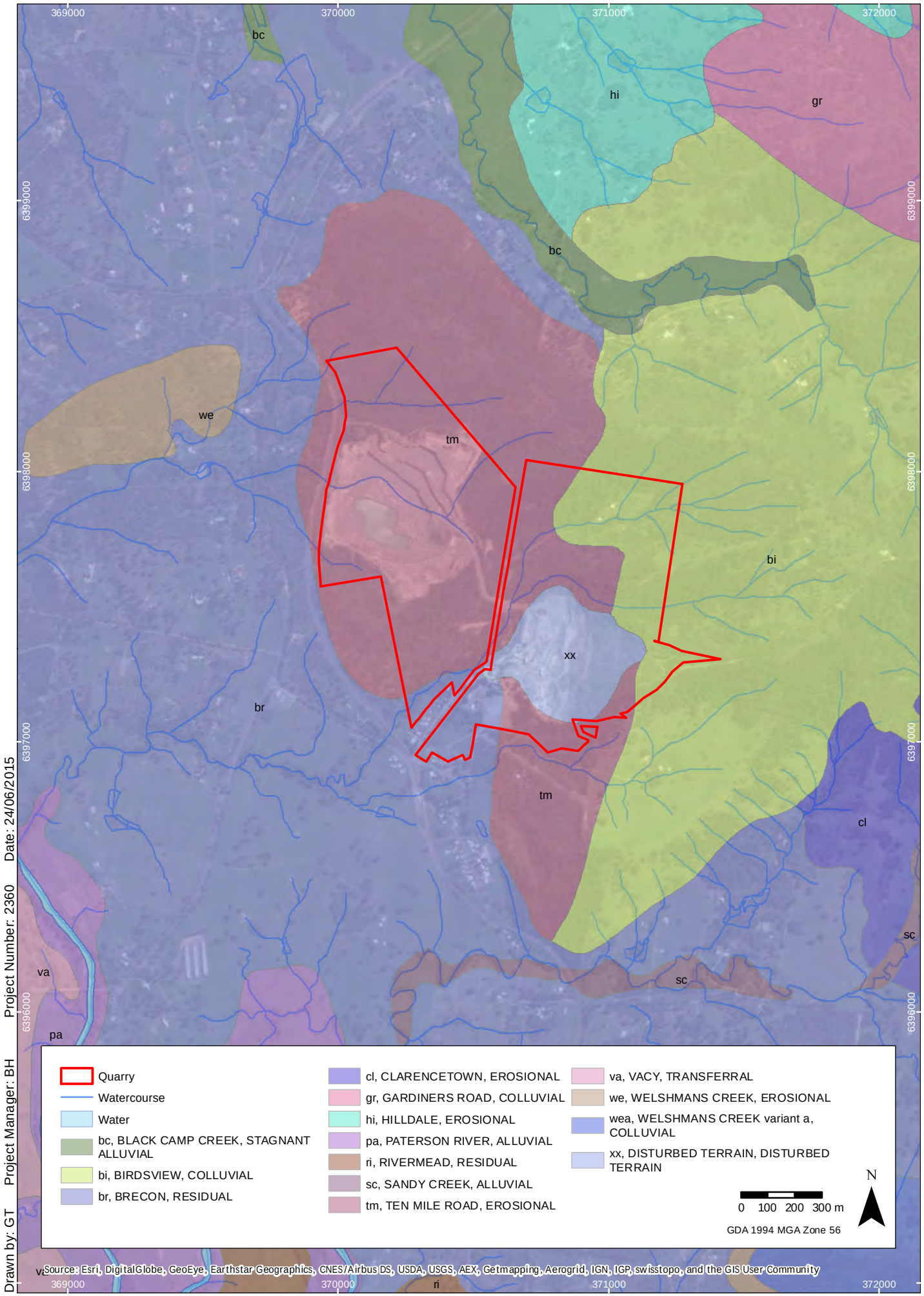

Date: 24/06/2015
Project Number: 2360
Project Manager: BH
Drawn by: GT

Soil landscapes in the Subject Area

Martins Creek Quarry - Aboriginal Cultural Heritage Assessment

FIGURE 5

niche Environment and Heritage

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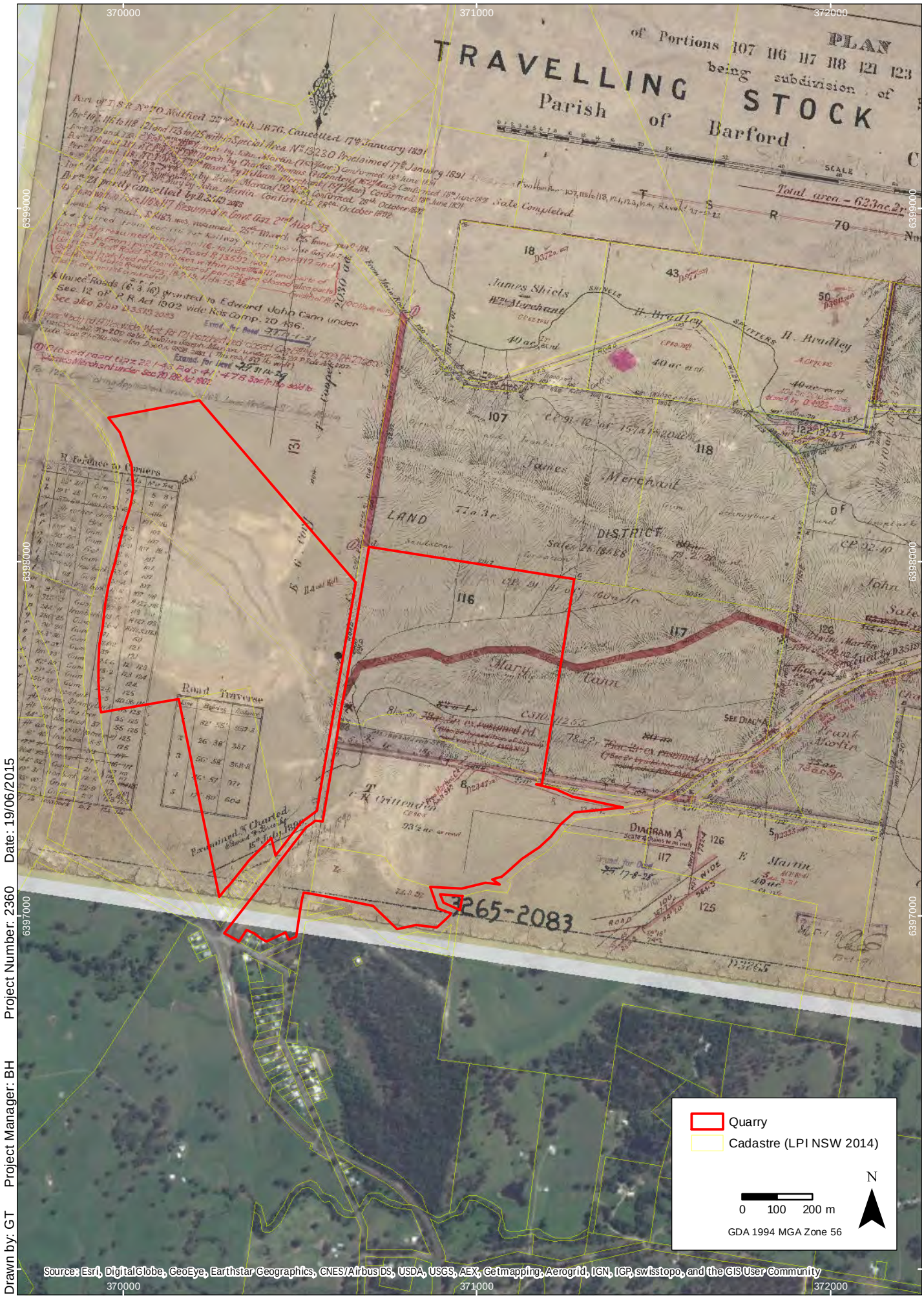

Drawn by: GT Project Manager: BH Project Number: 2360 Date: 19/06/2015

Overlay of Subject Area on Travelling Stock Reserve (Source: LPI 1890 CP3265-2083)

Martins Creek Quarry - Aboriginal Cultural Heritage Assessment

niche Environment and Heritage

FIGURE 6

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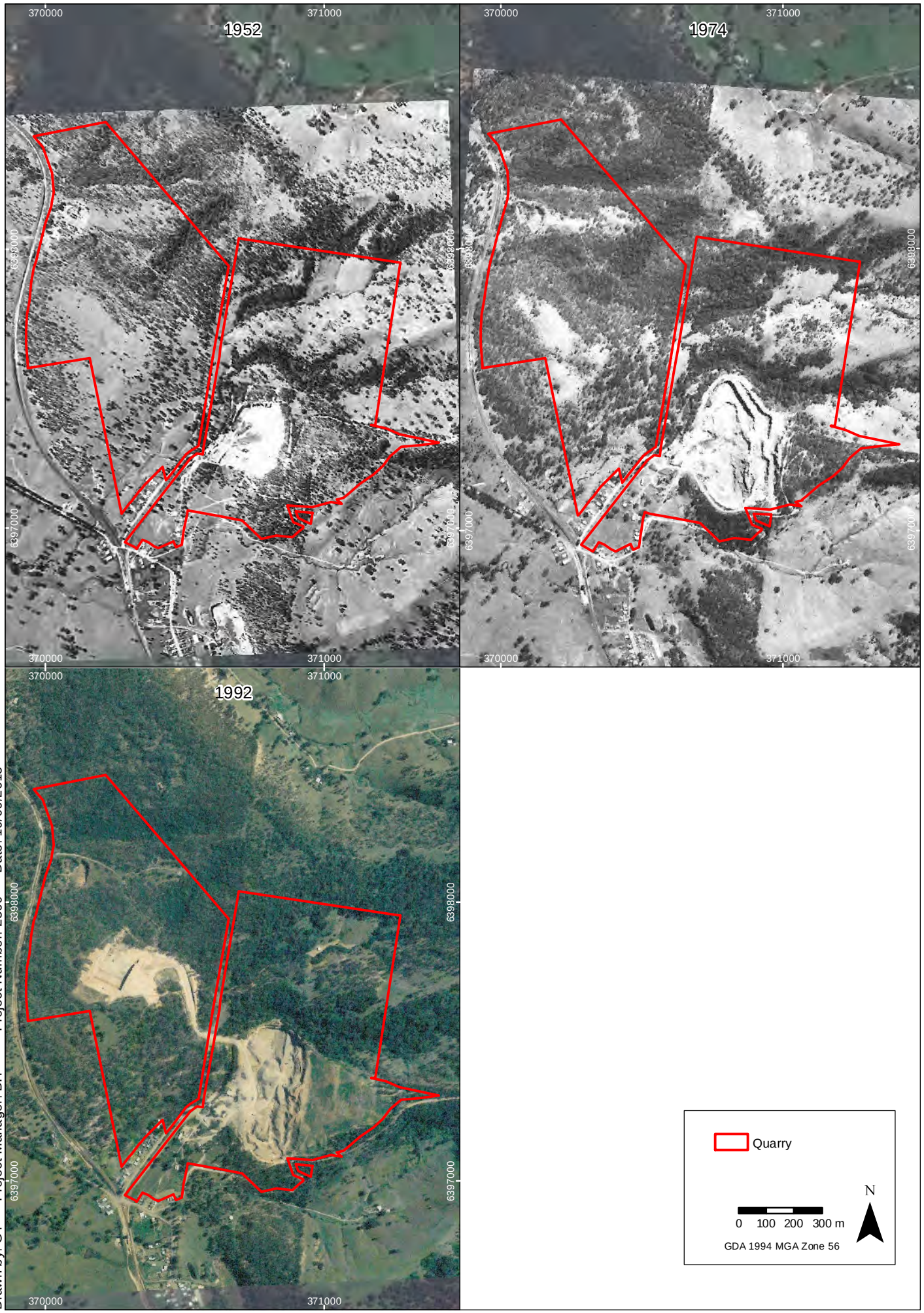


Historical aerial photographs (1952, 1974, 1992)

Martins Creek Quarry - Aboriginal Cultural Heritage Assessment

FIGURE 7

niche Environment and Heritage

Path: T:\spatial\projects\a2300\a2360_Martin_Ck_ACHA\Maps\2360_Figure_7_HistoricAerials.mxd

7. Local Aboriginal History

The Sydney Basin was occupied and used by Aboriginal people for thousands of years prior to European settlement. In the Hunter Valley Central Lowlands, gullies, rivers, creeks, floodplains, woodlands and grasslands provided a rich and varied resource zone and occupation area.

The early recordings of the Aboriginal people in the Greater Sydney Region do not make note of different Aboriginal groups. However different language groups and differing customs were noted. Anthropologists such as N. B Tindale and R. H. Mathews have primarily focussed on language groups and customs to define the boundaries of Aboriginal groups. Tindale's map of Tribal Boundaries illustrate the Aboriginal groups relevant to the Subject Area as follows:

- The Wonnarua: "*Upper Hunter River from a few miles above Maitland west to Dividing Range. The southern boundary with the Darkinjang is on the divide north of Wollombi*" (SA Museum Archives 2000. Norman Tindale Collection –Wonnarua)
- The Worimi: "*Hunter River to Forster near Cape Hawke along coast; at Port Stephens; inland to near Gresford; about Glendon Brook, Dungog, head of Myall Creek and south to Maitland*" (SA Museum Archives 2000. Norman Tindale Collection –Worimi).

It should be noted that Tindale's tribal boundaries produced in 1974 were an attempt to depict Aboriginal tribal distribution at the time of European contact. By the time anthropologists were making their observations of Aboriginal tribal boundaries, Aboriginal people had already been largely impacted and re-located to fringe areas. The occupation of tribal lands by the colonial settlers, the decline in native animals for hunting, the clearing of lands, infectious diseases and hostilities all contributed to Aboriginal tribes moving between or beyond their traditional boundaries (SA Museum Archives 2000. Norman Tindale Collection).

In the Dungog shire area a sub-group of the Wonnarua people known as the Gringai lived in the areas of Paterson and Gresford. The Gringai of the Paterson and Gresford areas intermarried with the Gringai of the Dungog district. The lower Williams River area was inhabited by a sub-group of the Worimi people known at Kattang (Dungog Shire Council 1999).

Howitt in 1904 described the Aboriginals living in the Dungog district as comprising of local groups spread all over the district, at convenient distances apart comprising of 8 or 9 huts or families (Koettig 1988 10)

There is very little information recorded of the Aboriginal practices and customs prior to colonisation in the Dungog region. Although there is extensive information about the Worimi who were centred at Port Stephens, Koetting argues the practices of the Port Stephens Worimi who were a costal group would be very different from the inland Worimi of the Dungog district due to their drastically differing environments (Koetting 1988 10). There are references of trade between the Worimi group of Port Stephens and the inland Worimi group as well as references to the two groups fighting so their relationship remains unclear (Koettig 1988:11, 14).

Some observations of the traditional way of life of Aboriginal people in the area have been recorded by early colonial settlers to the district. R.E Anderson noted of Martins Creek that the first European family to settle there in 1851 had Aboriginals as their only neighbours. They traded bread clothing and flour for honey (Koettig 1988: 13).

J. Tucker recorded life on the Paterson River Valley during the 1840s and 50s which included the following aspects of Aboriginal life:

> *"….the blackfellows were numerous. Many camps existed around the town. They lived by hunting and fishing – fish wildfowl and animals being abundant. They were expert at spearing fish and they made nets to catch wild duck….Their canoes were made of sheet bark from a big tree…..Another interesting site was to see them climbing trees, going up to any height, cutting slight steps in the bark of the tree…..And I have seen a blackfellow climb a tree in this way and cut out a stinging bees nest nearly 150 feet from the ground….Before white men came they used stone axes for this." (*Koettng 1988 13).

The coming of European Settlers to the Patterson Valley had a devastating effect on the local Aboriginal population. European diseases significantly reduced the population and as land was selected and occupied by the European settlers in the region from the 1830s onwards Aboriginal people lost their homes and their hunting grounds. This led to sheep and cattle being killed for food by the Aboriginal people which resulted in often deadly retaliation from the colonial settlers.

There is a report of a massacre on the estate of Edward Gostwyck Cory, the Subject Area was originally part of his estate. It was reported a convict of Edward Cory's was speared in reprisal for killing a dog, this attack it was further reported resulted in the killing of twelve Aborigines. Edward Cory denied these reports although did confirm hostilities between the local Aborigines and his 'men' (Sydney Gazette 18 April 1827). Cory further responded by successfully suing the editor of the paper for defamation of character (Gent 2009: 13).

Efforts to push Aboriginal people off land grands issued to colonial settlers, resulted in much conflict between the Aborigines and the colonial settlers (Blyton et.al. 2004:17). The Aboriginal population in the district rapidly declined. An Inquiry into the state of the Aboriginal People in the Upper Hunter Valley at Falbrook in 1846 explained:

> *The number has greatly diminished: with the last seven years the decrease has certainly been one third of the number. About seven years ago I have seen eighty or ninety Aborigines encamped in the township of Paterson: the greatest number at the present never exceeds twenty or twenty-five…….*
>
> *The causes are in my opinion – The vice of drunkenness, to which they are, both male and female, very addicted; and disease contracted through their intercourse of their women with the whites.*
>
> *Their condition is very wretched; their means of subsistence is lessened to a very great extent….There are few or no kangaroo; they have either been destroyed, or they have retired far from the haunts of men. The kangaroo was the chief food of the natives* (Reverend Joseph Cooper in Blyton et.al. 2004:27).

By the turn of the twentieth century the Aboriginal population in the region were few. Dungog Shire Council reports the last survivor of the Gringai tribe, 'Brandy', died in Dungog in 1905 aged 75 years and was buried at St Clair, Singleton. This however, would not have been strictly true due to intertribal marriages and surviving offspring of Gringai and white settlers. In 1911, it was report that in Dungog "*in addition to the two children there is one 'half-caste' and one 'full-blood' man, both between 30 and 40 years old*."(NSW Legislative Assembly 28/2/1912: 9) The Aboriginal population of the district had declined to such an extent that no further reports were made. The Dungog Shire reports "*The policies of the NSW Aboriginal Board of Protection (established in 1883) were to have a significant effect on the Koori people of New South*

Wales in the early 1900's, however the indigenous population of the Dungog Shire had all but vanished by the time these effects were felt." (Dungog Shire Council 1999).

The referendum of 1967 recognised the citizenship rights of Indigenous people and led to Land Rights legislation being passed in the 1970s and 80s. The Aboriginal people of the region have maintained a strong sense of their own cultural identity and links with the land despite the impact of European contact on their traditional lands and culture.

Today, Wonnarua and Worimi people continue to live in the district and maintain a strong and active interest in their cultural heritage through participation in the development process, education and community development.

In 1999 The Wonnarua Nation Aboriginal Corporation was established, it focuses on nurturing the history and culture of the Wonnarua Nation. The corporation strives to continually improve the health and education of its members (Wonnarua Nation Aboriginal Corporation 2014).

The Wormi established the Worimi Local Aboriginal Land Council in 1984. During the 1990s the business side of the corporation did not develop and in 2006 the Minister for Aboriginal Affairs requested that an exit strategy be developed to end the administration of the corporation. The corporation was reopened in July 2007 with a new board. The focus of the Worimi Local Aboriginal land Council is to protect and foster the best interests of its community and Aboriginal Culture and "*continues to seek opportunities for Aboriginal people to regain their cultural identity, financial independence and self-determination*" (Worimi Local Aboriginal land Council).

8. Previous Archaeological Work

The previous expansion of the quarry was the subject of an archaeological investigation in 1990 by Dunnet and Packard. The investigation was carried out for the West Pit Quarry which is currently the main quarry area and included a section for the haulage road in the eastern part of the contemporary Subject Area as well. During the survey three possible Aboriginal scarred trees and two isolated artefacts were recorded and submitted as AHIMS sites (Figure 3). Details of the recorded sites are outlined in Table 7.

Table 7: List of AHIMS sites recorded by Dunnet and Packard.

Site ID	Site Name	Site Type	Distance from the Subject Area
38-4-0213	Martins Creek 1	Open Site/Isolated find	Inside quarry boundary and 30 south of Subject Area.
38-4-0214	Martins Creek 2	Open Site/Isolated find	Inside Subject Area
38-4-0215	Martins Creek 3	Open Site/Scarred tree	Inside quarry boundary and 30 m south of Subject Area.
38-4-0217	Martins Creek 5	Open Site/Scarred tree	Inside Subject Area
38-4-0218	Martins Creek 6	Open Site/Scarred tree	Inside Subject Area

At the time of the survey in 1990 all three of the possible scarred trees were recorded as very plausible. The photos from the relevant report and information on the site cards suggest that the recorded sites are not of Aboriginal cultural origin. A buffer zone along the boundary of the development zone was recommended to protect the trees. The two recorded artefact scatters outside the Subject Area were not considered to be part of a larger artefact scatter.

Austral Archaeology (2005) undertook an Aboriginal archaeological and cultural heritage assessment along the proposed Martins Creek power line easement for Country Energy. The west end of the proposed power line easement began south of the contemporary Subject Area. During this assessment 7 Aboriginal archaeological sites and 17 potential archaeological deposits (PADs) were identified and recorded along an easement 12 km long. The route of the easement was adjusted to avoid all of the recorded sites and most of the PADs. Three of the 12 PADs were located along the new alignment for the power line easement.

Austral Archaeology (2008) undertook an Aboriginal archaeological test excavation programme across three potential archaeological deposits (PADs) along the proposed Martins Creek Power Line Easement. The west end of the Subject Area was to the south of the Subject Area. PAD 4 was the closest to the quarry Subject Area but contained no artefacts. PAD 2 (38-4-0983) approximately 1.1 km from the Subject Area contained 6 artefacts, half of which were made of silcrete the remaining artefacts were quartz, quartzite and chert. All artefacts were flakes and were assessed as being “the usual background scatter of artefacts that can be found in association with ephemeral drainage lines” (Austral Archaeology 2008: ii). An s.90 consent was subsequently issued to harm the site. No artefacts were identified in the other two excavated PADs.

McCardle (2009) undertook an Indigenous Archaeological Assessment for a proposed subdivision at Paterson, approximately 5.2 km south of the Subject Area. The investigations were within the Hunter Valley Central lowlands but the landscapes characterised by the soil types and geological formations differed to

those of the current Subject Area. The archaeological investigation included an extensive literature review which was used to summarise broad predictions of archaeological patterning in the Central Lowlands region. The predictions were:

- *A wide variety of site types are represented in the study area with open campsites and isolated artefacts by far the most common;*
- *Lithic artefacts are primarily manufactured from mudstone and silcrete with a variety of other raw materials also utilised but in smaller proportions;*
- *Site numbers and artefact volumes are greatest within close proximity to water;*
- *There appears to be a secondary peak in site numbers and artefact volumes at distances over 100 m from water;*
- *Creek lines, crest/ridges and slopes are the most archaeologically sensitive landforms (*McCardle 2009: 17-8).

During the field survey one new Aboriginal archaeological site was identified. This site was a scarred tree located on a gentle slope approximately 400 m north of the Patterson River. Three PADs were also identified during the survey; The area of PAD 1 is 1.3 km along the length of the Patterson River and 50 m in width from the river bank; PAD 2 includes a small slope at the confluence of two creeks approximately 300 m north east of the Paterson River; PAD 3 is situated on a broad slope with little disturbance also at the confluence of two creeks approximately 300 m north east of the Patterson River.

Junburra (2011) was commissioned on behalf of the Tocal Agriculture Collage, located approximately 9 km south of the Subject Area to inspect a stand of trees to determine if any of them were scarred trees. The assessment was undertaken within the Hunter Valley Central Lowlands an area identified as having been extensively cleared of tree resulting in few scarred trees in the archaeological record. The results of the investigation identified one scarred tree which was assessed as being of high significance due to the rarity of scarred trees in the area. It was recommended that the stand of trees be permanently fenced off and cattle be kept out.

9. Predictive Model

9.1 Introduction

This predictive model has been developed based on the results of landform, location and type of Aboriginal sites previously recorded within the local area. The following criteria have been used to determine the archaeological potential (for both surface Aboriginal objects and subsurface deposits) for the Subject Area:

- Patterns of Aboriginal land use and occupation of the region, to identify those landscape areas where material was likely to have been deposited;
- Distribution of known sites within the Subject Area and broader area, to identify the landforms known to contain archaeological materials (and patterning of those materials);
- Geomorphic evolution of the Subject Area, to identify those natural processes that may have affected the archaeological resource;
- Terrain integrity of the Subject Area and the proposed works area, considering the impact of post-contact land use history on the potential of archaeological site survival; and
- Likely detection of archaeological materials within the proposed works area, considering the nature of the resource (surface/subsurface materials) and ground surface visibility constraints.

9.2 Predictions

Based on these criteria, the following predictions for Aboriginal heritage can be made for the Subject Area:

- Open sites containing stone artefacts (artefact scatters and isolated artefacts) would be the most likely site type to occur within the Subject Area. Artefact scatters can range from a high density of artefacts to a low density. Artefact scatters may be found anywhere within the Subject Area but are most likely to be found within 100 m of watercourses and on nearby hill crests.
- Rock shelters occur in the Hawkesbury Sandstone and Narrabeen geological formations where shelving and overhangs provide places for shelter. Rock shelters are unlikely to occur within the Subject Area as the geological background indicates that the typical geological features do not exist in the Subject Area.
- Grinding grooves are usually found on sandstone outcrops near watercourses. Sandstone does outcrop in the Newtown and Wallaringa Formations. Grinding grooves may be found in areas of sandstone outcrop particularly near watercourses.
- Freshwater middens may be found along watercourses that once contained shellfish that would have been eaten by Aboriginal people. Due to flooding on the lower creek banks middens are more likely to have survived on higher creek banks.
- Trees that exhibit scars caused by the removal of bark or wood may be found in the Subject Area where stands or isolated examples of mature trees still exist.
- There is potential for Aboriginal burials within the Subject Area, where the soils are more sandy and soft like the soils of the Brecon residual. Burials would only be visible as surface expressions if they

had been exposed by erosion or as the result of animal or human activities, and as a result, their identification is likely to be extremely difficult.

- Post-contact sites have a shared history by Aboriginal and European people. Many of these sites hold significance to Aboriginal people and may be places such as missions or massacre sites. Usually such sites are known from historical records. There is an unverified report of a massacre of 12 Aboriginal people potentially within or near the Subject Area. This report was denied and accepted as false at the time (1827). As no further reports or recordings of this possible event have been made it is unlikely that any further evidence will be substantiated during the field survey.

- Aboriginal places are places of cultural significance to Aboriginal people. Often they are places recorded in community history and may include natural features such as swimming holes. As no Aboriginal places have been declared within the Subject Area the potential of an Aboriginal place being identified within the Subject Area is low.

- Area 1 east pit is the most likely area to contain Aboriginal Archaeological sites as its use as a TSR until 1891 enabled the possibility for the land to be used for a longer period of time by local Aboriginal groups.

9.3 Summary

Artefact scatters and isolated artefacts are the most likely Aboriginal archaeological sites to occur within the Subject Area. Two second order ephemeral creeks traverse part of the Subject Area and drain into the Paterson River to the south-west of the quarry, providing a source of water. Slopes and water-related landforms are most likely to contain Aboriginal archaeological sites. The soils adjacent to the water-related landforms are also likely to contain subsurface archaeological deposit.

Where remnant mature trees occur particularly along the water courses and in the east of the project area there is a possibility for Aboriginal scarred trees. Two Aboriginal scarred trees have been previously recorded in the Subject Area, although there is a question as to their validity as being of Aboriginal cultural origin.

Burials may potentially occur, but due to the limited visibility and exposure, are unlikely to be identified prior to the commencement of works.

10. Field Methods

10.1 Sampling strategy

An archaeological field survey of the future extraction and exploration areas was undertaken on Thursday 21 May 2015. The field team consisted of Balazs Hansel (Niche, Senior Archaeologist), Aleisha Buckler (Niche, Archaeologist), Adam Sampson (Cacatua Cultural Consultants), Allen Paget (Ungoroo Aboriginal Corporation), James Sinclair (Todd Heard), Jenny Lee Chambers (JLC Cultural Services), Shane Heard (Mindaribba Local Aboriginal Land Council), Stephen Talbot (Gomeroi-Namoi), Tom Miller (Lower Hunter Wonnarua Council Inc) and Adam McSweeney (Tocomwall Pty Ltd).

The following methods were used to identify heritage values and significant cultural themes for the Subject Area:

- Aboriginal community input – this would be sought via participation in archaeological fieldwork and other correspondence;
- Archaeological research, including a review of the regional Aboriginal history, landscape characterisation and field survey.
- A sound sampling strategy is required under the terms of the Code of practice for the archaeological investigation of Aboriginal objects (DECCW 2010a) which states that:

Sampling must:

- Include all landforms that will potentially be impacted. Where there is more than one instance of similar or the same landforms that have the potential to be impacted each individual landform must be sampled.
- Place a proportional emphasis on those landforms deemed to have archaeological potential, clearly describing and justifying the reasons for their selection (see Requirement 4).

The sampling strategy must:

- Describe how sampling relates to the footprint that is proposed to be impacted by the development.
- Clearly state when a full coverage survey will be undertaken and justify when it is not.

The survey was undertaken, through a combination of targeting areas of exposure, opportunistic approach to areas with accessibility and sampling of landforms identified within the Subject Area. Due to the very steep terrain a sampling strategy was employed for the survey methodology. Each of the landforms was sampled by the survey team; this provided a good indication of the sites types which occurred or would be likely to occur in the Subject Area.

10.2 Survey methods

A non-differential hand held GPS unit was used to record all photograph locations, noteworthy features and appropriate site data for the survey. The following information was recorded for each survey unit:

- Representative photographs were taken of all survey units and landforms where they were thought to be informative to the overall Aboriginal archaeological report.

- A proportional emphasis was placed on the landforms identified within the predictive model as likely to contain Aboriginal archaeological objects or sites.
- Land surface and vegetation types.
- Exposure, defined as an estimate of the area which has a likelihood of revealing buried artefacts or deposits.
- Archaeological visibility, defined as the amount of bare ground on the exposures which might reveal artefacts or other archaeological materials, i.e. visibility refers to what conceals (Burke and Smith 2004:78-80).

10.3 Methods of Assessing Heritage Significance

Heritage significance was assessed by considering each cultural or archaeological site against the significance criteria set out in the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011).

In all cases the assessment of significance was informed by the Aboriginal community, and this is documented in this report. If any culturally sensitive values were identified they would not be specifically included in the report, or made publicly available, but would be documented and lodged with the knowledge holder providing the information.

11. Results

11.1 Overview

The survey attempted to cover five primary landforms: upper slopes, mid slopes, lower slopes, the creek line and disturbed access tracks, however due to the steep terrain and quarrying activities the upper slopes were either too steep to safely access on foot or they had been quarried so they no longer existed (Figure 8).

No new Aboriginal archaeological sites or PADs were identified.

11.2 Survey Conditions

Overall, survey coverage was poor due to the dense understory and thick vegetation such as lantana restricting access and covering the ground surface. Surface exposure was generally limited to pre-existing tracks or areas of disturbance and along creek lines. The mid-slopes are the dominant landform in the Subject Area and are extremely steep in parts of the survey area. During the survey some of the mid slopes were difficult to access by foot; some areas were completely inaccessible because of the degree of slope and dense understory vegetation. Area 5 contains a creek line that could not be accessed due to the inaccessibility of the mid slopes in that area.

11.3 Subject Area Description

For the purpose of the field investigation and to assist with the Subject Area description the Subject Area has been divided into five separate expansion areas (Figure 2).

Area 1 is the largest area of the proposed expansions located north of the preparation plant and west of the existing quarry It covers 14.8 ha and is dominated by two high crests and steep slopes separated by two temporary creek lines.

Area 2 is 1.4 ha west of Area 1 and east of the Main Haul Road. The area is covered with a young Eucalyptus Forest. The field team unanimously agree not to walk this is it was visibly close to a very steep slope.

Area 3 is located on a gentle slope which has been impacted by the quarrying activity. There is a gully in the western section which runs NE-SW and is bounded by rocky slopes on both sides. The area is covered with young trees with patches of cleared areas covered with noxious weeds. The northern part of this area is highly impacted by the quarry.

Area 4 is 1.2 ha in size and is bordered to the south by the main extraction pit. The area is situated on a steep slope covered by young trees. The area contained no mature trees and dense understory vegetation. The team unanimously agreed not to walk the area as it has low archaeological potential, had no visibility, was difficult steep terrain with difficult access and appeared to contain no mature trees.

Area 5 is 5.3 ha located in the north of the Subject Area situated on a steep westerly slope was covered by young forest and dense scrub. The area contained no mature trees and dense understory vegetation with no visibility. The team unanimously agreed not to walk the area as it had low archaeological potential, no visibility, was difficult steep terrain with difficult access and appeared to contain no mature trees.

Area 6 is 1 ha located in the south of the Subject Area, situated on steep heavily disturbed southerly slope. It is covered with regrowth vegetation with no mature trees exist within the area. The team unanimously agreed not to walk the area as it had high level of disturbance, high level of disturbance and no potential for archaeological features, objects and cultural values.

11.4 Landforms Coverage

Area 1 and Area 3 – Creek lines

Two creek lines run through Area 1. The creek lines were identified as two temporary tributaries of the Paterson River. At the time of survey there were signs of recent heavy rainfall with erosion and debris in the creek. The topography along the creek lines was moderately steep with the occasional areas of very steep topography. Area 3 also contained a dry creek line. Within the creek beds there was 80% visibility; due to high levels of erosion there was approximately 50% visibility on the creek banks. The ground surface vegetation coverage consisted of grasses, shrubs and young trees. Areas of exposure were inspected for artefacts. Rock platforms along the creek bed were inspected for grinding grooves. All mature trees were inspected for cultural modifications. No new Aboriginal archaeological sites, features or PADs were identified within this landform. The two creek lines in Area 5 could not be accessed as the terrain was too difficult to cross.

Plate 1: Creek line northeast to southwest aspect.

Plate 2. Example of creek bank visibility

Area 1 and Area 3 – Pre-existing vehicle or foot tracks.

Area 1 and Area 3 contain access tracks which enabled access to otherwise steep terrain. None of the other areas had access tracks. The access tracks are cleared of vegetation and the topography varies, however generally the access tracks are on flat or slightly undulating ground although some did have a steep gradient as they ascended up the slope. The access tracks were treated as a separate landform due to the very good archaeological exposure; generally access tracks had over 80% visibility. The team made every effort to re-locate site 38-4-0214 but the listed isolated artefact could not be re-located. The listed location of the site has been the subject of high level of disturbance and experienced almost 100% of top soil loss due to surface wash and track maintenance activities such as grading and placement of imported fill. No Aboriginal heritage sites were located on the access tracks.

Plate 3: Cuttings on the west side of a track in Area 1.

Plate 4. Example of a track in the project area and exposure in the cut bank of the track

Area 1 and Area 3 – Mid-Slopes

The best access to the mid slopes was within Area 1 and Area 3. The topography of the mid slopes was densely vegetated and difficult to survey with young tall forest and low shrubs and grass coverage. There was very limited archaeological exposure however it was not expected that artefact scatters would be located on this landform as the terrain is too steep. Access to the mid-slopes was along access tracks and from here any areas of exposure and mature trees were targeted and inspected, which amounted to <5%.

Plate 5: A track through the mid slopes.

Plate 6: Typical topography and vegetation of the mid-slope.

Area 1 and Area 3 – Lower Slope

The topography of the lower slopes was moderately steep to undulating. This transect was heavily vegetated with open forest, low shrubs and tall grasses. There was very limited archaeological exposure which made it difficult to determine whether Aboriginal occupation sites, such as artefact scatters, exist on this landform. Visibility was <5%. Within this landform the previously recorded scarred tree 38-4-0217 was identified (see Sec 0).

Plate 7: Site 38-4-0217 located on the lower slopes

Plate 8: Typical vegetation of the lower slopes

The survey coverage results are summarised in Table 8 and Table 9.

Table 8. Survey coverage results.

Survey Unit	Landform	Survey Unit Area (ha)	Visibility (%)	Exposure (%)	Effective Coverage (ha)	Effective Coverage (%)
Area 1 and Area 3	Creek lines	4.04	80%	50%	1.62	40%
Area 1 and Area 3	Pre-existing vehicle or foot tracks	0.19	80%	50%	0.08	80%
Area 1 and Area 3	Mid-Slopes	23.75	5%	5%	0.06	0.25%
Area 1 and Area 3	Lower Slope	5.25	5%	5%	0.01	0.25%
Not in transect	Upper Slope	1.32	NA	NA	0	0%

Table 9. Landform summary data.

Landform	Landform Area (ha)	Area Effectively Surveyed (ha)	Landform Effectively Surveyed (%)	Number of Sites	Number of Features
Creek lines	4.04	1.62	40%	0	0
Pre-existing vehicle or foot tracks	0.19	0.08	40%	0	0
Mid-Slopes	23.75	0.06	0.25%	0	0
Lower Slope	5.25	0.01	0.19%	1*	0
Not in transect	1.32	0	0	0	0

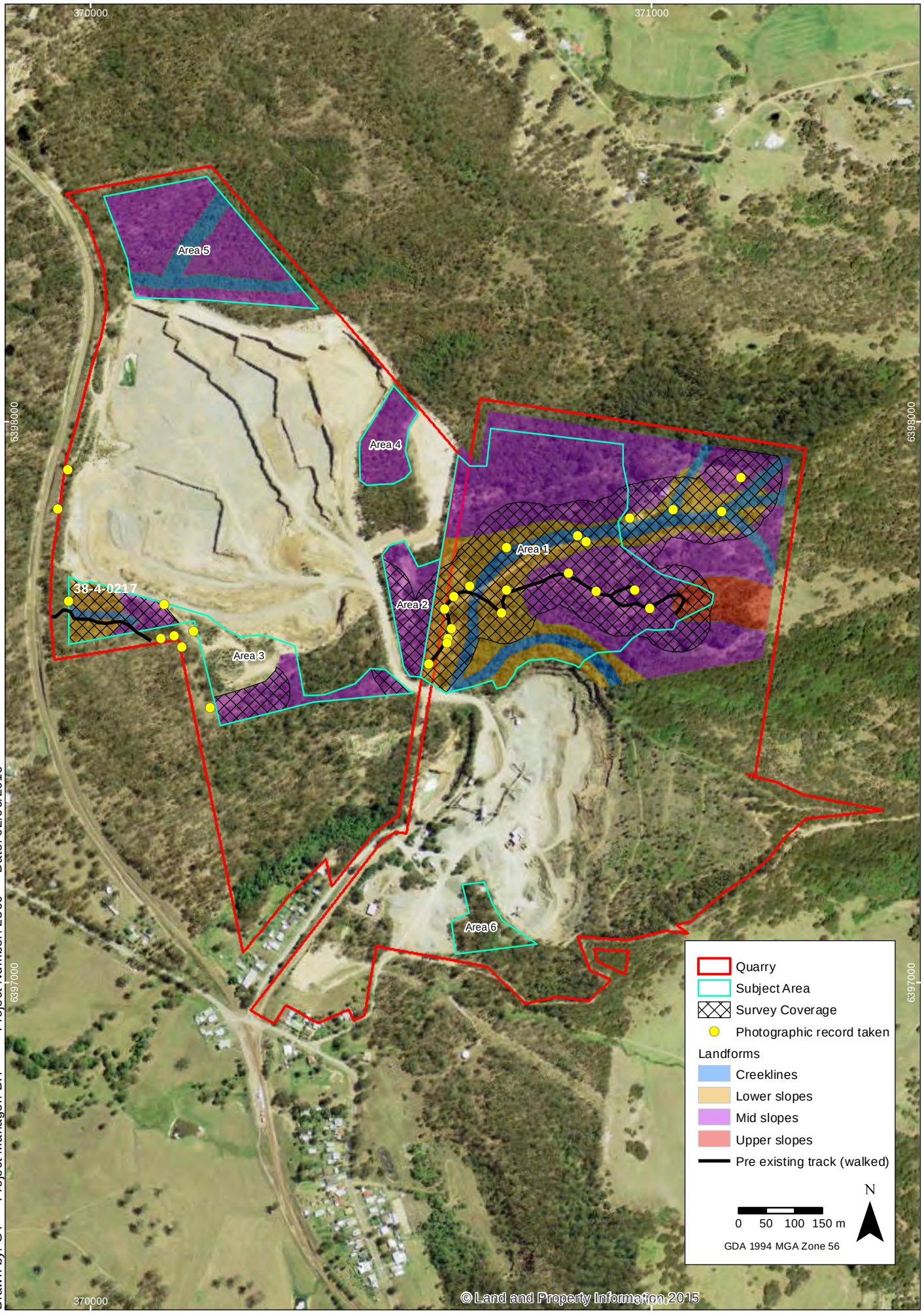
* AHIMS #38-4-0217 which is determined by this assessment not to be an Aboriginal object

11.5 Survey Results

No new Aboriginal archaeological, places or PADs were identified during the field investigation. The field team made every effort to re-locate the two previously recorded scarred trees (38-4-0217; 38-4-0218) and the recorded isolated find (38-4-0214). Despite extensive searching, site 38-4-0218 could not be re-located and it was determined amongst the field team that the tree no longer exists. Isolated find 38-4-0214 could not be re-located either and due to the complete loss of top soil at the listed location of the site it was determined that the site has low archaeological potential.

Site 38-4-0217 was re-located. A detailed inspection of the tree found that it contained no representing features of a culturally modified tree. The shape of the scar, it's location at the base of the tree and the young age of the tree all indicate that the scar is of natural origins. It was unanimously agreed amongst the field team that this previously recorded site is not an Aboriginal archaeological site.

Site number	Features	Survey Unit	Landform	Observations
38-4-0217	Scarred Tree	Area 1 and Area 3	Lower-slopes	Not a scarred tree



Drawn by: GT Project Manager: BH Project Number: 2360 Date: 02/06/2016

Landforms and Survey Results

Martins Creek Quarry - Aboriginal Cultural Heritage Assessment

niche Environment and Heritage

FIGURE 8

Imagery (c) LPI 2012-12-04

Path: T:\spatial\projects\a2300\a2360_Martin_Ck_ACHA\Maps\2360_Figure_8_Survey_ACHA_20160602.mxd

12. Analysis and Discussion

The Subject Area comprises of steep inhospitable terrain and is over 1 km (1.4 km) from its closest source of permanent water (the Paterson River). The predictive model determined stone artefact sites to be the most likely site type, however ground surface visibility was poor for most of the project area and no stone artefacts were identified. Scarred trees were considered the second most likely site type, however the tall open forests contain young trees, the original vegetation has been extensively cleared and few remnant mature trees exist.

The previously recorded scarred tree (38-4-0218) could not be re-located and is considered to no longer exist as all mature trees were checked in the vicinity of the original site recording. The other previously recorded scarred tree (38-4-0217) was found and identified but was determined to have not been culturally modified. The previously recorded isolated find (38-4-0214) could not be re-located and is considered to have low archaeological potential due to the complete loss of soil at the listed location.

It is considered unlikely that Aboriginal archaeological sites would occur in the Subject Area, as the inhospitable nature of the terrain indicates it would not have been used as a camping ground or as a travelling route.

No PADs were identified during the survey. It is considered if any archaeological sites do occur in the Subject Area they are likely to be sparse background scatters left during the very occasional and irregular use of the Subject Area by Aboriginal people in the past. Such sites would be difficult to identify due to the dense vegetation cover of the ground surface.

13. Scientific Values and Significance Assessment

13.1 Approach to assessment and values criteria

The *Burra Charter* (Australia ICOMOS 1999) defines the basic principles and procedures to be observed in the conservation of important places. It provides the primary framework within which decisions about the management of heritage sites in Australia should be made. The *Burra Charter* defines cultural significance as being derived from the following values:

Aesthetic Value

Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. Such criteria may include consideration of the form, scale, colour, texture and material of the fabric; the smells and sounds associated with the place and its use.

Historic Value

Historic value encompasses the history of aesthetics, science and society, and therefore to a large extent underlies all of the terms set out in this section.

A place may have historic value because it has influenced, or has been influenced by, an historic figure, event, phase or activity. It may also have historic value as the site of an important event. For any given place the significance will be greater where evidence of the association or event survives in situ, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment.

Scientific Value

The scientific or research value of a place will depend upon the importance of the data involved, on its rarity, quality or representativeness, and on the degree to which the place may contribute further substantial information.

Social Value

Social value embraces the qualities for which a place has become a focus of spiritual, political, national or other cultural sentiment to a majority or minority group.

Other Approaches

The categorisation into aesthetic, historic, scientific and social values is one approach to understanding the concept of cultural significance. However, more precise categories may be developed as understanding of a particular place increases.

The NSW DECCW guidelines for the significance assessment of Aboriginal archaeological sites are contained within the *Aboriginal Cultural Heritage Standards and Guidelines Kit* (Department of Environment and Conservation 1997). The Kit identifies with two main streams in the overall significance assessment process: the assessment of cultural/social significance to Aboriginal people and the assessment of scientific significance to archaeologists.

This approach encapsulates those aspects of the Burra Charter that are relevant to Aboriginal archaeological sites. The guidelines specify the following criteria for archaeological significance, as paraphrased below:

Research Potential

It is the potential to elucidate past behaviour which gives significance under this criterion rather than the potential to yield collections of artefacts. Matters considered under this criterion include – the intactness of a site, the potential for the site to build a chronology and the connectedness of the site to other sites in the archaeological landscape.

Representativeness

As a criterion, representativeness is only meaningful in relation to a conservation objective. Presumably all sites are representative of those in their class or they would not be in that class. What is an issue, is the extent to which a class of sites is conserved and whether the particular site being assessed, should be conserved in order to ensure that we retain a representative sample of the archaeological record as a whole. The conservation objective which underwrites the 'representativeness' criteria is that such a sample should be conserved.

Rarity

This criterion cannot easily be separated from that of representativeness. If a site is 'distinctive' then it will, by definition, be part of the variability which a representative sample would represent. The criteria might best be approached as one which exists within the criteria of representativeness, giving a particular weighting to certain classes of site. The main requirement for being able to assess rarity will be to know what is common and what is unusual in the site record but also the way that archaeology confers prestige on certain sites because of their ability to provide certain information.

The criterion of rarity may be assessed at a range of levels: local, regional, state, national, and global.

Educational Potential

Heritage sites and areas should be conserved and managed in relation to their value to people. It is assumed that archaeologists have the ability to speak of the value of sites to members of their own profession. Where archaeologists or others carrying out assessments are speaking for the educational value of sites to the public, the onus is on them to go to the public for an assessment of this value, or to reputable studies which have canvassed public demand for education. The danger, otherwise, is that archaeologists would be projecting their values onto a public which is itself given no voice on the matter.

Aesthetics

Archaeologists are not expected to include an assessment of aesthetic significance along with their assessment of scientific significance. In relation to heritage places, aesthetic significance is generally taken to mean the visual beauty of the place. Aesthetic value is not inherent in a place, but arises in the sensory response people have to it.

Although the guidelines provide no expectation for archaeologists to consider *aesthetic values* it is often the case that a site's or a landscape's aesthetic is a significant contributory value to significance. Examples of archaeological sites that may have high aesthetic values would be rock art sites, or sites located in

environments that evoke strong sensory responses. For this reason we consider it appropriate to include aesthetic values as part of the significance assessment below.

13.2 Assessment of Significance for the Subject Area

The assessment of significance has been completed in consideration of the Environmental Background, previous studies in the area, as well as the contemporary survey and assessment.

The Subject Area contains no identified Aboriginal objects or areas of identified Aboriginal cultural heritage value. The Subject Area is concluded to be unlikely to contain Aboriginal objects or areas of Aboriginal cultural heritage value, and is therefore concluded to have low Aboriginal heritage significance.

13.2.1 Archaeological Value

The archaeological value of this site is considered to be low due to there being only one isolated artefact identified within the Subject Area and the listed artefact could not be re-located. Niche confirmed the conclusion of previous assessments which concluded that the area has low potential to contain Aboriginal archaeological or cultural heritage sites.

13.2.2 Social Value

There were no specific areas or places of cultural value identified during the survey.

13.2.3 Historic Value

Owing to its small size the Subject Area is not considered to be important to the cultural or natural history of the local area and/or region and/or state.

13.2.4 Scientific (Archaeological) Value

The Subject Area does not have potential to yield information that would contribute to a further understanding of the cultural or natural history of the local area and/or region and/or state. The Subject Area contains one Aboriginal objects that could not be re-located and considered to be in highly disturbed context and having low archaeological potential. The assessment has concluded that Aboriginal objects are unlikely to occur within the Subject Area.

13.2.5 Aesthetic Value

Owing to the existing quarries the Subject Area has no Aesthetic Value.

14. Impact Assessment

The previously recorded Scarred Tree 38-4-0217 will be harmed by the proposed extraction area. The field team determined that the scarred tree is not of cultural origin and therefore not an Aboriginal site. The previously recorded Isolated Find 38-4-0214 will be impacted by the proposed extraction area. The field team determined that the isolated find could not be re-located and has low archaeological potential due to the disturbed context and the complete loss of soil. The previously recorded Scarred Tree 38-4-0218 could not be re-located and it has been assessed as no longer existing and therefore cannot be harmed by the proposed works (Table 10).

No other Aboriginal archaeological objects, places or PADs will be harmed by the proposed development.

Table 10. Impact assessment

Site number	Type of harm	Degree of harm	Consequence of harm
38-4-0214	Direct	Total	Total loss of value.
38-4-0217	None	None	No loss of value (not a site)
38-4-0218	None	None	No loss of value (not a site)

15. Management and Mitigation Measures

The proposed activity will harm one Aboriginal object but will not harm cultural heritage values, and is located in an area of low Aboriginal archaeological potential.

The previously recorded Isolated Find 38-4-0214 could not be re-located and it was determined that an *Aboriginal Site Impact Recording Form (ASRIF)* should be submitted to AHIMS before the start of the proposed extraction activities. The previously recorded Scarred Tree Site 38-4-0217 was found during the field survey and was determined to not be a culturally modified tree, and hence not an Aboriginal object as defined by the *National Parks and Wildlife Act* 1974. This determination should be confirmed by an arborist. The previously recorded Scarred Tree Site 38-4-0218 could not be re-located and it was concluded that it no longer exists. It is recommended that, upon the arborist's confirmation, OEH be advised of the status of these two scarred trees: 38-4-0217 should be recommended as being changed to a "non-valid" AHIMS record; for 38-4-0218 an *Aboriginal Site Impact Recording Form* advising AHIMS that the tree is no longer extant should be submitted. The process to manage the scarred tree recordings must be done in consultation between the field team that assessed the trees and the Office of Environment and Heritage.

16. Recommendations

As a result of this assessment the following recommendations have been made.

- An *ASRIF* should be submitted to AHIMS for Site #38-4-0214 before the start of proposed works in the vicinity of the site location. This procedure should be listed in the proposed management plan for the new extraction area.
- AHIMS Site #38-4-0217 must be assessed by an arborist, and pending further confirmation that it is not an Aboriginal object, a submission should be made to the Hunter Central Coast Region OEH recommending the record be changed to a "non-valid" AHIMS record;
- A *Site Impact Recording Form* advising AHIMS that the tree is no longer extant, and explaining the reasons for this conclusion, should be submitted to AHIMS for AHIMS #38-4-0218;
- The management plan for the proposed new extraction areas should include management recommendations and measures for site 38-4-0213 and 38-4-0215 to avoid any accidental harm during the construction of the new access road.
- The above activities should be conducted in consultation with the Registered Aboriginal Parties and the OEH.
- While this assessment indicates that the proposed works are unlikely to impact on Aboriginal cultural heritage values, an appropriate management process for the discovery and management of Aboriginal objects should be in place prior to the commencement of works. The process put in place should include appropriate incident reporting procedures during initial ground disturbance works (e.g. any vegetation clearance that may occur) to ensure that unexpected finds of Aboriginal objects are reported to OEH and then managed to meet regulatory requirements.
- Personnel and sub-contractors involved with the proposed works should complete a relevant cultural heritage induction, training or information session prior to commencing work on-site. This induction could form part of the broader induction program for project personnel. The induction should include making personnel aware of the potential for Aboriginal objects, types of objects and places that might be found, and why they are important.

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Annex 1-Newspaper Advertisement

Aboriginal Community Consultation and Registration of Interest

Aboriginal heritage assessment Martins Creek Quarry Extension Project, Martins Creek NSW

Buttai Gravel Pty Ltd is seeking an Approval for the State Significant Development of the *Martins Creek Quarry Extension Project (SSD 6612)*, located at Station Street, Martins Creek in the Dungog Shire Local Government Area. The proposed development will see a 36.8 ha expansion of the quarry into adjacent land.

In accordance with the Office of Environment and Heritage *Aboriginal cultural heritage consultation requirements for proponents 2010*, Buttai Gravel Pty Ltd is seeking to consult with any Aboriginal persons or groups who may hold cultural knowledge of, or who have the right or interest in Aboriginal cultural heritage of the subject area. The purpose of the consultation will be to assist the proponent to prepare an Aboriginal cultural heritage assessment and to develop appropriate management recommendations for any identified Aboriginal objects that might be identified during the process.

Buttai Gravel Pty Ltd is inviting Aboriginal people or groups who hold cultural knowledge relevant to the subject area to register their interest for the process.

All registrations for the project must be received by the 25th March 2015 and should be directed in writing to:

Balazs Hansel

Niche Environment and Heritage

PO Box 2443, North Parramatta NSW 1750

Fax: 02 4017 0071 Email: bhansel@niche-eh.com

Annex 2 – Notification Letter

Niche Environment and Heritage
PO Box 2443 North Parramatta NSW 1750
T 02 9630 5658 F 02 4017 0071
E info@niche-eh.com ABN 19 137 111 721

30 March 2015

Dear Sir/Madam

Re: Martins Creek Quarry Expansion Project (SSID 6612) - Aboriginal Heritage Assessment

Buttai Gravel Pty Ltd is seeking a Approval for the State Significant Development of the *Martins Creek Quarry Extension Project (SSD 6612)*, located at Station Street, Martins Creek in the Dungog Shire Local Government Area (please refer to attached map). The proposed development will see a 36.8 ha expansion of the quarry into adjacent land.

The proponent, Buttai Gravel Pty Ltd, can be contacted via their agent assisting with the Development Application:

Site R&D
P O Box 134
Kotara NSW 2289

In accordance with the Secretary's Environmental Assessment Requirements for the Project and the Office of Environment and Heritage *Aboriginal cultural heritage consultation requirements for proponents* 2010 we are seeking Aboriginal groups or individuals that may have an interest in the project and hold knowledge relevant to determining the cultural significance of Aboriginal objects and/or places relevant to the Project area. A newspaper advertisement was also placed in the Dungog Chronicle on 11 March 2015.

The purpose of Aboriginal community consultation will be to assist Buttai Gravel Pty Ltd with the preparation of an Aboriginal Cultural Heritage Assessment, and assist the of Department of Planning and Environment their consideration and determination of the application.

We would appreciate correspondence regarding this matter sent via email or mail to the address below by Friday 3 April 2015.

bhansel@niche-eh.com
Niche Environment and Heritage
PO Box 2443
North Parramatta NSW 1750
Tel: 0488 224 300

Yours sincerely,

Balazs Hansel

Annex 3 - Consultation Log

Date	Time	Group/Individual	Subject	Comments	Acting Person
16/02/2015	4:20pm	Tocomwall, Danny	Email received with registration		JR
26/02/2015	3:00pm	Ungooroo, Bree Waterhouse	Email received with registration		JR
5/03/2015	12:30pm	Todd Heard	Email received with registration		JR
10/03/2015	9:00am	LHWCS, Tommy Miller	Email received with registration		JR
26/03/2015	1:00pm	Donna M., MLALC	Email received with registration		BH
26/03/2013	4:00pm	ANTEC, Margaret M.	Asking for email address, she provided Darrell's.	She stated that all Matthews are interested.	BH
26/03/2015	4:10pm	UHHC, Darrell M.	Called mobile, left voice message indicating that registration is on and close soon.		BH
26/03/2015	4:15pm	Bullen, Lloyd M.	Called mobile, left voice message indicating that registration is on and close soon.		BH
26/03/2015	4:20pm	Carrawonga, Cheryl	Called mobile, left voice message indicating that registration is on and close soon.		BH
26/03/2015	4:25pm	DTC, Deslee	Asking for email address, which she provided for further communication.		BH
26/03/2015	4:30pm	DRM CM, Helen	Called mobile, left voice message indicating that registration is on and close soon.		BH
26/03/2015	4:35pm	Esther Tighe	Called but she was busy so I'll get back tomorrow.		BH
26/03/2015	4:40pm	Giwirr	Called mobile,it is disconnected, land line no voice recorder.	Need to call again	BH

30/03/2015	10:00am	A large number of groups	Sent notification email for gorups:ANTEC,AFT,A. Simpson,DFTV,DTC,DDACC,GWBNCI,HECMO,HSB,I&E,Jarban,JTMG,Kawul,LHAI,LWTC,M.Saunders,Moreeites,MCC,Myland,Ngarramang,R.Lester,R.Smith,R.Sampson,SDCG,S.Talbot,THC,WCS,Warrigal,WWCCS,Widescope,Wonn,Wurrumay,Yinarr	Email was bounced back:BCAC,CCC,HVCS,Kauma,Waabi	
					BH
30/03/2015	11:00am-12	Carrawonga,DRM,Esther,Giwiirr,HVCC,Mingga,Mooki,KLKG,L.Towney,HVNCS	Called groups/individuals for email address. No answer, left message.		
					BH
30/03/2015	11:00am-12	HSB,HTO,BCAC,HVCS,T&G,	Called but numbers are disconnected.		
					BH
30/03/2015	5:40pm	JLC, Jenny-Lee chanbers	Email received with registration of interest		
					BH
30/03/2015	6:25pm	SDCG, Timothy	Email received with registration of interest		
					BH
1/04/2015	10:20pm	MCC, Bobby	Email received with registration of interest		
					BH
2/04/2015	4:00pm	WHC, Shannon	Email was received with the intent of registering for the project.	Replied asking for confirm details and state if they're ok to send it to OEH	BH
3/04/2015	6:00pm	H&C, Tania	Email received with details	Replied to ask if she was interested, need statement.	BH
9/04/2015	8:20pm	Hunters & Collectors, Tania	Emai received with registration interest.		
					BH

10/04/2015	10:00am	ANTEC, Margaret M.	Phone call to Margaret asking if others in the family are receiveing our notifications. She says yes and registers altogether four groups: ANTEC, UHHC,HVCC, Rhodney Matthews.	I asked her to let everyone know that we need reply every time otherwise there will be problems communicateing new information. We can't chase everybody to provide answers.	BH
13/04/2015	12:18pm	HTO, Paulette and HVCS Luke	Phone call registrering for the project.	I sent them a confirmation email and asked to reply asap. Also updated the contact details	BH
16/04/2015	12:00pm	All registered stakeholders	Email was sent with info and methodology as per stage 2 and 3		BH
29/04/2015	9:00am	Call from George, Cacatua	He called stating that their email was down and requested info again.	I've forwarded all detrails again	BH
5/05/2015	10:00am	cacatua, George	They sent through all requested docs and provided feedback on methodology and info.		BH
12/05/2015	9:30am	All registered stakeholders	Email was sent again requesting insurances and reply in re methodology.	all email was delivered to recipents	BH
12/05/2015	1:30pm	ANTEC, Margaret M.	Phone call to follow up email requesting information.	She said they forgot. I've sent through my email address via sms to maker sure they reply	BH
12/05/2015	2:00pm	Cacatua, Tcomwall	Email about details of upcoming fieldwork as these groups provided all necesarry documents.		BH
12/05/2015	2:00pm	HTO, Paulette	Phone call to follow up email requesting information.	Left message on voicemail.	BH
12/05/2015	2:10pm	HVCS, Luke	Phone call to follow up email requesting information.	He promised to sort out everything today.	BH
12/05/2015	2:15pm	LHWCS, Tommy Miller	Phone call to follow up email requesting information.	Did not pick up and could not leave a message.	BH

12/05/2015	2:18pm	JLC, Jenny-Lee chanbers	Phone call to follow up email requesting information.	Left message on voicemail.	BH
12/05/2015	4:40pm	LHWCS, Tommy Miller	Tommy rang and promised to send through the docs asap.	I said I will call back on Thursday if I won't get it until than.	BH
12/05/2015	5:10pm	Todd Heard	Todd rang and said that he received the email this morning but not the previous one. He also promised to get back until the dued date.		BH
12/05/2015	5:30pm	LHWCS, Tommy Miller	Email received with all required details.		BH
12/05/2015	10:00am	MLALC, Donna	Email received with reply to methodology and with insurances/rates.		BH
13/05/2015	11:15am	Ungooroo, Bree Waterhouse	Email received with insurance paaers and rates.		BH
13/05/2015	14:40pm	WHC, Shannon	Fax received with reply on methodology and insurance papers/rates.		BH
13/05/2015	8:15pm	Todd Heard	Email with rates and reply to request. Insurance attachement did not come through though.	Emailed him back asking for the insurances again.	BH
14/05/2015	2:30pm	Steve Talbot	Email received with rates.	Emailed him back asking for the insurances again.	BH
15/05/2015	3:00pm	To all registered groups who provided all documentations	Email was sent with details of the field work and requirements re PPE.	Delivery notice was received from all recipents.	BH
20/05/2015	10:00am	JLC, Jenny-Lee chanbers	Copy of certificate of currency received	Emailed all details re field work.	BH

Annex 4 – Letter to RAPS

Niche Environment and Heritage
PO Box 2443 North Parramatta NSW 1750
T 02 9630 5658 F 02 4017 0071
E info@niche-eh.com ABN 19 137 111 721

16 April 2015

To Whom It May Concern,

Re: Project information and methodology for Aboriginal Cultural Heritage Assessment Report (ACHAR) and Archaeological Report (AR) for Martins Creek quarry expansion, Martins Creek NSW.

As previously advised, Buttai Gravel Pty Ltd (BG) is seeking a Approval for the State Significant Development of the *Martins Creek Quarry Extension Project (SSD 6612)*, located at Station Street, Martins Creek in the Dungog Shire Local Government Area (please refer to attached map). The proposed development will see a 36.8 ha expansion of the quarry into adjacent land. Please find the attached map at the end of this letter. The expansion includes 'Proposed East Pit A', 'Future West Pit Expansion and the Proposed Pugmill area.

In accordance with Stage 2 and 3 of the Office of Environment and Heritage (OEH) *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW, 2010) BG is consulting with Aboriginal persons and groups who have been registered their interest in the procedure for assessing Aboriginal objects, places and/or Aboriginal cultural heritage in the proposed area of development.

The scope of works for the project is outlined below:

- ❒ Undertaking consultation stages in line with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW, 2010);
- ❒ Preparation of a draft ACHAR and an AR in line with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011);*
- ❒ Undertake a field inspection with the participation of the Registered Aboriginal Parties (RAPs) in line with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010a)*;
- ❒ Provide the draft ACHAR and AR for the RAPs fro comments; and
- ❒ Finalisation of the ACHAR/AR and the preparation of an AHIP application should harm to identified Aboriginal objects can't be avoided.

The methodology for the project is developed in line with the abovementioned guidelines. In addition, Niche is proposing the following methodology:

- ❒ Identify and assess areas of potential cultural value in consultation with the RAPs collecting information throughout the project;
- ❒ Re-location of previously recorded sites within and close proximity to the subject area (land access permitting);
- ❒ Incorporate all comments form the RAPs into the draft ACHAR;
- ❒ Undertake an impact assessment for any identified Aboriginal objects;

- ❒ Develop recommendations for avoid/mitigate/manage potential impacts to Aboriginal object if present.

If you have any comments, suggestions or queries regarding the methodology, please contact Niche Environment and Heritage as soon as possible. The statutory time frame for commenting on the methodology closes on 14 May, 2015.

Please provide any cultural information in a format you deem suitable, and don't hesitate to call and discuss any special requirements you may have regarding this. Things you may wish to consider include:

a. Whether you know of Aboriginal objects of cultural value to Aboriginal people in the area of the proposed project, and

b. Whether you know of any places of cultural value to Aboriginal people in the area of the proposed project. This includes places of social, spiritual and cultural value, historic places with cultural significance, and potential places/areas of historic, social, spiritual and/or cultural significance.

We are planning to conduct our cultural heritage surveys early May 2015 and the survey will take approximately one full day. Once we have finalised numbers for participation in the field survey we will begin to organise logistics such as time.

Please note that field work participants from the RAPs will be required to be physically fit and provide the following information prior to engagement:

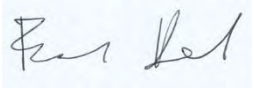
- ❒ Current insurances: public & products liability and Workers' Compensation;
- ❒ Copy of the Workcover *Occupational Health and Safety General Induction for construction work in NSW* also known as green card/white card of the nominated site officer;
- ❒ Fieldwork rates: full day, half day, hourly rates;

Please note that consultation with Aboriginal people should not be confused with employment. Inclusion in the consultation process does not automatically mean employment. It is the decision of the proponent on who they engage for delivering particular services based on a range of considerations including skills, relevant experience, and providing necessary certificates of currency. It is also the decision of the proponent to set rates after considering the provided fieldwork rates.

Niche has the obligation to provide the details of the RAPs to OEH within 28 days from the closing date of the registration. Please provide a statement if you do not want your details to be forwarded to the OEH.

Please provide all correspondence in writing to the following email address: bhansel@niche-eh.com or call on 0488 224 300 before the 14 May, 2015.

Yours sincerely



Balazs Hansel
Niche Environment and Heritage

QUARRY AREAS

QUARRY SITE BOUNDARIES - 123.87 Ha
EXISTING EXTRACTION - 32.7 Ha
EXISTING PROCESSING AREA - 14.2 Ha
PROCESSING AREA EXTENSION/PUGMILL - 1.0 Ha
PREVIOUSLY RE-HABILITATED - 6.4 Ha
FUTURE WEST PIT EXPANSION - 12.6 Ha
PROPOSED EAST PIT A - 22.8 Ha
PROPOSED EAST PIT B - 6.8 Ha
APPROVED LIMIT OF EXTRACTION

N
W
E
S
NORTH

LOT 6
D P 2 4 2 2 1 0
25.26 ha

WEST PIT

LOT 5
D P 2 4 2 2 1 0
27.06 ha

LOT 21
D P 7 7 3 2 2 0
28.87 ha

PROPOSED
EAST PIT A

COAST

LOT 42
D P 8 1 5 6 2 8
9.887 ha

ROAD

PROPOSED
EAST PIT B

LOT
D P 1 0 0 4 3 7 5
28.10 ha

PROCESSING
AREA

LOT 1
D P 2 0 4 3 7
4.7 ha

PROPOSED
PUGMILL

ROAD

STATION ST

GRACE

COREY ST

VOGELES

DOUGLAS ST

AVE

RAILWAY

50 0 50 100 150 200 250m

NOTES

DARACON Group Est.1983

PREPARED BY

NCPL
Neil Charters Pty Ltd
SURVEY AND DESIGN SERVICES
Ph : 0412 149 691 email : ncharters@bigpond.com

SCALE : AS PER BAR SCALE

DATE : 3.9.17

DARACON GROUP
MARTINS CREEK QUARRY
QUARRY AREAS SEPTEMBER 2014

NCPL DRG No.

11745

Annex 5 – Submissions from RAPS

Tocomwall Pty Ltd
PO Box 76 Caringbah NSW 1495
Tel: 02 9542 7714 Fax: 02 9524 4146
Email: info@tocomwall.com.au www.tocomwall.com.au
ABN: 13 137 694 618

16 February 2015

Jamie Reeves
Niche Environment and Heritage
PO Box 2443
North Parramatta 1750
Via email: jreeves@niche-eh.com

RE: Expression Of Interest For Aboriginal Cultural Heritage Assessment Martins Creek quarry.

Dear David,

Tocomwall is the representative for the Registered Native Title Party Scott Franks and Anor on the behalf of The Plains Clan of the Wonnarua People Federal Court Number NSD1680/2013 NNTT Number NC2013/006. Please ensure that you only contact Scott Franks regarding your project. The PCWP contact is the writer and the only contact and spokes person for the group, if you or your client is contacted by any party or person accreting that they are a member or a spokes person for the PCWP you will need this in writing from Tocomwall.

As such the following Traditional protocols must be met.

- The right to speak for and make decisions about the application area;
- The right to control access to, and use of, the area by those Aboriginal people who seek access or use in accordance with traditional law and custom.

The native title rights and interests are subject to and exercisable in accordance with:

1. (a) The laws of the State of New South Wales and the Commonwealth of Australia;
2. (b) The rights (past or present) conferred upon persons pursuant to the laws of the commonwealth and the laws of the state of New South Wales; and (c) the traditional laws acknowledged and the traditional customs observed by the native title claim group.

We would also like to advise that the current consultation guidelines for proponents 2010 in some cases may be used for the purpose of consultation, please consider the following;

3.3.1 who can provide this information?

Aboriginal people who can provide the information outlined in 3.3 above are, based on Aboriginal lore and custom, the traditional owners or custodians of the land that is the subject of the proposed project. Traditional owners or custodians with appropriate cultural heritage knowledge to

Tocomwall Pty Ltd
PO Box 76 Caringbah NSW 1495
Tel: 02 9542 7714 Fax: 02 9524 4146
Email: info@tocomwall.com.au www.tocomwall.com.au
ABN: 13 137 694 618

inform decision making who seek to register their interest as an Aboriginal party are those people who:

- Continue to maintain a deep respect for their ancestral belief system, traditional lore and custom
- Recognise their responsibilities and obligations to protect and conserve their culture and heritage and care for their traditional lands or Country
- Have the trust of their community, knowledge and understanding of their culture, and permission to speak about it.

In some cases, the information required for decision making will be held by Aboriginal people with statutory recognition for certain lands:

- Aboriginal owners in accordance with the NSW ALR Act and/or

- Native title holders or registered native title claimants in accordance with the *Native Title Act 1993* (Cth) and NSW *Native Title Act 1994*

It is acknowledged that Aboriginal people who, through a historical presence in a particular area, may have developed cultural knowledge relevant to the Aboriginal objects and/or places based on knowledge passed down to them by Aboriginal people with a traditional connection to Country. DECCW respects the rights of Aboriginal people with a historical connection to Country to, with their permission, act on behalf of Aboriginal people with a traditional connection to Country. DECCW acknowledges that in some cases it will only be Aboriginal people with a historical connection to an area who have the knowledge to inform the assessment of cultural significance of certain objects/places; e.g. on Aboriginal reserves and missions.

Could you please ensure that you client contact Tocomwall directly to ensure that your project is not held up by lengthy and unnecessary confusion regarding our rights and your obligation with regard to our Native title status.

Regards,

Scott Franks

Registered Native Title Claimant

Balazs Hansel

From: Donna Matthews <executive@mindaribbalalc.org>
Sent: Wednesday, 13 May 2015 10:03 AM
To: Balazs Hansel
Subject: Martins Creek Quarry Expansion
Attachments: DOC130515-13052015095525.pdf

Good Morning Balazs

Mindaribba Local Aboriginal land Council have viewed and read the Methodology for this assessment. At this point in time have no issues arising with this proposed Methodology.

All of Mindaribba LALC's workers currently hold their white card, at this point in time I do not know which worker I will be sending to Martins Creek. Is it possible for the worker to produce their card to you on the day?

Mindaribba LALC's fieldwork rates are $600.00 per day plus GST.

I have also attached Mindaribba LALC's insurance papers.

Kind Regards

Donna Matthews

Executive Assistant
Ph: 02 4015 7000
Fax: 02 4934 8544

Lower Hunter Wonnarua Cultural Services
ABN: 21 808 659 440

RE. ABORIGINAL CULTURAL HERITAGE ASSESSMENT MARTINS CREEK QUARRY EXPANSION PROJECT.

Hi Jamie,

We LOWER HUNTER WONNARUA CULTURAL SERVICES would like to register interest in the above project. We are sorry for not registering earlier but we have just come across the paperwork sent by NTSCORP and did not realize the time for this was closing until just now.

We the LOWER HUNTER WONNARUA CULTURAL SERVICES have knowledge and interest in this area and would want to be included in all aspects of this project.

If you need any clarification you can call me on 0402 636 521.

Yours truly,

Thomas Miller
WONNARUA ELDER Lower Hunter Wonnarua Cultural Services

Postal Address: 51 Bowden Street Heddon Greta, NSW 2321 Mobile: 0402 636 521 Fax: 0249 372 694
email: tn.miller@southernphone.com.au

Balazs Hansel

From: cacatua4service@tpg.com.au
Sent: Tuesday, 5 May 2015 8:37 AM
To: Balazs Hansel
Subject: Re: REgistration request and Stage 2 and 3 documents for Martins Creek Quarry extension

Balazs,

Thank you for the information you supplied with regards to the Martins Creek Quarry extension.
Cacatua has read and discussed the information and support the methodology and other information that was in your email.

Thank you
George Sampson
Cacatua

----- Original Message -----
From:
"Balazs Hansel" <bhansel@niche-eh.com>

To:
"cacatua4service@tpg.com.au" <cacatua4service@tpg.com.au>
Cc:

Sent:
Tue, 28 Apr 2015 23:33:03 +0000
Subject:
REgistration request and Stage 2 and 3 documents for Martins Creek Quarry extension

Dear George,

Hope you'll get this email. I have already sent all this information previously and got the delivery notification back so don't know what happened. Anyway, please find all info attached and below.

Dear All,

Thank you for registering on the above project. Please be advised that the registration has ended and now we are starting Stage 2 and Stage 3 of the consultation.

Please find the information letter and the figure of proposed expansion attached to this email.

Niche has the obligation to provide the details of the Registered Aboriginal Parties to OEH within 28 days from the closing date of the registration. Please provide a statement if you DO NOT want your details to be forwarded to the OEH.

Please provide all correspondence in writing to the following email address: bhansel@niche-eh.com or call on 0488 224 300 before the 14 May, 2015. Niche would appreciate the reply as soon as, so we can organise the field survey as early as possible.

Regards,

Balazs Hansel, MA Arch, MA History
Senior Archaeologist & Heritage Consultant
Parramatta Office
c/o PO Box 2443, North Parramatta NSW 1750
bhansel@niche-eh.com www.niche-eh.com
Mob: 0488224300 Fax: 02 4017 0071

Annex 6 – AHIMS search

AHIMS Web Services (AWS)

Extensive search - Site list report

Purchase Order/Reference : 2360

Client Service ID : 161626

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
38-4-0156	Red Hill 3	AGD	56	374660	6393350	Open site	Valid	Stone Arrangement : -	Stone Arrangement	1333
	Contact	**Recorders**	Warren Bluff					**Permits**		
38-4-0157	South Fork.;	AGD	56	372700	6387800	Open site	Valid	Grinding Groove : -, Art (Pigment or Engraved) : -	Axe Grinding Groove,Rock Engraving	1333
	Contact	**Recorders**	Warren Bluff					**Permits**		
38-4-0159	Stradbroke;	AGD	56	369110	6387850	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	1333
	Contact	**Recorders**	Warren Bluff					**Permits**		
38-4-0176	Tocal;	AGD	56	363980	6391420	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	1333
	Contact	**Recorders**	Warren Bluff					**Permits**		
38-4-0179	Duns creek;	AGD	56	370850	6388870	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	1333
	Contact	**Recorders**	Warren Bluff					**Permits**		
38-4-0069	Martins Creek;	AGD	56	369540	6398390	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	
	Contact	**Recorders**	ASRSYS					**Permits**		
38-4-0292	Tocal;	AGD	56	367500	6389090	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	1333,102447,102762
	Contact	**Recorders**	Warren Bluff					**Permits**		
38-4-0293	Tocal;	AGD	56	367590	6389580	Open site	Valid	Grinding Groove : -	Axe Grinding Groove	1333,102447,102762
	Contact	**Recorders**	Warren Bluff					**Permits**		
38-4-0294	Patison Rd.;	AGD	56	368990	6395990	Open site	Valid	Shell : -, Artefact : -	Midden	1333
	Contact	**Recorders**	Warren Bluff					**Permits**		
38-4-0214	Martins Creek 2	AGD	56	370600	6397300	Open site	Valid	Artefact : -	Isolated Find	1872
	Contact	**Recorders**	Gary Dunnett					**Permits**		
38-4-0215	Martins Creek 3	AGD	56	370400	6397300	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	1872
	Contact	**Recorders**	Gary Dunnett					**Permits**		
38-4-0216	Martins Creek 4	AGD	56	366900	6397650	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	1872
	Contact	**Recorders**	Gary Dunnett					**Permits**		

Report generated by AHIMS Web Service on 06/02/2015 for Jamie Reeves for the following area at Lat, Long From : -32.6476, 151.4848 - Lat, Long To : -32.4762, 151.7567 with a Buffer of 0 meters. Additional Info : ACHA for SSD. Number of Aboriginal sites and Aboriginal objects found is 37

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
38-4-0217	Martins Creek 5	AGD	56	369880	6397490	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	1872
	Contact	**Recorders**	Gary Dunnett					**Permits**		
38-4-0218	Martins Creek 6	AGD	56	369840	6397590	Open site	Valid	Modified Tree (Carved or Scarred) : -	Scarred Tree	1872
	Contact	**Recorders**	Gary Dunnett					**Permits**		
38-4-0103	Vacy No.2 Martins Creek	AGD	56	369750	6399020	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	**Recorders**	Allan Lance					**Permits**		
38-4-0105	Vacy;Site 1;Martins Creek;	AGD	56	369200	6398510	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	**Recorders**	Allan Lance					**Permits**		
38-4-0014	Red Hill 4	AGD	56	374289	6392438	Open site	Valid	Stone Arrangement : -	Stone Arrangement	
	Contact	**Recorders**	Unknown Author					**Permits**		
37-6-1086	GG B 46	AGD	56	358239	6400014	Open site	Valid	Artefact : -		
	Contact	**Recorders**	Archaeological Risk Assessment Services (ARAS)					**Permits**		
38-4-0841	Martins Creek PAD 1	AGD	56	369800	6396910	Open site	Valid	Potential Archaeological Deposit (PAD) : -		
	Contact S Scanlon	**Recorders**	Austral Archaeology Pty Ltd					**Permits**	2263	
38-4-0983	Grace Avenue, Martins Creek 1	AGD	56	369987	6396819	Open site	Valid	Artefact : 6		101133
	Contact Searle	**Recorders**	Austral Archaeology Pty Ltd					**Permits**	2633,2729,2855	
38-4-0990	Clarence Town 23 Locus A (CT23/A)	AGD	56	381900	6396510	Open site	Valid	Artefact : -		
	Contact T Russell	**Recorders**	Mr.Peter Kuskie					**Permits**	2912	
38-4-0213	Martins Creek 1	AGD	56	370400	6397300	Open site	Valid	Artefact : -	Isolated Find	1872
	Contact	**Recorders**	Gary Dunnett					**Permits**		
38-4-0104	Vacy;No.3;Martins Creek;	AGD	56	369840	6399100	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	**Recorders**	Allan Lance					**Permits**		
38-4-1182	Vacy-Cornish	AGD	56	365404	6399931	Open site	Destroyed	Artefact : -		
	Contact	**Recorders**	RPS Australia East Pty Ltd -Hamilton,Mr.Lennard Roberts,Ms.Ali Byrne					**Permits**	3310	
38-4-1183	Vacy-Cornish_	GDA	56	365317	6400112	Open site	Valid	Artefact : 1		
	Contact	**Recorders**	Mr.Lennard Roberts					**Permits**		
38-4-1201	PAD12 (Maitland)	GDA	56	382530	6389641	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	Contact	**Recorders**	Mr.Rick Bullers					**Permits**		

Report generated by AHIMS Web Service on 06/02/2015 for Jamie Reeves for the following area at Lat, Long From : -32.6476, 151.4848 - Lat, Long To : -32.4762, 151.7567 with a Buffer of 0 meters. Additional Info : ACHA for SSD. Number of Aboriginal sites and Aboriginal objects found is 37

AHIMS Web Services (AWS)

Extensive search - Site list report

Purchase Order/Reference : 2360

Client Service ID : 161626

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
38-4-1202	PAD13 (Maitland)	GDA	56	382073	6388896	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	Contact	**Recorders**	Mr.Rick Bullers					**Permits**		
38-4-1178	Paterson 1 Scarred Tree	GDA	56	370521	6392862	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		101639
	Contact	**Recorders**	MCH - McCardle Cultural Heritage Pty Ltd					**Permits**		
38-4-1179	Paterson PAD 1	GDA	56	370300	6392440	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		101639
	Contact	**Recorders**	MCH - McCardle Cultural Heritage Pty Ltd					**Permits**		
38-4-1180	Paterson PAD 2	GDA	56	370370	6392660	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		101639
	Contact	**Recorders**	MCH - McCardle Cultural Heritage Pty Ltd					**Permits**		
38-4-1181	Paterson PAD 3	GDA	56	370110	6392950	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		101639
	Contact	**Recorders**	MCH - McCardle Cultural Heritage Pty Ltd					**Permits**		
38-4-1304	RPS STANFORD METHYR AS2	GDA	56	359770	6399774	Open site	Valid	Artefact : -		
	Contact	**Recorders**	RPS Australia East Pty Ltd -Hamilton,Ms.Laraine Nelson					**Permits**		
37-6-2774	DA2	AGD	56	358270	6387470	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	**Recorders**	Ms.Mary Dallas					**Permits**		
38-4-1529	SEAHAN-01	GDA	56	379710	6387561	Open site	Valid	Artefact : 1		
	Contact	**Recorders**	Miss.Amy Stevens					**Permits**		
38-4-1477	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			102762
	Contact	**Recorders**	Victor Perry,Junburra Aboriginal Consultancy Services					**Permits**		
38-4-1384	Restriction applied. Please contact ahims@environment.nsw.gov.au.					Open site	Valid			102447,102762
	Contact	**Recorders**	Victor Perry,Junburra Aboriginal Consultancy Services					**Permits**		
38-4-1383	Gostwyck Bridge PAD 1	GDA	56	369057	6396095	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	Contact	**Recorders**	Ms.Mary-Jean Sutton,Virtus Heritage - Tighes Hill					**Permits**		

Report generated by AHIMS Web Service on 06/02/2015 for Jamie Reeves for the following area at Lat, Long From : -32.6476, 151.4848 - Lat, Long To : -32.4762, 151.7567 with a Buffer of 0 meters. Additional Info : ACHA for SSD. Number of Aboriginal sites and Aboriginal objects found is 37

Niche Environment and Heritage

A specialist environmental and heritage consultancy.

Head Office

Niche Environment and Heritage
PO Box 2443 North Parramatta NSW 1750
Email: info@niche-eh.com

All mail correspondence should be through our Head Office

Arborist Report

Client: Site R & D Pty Ltd

Address: Martins Creek Quarry,

Martins Creek N.S.W 2420

Bradley Magus

Valuation Solutions PTY LTD

Trading as ***Abacus Tree Services***

ABN: 63 163 718 631

ACN: 108 515 859

P.O Box 333 Newcastle 2300

(Ph 0425 203 049)

Email: abacustrees@gmail.com

www.abacustreeservices.com

Tafe RTO Provider Number: 90002

Table of Contents

1.0 Executive Summary

- It is recommended that Site R & D Pty Ltd on behalf of Buttai Gravel trading as Daracon Quarries (the client) embark on a management program for Tree 1 as follows:

- It is recommended that Tree 1 (1 in total) be removed to allow for the expansion of the Martins Creek Quarry.

2.0 Arborist Details

Bradley Magus **Contact Details:** P.O Box 333 Newcastle 2300 Ph: 0425 203 049 Email: abacustrees@gmail.com or bradmagus1@bigpond.com Web: www.abacustreeservices.com	**Qualifications** 1. Diploma Horticulture (1993) 2. Bachelor of Horticulture Science (1996) 3. Masters Land Economics (2002) 4. Diploma Horticulture (Arboriculture) (AQF 5) 2007 (Dux) 5. International Society of Arboriculture Certified Arborist (2007) 6. QTRA Assessor – 2011 & 2013

2.1 Introduction

Abacus Tree Services was commissioned by Site R & D Pty Ltd on behalf of Buttai Gravel trading as Daracon Quarries (the client) to prepare an arborist report. An assessment was made on one (1) tree (Tree 1) located within the confines of Martins Creek Quarry, Martins Creek. There is in total one (1) tree located at Martins Creek Quarry, Martins Creek that was assessed as per the applicant's instructions.

The purpose of this report is to provide information and guidance to the applicant in relation to one (1) tree only. The information in this report is to be used in correlation with other reports identified by the client and will aid the client in determining a recorded scar tree site (38-4-0217) in relation to its age and overall health and condition. This in turn will outline whether the species (Tree 1) qualifies as a culturally modified tree, and hence and aboriginal object as defined by the National Parks & Wildlife Act 1974 and will provide the client with a framework for determining the application.

This report and its recommendations are based upon a physical site inspection undertaken on the 18 May 2016.

The photographs included in this report were taken at the time of the inspection on the 18 May 2016.

2.2 Aims of this report/Procedure

The aim of this report is to assess the health and condition of one (1) tree (Tree 1). The condition of the tree was assessed from ground level using the VTA (Visual Tree Assessment) method as outlined by Mattheck & Breloer (1999). The following criteria will be assessed within this report –

- An assessment of the dimensions (age, class, height and Diameter at Breast Height (D.B.H)
- An assessment of the health and condition of the tree (Tree 1);An assessment of the Useful Life Expectancy (U.L.E)
- An estimated age of the tree based on its condition, species type & diameter of the trunk.
- Compilation of an appropriate report detailing the results of the above assessments
- Hazard Rating, Recommendations for Tree 1

The (U.L.E) method of tree assessment, as outlined by Jeremy Barrell (1999) has been adopted within this report. U.L.E categories give an indication of the useful life expectancy anticipated for the tree that has been adopted for this report. Several factors are considered in determining this rating such as species, location, age, condition and health of the tree. The five U.L.E categories are outlined in detail within Appendix 2.

3.0 Disclaimer

This assessment has been prepared for the exclusive use of the applicant (Site R & D Pty Ltd on behalf of Buttai Gravel trading as Daracon Quarries (the client)), for the preparation of an application submission to The Office of Environment & Heritage (OEH). Information in this report relates to one (1) tree (Tree 1) within the premises of Martins Creek Quarry, Martins Creek only and should not be used in conjunction with any other property.

This assessment was carried out from the ground, and covers what was reasonably able to be assessed and available to the assessor at the time of the inspection. The assessor carried out no aerial inspections. Information contained in this report covers only the trees that were examined and reflects the condition of the trees at the time of the inspection; furthermore the inspection was limited to a visual examination of the subject trees without dissection, excavation, probing or coring. Trees are living things and there condition will change over time. Therefore there is no guarantee that problems or deficiencies of the subject tree may not arise in the future.

3.1 Site Map

Figure 1
Location: All trees are located within Martins Creek Quarry, Martins Creek
Source: www.googlemaps.com.au

3.2 Site Description

Tree 1 is located wholly within Martins Creek Quarry, Martins Creek. The site is located in the municipality of Dungog Council. The species (Tree 1) on site currently comes under the requirements set out in Dungog Council's Development Control Plan (DCP).

The site is undulating with the immediate area being dominated by the quarry and remnant bushland. The immediate bushland surrounding Tree 1 has the potential to be previously forested due to majority of the species being young to semi mature species. The nearest major arterial road is Clarence Town Road to the east. Tree 1 is located within the subject property identified as Martins Creek Quarry, Martins Creek. Martins Creek Quarry is privately leased and is operated by Buttai Gravel Pty Ltd (the client). Martins Creek is a town located 27 km south west of Dungog and 25km north of Maitland. The subject property is located within the Hunter Valley region.

Figure 2 – Location of subject property identified as Martins Creek Quarry, Martins Creek
Source: Google Maps

3.4 Soil Considerations

From a visual observation there has been minimal soil disturbance in the last few years within the surveyed area surrounding Tree 1 (938-4-0217). From a visual observation there has been no recent excavation works in and around Tree 1 limited to its structural root zone (SRZ) and tree protection zone (TPZ) as outlined in accordance with Australian Standards 4970 – 2009. Tree 1 is situated within a natural setting within a moderately steep slope. A root investigation would need to be undertaken if any roots have been damaged or diseased.

Further detail on soil structures and soil types can be found within the report prepared by Niche Environment & Heritage (Pages 20 & 21)

4.0 Tree Schedule

Species & dimension requirements on Page 10.

Tree No	Scientific Name	Common Name	DBH (MM)	Height (M)	AGE CLASS	Vigour	SPREAD N.E.S.W.	ULE	Comments
1	Eucalyptus siderophloia	Grey Ironbark	630	13	OM	N/A	4,0,4,3	4a	Tree 1 is dead with no living tissue. Tree 1 is generally symmetrical with a LCR = 0%. Tree 1 has three main 1st order scaffolds. Borer activity within trunk. Fissure cracks noted on SW side & NE side of trunk. Decay in fork union to S at 8 metres above ground level.

Key:

Age class: Young = Y, Semi mature = SM, Mature = M, Over mature = OM
DBH = Diameter at Breast Height LCR = Live Crown Ratio
Vigour = Excellent = E, Good = G, Fair = f, Poor = P
LDW = large deadwood over 40mm, MDW = Minor deadwood less than 40mm
N= north, E = east, W = west, S = south MS = multiple Stems
ULE = Useful Life Expectancy (See appendix 2 for guidelines)

4.1 Trees & Impact on Development

Trees are living organisms and their root systems play an integral role in stability and providing nutrient storage as well as water uptake. The majority of tree roots for Dicotyledons occur within the first metre of the soil. Therefore construction works can have a profound effect on their health and longevity as well as their structural stability. Tree distances from excavation works must be taken into consideration at the planning stage to ensure that the tree is not damaged.

There are several main factors that occur at the construction phase that can have a negative impact on the trees health and stability. These practices can include but are not limited to –

- Parking of vehicles and heavy machinery within the drip line of the tree.
- Stockpiling of materials within the drip line of the tree.
- Excavating within the drip line and damaging the structural root system.
- Raising soil levels in and around the base of the tree therefore reducing the trees ability for gaseous exchange.
- Damage to the tree due to heavy machinery and equipment resulting in large bark tears or loss of branches and scaffolds.

To reduce the effects of construction it is imperative to provide an area underneath the tree where no works are undertaken. The area where supervised works are undertaken is referred to as the structural root zone (SRZ). The S.R.Z is an area where no to minimal activities listed above should occur. All trees require a S.R.Z and will vary from species to species but for the purposes of this report the Australian Standards 4970 has now been adopted.

In conclusion the Australian Standards like similar methods for protecting trees is only a guide. To ensure the health and longevity of trees within construction sites it is imperative to provide a large protection zone taking into consideration that the tree will also grow over time. The greater area that can be put aside where no works occur will aid in the preservation of the tree. The activities listed above should be kept to a minimum and encroachment within the SRZ will require the supervision by a qualified AQF 5 arborist. These impacts will be taken into consideration in the conclusions section of this report.

5.0 Discussion

Abacus Tree Services has been approached by Site R & D Pty Ltd on behalf of Buttai Gravel trading as Daracon Quarries (the client) to undertake an arborist (assessment) report on Tree 1. There is one tree (Tree 1) that has been assessed within the subject property (Martin Creek Quarry, Martins Creek). The applicant proposes to undertake the following: "The Martins Creek Quarry Extension Project, involves the following:

extracting up to 1.5 million tonnes of hard rock material per annum; expanding into new extraction areas and clearing existing vegetation; increasing the hours of operation for:-

Quarrying to 6am – 6pm (Monday to Saturday),

Processing to 6am - 10pm (Monday to Saturday),

Mixing and binding to 4:30am - 10pm (Monday to Friday) and 4:30am - 6pm (Saturdays),

Stockpiling, loading and dispatch of road transport to 5:30am - 7pm (Monday to Saturday) and

Train loading to 24 hours per day, 7 days per week;

Consolidating existing operations and approvals; and rehabilitating the site.

The project is to continue extraction of hard rock from the site by completing the extraction of the existing operational areas on expanding the operational area and then increasing the depth of extraction in the area where the current processing plant is located.

The project seeks to continue existing operations to complete the extraction of material in existing areas in conjunction with expansion into the proposed new areas to maximise the utilisation of the resource. Mining methods are expected to remain the same as currently used with rock being broken by Drill and Blast techniques in the pit with Run of Mine (ROM) material being trucked to the crushing plant for further processing before being stockpiled and loaded on to road trucks for delivery to market."

This component was satisfied by the report outlined by Niche Environment & Heritage – Aboriginal Cultural Heritage Assessment (ACHA). The assessment in relation to an arborist report and recommendations has been prepared by Abacus Tree Services.

Abacus Tree Services has relied upon GPS co-ordinates provided by Site R & D Pty Ltd. I have relied upon this information to be true and accurate. The information provided by Dunnet Packard (Page 25 – Plate 2) matches the patterns & bark configuration of the species identified within the document.

Figure 2 – showing the location of Tree 1 within the subject site surveyed in correlation with GPS coordinates (38-4-0217)

Figure 3 – showing the location of Tree 1 within a forested area of Martins Creek Quarry.

Tree 1 has been identified/keyed out to a Eucalyptus siderophloia that is senescent. This species still has an estimated 55 – 60% of its bark primarily within the trunk Tree 1 is generally symmetrical with a single main leader at 1.4 metres above ground level. Tree 1 has an estimated live crown ratio of 0%. Tree 1 has three (3) main 1st order scaffolds. The species has no living tissue and is dead. There is noted fissure cracks noted within the trunk. There is minor borer holes noted within the trunk. There is decay noted in the fork union to the southern quadrant at 8 metres above ground level as noted in figure 4. There is mud activity associated with termite activity within the trunk.

Figure 4 – showing the extensive decay within the trunk along the southern quadrant adjoining the 1st order fork union.

The immediate surrounding area within 100 metres either side of Tree 1 has the strong potential to be cleared/regrowth forest. Majority of the species are young/semi mature to mature species. Majority of the species surrounding Tree 1 were semi mature being in a diameter range at 1.4 metres above ground level of between 200 – 300mm. These species have been calculated to have an age range of between 25 - 30 years (maximum). Tree 1 at the time of senescence would have been in an early mature phase based on both its diameter and canopy distribution. This species has been estimated at a range of 70 - 80 years (maximum). This species is therefore placed in the band range of 70 – 80 years (maximum).

Figure 5 – showing the southern side of the trunk that has extensive decay and minor borer hole damage.

Majority of the bark along the 1st order scaffolds and along the trunk has been removed. There is extensive bark from Tree 1 that is littered within the TPZ (Tree Protection Zone). There is also two 1st order scaffolds to the south eastern side that have been damaged and remain as stubs. The most likely scenario to this type of bark removal and pattern is lightning strike that has occurred over the past 0 – 15 years.

The table below represents the S.R.Z (Structural Root Zone) and TPZ (Tree Protection Zone) figures based on Australian Standards 4970 - 2009.

Tree No	SRZ (metres)	TPZ (metres)
1	2.99	7.56

All trees require a S.R.Z and a T.P.Z with Australian Standards 4970- 2009 being used as a guideline. Tree 1 has been given an SRZ and TPZ of 2.99 & 7.56 metres in accordance with Australian Standards 4970 – 2009.

The report prepared by Niche (ACHA) outlines that "the vegetation of all the landforms in the subject area were originally open tall forests which have been extensively cleared. Scarred trees could survive if remnant forest have survived and would be likely to exist in the low hills". The immediate area of trees surrounding Tree 1 substantiates the findings within the Niche report in that the trees are not considered remnant vegetation. The immediate area surrounding Tree 1 in all directions is considered disturbed forest and/or re-vegetated forest.

The Niche report (ACHA – Pages 21 & 22) highlight that Area 1 of the subject area (East Pit) was historically used as part of a travelling Stock Reserve (TSR) notified on the 22 March 1876 which was cancelled on the 17 January 1891. "On 18 June 1891 the section of the TSR in the subject area (Area 1) was sold off by private section. Any aboriginal people continuing to camp on that land would soon after have been forced off" Tree 1 has been placed within an age band of 70 – 80 years (maximum) therefore a timeframe of 1936 – 1946 has been given for Tree 1 based on age factor of 70 – 80 years. This would be a minimum of 45 – 55 years after the section of TSR in the subject area was sold off.

6.0 Conclusions

- Tree 1 is located within the subject property identified as Martins Creek Quarry, Martins Creek. Tree 1 has no living tissue or identifying attributes such as leaves, buds or flowers. Therefore the species has been narrowed down to Eucalyptus siderophloia that was a common species growing in all four directions of Tree 1. The location of Tree 1 has been identified as Global Positioning System (GPS) 38-4-0217 as outlined in the Niche Report.

- The applicant proposes to expand the quarry and the quarry's production limit, extracting up to 1.5 million tonnes of hard rock material per annum and will involve the clearing and expansion of approximately 35.8 hectares of land for new extraction areas. The overall description and development proposal is outlined in detail within the Niche aboriginal cultural heritage assessment (Page 13). The new assessment area requires an assessment for cultural heritage values. This component was satisfied by the report outlined by Niche Environment & Heritage. The assessment in relation to an arborist report and recommendations has been prepared by Abacus Tree Services.

- Tree 1 is surrounded by trees that are semi mature to young mature trees that form part of a forest that would have been cleared at times by European settlement. The area surrounding Tree 1 has been cleared due to the immaturity of the trees and noted diameter range.

- Tree 1 has been given a maximum age range of 70 – 80 years that places it outside of any known aboriginal heritage or movement within the immediate area. This places Tree 1 within an estimated date range of 1936 – 1946.

- Site 38-4-2017 has been investigated by Abacus Tree Services and I agree with the findings as outlined by the Niche Report (ACHA) in that the young age of the tree all indicate that it is of natural origins. The most likely cause of the senescence/death of Tree 1 is lightning strike and/or other natural causes.

- The previously recorded scarred Tree (38-4-0217) will require removal due to the expansion area of the Martins Creek Quarry. The author (Bradley Magus) has determined that the scarred tree is not of cultural origin and therefore not an Aboriginal site.

- A submission should be made to the Hunter Central Coast Region (OEH office) recommending that the record be changed to a "non –valid" AHIMS record thus not an aboriginal object as defined by the National Parks & Wildlife Act 1974.

- As outlined in section 4.1 of the report highlights that Tree 1 will require removal due to the expansion and eventual excavation works. The works associated with mining is not conducive to tree retention.

7.0 Recommendations

- It is recommended that Site R & D Pty Ltd on behalf of Buttai Gravel trading as Daracon Quarries (the client) embark on a management program for Tree 1 as follows:

- It is recommended that Tree 1 (1 in total) be removed to allow for the expansion of the Martins Creek Quarry.

Bradley Magus (Member ISAAC & LGTRA)
Consulting Arborist/Certified Arborist (ISAAC 2007)
Diploma in Horticulture (Arboriculture) (AQF 5) (Dux)
Bachelor of Horticulture Science

8.0 References

AS4373-2007 Pruning of Amenity Trees. Standards Australia

AS 4970 – 2009 Protection of trees on development sites

Clark R.J & Matheny N (1998) Trees & Development – A technical guide to Preservation of trees during land development: International Society of Arboriculture

Mattheck C., Breloer, (1999) The Body Language of Trees – a handbook for failure analysis 5th ed., London: The Stationery Office, U.K

Niche Report (Martins Creek Quarry) Aboriginal Cultural Heritage Assessment 31 March 2016

Internet Sites

www.googlemaps.com.au

www.rfs.nsw.gov.au

www.dungog.nsw.gov.au

www.olg.nsw.gov.au

www.npws.nsw.gov.au

www.environment.nsw.gov.au

www.sixmaps.nsw.gov.au

9.0 APPENDIX 1 Site Maps

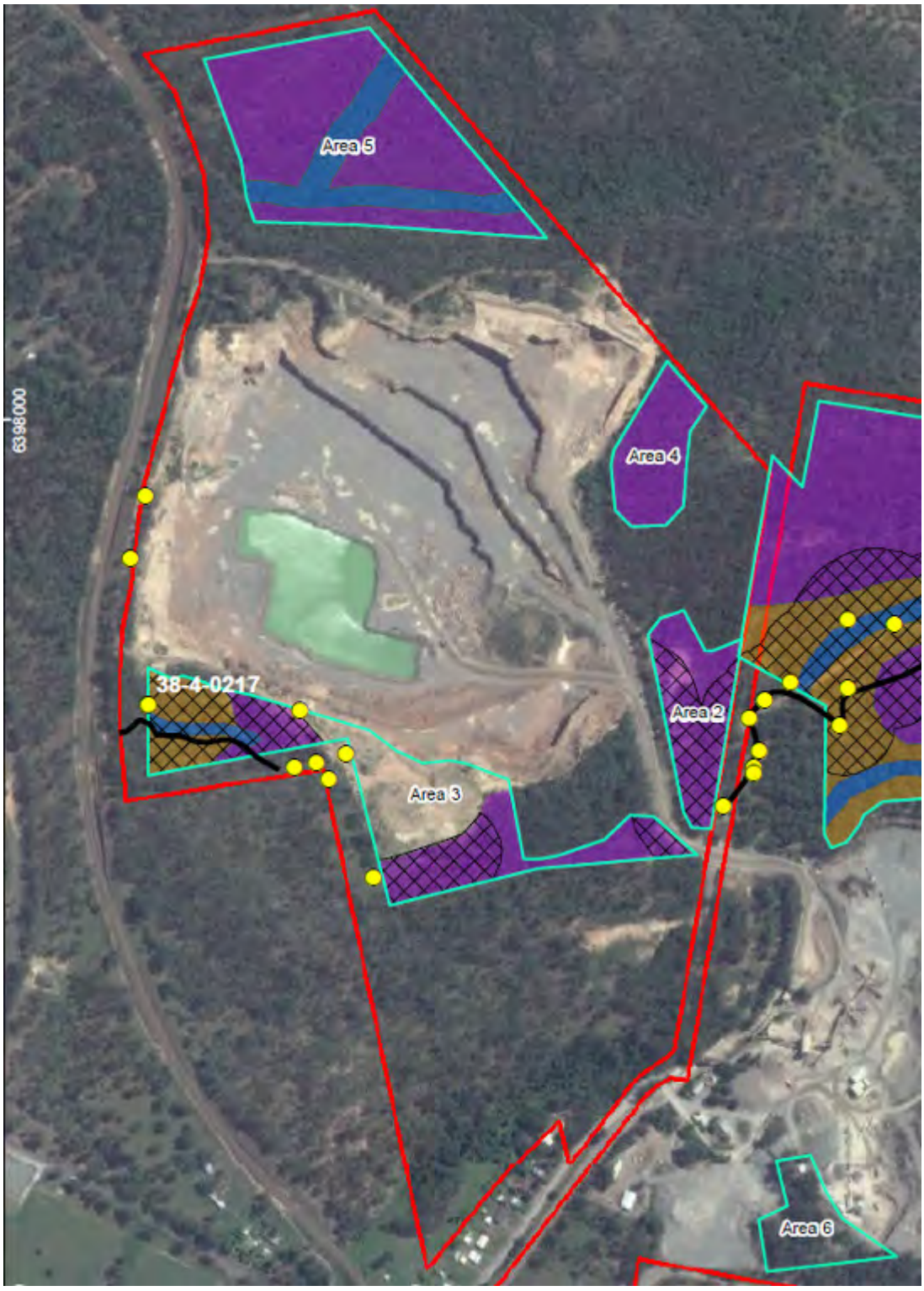


Figure 6 - Close up of the subject property and location of Tree 1 (38-4-0217). Not to scale
Source: Niche (www.niche.com.au)

APPENDIX 2 U.L.E (Useful Life Expectancy) Categories and Subgroups

Useful Life Expectancy – Classification

1. Long ULE > 40 Years

a. Structurally sound and can accommodate future growth
b. Long term potential with minor remedial treatment
c. Trees of special significance which warrant extra care

2. Medium ULE of 15-40years

a. Will live between 15 – 40 years
b. Will live for more than 40 years but would be removed for safety or other reasons
c. May live for more than 40 years but will interfere with more suitable specimens and need removal eventually
d. More suitable for retention in the medium term with some remedial care

3. Short ULE of 5-15 years

a. Trees that may only live between 5 – 15 more years
b. May live for more than 15 years but would need removal for safety or other reasons
c. Will live for more than 15 years but will interfere with more suitable specimens or provide space for replacement plantings
d. Require substantial remedial care but are only suitable for short term retention

4. Remove tree within 5 years

a. Dead, dying or seriously diseased
b. Dangerous trees through instability or loss of adjacent trees
c. Structural defects such as cavities
d. Damaged that are clearly not safe to retain
e. May live for more than 5 years but will need replacement to prevent interference or make space for more suitable trees
f. May or are causing damage to structures
g. That will become dangerous

5 Trees suitable to transplant

a. Small trees can be reliably moved or replaced
b. Young trees between 5 – 15 years
c. Trees that have been regularly pruned to control growth

Key	Criteria	Comments
Tree no		
Species	Relates to the one on the site plan	
Remnant /planted Self Sown	May be coded – See Key for details	
Special Significance	A – Aboriginal C- Commemorative Ha- Habitat Hi- Historic M- Memorial R- Rare U- Unique form O- Other	May require specialist knowledge
Age Class	Y- Young- Recently Planted S-Semi mature (<20% of life expectancy M- Mature (20-80% of life expectancy) O- Over mature (>80% of life expectancy)	
Height	In Metres	
Spread	Average diameter of canopy in metres	
Crown Condition	Overall vigour and vitality 0 – Dead 1 – Severe decline (<20% canopy, major deadwood 2 – Declining 20-60% canopy density, twig dieback 3- Average/low vigour (60-90% canopy density, twig dieback) 4- Good (90-100% crown cover, little or no dieback or other problems) 5- Excellent (100% crown cover, no deadwood or other problems	
Failure Potential	Identifies the most likely failure and rates the likelihood that the structural defects will result in failure within the inspection period. 1- Low – Defects are minor (eg dieback of twigs, small wounds with good wound development) 2 – Medium – Defects are present and obvious egg Cavity encompassing 10-25% of the circumference of the trunk) 3 High- Numerous and/or significant defects present (eg cavity encompassing 30-50% of the circumference of the trunk, major bark inclusions) 4- Severe- Defects are very severe (eg fruiting	Requires specialist knowledge

	bodies, cavity encompassing more than 50% of the trunk)	
Size of defective part	Rates the size of the part most likely to fail. The larger the part that fails the greater the potential for damage. 1- Most likely failure less than 150mm in diameter 2- Most likely failure 150-450mm in diameter 3- Most likely failure 450-750mm in diameter 4- Most likely failure more than 750mm in diameter	
Target rating	Rates the use and occupancy that would be struck by the defective part: 1. Occasional use (jogging, cycle track 2. Intermittent use (e.g picnic area, day use parking 3. Frequent use, secondary structure (eg seasonal camping, storage facilities) 4. Constant use structures (year round use for a one of hours each day, residences)	
Hazard rating	Failure potential + size of part + target rating Add each of the above sections for a one out of 12	The final one identifies the degree of risk. The next step is to determine a management strategy. A rating in this column does not condemn a tree but may indicate the need for more investigation and a risk management strategy.
Root Zone	C-Compaction D- Damaged/wounded roots E- Exposed roots Ga- Tree in graded bed Gi- Girdled roots Gr- Grass K-Kerb close to tree L+- Raised soil level L- Lowered soil level M- Mulched Pa- Paving concrete bitumen	

	Pr- Roots pruned O-Other	
Defects	B-Borers C-Cavity D-Decay Dw-Deadwood E-Epicormics I-Inclusions L- Lopped LDCMP- Leaf damage by chewing mouthpiece insects M- Mistletoe/parasites MBA- Multi branch attachments PD- Parrot damage PFS- Previous failure sites S-Splits/Cracks T-Termites TL- Trunk lean TW- Trunk wound O-Other	
Services/adjacent structures	Bs- Bus stop Bu- Building within 3 metres Hvo- High voltage open wire construction Hvb- High voltage bundled (ABC) Lvo- Low voltage open wire construction Lvb- Low voltage bundled (ABC) Na- No services above Nb- No services below ground Si- Signage SL- Street light T- Transmission U- Underground services O- Other	More than one of these may apply

Wednesday, 8th of June 2016

Office of Environment & Heritage
Hunter & Central Coast Region
Locked bag 1002
DANGAR NSW 2309

Attention: Mr Richard Bath- Senior Team leader Planning

Dear Richard,

Re: Martins Creek Quarry- Arborist Report on Scared Tree (AHIMS #38-4-0217).

With reference to the above project and in particular relation to AHIMS site #38-4-0217, please find the enclosed report prepared by Abacus Tree Services.

AHIMS #38-4-0217, was identified in an archaeological investigation of the quarry by Dunnet & Packard (1990) and in the Niche report- Martins Creek Quarry Aboriginal Cultural Heritage Assessment (08/06/2016), the latter document forms part of the EIS for the Martins creek Quarry Expansion (SSD 6612).

Page 40 of the Niche report concludes that the tree is not a culturally modified tree and as such the recommendation of that report (p48) in relation to the subject tree is as follows:

> ***"AHIMS #38-4-0217 must be assessed by an arborist, and pending further confirmation that it is not an Aboriginal object, a submission should be made to the Hunter Central Coast Region OEH office recommending the record be changed to a "non-valid" AHIMS record"***

In accordance with that recommendation we submit the report prepared by Abacus Tree Services in relation to AHIMS site #38-4-0217. With reference to Page 19, the recommendation of that report is:

"It is recommended that Site R & D Pty Ltd on behalf of Buttai Gravel trading As Daracon Quarries (the client) embark on a management program for Tree 1 as follows:

It is recommended that Tree 1 (1 in total) be removed to allow for the expansion of the Martins Creek Quarry."

We respectfully request that the tree identified on AHIMS as site #38-4-0217, be removed from the records.

If you have any queries please feel free to contact the undersigned.

Yours Faithfully,
SITE R& D Pty Ltd

Stuart M Murray
DIRECTOR

P O Box 134
KOTARA NSW 2289
M 0400 103044
F 49577548
E stuart@siterd.com.au
W www.siterd.com.au

Niche Environment and Heritage
PO Box 2443 North Parramatta NSW 1750
T 02 9630 5658 F 02 4017 0071
E info@niche-eh.com ABN 19 137 111 721

15 October 2015

Aboriginal Heritage Information management System
3 Marist Place
PARRAMATTA NSW 2150

Dear Sir/Madam

Re: Aboriginal Site Impact Recording Form for AHIMS site #38-4-0218

Niche Environment and Heritage Pty Ltd (Niche) was commissioned by Site R&D Pty Ltd on behalf of Buttai Gravel trading as Daracon Quarries (the Proponent) to prepare an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the proposed expansion of Martins Creek Quarry, in the Dungog Local Government Area, NSW.

The investigation has identified AHIMS site #38-4-0218 within the proposed expansion zone. The field survey could not relocate the site at the given location. Also, no tree was found matching the description of site 38-4-0218 in the wider surroundings of the given coordinates.

The survey team in consultation with the Registered Aboriginal Parties agreed that the previously recorded scarred tree 38-4-0218 no longer exist. The final report recommended the following for site #38-4-0218:

- A *Site Impact Recording Form* advising AHIMS that the tree is no longer extant, and explaining the reasons for this conclusion, should be submitted to AHIMS for AHIMS site #38-4-0218;

Niche is providing this cover letter as an attachment for the submission of the ASRIF.

Please do not hesitate to contact myself should you need any additional details.

Yours sincerely

Balazs Hansel
Senior Archaeologist and Heritage Consultant
Niche Environment and Heritage

Aboriginal Site Impact Recording Form

AHIMS Registrar
PO Box 1967, Hurstville 2220 NSW

April 2012 OEH 2012/0558

1 This form must be completed following impacts to AHIMS sites that are:
   a) a result of test excavation carried out in accordance with the *Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW*
   b) authorised by an Aboriginal Heritage Impact Permit (AHIP) issued by the Office of Environment and Heritage (OEH)
   c) undertaken for the purpose of complying with Director General's Requirements issued by the Department of Planning and Infrastructure (DP&I) for:
      - State Significant Development (SSD - Part 4),
      - State Significant Infrastructure (SSI - Part 5.1), or
      - A Major Project (Part 3A - now repealed) under the *Environmental Planning and Assessment Act 1979 (EP&A Act),* or
   d) authorised by a SSD/SSI/Part 3A consent/approval under the EP&A Act.
2 Completed forms must be submitted to the AHIMS Registrar (www.environment.nsw.gov.au/contact/AHIMSRegistrar.htm).
3 This form is intended to complement (not replace) the AHIMS Site Recording Form. Where there is a need to provide detailed information about the nature of a site, use the AHIMS Site Recording Form.
4 This form does not replace the need to submit reports to OEH (as a condition of an AHIP or SSD/SSI/Part 3A consent/approval) This form must be submitted in addition to any reports.

AHIMS site ID: 38-4-0218

Site impact authorisation (select one)

☐ Archaeological Code (The impacts to this site were the result of test excavation carried out in accordance with the *Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW.*)

☐ AHIP (The impacts to this site were authorised by an AHIP.)

☐ SSD/SSI/Part 3A application (The impacts to this site were undertaken for the purposes of complying with Director General's Requirements issued by the DP&I

☐ SSD/SSI/Part 3A approved project (The impacts to this site were authorised by a consent/approval under Parts 4/5.1/3A of the EP&A Act.)

Reference numbers, dates

Date OEH was notified (under requirement 15c of the Code):

OEH Regional office notified:

AHIP number:

Date issued/signed:

AHIMS permit ID/number:

Project number:

Date Director General's Requirements issued:

or

Date of project approval:

Site status following impacts:

☐ Not a site (The investigations concluded that this is not a site.)

☐ Valid site (The investigations confirmed that this is an Aboriginal site.)

☐ Partially destroyed (The site was partially destroyed following authorised impacts; a portion of the site remains in situ.)

☐ Destroyed (The site was completely destroyed following authorised impacts.)

Geographic location

Site name: Martins Creek 6

Easting: 369944 **Northing:** 6397779 **Coordinates must be in GDA (MGA)**

Map sheet: Paterson 9232-4-N

Zone: 56 **Location method:** Hand Held/Non Differential GPS

Primary recorder

(The person responsible for the completion and submission of this form)

Title	Surname	First name
Mr	Gary	Dunnett

Organisation: Prehistory RSPacs, ANU

Address: GPO Box 4

Phone: **E-mail:**

Date recorded: 8/07/1990 **Fax:**

Site information

Open/closed site: Open

Features:

☐	1.	Aboriginal ceremony and dreaming	☐	11.	Habitation structure
☐	2.	Aboriginal resource and gathering	☐	12.	Hearth
☐	3.	Art	☐	13.	Non-human bone and organic material
☐	4.	Artefact	☐	14.	Ochre quarry
☐	5.	Burial	☐	15.	Potential archaeological deposit
☐	6.	Ceremonial ring	☐	16.	Stone quarry
☐	7.	Conflict	☐	17.	Shell
☐	8.	Earth mound	☐	18.	Stone arrangement
☐	9.	Fish trap	☒	19.	Modified tree
☐	10.	Grinding groove	☐	20.	Water hole

Site condition

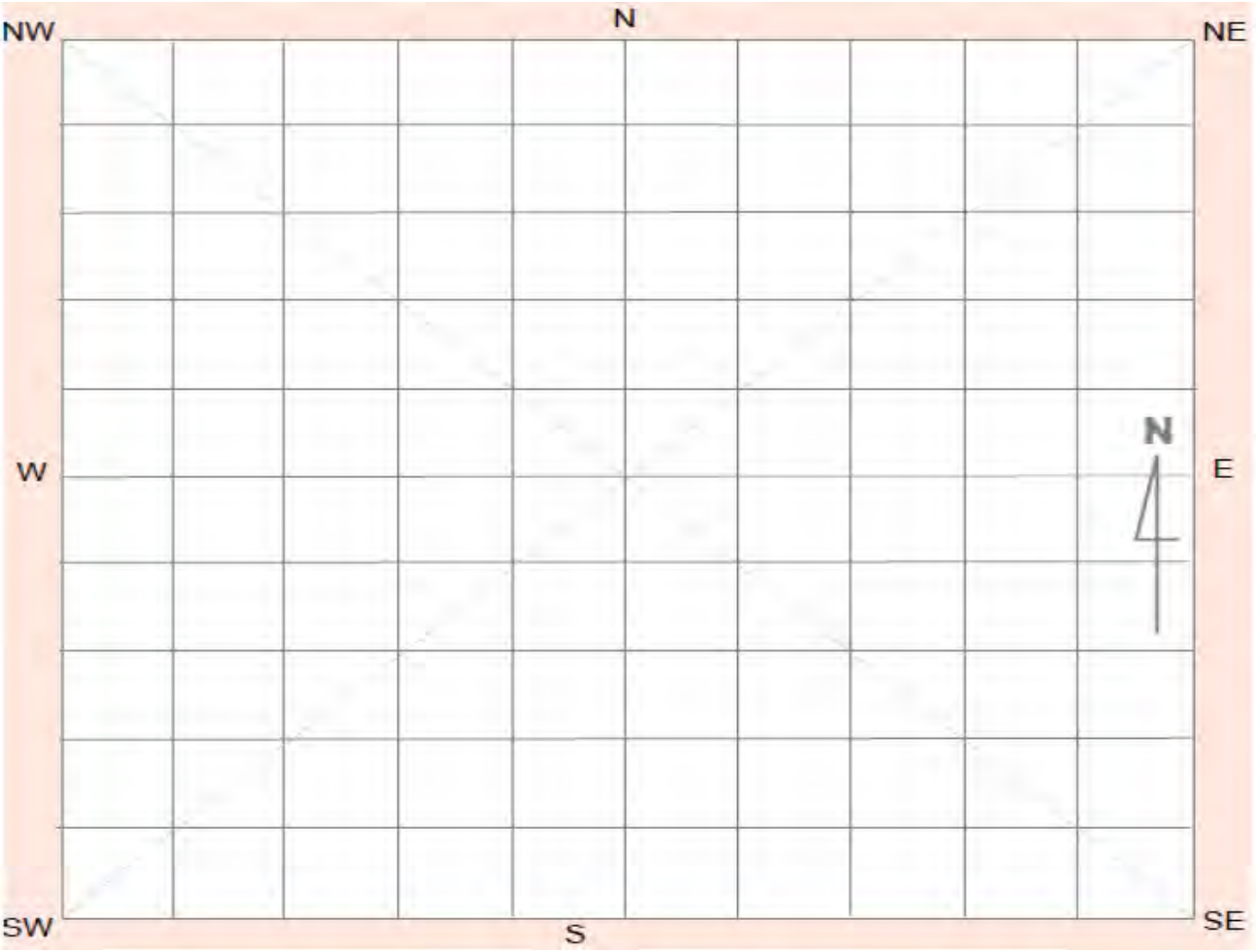
Written description of the condition of the AHIMS site (including relevant features) following the authorised impact of the site

The original site card description is provided below:
"Site is a possible scarred tree. Tree is a live Ironbark, E.fibrosa, with a diameter of around 75 cm. Scar is on the northern face of the tree. Scar begins at tree base, where it is 20 cm wide and extends upwards fro 100 cm where it tapers to a point. No axe marks were noted. Photo attached. Scar probably not of Aboriginal origin."

The tree could not be relocated and possibly destroyed by logging or bushfires. No other trees have been located in the wider buffer of the GPS coordinate matching the above description. The survey team concluded in consultation with Aboriginal stake holders that the site does not exist anymore.
Relevant recommendations from the report submitted for the project are outlined below:
- A Site Impact Recording Form advising AHIMS that the tree is no longer extant, and explaining the reasons for this conclusion, should be submitted to AHIMS for AHIMS site #38-4-0218.

Site map

Clearly demarcate the original AHIMS site boundary, show the boundaries of impacted areas and the areas where the site remains in situ. Display map coordinates.



Methodology and results

Summary of the methodology and results of the activity or works undertaken through the authorised impacts, as relevant to the AHIMS site

N/A

Management recommendations

Summary of any management recommendations for the AHIMS site

Site is no longer extant and not valid.

Post-investigation significance

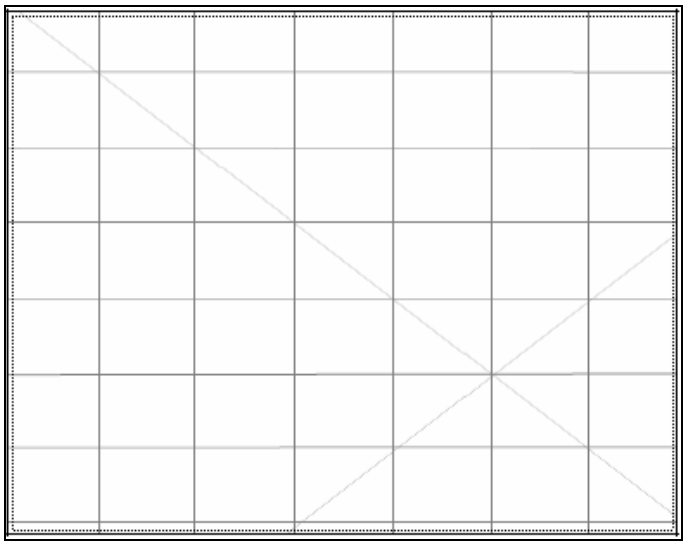
Discuss if the scientific/archaeological or cultural significance of the site has changed in light of the results of the investigations or works conducted at the site.

N/A

Additional comments

Site photographs

Include photographs of the authorised impacts activity, as relevant to the AHIMS site. Please keep photo size to a maximum of 200 kb.



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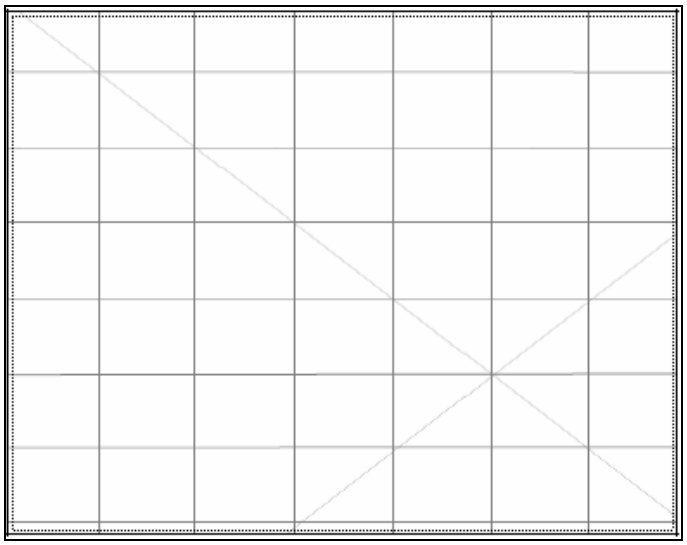

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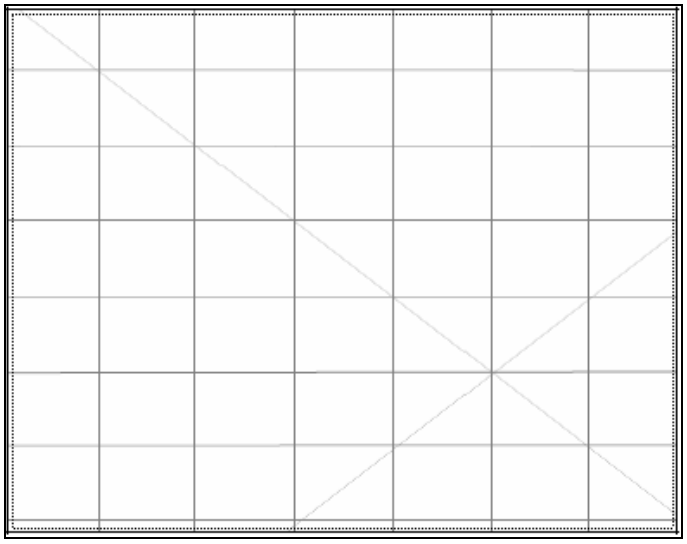

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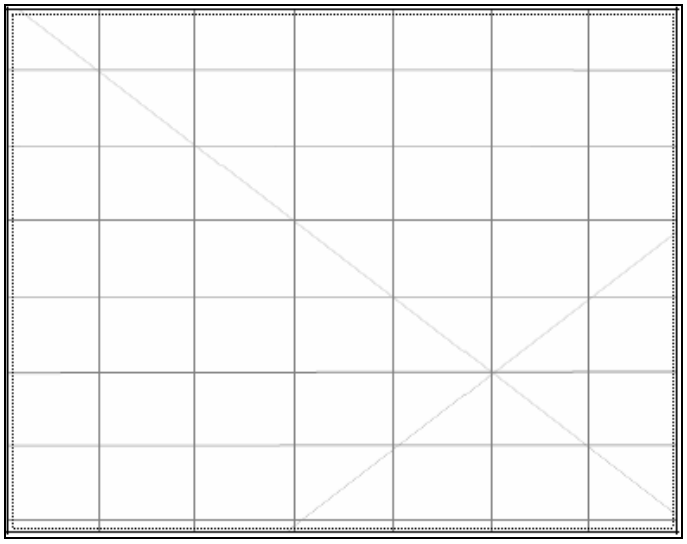

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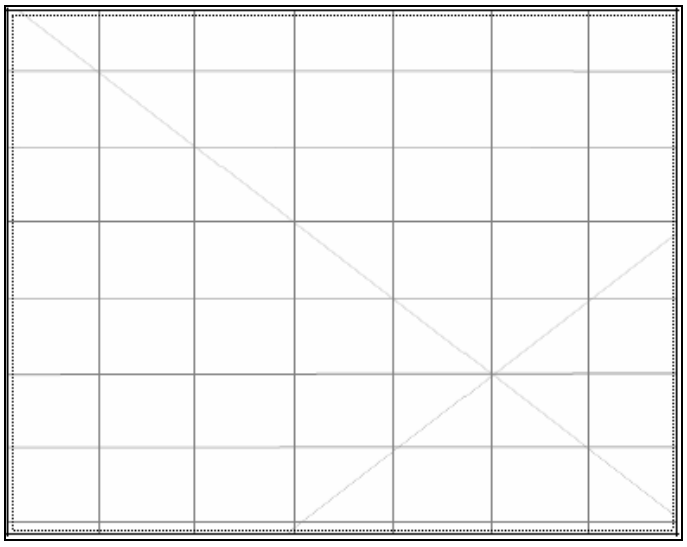

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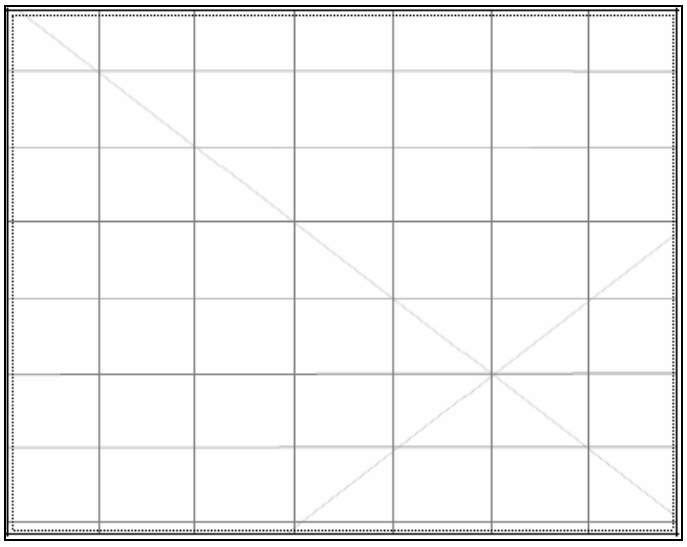

Description:

14/6/2016

Wednesday, 8th of June 2016

Office of Environment & Heritage
Hunter & Central Coast Region
Locked bag 1002
DANGAR NSW 2309

Attention: Mr Richard Bath- Senior Team leader Planning

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It is recommended that Tree 1 (1 in total) be removed to allow for the expansion of the Martins Creek Quarry."

We respectfully request that the tree identified on AHIMS as site #38-4-0217, be removed from the records.

If you have any queries please feel free to contact the undersigned.

Yours Faithfully,
SITE R& D Pty Ltd

Stuart M Murray
DIRECTOR

P O Box 134
KOTARA NSW 2289
M 0400 103044
F 49577548
E stuart@siterd.com.au
W www.siterd.com.au

Arborist Report

Client: Site R & D Pty Ltd

Address: Martins Creek Quarry,

Martins Creek N.S.W 2420

Bradley Magus

Valuation Solutions PTY LTD

Trading as ***Abacus Tree Services***

ABN: 63 163 718 631

ACN: 108 515 859

P.O Box 333 Newcastle 2300

(Ph 0425 203 049)

Email: abacustrees@gmail.com

www.abacustreeservices.com

Tafe RTO Provider Number: 90002

Table of Contents

1.0 Executive Summary

- It is recommended that Site R & D Pty Ltd on behalf of Buttai Gravel trading as Daracon Quarries (the client) embark on a management program for Tree 1 as follows:

- It is recommended that Tree 1 (1 in total) be removed to allow for the expansion of the Martins Creek Quarry.

2.0 Arborist Details

Bradley Magus **Contact Details:** P.O Box 333 Newcastle 2300 Ph: 0425 203 049 Email: abacustrees@gmail.com or bradmagus1@bigpond.com Web: www.abacustreeservices.com	**Qualifications** 1. Diploma Horticulture (1993) 2. Bachelor of Horticulture Science (1996) 3. Masters Land Economics (2002) 4. Diploma Horticulture (Arboriculture) (AQF 5) 2007 (Dux) 5. International Society of Arboriculture Certified Arborist (2007) 6. QTRA Assessor – 2011 & 2013

2.1 Introduction

Abacus Tree Services was commissioned by Site R & D Pty Ltd on behalf of Buttai Gravel trading as Daracon Quarries (the client) to prepare an arborist report. An assessment was made on one (1) tree (Tree 1) located within the confines of Martins Creek Quarry, Martins Creek. There is in total one (1) tree located at Martins Creek Quarry, Martins Creek that was assessed as per the applicant's instructions.

The purpose of this report is to provide information and guidance to the applicant in relation to one (1) tree only. The information in this report is to be used in correlation with other reports identified by the client and will aid the client in determining a recorded scar tree site (38-4-0217) in relation to its age and overall health and condition. This in turn will outline whether the species (Tree 1) qualifies as a culturally modified tree, and hence and aboriginal object as defined by the National Parks & Wildlife Act 1974 and will provide the client with a framework for determining the application.

This report and its recommendations are based upon a physical site inspection undertaken on the 18 May 2016.

The photographs included in this report were taken at the time of the inspection on the 18 May 2016.

2.2 Aims of this report/Procedure

The aim of this report is to assess the health and condition of one (1) tree (Tree 1). The condition of the tree was assessed from ground level using the VTA (Visual Tree Assessment) method as outlined by Mattheck & Breloer (1999). The following criteria will be assessed within this report –

- An assessment of the dimensions (age, class, height and Diameter at Breast Height (D.B.H)
- An assessment of the health and condition of the tree (Tree 1);An assessment of the Useful Life Expectancy (U.L.E)
- An estimated age of the tree based on its condition, species type & diameter of the trunk.
- Compilation of an appropriate report detailing the results of the above assessments
- Hazard Rating, Recommendations for Tree 1

The (U.L.E) method of tree assessment, as outlined by Jeremy Barrell (1999) has been adopted within this report. U.L.E categories give an indication of the useful life expectancy anticipated for the tree that has been adopted for this report. Several factors are considered in determining this rating such as species, location, age, condition and health of the tree. The five U.L.E categories are outlined in detail within Appendix 2.

3.0 Disclaimer

This assessment has been prepared for the exclusive use of the applicant (Site R & D Pty Ltd on behalf of Buttai Gravel trading as Daracon Quarries (the client)), for the preparation of an application submission to The Office of Environment & Heritage (OEH). Information in this report relates to one (1) tree (Tree 1) within the premises of Martins Creek Quarry, Martins Creek only and should not be used in conjunction with any other property.

This assessment was carried out from the ground, and covers what was reasonably able to be assessed and available to the assessor at the time of the inspection. The assessor carried out no aerial inspections. Information contained in this report covers only the trees that were examined and reflects the condition of the trees at the time of the inspection; furthermore the inspection was limited to a visual examination of the subject trees without dissection, excavation, probing or coring. Trees are living things and there condition will change over time. Therefore there is no guarantee that problems or deficiencies of the subject tree may not arise in the future.

3.1 Site Map

Figure 1
Location: All trees are located within Martins Creek Quarry, Martins Creek
Source: www.googlemaps.com.au

3.2 Site Description

Tree 1 is located wholly within Martins Creek Quarry, Martins Creek. The site is located in the municipality of Dungog Council. The species (Tree 1) on site currently comes under the requirements set out in Dungog Council's Development Control Plan (DCP).

The site is undulating with the immediate area being dominated by the quarry and remnant bushland. The immediate bushland surrounding Tree 1 has the potential to be previously forested due to majority of the species being young to semi mature species. The nearest major arterial road is Clarence Town Road to the east. Tree 1 is located within the subject property identified as Martins Creek Quarry, Martins Creek. Martins Creek Quarry is privately leased and is operated by Buttai Gravel Pty Ltd (the client). Martins Creek is a town located 27 km south west of Dungog and 25km north of Maitland. The subject property is located within the Hunter Valley region.

Figure 2 – Location of subject property identified as Martins Creek Quarry, Martins Creek
Source: Google Maps

3.4 Soil Considerations

From a visual observation there has been minimal soil disturbance in the last few years within the surveyed area surrounding Tree 1 (938-4-0217). From a visual observation there has been no recent excavation works in and around Tree 1 limited to its structural root zone (SRZ) and tree protection zone (TPZ) as outlined in accordance with Australian Standards 4970 – 2009. Tree 1 is situated within a natural setting within a moderately steep slope. A root investigation would need to be undertaken if any roots have been damaged or diseased.

Further detail on soil structures and soil types can be found within the report prepared by Niche Environment & Heritage (Pages 20 & 21)

4.0 Tree Schedule

Species & dimension requirements on Page 10.

Tree No	Scientific Name	Common Name	DBH (MM)	Height (M)	AGE CLASS	Vigour	SPREAD N.E.S.W.	ULE	Comments
1	Eucalyptus siderophloia	Grey Ironbark	630	13	OM	N/A	4,0,4,3	4a	Tree 1 is dead with no living tissue. Tree 1 is generally symmetrical with a LCR = 0%. Tree 1 has three main 1st order scaffolds. Borer activity within trunk. Fissure cracks noted on SW side & NE side of trunk. Decay in fork union to S at 8 metres above ground level.

Key:

Age class: Young = Y, Semi mature = SM, Mature = M, Over mature = OM
DBH = Diameter at Breast Height LCR = Live Crown Ratio
Vigour = Excellent = E, Good = G, Fair = f, Poor = P
LDW = large deadwood over 40mm, MDW = Minor deadwood less than 40mm
N= north, E = east, W = west, S = south MS = multiple Stems
ULE = Useful Life Expectancy (See appendix 2 for guidelines)

4.1 Trees & Impact on Development

Trees are living organisms and their root systems play an integral role in stability and providing nutrient storage as well as water uptake. The majority of tree roots for Dicotyledons occur within the first metre of the soil. Therefore construction works can have a profound effect on their health and longevity as well as their structural stability. Tree distances from excavation works must be taken into consideration at the planning stage to ensure that the tree is not damaged.

There are several main factors that occur at the construction phase that can have a negative impact on the trees health and stability. These practices can include but are not limited to –

- Parking of vehicles and heavy machinery within the drip line of the tree.
- Stockpiling of materials within the drip line of the tree.
- Excavating within the drip line and damaging the structural root system.
- Raising soil levels in and around the base of the tree therefore reducing the trees ability for gaseous exchange.
- Damage to the tree due to heavy machinery and equipment resulting in large bark tears or loss of branches and scaffolds.

To reduce the effects of construction it is imperative to provide an area underneath the tree where no works are undertaken. The area where supervised works are undertaken is referred to as the structural root zone (SRZ). The S.R.Z is an area where no to minimal activities listed above should occur. All trees require a S.R.Z and will vary from species to species but for the purposes of this report the Australian Standards 4970 has now been adopted.

In conclusion the Australian Standards like similar methods for protecting trees is only a guide. To ensure the health and longevity of trees within construction sites it is imperative to provide a large protection zone taking into consideration that the tree will also grow over time. The greater area that can be put aside where no works occur will aid in the preservation of the tree. The activities listed above should be kept to a minimum and encroachment within the SRZ will require the supervision by a qualified AQF 5 arborist. These impacts will be taken into consideration in the conclusions section of this report.

5.0 Discussion

Abacus Tree Services has been approached by Site R & D Pty Ltd on behalf of Buttai Gravel trading as Daracon Quarries (the client) to undertake an arborist (assessment) report on Tree 1. There is one tree (Tree 1) that has been assessed within the subject property (Martin Creek Quarry, Martins Creek). The applicant proposes to undertake the following: "The Martins Creek Quarry Extension Project, involves the following:

extracting up to 1.5 million tonnes of hard rock material per annum; expanding into new extraction areas and clearing existing vegetation; increasing the hours of operation for:-

Quarrying to 6am – 6pm (Monday to Saturday),

Processing to 6am - 10pm (Monday to Saturday),

Mixing and binding to 4:30am - 10pm (Monday to Friday) and 4:30am - 6pm (Saturdays),

Stockpiling, loading and dispatch of road transport to 5:30am - 7pm (Monday to Saturday) and

Train loading to 24 hours per day, 7 days per week;

Consolidating existing operations and approvals; and rehabilitating the site.

The project is to continue extraction of hard rock from the site by completing the extraction of the existing operational areas on expanding the operational area and then increasing the depth of extraction in the area where the current processing plant is located.

The project seeks to continue existing operations to complete the extraction of material in existing areas in conjunction with expansion into the proposed new areas to maximise the utilisation of the resource. Mining methods are expected to remain the same as currently used with rock being broken by Drill and Blast techniques in the pit with Run of Mine (ROM) material being trucked to the crushing plant for further processing before being stockpiled and loaded on to road trucks for delivery to market."

This component was satisfied by the report outlined by Niche Environment & Heritage – Aboriginal Cultural Heritage Assessment (ACHA). The assessment in relation to an arborist report and recommendations has been prepared by Abacus Tree Services.

Abacus Tree Services has relied upon GPS co-ordinates provided by Site R & D Pty Ltd. I have relied upon this information to be true and accurate. The information provided by Dunnet Packard (Page 25 – Plate 2) matches the patterns & bark configuration of the species identified within the document.

Figure 2 – showing the location of Tree 1 within the subject site surveyed in correlation with GPS coordinates (38-4-0217)

Figure 3 – showing the location of Tree 1 within a forested area of Martins Creek Quarry.

Tree 1 has been identified/keyed out to a Eucalyptus siderophloia that is senescent. This species still has an estimated 55 – 60% of its bark primarily within the trunk Tree 1 is generally symmetrical with a single main leader at 1.4 metres above ground level. Tree 1 has an estimated live crown ratio of 0%. Tree 1 has three (3) main 1st order scaffolds. The species has no living tissue and is dead. There is noted fissure cracks noted within the trunk. There is minor borer holes noted within the trunk. There is decay noted in the fork union to the southern quadrant at 8 metres above ground level as noted in figure 4. There is mud activity associated with termite activity within the trunk.

Figure 4 – showing the extensive decay within the trunk along the southern quadrant adjoining the 1st order fork union.

The immediate surrounding area within 100 metres either side of Tree 1 has the strong potential to be cleared/regrowth forest. Majority of the species are young/semi mature to mature species. Majority of the species surrounding Tree 1 were semi mature being in a diameter range at 1.4 metres above ground level of between 200 – 300mm. These species have been calculated to have an age range of between 25 - 30 years (maximum). Tree 1 at the time of senescence would have been in an early mature phase based on both its diameter and canopy distribution. This species has been estimated at a range of 70 - 80 years (maximum). This species is therefore placed in the band range of 70 – 80 years (maximum).

Figure 5 – showing the southern side of the trunk that has extensive decay and minor borer hole damage.

Majority of the bark along the 1st order scaffolds and along the trunk has been removed. There is extensive bark from Tree 1 that is littered within the TPZ (Tree Protection Zone). There is also two 1st order scaffolds to the south eastern side that have been damaged and remain as stubs. The most likely scenario to this type of bark removal and pattern is lightning strike that has occurred over the past 0 – 15 years.

The table below represents the S.R.Z (Structural Root Zone) and TPZ (Tree Protection Zone) figures based on Australian Standards 4970 - 2009.

Tree No	SRZ (metres)	TPZ (metres)
1	2.99	7.56

All trees require a S.R.Z and a T.P.Z with Australian Standards 4970- 2009 being used as a guideline. Tree 1 has been given an SRZ and TPZ of 2.99 & 7.56 metres in accordance with Australian Standards 4970 – 2009.

The report prepared by Niche (ACHA) outlines that "the vegetation of all the landforms in the subject area were originally open tall forests which have been extensively cleared. Scarred trees could survive if remnant forest have survived and would be likely to exist in the low hills". The immediate area of trees surrounding Tree 1 substantiates the findings within the Niche report in that the trees are not considered remnant vegetation. The immediate area surrounding Tree 1 in all directions is considered disturbed forest and/or re-vegetated forest.

The Niche report (ACHA – Pages 21 & 22) highlight that Area 1 of the subject area (East Pit) was historically used as part of a travelling Stock Reserve (TSR) notified on the 22 March 1876 which was cancelled on the 17 January 1891. "On 18 June 1891 the section of the TSR in the subject area (Area 1) was sold off by private section. Any aboriginal people continuing to camp on that land would soon after have been forced off" Tree 1 has been placed within an age band of 70 – 80 years (maximum) therefore a timeframe of 1936 – 1946 has been given for Tree 1 based on age factor of 70 – 80 years. This would be a minimum of 45 – 55 years after the section of TSR in the subject area was sold off.

6.0 Conclusions

- Tree 1 is located within the subject property identified as Martins Creek Quarry, Martins Creek. Tree 1 has no living tissue or identifying attributes such as leaves, buds or flowers. Therefore the species has been narrowed down to Eucalyptus siderophloia that was a common species growing in all four directions of Tree 1. The location of Tree 1 has been identified as Global Positioning System (GPS) 38-4-0217 as outlined in the Niche Report.

- The applicant proposes to expand the quarry and the quarry's production limit, extracting up to 1.5 million tonnes of hard rock material per annum and will involve the clearing and expansion of approximately 35.8 hectares of land for new extraction areas. The overall description and development proposal is outlined in detail within the Niche aboriginal cultural heritage assessment (Page 13). The new assessment area requires an assessment for cultural heritage values. This component was satisfied by the report outlined by Niche Environment & Heritage. The assessment in relation to an arborist report and recommendations has been prepared by Abacus Tree Services.

- Tree 1 is surrounded by trees that are semi mature to young mature trees that form part of a forest that would have been cleared at times by European settlement. The area surrounding Tree 1 has been cleared due to the immaturity of the trees and noted diameter range.

- Tree 1 has been given a maximum age range of 70 – 80 years that places it outside of any known aboriginal heritage or movement within the immediate area. This places Tree 1 within an estimated date range of 1936 – 1946.

- Site 38-4-2017 has been investigated by Abacus Tree Services and I agree with the findings as outlined by the Niche Report (ACHA) in that the young age of the tree all indicate that it is of natural origins. The most likely cause of the senescence/death of Tree 1 is lightning strike and/or other natural causes.

- The previously recorded scarred Tree (38-4-0217) will require removal due to the expansion area of the Martins Creek Quarry. The author (Bradley Magus) has determined that the scarred tree is not of cultural origin and therefore not an Aboriginal site.

- A submission should be made to the Hunter Central Coast Region (OEH office) recommending that the record be changed to a "non –valid" AHIMS record thus not an aboriginal object as defined by the National Parks & Wildlife Act 1974.

- As outlined in section 4.1 of the report highlights that Tree 1 will require removal due to the expansion and eventual excavation works. The works associated with mining is not conducive to tree retention.

7.0 Recommendations

- It is recommended that Site R & D Pty Ltd on behalf of Buttai Gravel trading as Daracon Quarries (the client) embark on a management program for Tree 1 as follows:

- It is recommended that Tree 1 (1 in total) be removed to allow for the expansion of the Martins Creek Quarry.

Bradley Magus (Member ISAAC & LGTRA)
Consulting Arborist/Certified Arborist (ISAAC 2007)
Diploma in Horticulture (Arboriculture) (AQF 5) (Dux)
Bachelor of Horticulture Science

8.0 References

AS4373-2007 Pruning of Amenity Trees. Standards Australia

AS 4970 – 2009 Protection of trees on development sites

Clark R.J & Matheny N (1998) Trees & Development – A technical guide to Preservation of trees during land development: International Society of Arboriculture

Mattheck C., Breloer, (1999) The Body Language of Trees – a handbook for failure analysis 5th ed., London: The Stationery Office, U.K

Niche Report (Martins Creek Quarry) Aboriginal Cultural Heritage Assessment 31 March 2016

Internet Sites

www.googlemaps.com.au

www.rfs.nsw.gov.au

www.dungog.nsw.gov.au

www.olg.nsw.gov.au

www.npws.nsw.gov.au

www.environment.nsw.gov.au

www.sixmaps.nsw.gov.au

9.0 APPENDIX 1 Site Maps

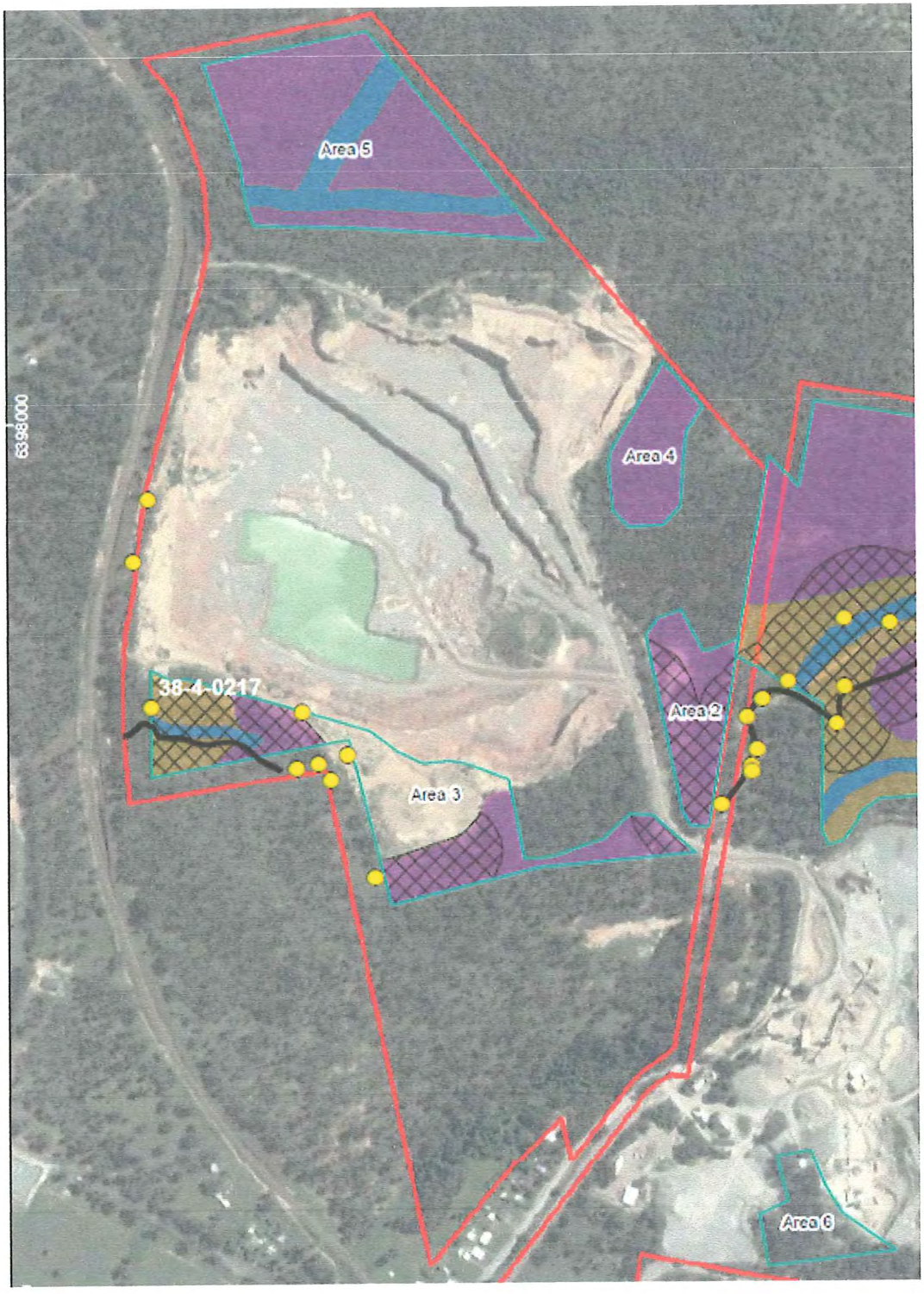

Figure 6 - Close up of the subject property and location of Tree 1 (38-4-0217). Not to scale
Source: Niche (www.niche.com.au)

APPENDIX 2 U.L.E (Useful Life Expectancy) Categories and Subgroups

Useful Life Expectancy – Classification

1. Long ULE > 40 Years

a. Structurally sound and can accommodate future growth
b. Long term potential with minor remedial treatment
c. Trees of special significance which warrant extra care

2. Medium ULE of 15-40years

a. Will live between 15 – 40 years
b. Will live for more than 40 years but would be removed for safety or other reasons
c. May live for more than 40 years but will interfere with more suitable specimens and need removal eventually
d. More suitable for retention in the medium term with some remedial care

3. Short ULE of 5-15 years

a. Trees that may only live between 5 – 15 more years
b. May live for more than 15 years but would need removal for safety or other reasons
c. Will live for more than 15 years but will interfere with more suitable specimens or provide space for replacement plantings
d. Require substantial remedial care but are only suitable for short term retention

4. Remove tree within 5 years

a. Dead, dying or seriously diseased
b. Dangerous trees through instability or loss of adjacent trees
c. Structural defects such as cavities
d. Damaged that are clearly not safe to retain
e. May live for more than 5 years but will need replacement to prevent interference or make space for more suitable trees
f. May or are causing damage to structures
g. That will become dangerous

5 Trees suitable to transplant

a. Small trees can be reliably moved or replaced
b. Young trees between 5 – 15 years
c. Trees that have been regularly pruned to control growth

APPENDIX 3 *Notes on Tree Assessment*

Key	Criteria	Comments
Tree no		
Species	Relates to the one on the site plan	
Remnant /planted Self Sown	May be coded – See Key for details	
Special Significance	A – Aboriginal C- Commemorative Ha- Habitat Hi- Historic M- Memorial R- Rare U- Unique form O- Other	May require specialist knowledge
Age Class	Y- Young- Recently Planted S-Semi mature (<20% of life expectancy M- Mature (20-80% of life expectancy) O- Over mature (>80% of life expectancy)	
Height	In Metres	
Spread	Average diameter of canopy in metres	
Crown Condition	Overall vigour and vitality 0 – Dead 1 – Severe decline (<20% canopy, major deadwood 2 – Declining 20-60% canopy density, twig dieback 3- Average/low vigour (60-90% canopy density, twig dieback) 4- Good (90-100% crown cover, little or no dieback or other problems) 5- Excellent (100% crown cover, no deadwood or other problems	
Failure Potential	Identifies the most likely failure and rates the likelihood that the structural defects will result in failure within the inspection period. 1- Low – Defects are minor (eg dieback of twigs, small wounds with good wound development) 2 – Medium – Defects are present and obvious egg Cavity encompassing 10-25% of the circumference of the trunk) 3 High- Numerous and/or significant defects present (eg cavity encompassing 30-50% of the circumference of the trunk, major bark inclusions) 4- Severe- Defects are very severe (eg fruiting	Requires specialist knowledge

	bodies, cavity encompassing more than 50% of the trunk)	
Size of defective part	Rates the size of the part most likely to fail. The larger the part that fails the greater the potential for damage. 1- Most likely failure less than 150mm in diameter 2- Most likely failure 150-450mm in diameter 3- Most likely failure 450-750mm in diameter 4- Most likely failure more than 750mm in diameter	
Target rating	Rates the use and occupancy that would be struck by the defective part: 1. Occasional use (jogging, cycle track 2. Intermittent use (e.g picnic area, day use parking 3. Frequent use, secondary structure (eg seasonal camping, storage facilities) 4. Constant use structures (year round use for a one of hours each day, residences)	
Hazard rating	Failure potential + size of part + target rating Add each of the above sections for a one out of 12	The final one identifies the degree of risk. The next step is to determine a management strategy. A rating in this column does not condemn a tree but may indicate the need for more investigation and a risk management strategy.
Root Zone	C-Compaction D- Damaged/wounded roots E- Exposed roots Ga- Tree in graded bed Gi- Girdled roots Gr- Grass K-Kerb close to tree L+- Raised soil level L- Lowered soil level M- Mulched Pa- Paving concrete bitumen	

	Pr- Roots pruned O-Other	
Defects	B-Borers C-Cavity D-Decay Dw-Deadwood E-Epicormics I-Inclusions L- Lopped LDCMP- Leaf damage by chewing mouthpiece insects M- Mistletoe/parasites MBA- Multi branch attachments PD- Parrot damage PFS- Previous failure sites S-Splits/Cracks T-Termites TL- Trunk lean TW- Trunk wound O-Other	
Services/adjacent structures	Bs- Bus stop Bu- Building within 3 metres Hvo- High voltage open wire construction Hvb- High voltage bundled (ABC) Lvo- Low voltage open wire construction Lvb- Low voltage bundled (ABC) Na- No services above Nb- No services below ground Si- Signage SL- Street light T- Transmission U- Underground services O- Other	More than one of these may apply

Elizabeth Lamb

From: Stuart Murray <stuart@siterd.com.au>
Sent: Thursday, June 16, 2016 3:34 PM
To: Adam Kelly- GENERAL MANAGER, DARACON; Elizabeth Lamb
Cc: Darren Holloway
Subject: FW: HP TRIM OEH Electronic Document : DOC16/289538 : Martins Creek Quarry - Arborist Report on Scared Tree AHIMS #38-4-0217

Dear All,

Please see the email trail below. The "scare tree" has been classified as "not a site".

Kind Regards,

Stuart M Murray

Site R & D Pty Ltd
P O Box 134
KOTARA NSW 2289
M 0400 103044
F 49577548
E stuart@siterd.com.au
W www.siterd.com.au

From: Balazs Hansel [mailto:bhansel@niche-eh.com]
Sent: Thursday, 16 June 2016 3:13 PM
To: stuart@siterd.com.au
Cc: Jamie Reeves <jreeves@niche-eh.com>
Subject: FW: HP TRIM OEH Electronic Document : DOC16/289538 : Martins Creek Quarry - Arborist Report on Scared Tree AHIMS #38-4-0217

Hi Stuart,

FYI please see below.

Cheers,
Balazs

Balazs Hansel, MA Arch, MA History
Senior Archaeologist & Heritage Consultant

Parramatta Office
c/o PO Box 2443, North Parramatta NSW 1750
bhansel@niche-eh.com www.niche-eh.com
Mob: 0488224300 Fax: 02 4017 0071

From: Nicole Davis [mailto:Nicole.Davis@environment.nsw.gov.au]
Sent: Thursday, 16 June 2016 3:06 PM
To: Balazs Hansel <bhansel@niche-eh.com>
Subject: FW: HP TRIM OEH Electronic Document : DOC16/289538 : Martins Creek Quarry - Arborist Report on Scared Tree AHIMS #38-4-0217

Hi Balazs,

FYI

Regards
Nicole

Nicole Y Davis
Archaeologist - Planning
Hunter Central Coast Region
Regional Operations Group
Office of Environment and Heritage
Locked Bag 1002 Dangar NSW 2309
(Level 4/26 Honeysuckle Drive Newcastle)
T: (02) 4927 3156
M: 0409 394 343
E: nicole.davis@environment.nsw.gov.au
Please note that I work part-time Monday to Thursday.

From: David Gordon
Sent: Thursday, 16 June 2016 2:57 PM
To: Stewart Watters; Genna Mateni
Cc: Nicole Davis; Richard Bath
Subject: RE: HP TRIM OEH Electronic Document : DOC16/289538 : Martins Creek Quarry - Arborist Report on Scared Tree AHIMS #38-4-0217

Hi All,

The report has now been entered into the AHIMS database with report number #103539.

Site Card entry #38-4-0217 has now be changed to “not a site”

Thanks
David Gordon
Senior Heritage Information Officer (Aboriginal)
Heritage Databases
Heritage Division
The Office of Environment & Heritage
Locked Bag 5020 PARRAMATTA NSW 2124
Level 6, 10 Valentine Ave, PARRAMATTA NSW 2150
T: 02 9585 6467 I F: 02 9873 8599| **E** david.gordon@environment.nsw.gov.au

Protect Share and Celebrate our Heritage

I acknowledge and respect the traditional custodians and ancestors of the lands I work across

---

From: Stewart Watters
Sent: Thursday, 16 June 2016 12:43 PM
To: David Gordon; Genna Mateni
Cc: Nicole Davis; Richard Bath
Subject: FW: HP TRIM OEH Electronic Document : DOC16/289538 : Martins Creek Quarry - Arborist Report on Scared Tree AHIMS #38-4-0217

Hi David and Genna,

Please see email below and attachment requesting an amendment of an AHIIMS record. Could you please follow up. Many thanks.

Regards
Stewart

Stewart Watters
Senior Team Leader Heritage Databases
Heritage Division
Office of Environment and Heritage
Locked Bag 5020 Parramatta NSW 2124
T: 9873 8561
W: www.environment.nsw.gov.au

Please note that OEH Heritage Division moved office on Friday 22 April 2016. As of Tuesday 26 April 2016 our new address will be: **Level 6, 10 Valentine Ave PARRAMATTA NSW 2150.** Postal address and phone numbers will remain the same.

From: Richard Bath
Sent: Wednesday, 15 June 2016 11:05 AM
To: Stewart Watters
Cc: Nicole Davis
Subject: FW: HP TRIM OEH Electronic Document : DOC16/289538 : Martins Creek Quarry - Arborist Report on Scared Tree AHIMS #38-4-0217

Hi Stewart

ROG Hunter Central Coast Region has received a request to amend an AHIMS record. We provided input to SEARs for the Martins Creek Quarry (a State Significant Development) on 29 April 2015. The EIS has not yet been submitted to DPE for review.

I understand that this request would sit with your team for response.

Please call if you need to discuss further.

Regards

Richard Bath
Senior Team Leader Planning
Hunter Central Coast Region
Regional Operations Group
Office of Environment and Heritage
Locked Bag 1002 Dangar NSW 2309
(Level 4/26 Honeysuckle Drive Newcastle)
T: 4927 3152
M: 0408 266 986
W: www.environment.nsw.gov.au

-----Original Message-----
From: Fiona Durie
Sent: Tuesday, 14 June 2016 2:20 PM
To: Richard Bath
Subject: HP TRIM OEH Electronic Document : DOC16/289538 : Martins Creek Quarry - Arborist Report on Scared Tree AHIMS #38-4-0217

Rec'd in mail.

------< HP TRIM Record Information >------

Record Number : DOC16/289538
Title : Martins Creek Quarry - Arborist Report on Scared Tree AHIMS #38-4-0217