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ABORIGINAL CULTURAL HERITAGE ASSESSMENT



GLEN ARTNEY INDUSTRIAL DEVELOPMENT WEST TAMWORTH, NSW

PREPARED FOR TAMWORTH REGIONAL COUNCIL

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Innovative Heritage Solutions



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EXECUTIVE SUMMARY

GHD Pty Ltd has been engaged by the Tamworth Regional Council (TRC) to undertake a range of assessments to investigate the potential rezoning of lands identified in Figure 1 and Figure 2, referred to during the planning assessment as the Glen Artney Industrial Development (Assessment Area). Everick Heritage Consultants (the Consultant) were commissioned by GHD on behalf of the TRC to undertake this assessment.

The brief for this project was to undertake a cultural heritage due diligence assessment of a suitable standard to provide advice to the TRC on the suitability of rezoning the Assessment Area. The assessment aims therefore to:

- a) identify whether any Aboriginal Objects or Places of such cultural heritage significance are located within the Assessment Area that the intended future use of those lands would be inconsistent with appropriate heritage management standards; and
- b) identify appropriate heritage assessment and management practices that might inform future development applications.

The methods employed for this assessment included:

- a) a search of relevant Aboriginal heritage registers;
- b) a review of cadastral mapping and tenure;
- c) a review of historic aerial photography and resources relating to past land uses and associated disturbances of the Assessment Area;
- d) consultation with the Tamworth Local Aboriginal Land Council (TLALC);
- e) a targeted archaeological survey, sampling key landforms and areas of archaeological potential; and
- f) an assessment of the potential for the Assessment Area to contain significant Aboriginal heritage and the impact the Project may have on said heritage, consistent with the Office of Environment and Heritage (OEH) *Due Diligence Code for the Protection of Aboriginal Objects in NSW* (2010).

The methods used for this assessment are in compliance with the OEH '*Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*' 2010 and all relevant legislation as described in Section 2 of this report. The following report complies with the accepted methodology for undertaking a Due Diligence Assessment under the *National Parks and Wildlife Act 1974* (NSW).



As part of a desktop study, Everick undertook a search of the OEH Aboriginal Heritage Information Management System ('AHIMS'). A search was conducted on 3 April 2014 of the OEH Aboriginal Heritage Information Management System (AHIMS service number 130607) centred on the Assessment Area. A total of three (3) Aboriginal Cultural Heritage sites are within the boundary of the Assessment Area, a further six (6) sites were located in close proximity to the Assessment Area (Figure 3). A summary of these Sites has been provided in Table 2: AHIMS Registered .

RESULTS

No places of intangible (non-physical) cultural heritage significance were identified in the literature review or by the Tamworth LALC during the archaeological site inspection.

A total of six Aboriginal heritage sites were located during the inspection (Section 8.7), which have since been registered with the OEH AHIMS as per the requirements of the NPW Act. These are four isolated artefacts, a low density artefact scatter on the western boundary of Lot 100 and a modified tree located in the south western sector of Lot 21.

RECOMMENDATIONS

For the purposes of any rezoning of the Assessment Area lands, there should be considered minimal cultural heritage constraints. The overall survey results located fewer Aboriginal Objects than initially expected. However, the survey was impacted by poor ground surface visibility. As such, the potential of further Aboriginal Objects to be located within the Assessment Area cannot be ruled out. The following recommendations are therefore cautionary in nature. Further specific recommendations may be required for lands with known heritage values at Development Application stage.

Note: The NSW government is currently undertaking an extensive review of cultural heritage legislation in the State. Current models being proposed will involve land users negotiating directly with cultural heritage committees over future developments. It is anticipated that legislative changes may come into effect as early as 2015. The recommendations below may therefore need to be reviewed following the implementation of the legislative changes. In particular, recommendations concerning the use of the Due Diligence Code may not remain current after 2015.



Recommendation 1: Rezoning of the Assessment Area

No cultural heritage impediments to the proposed rezoning to the Assessment Area were identified. The located artefacts and scarred tree will require further assessment at Development Application stage, pending investigation of concept designs and if it is determined that proposed works will impact on these objects.

Recommendation 2: Further Assessment at Development Application Stage

It is recommended that TRC ensure that any development activities within the Assessment Area are undertaken in accordance with the OEH *Due Diligence Code of Practice of the Protection of Aboriginal Objects in NSW*. The Due Diligence Code, read in conjunction with this assessment, should provide the basis for assessing whether further cultural heritage assessment is required. In particular, regard should be had to the following:

- a) is there any known Aboriginal cultural heritage within the area to be developed; and
- b) has the area to be developed (including any access roads and service locations) been subject to extensive ground disturbance such as through consistent ploughing and cultivation of crops.

Where development proposals will not result in substantial ground surface modification, or are in areas that have seen extensive ground disturbance, further cultural heritage assessment will likely not be required. This is subject to any legislative changes that may come into effect in the near future.

Recommendation 3: Minimal Disturbance of Creek Banks

It is recommended that, as a general planning principle, TRC plans for minimal disturbance to the banks of the Boltons, Tangaratta and Murroom Creeks as these areas retain the potential for subsurface Aboriginal Objects. However, it should be noted that no areas of particular cultural or archaeological sensitivity were identified along these creek banks (excluding the culturally scarred tree). This assessment therefore identified no impediments to modification of the creek banks, provided appropriate Aboriginal Heritage Impact Permits are in place.

Recommendation 4: Aboriginal Objects Find Procedure

As there remains a potential that Aboriginal Objects could be located within all parts of the Assessment Area, it is recommended that TRC ensure that any development approvals are accompanied with an appropriate Aboriginal heritage Finds Procedure. A suitable Finds Procedure might be drafted as follows:

“ if it is suspected that Aboriginal material has been uncovered as a result of development activities within the Assessment Area:



- a) work in the surrounding area is to stop immediately;
- b) a temporary fence is to be erected around the site, with a buffer zone of at least 10 metres around the known edge of the site;
- c) an appropriately qualified archaeological consultant is to be engaged to identify the material; and
- d) if the material is found to be of Aboriginal origin, the Aboriginal community is to be consulted in a manner as outlined in the OEH guidelines: *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (2010)."

Recommendation 5: Aboriginal Human Remains

Although it is highly unlikely that Human Remains will be located at any stage during earthworks within the Assessment Area, should this event arise it is recommended that the TRC ensure that any development approvals are accompanied with an appropriate Aboriginal Human Remains Procedure. A suitable Aboriginal Human Procedure might be drafted as follows

"in the event of a suspected Aboriginal human remains find, all works must halt in the immediate area to prevent any further impacts to the remains. The Site should be cordoned off and the remains themselves should be left untouched. The nearest police station (Tamworth), the Tamworth Local Aboriginal Land Council and the OEH Regional Office are all to be notified as soon as possible. If the remains are found to be of Aboriginal origin and the police do not wish to investigate the Site for criminal activities, the Aboriginal community and the OEH should be consulted as to how the remains should be dealt with. Work may only resume after agreement is reached between all notified parties, provided it is in accordance with all parties' statutory obligations.

Recommendation 6: Notifying the OEH

It is recommended that if Aboriginal cultural materials are uncovered as a result of development activities within the Assessment Area, they are to be registered as Sites in the Aboriginal Heritage Information Management System (AHIMS) managed by the OEH. Any management outcomes for the site will be included in the information provided to the AHIMS.

Recommendation 7: Aboriginal Heritage Impact Permit

It is recommended that, should any of the Aboriginal Objects identified in this assessment be potentially impacted by future land use or development activities, an Aboriginal Heritage Impact Permit should be sought. For planning purposes, it should be noted that under the current legislative regime, and AHIP will take approximately 5 months to acquire.



Recommendation 8: Historic Cultural Heritage

The literature review and site inspection did not identify any items or places of potential historic heritage significance within the Assessment Area. It is recommended that no further historic heritage assessment be required for future development applications within the Assessment Area.



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DEFINITIONS

The following definitions apply to the terms used in this report:

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

Aboriginal Place means any place declared to be an Aboriginal place (under s. 84 of the NPW Act) by the Minister administering the NPW Act, by order published in the NSW Government Gazette, because the Minister is of the opinion that the place is or was of special significance with respect to Aboriginal culture. It may or may not contain Aboriginal Objects.

ACHCRP Guidelines means the OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010).

Archaeological Code of Practice means the OEH Code of Practice for Archaeological Conduct in New South Wales (2010).

GHD Pty Ltd means Gutteridge, Haskins, Davey Pty Ltd

Due Diligence Code means the OEH Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (2010).

NPW Act means the National Parks and Wildlife Act 1974 (NSW).

NPW Regulations means the National Parks and Wildlife Regulations 2009 (NSW).

OEH means the New South Wales Office of Environment and Heritage.

Assessment Area means the Glen Artney Industrial Development located in Westdale, West Tamworth NSW, as illustrated in Figure 2.

Proposed Works means all activities associated with construction and landscaping within the Assessment Area (Figure 2), including activities undertaken by subsequent landholders.

Proponent means any landowners within the Assessment Area, including all associated employees, contractors and subcontractors of the same.

TLALC means the Tamworth Local Aboriginal Land Council

The Project means any rezoning and subsequent development within the Assessment Area.

TRC means the Tamworth Regional Council



PART A: PROJECT CONTEXT

1. INTRODUCTION

1.1 Report Commissioning & Project Brief

GHD Pty Ltd has been engaged by the Tamworth Regional Council (TRC) to undertake a range of assessments to investigate the potential rezoning of lands identified in Figure 2, referred to during the planning assessment as the Glen Artney Industrial Development (Assessment Area). Everick Heritage Consultants (the Consultant) were commissioned by GHD on behalf of the TRC to undertake this assessment.

The brief for this project was to undertake a cultural heritage due diligence assessment of a suitable standard to provide advice to the TRC on the suitability of rezoning the Assessment Area. The assessment aims therefore to:

- a) identify whether any Aboriginal Objects or places of such cultural heritage significance are located within the Assessment Area that the intended future use of those lands would be inconsistent with appropriate heritage management standards; and
- b) identify appropriate heritage assessment and management practices that might inform future development applications.

1.2 Methodology employed for Assessment

The methods employed for this assessment included:

- a) a search of relevant Aboriginal heritage registers;
- b) a review of cadastral mapping and tenure;
- c) a review of historic aerial photography and resources relating to past land uses and associated disturbances of the Assessment Area;
- d) consultation with the Tamworth Local Aboriginal Land Council (TLALC);
- e) a targeted archaeological survey, sampling key landforms and areas of archaeological potential; and
- f) an assessment of the potential for the Assessment Area to contain significant Aboriginal heritage and the impact the Project may have on said heritage, consistent with the Office of Environment and Heritage *Due Diligence Code for the Protection of Aboriginal Objects in NSW* (2010).



The methods used for this assessment are in compliance with the OEH *'Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales' 2010* and all relevant legislation as described in Section 2 of this report. The following report complies with the accepted methodology for undertaking a Due Diligence Assessment under the *National Parks and Wildlife Act 1974* (NSW).

1.3 Report Authorship

The desktop study was undertaken by Everick Director and Archaeologist Tim Robins and qualified Archaeologist Jordan Towers. The field inspection was conducted by Senior Archaeologist Adrian Piper. This report was written by Tim Robins, Adrian Piper and Jordan Towers.

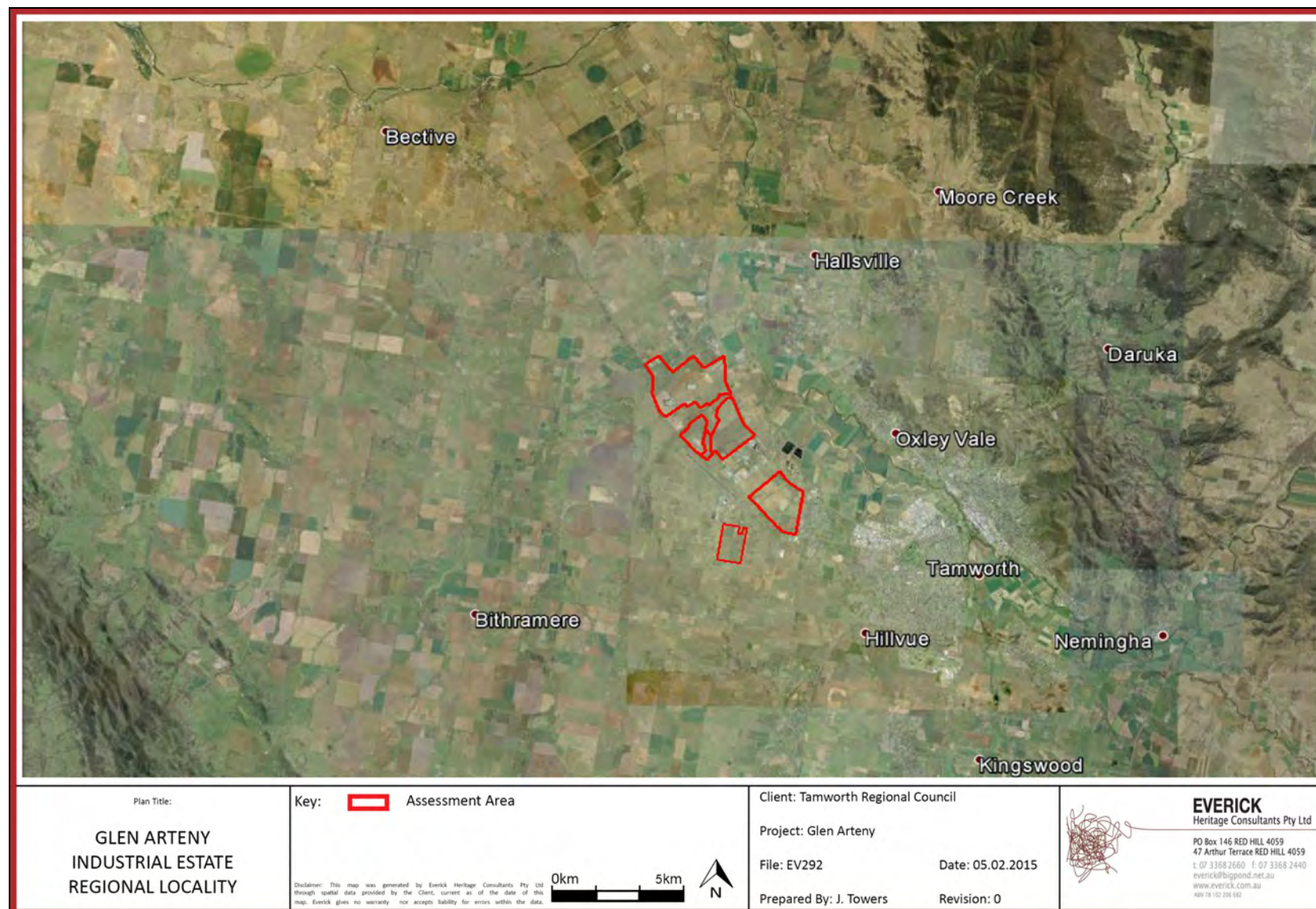


Figure 1: General location of Assessment Area

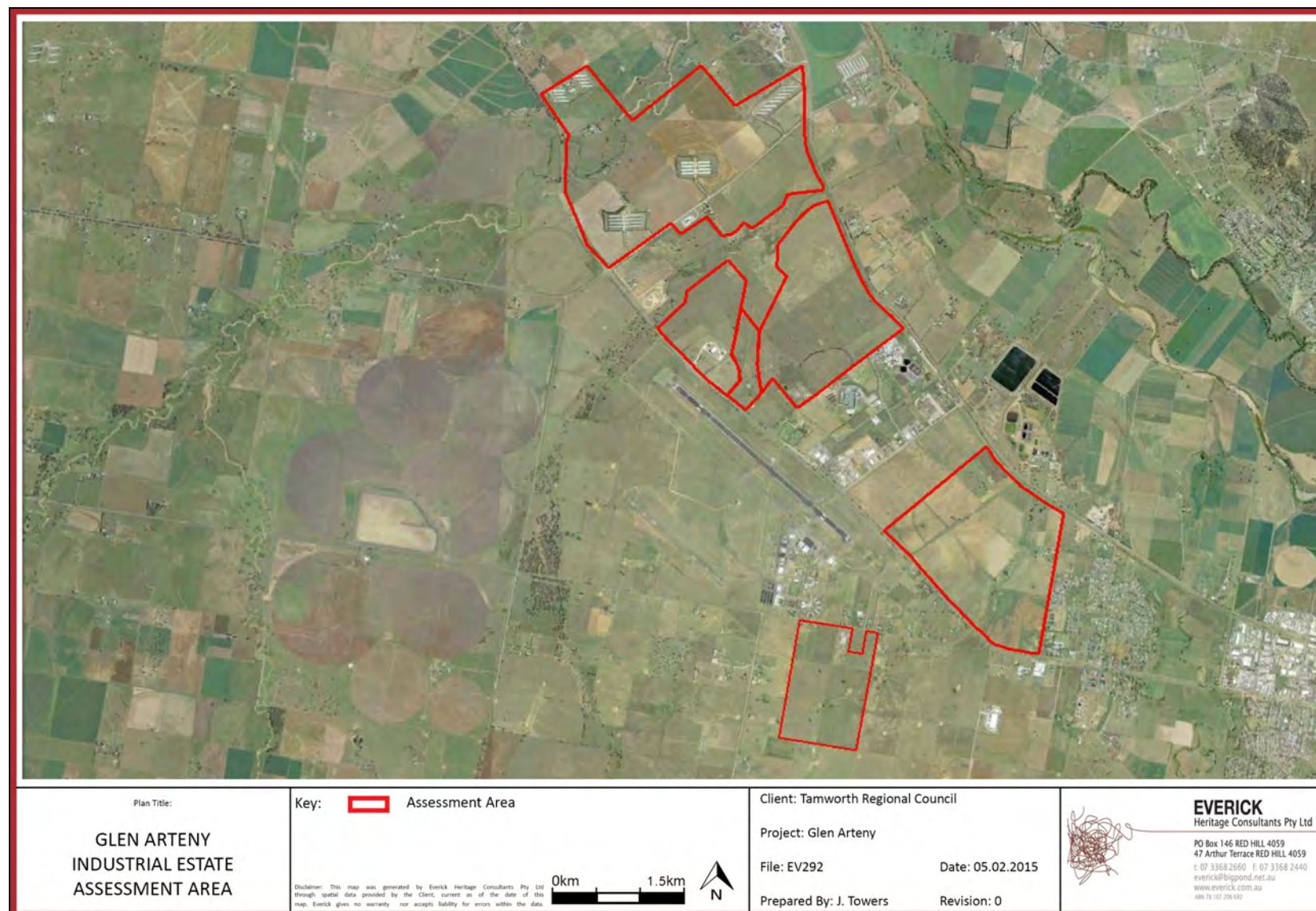


Figure 2: Satellite Image of the Assessment Area



2. LEGISLATIVE AND PLANNING CONTEXT

The following legislation provides the context for cultural heritage in NSW: the *National Parks and Wildlife Act 1974* (NSW), the *Environmental Planning and Assessment Act 1979* (NSW) and the *Heritage Act 1977* (NSW) and local council Environmental Plans and Development Control Plans. The Commonwealth also has a role in the protection of nationally significant cultural heritage through the *Environmental Protection and Biodiversity Conservation Act 1999* (Cth), *The Protection of Movable Cultural Heritage Act 1986* (Cth) and the *Historic Shipwrecks Act 1976* (Cth).

For the purposes of this assessment it is the State and local legislation that are most relevant. The consent authorities will be the Tamworth Regional Council and, where a referral agency is required, the OEH. Approval from the OEH will also be required should development activities impact on identified Aboriginal Objects. The information below lists the legislative and policy framework within which this assessment is set.

2.1 The *National Parks and Wildlife Act 1974* (NSW) and the *National Parks and Wildlife Regulation 2009* (NSW)

The *National Parks and Wildlife Act 1974* (NSW) (NPW Act) is the primary legislation concerning the identification and protection of Aboriginal cultural heritage. It provides for the management of both Aboriginal Objects and Aboriginal Places. Under the NPW Act, an Aboriginal Object is any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area, regardless of whether the evidence of habitation occurred before or after non-Aboriginal settlement of the land. This means that every Aboriginal Object – regardless of its size or seeming isolation from other Objects – is protected under the Act.

An Aboriginal Place is an area of particular significance to Aboriginal people which has been *declared* an Aboriginal Place by the Minister. The drafting of this legislation reflects the traditional focus on Objects, rather than on areas of significance such as story places and ceremonial grounds. However, a gradual shift in cultural heritage management practices is occurring towards recognising the value of identifying the significance of areas to Indigenous peoples beyond their physical attributes. With the introduction of the *National Parks and Wildlife Amendment Act 2010* (NSW) the former offence provisions under Section 86 of ‘disturbing’, ‘moving’, ‘removing’ or ‘taking possession’ of Aboriginal Objects or Places have been replaced by the new offence of ‘harming or desecrating’. The definition of ‘harm’ is ‘destroying, defacing or damaging an Object’. Importantly in the context of the management recommendations in this assessment, harm to an Object that is ‘trivial or negligible’ will not constitute an offence.



The new amendments also significantly strengthen the penalty provisions. The issue of intent to harm Aboriginal cultural heritage has been formally addressed by separating it from inadvertent harm. The penalty for individuals who inadvertently harm Aboriginal Objects has been set at up to \$55,000, while for corporations it is \$220,000. Also introduced is the concept of '*circumstances of aggravation*' which allows for harsher penalties (up to \$110,000) for individuals who inadvertently harm Aboriginal heritage in the course of undertaking a commercial activity or have a record for committing similar offences. For those who knowingly harm Aboriginal cultural heritage, the penalty will rise substantially. The maximum penalty will be set at \$275,000 or one year imprisonment for individuals, while for corporations it will rise to \$1,100,000.

Where a land user has or is likely to undertake activities that will harm Aboriginal Objects, the Director General (OEH) has a range of enforcement powers, including stop work orders, interim protection orders and remediation orders. The amended regulations also allow for a number of penalties in support of these provisions. The NPWA also now includes a range of defense provisions for unintentionally harming Aboriginal Objects:

- a) undertaking activities that are prescribed as 'Low Impact';
- b) acting in accordance with the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (2010) ('Due Diligence Code');
- c) using a consulting archaeologist who correctly applies the OEH Code of Practice for Archaeological Conduct in New South Wales (2010) ('Archaeological Code of Practice'); and
- d) acting in accordance with an Aboriginal Heritage Impact Permit (AHIP).

2.1.1 '*Low Impact Activities*'

The new regulations allow for a range of low impact activities to be undertaken without the need to consult the OEH or a consulting archaeologist. Generally, those who undertake activities of this nature will not be committing an offence, even if they inadvertently harm Aboriginal Objects. These activities include:

- a) Maintenance – For example on existing roads and tracks, or on existing utilities such as underground power cables and sewage lines.
- b) Farming and Land Management – for land previously disturbed, activities such as cropping, grazing, bores, fencing, erosions control etc. *
- c) Removal of dead or dying vegetation - only if there is minimal ground disturbance.
- d) Environmental rehabilitation – weed removal, bush regeneration.



- e) Development in accordance with a Development Certificate issued under the EPA Act 1979 (provided the land is previously disturbed). *
- f) Downhole logging, sampling and coring using hand held equipment.
- g) Geochemical surveying, seismic surveying, costeaning or drilling. *

* This defense is only available where the land has been disturbed by previous activity. Disturbance is defined as a clear and observable change to the land's surface, including but not limited to land disturbed by the following: soil ploughing; urban development; rural infrastructure (such as dams and fences); roads, trails and walking tracks; pipelines, transmission lines; and storm water drainage and other similar infrastructure.

2.2 Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW

The Due Diligence Code operates by posing a series of questions for land users before they commence development. These questions are based around assessing previous ground disturbance. An activity will generally be unlikely to harm Aboriginal Objects where it:

- a) will cause no additional ground disturbance;
- b) is in a developed area; or
- c) is in a significantly disturbed area.

Where these criteria are not fulfilled, further assessment for Aboriginal cultural heritage will typically be required prior to commencing the activity.

2.3 The ACHCRP (2010)

The OEH has recently published the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010) (ACHCRP). These requirements replaced the former Interim Community Consultation Requirements for Applicants (2004) (ICCR) as of 12 April 2010. The ACHCRP provide an acceptable framework for conducting Aboriginal community consultation in preparation for Aboriginal Heritage Impact Permits. Proponents are also required to follow the ACHCRP where undertaking a project that is likely to impact on cultural heritage and/or where required by the consent authority.



2.4 The Tamworth Local Environmental Plan 2010

The Tamworth LEP 2010 provides statutory protection for items already listed as being of heritage significance (Schedule 5), items that fall under the ambit of the *Heritage Act 1977* (NSW) and Aboriginal Objects under the *National Parks and Wildlife Act 1974* (NSW). It aims to ensure best practice components of the heritage decision making process are followed.

For listed heritage items, or building, work, relic or tree and heritage conservation areas, the following action can only be carried out with the consent of the Tamworth Regional Council:

- a) demolishing or moving a heritage item or a building, work, relic or tree within a heritage conservation area;
- b) altering a heritage item or a building, work, relic, tree or place within a heritage conservation area, including (in the case of a building) making changes to the detail, fabric, finish or appearance of its exterior;
- c) altering a heritage item that is a building by making structural changes to its interior;
- d) disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed;
- e) disturbing or excavating a heritage conservation area that is a place of Aboriginal heritage significance;
- f) erecting a building on land on which a heritage item is located or that is within a heritage conservation area; and/or
- g) subdividing land on which a heritage item is located or that is within a heritage conservation area.

In addition, Council may not grant development consent without considering the effect the proposed development will have on the heritage significance of heritage item or heritage conservation area concerned. Furthermore, in regards to Aboriginal heritage significance (Part 5.8) the consent authority must, before granting consent under this clause to the carrying out of development in a place of Aboriginal heritage significance:

- a) consider the effect of the proposed development on the heritage significance of the place and any Aboriginal object known or reasonably likely to be located at the place, and
- b) notify the local Aboriginal communities (in such way as it thinks appropriate) about the application and take into consideration any response received within 28 days after the notice is sent.



3. DESCRIPTION OF DEVELOPMENT PROPOSAL

Site Details: The Assessment Area is referred to as the Glen Artney Industrial Development and consists of either all or parts of the Lots listed in Table 1 to form a total of approximately 745 hectares in total area. The Assessment Area is bounded by Wallamore Road and the Tamworth-Barraba Railway to the north and Oxley Highway/Gunnedah Road to the south. Tamworth Regional Airport is located immediately south of the Assessment Area. Three tributaries of the Peel River drain from the Assessment Area including Tangaratta Creek, Boltons Creek and Murroon Creek. The Assessment Areas have been virtually totally cleared for pastoral and cultivation purposes with remnant 'old growth' vegetation, in the form of few isolated trees.

Table 1: Assessment Area Lot on Plan Details

Lot on Plan Details	
Lot 431 DP 577935	41.01 ha
Lot 17 DP 865930	40.00 ha
Lot 19 DP 871833	10.00 ha
Lot 41 DP 1129256	
Lot 6 1007859	42.19 ha
Lot 41&43 DP 812458	52ha
Lot 21&22 DP 112147	169ha
Lot 421 DP 855694	30ha
Lot 100 DP 1097471	70ha
Lot 462 DP 1178998	134.66ha
Part Lot 2 DP 816346	50ha
LOT 6 DP 710048	40ha
Lot 5 DP 710048	37ha

The Assessment Area now contains large areas under poultry production infrastructure. The greater area is under agricultural uses and the remainder under pastoral use including dwellings, fencing, tracks, dams and sheds. All of Lot 17 is occupied by the Tamworth sale yards infrastructure and stock holding pens.

Proposal: The Tamworth Regional Council is investigating the feasibility of rezoning the Assessment Area from primary production to small rural lots for future industrial developments.



PART B: DESKTOP REVIEW

4. ABORIGINAL CULTURAL HERITAGE

4.1 The OEH Aboriginal Heritage Information Management System (AHIMS)

Care should be taken when using the AHIMS database to reach conclusions about site prevalence or distribution. For example, a lack of sites in a given area should not be seen as evidence that the area was not occupied by Aboriginal people. It may simply be an indication that it has not been surveyed, or that the survey was undertaken in areas of poor surface visibility. Further to this, care needs to be taken when looking at the classification of sites. For example, the decision to classify a site an Open Campsite containing shell rather than a Midden can be a highly subjective exercise, the threshold for which may vary between archaeologists.

A search was conducted on 3 April 2014 of the OEH Aboriginal Heritage Information Management System (AHIMS service number 130607) centred on the Assessment Area. A total of three (3) Aboriginal Cultural Heritage sites are within the boundary of the Assessment Area, a further six (6) sites were located in close proximity to the Assessment Area (Figure 3). A summary of these Sites has been provided in Table 2.

Table 2: AHIMS Registered Sites

AHIMS ID	Site Name	Easting	Northing	Context	Status	Features
29-2-0076	Oakburn 1	293800	6560750	Open site	Valid	Artefact: Isolated Find
25-2-0008	Heather Brae Scarred Tree	296468	6559903	Open site	Valid	Modified Tree (Carved or Scarred) : 1
29-2-0077	Oakburn 2	294200	6560450	Open site	Valid	Artefact; Isolated find
29-2-0214	Oakburn 3	294100	6560650	Open site	Valid	Artefact : 1
29-2-0132	Boltons Creek 4	294039	6561643	Open site	Valid	Artefact : 141
29-2-0131	Boltons Creek 3	293570	6561459	Open site	Valid	Artefact : 4
29-2-0130	Boltons Creek 2	293555	6561168	Open site	Valid	Artefact : 28
29-2-0129	Boltons Creek 1	293313	6560814	Open site	Valid	Artefact : 15
29-2-0133	Boltons Creek ST 1	293508	6561076	Open site	Valid	Modified Tree (Carved or Scarred) : 1



Sites within the investigation area are 29-2-0076 (Oakburn 1), 29-20077 (Oakburn 2) and 29-2-0214 (Oakburn 3). These are three sites of single stone artefacts located on Lot 100 between Glen Artney and the Baiada Pty Ltd construction site at Oakburn. Their environmental context is north facing slopes (Oakburn 1) or flats adjacent to an ephemeral branch of Bolton Creek (Oakburn 2 and 3). The three stone artefacts that comprise the three sites were removed for analysis by Gaynor and Wilson 1998 (Wilson/McAdam 2000: 51-52).

Within the lands enclosed by the investigation area but not under this lands assessment are three (3) artefact scatters (#29-2-0130, 29-2-0131, 29-2-0132) and one (1) modified tree (#29-2-133) located on the Boltons Creek floodplain. These sites are Boltons Creek 1, 2 and 3. The review of previous site recordings for the wider area has an additional three sites named Boltons Creek 1, 2 and 3 on the upper reaches of Boltons Creek, 6-7 kms to the south, in the vicinity of Oxley Lane and Heiligmans Lane. The duplication of site names has arisen from there being two Aboriginal heritage assessments on sections of Boltons Creek the first probably in 1996 (Lovell and Jones) the second in 1998 (Gaynor and Wilson). An additional artefact scatter (#29-2-0129) is located on the opposite side (south) of the Oxley Highway to the Assessment lands, on Boltons Creek .

4.2 Other Heritage Registers: Aboriginal & Historic Cultural Heritage

The following heritage registers were accessed on 7 April 2014 for the Tamworth region:

- **The National Heritage List (Australian Heritage Council):** Contains no Aboriginal heritage listings within close proximity to the Assessment Area.
- **Commonwealth Heritage List (Australian Heritage Council):** Contains no Aboriginal heritage listings within close proximity to the Assessment Area.
- **Register of the National Estate (Australian Heritage Council):** Contains two Indigenous place listings for Moore Creek and Tamworth, neither of which are located within the Assessment Area.
- **The State Heritage Register (NSW Heritage Office):** Contains no Aboriginal heritage listings within close proximity to the Assessment Area.
- **The State Heritage Inventory:** Contains no Aboriginal heritage listings within close proximity to the Assessment Area.
- **The Register of the National Trust of Australia:** Contains no Aboriginal heritage listings within close proximity to the Assessment Area.
- **Tamworth Regional Local Environment Plan 2010 (LEP):** Contains no Aboriginal heritage listings within close proximity to the Assessment Area.

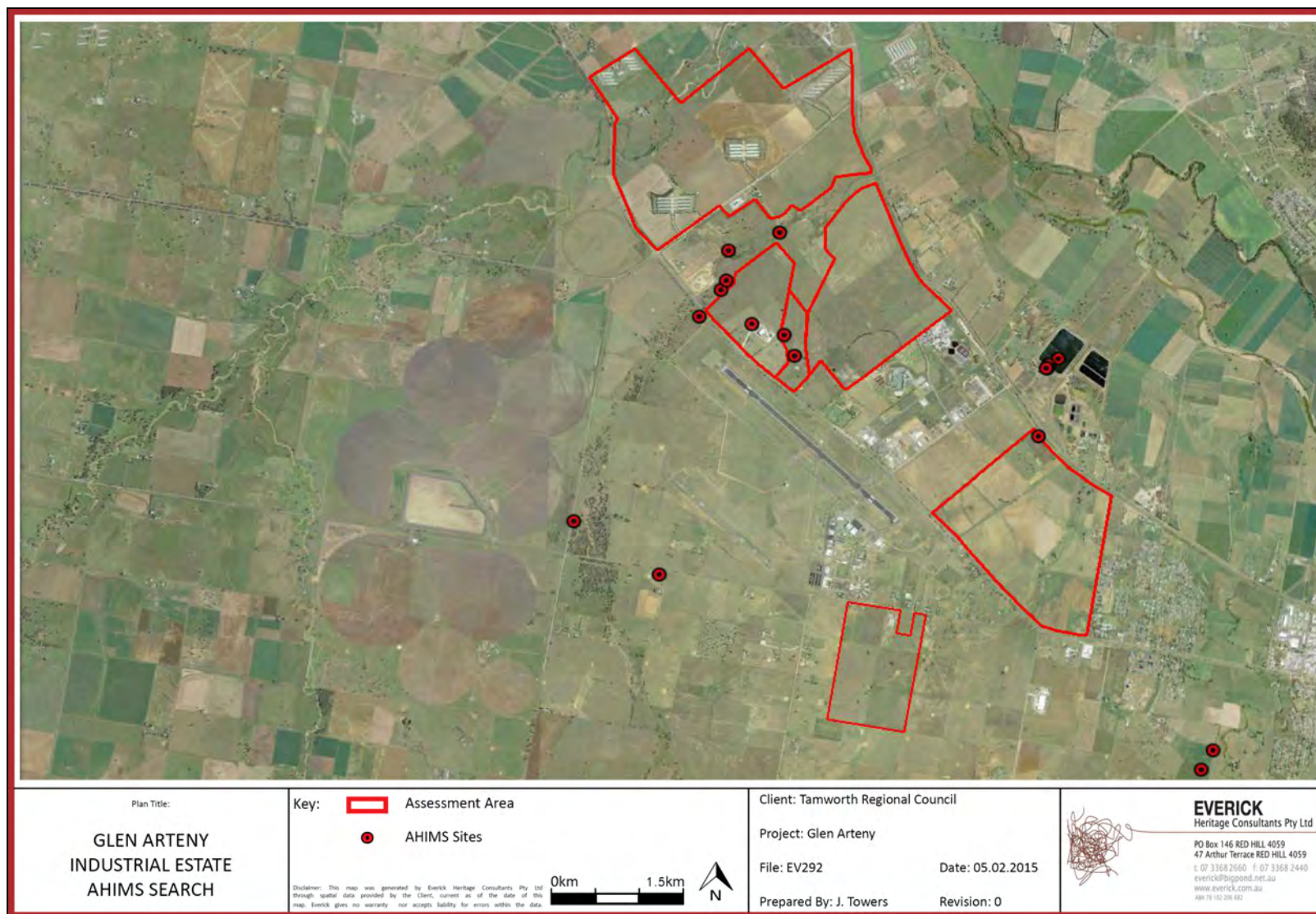


Figure 3: AHIMS Search Results (Aerial underlay NSW LPI 2013).



5. LANDSCAPE CONTEXT

5.1 Environment Locality

The Assessment Area is located west of Tamworth and is bounded to the north by Wallamore Road and the Tamworth-Barraba Railway and by the Oxley Highway/Gunnedah Road to the south. Several drainage lines exist within the Assessment Area including Tangaratta Creek, Boltons Creek and Murroon Creek. The Assessment Area is situated within a soil landscape described as undulating to low rolling hills interspersed with gullies and gilgai (Banks 2001). These landscapes are predominantly cleared, formerly heavily cultivated open grasslands (Banks 2001).

5.2 Geology & Soils

The Assessment Area is located across three main geological landscapes. The north-western section of the Assessment Area is within the Glenmore geological landscape, the origins of which while contested are believed to be remnants of the andesitic foot slopes of the Melville Ranges (Banks 2001: 37). The landscape now occurs in small plateaus across the region due to Permian-Tertiary folding of the Tamworth belt. Soil distribution is therefore not easily predicted and ranges from imperfectly drained black Vertosols to red brown Vertosols, and lithologies including argillites and mudstone. (Banks 2007: 37).

The Warral Station Geological landscape borders the Glenmore landscape to the north and south, along the main drainage lines in close proximity to the Assessment Area. The landscape can be described as small alluvial drainage plains and depressions between the surrounding rolling and undulating landscapes (Banks 2001:176). The high volumes of hydro activity within this landscape have resulted in severe gullying (Banks 2001:177).

To the southeast of the Assessment Area is the Duri Geological landscape, a complex geological setting being a mixture of the Devonian sedimentary rocks of the Tamworth belt and interdigitated carboniferous geological units (Banks 2001). The distribution of soils is highly variable as a result of the underlying geology (Banks 2001: 33). Soils range from Chromosols, Rudosols, Vertosols and Sodosols, all of which vary from red through to brown in colouration (Banks 2001:33). The Lithology of the Duri landscape includes arenite, polymictic conglomerate, greywacke and mudstone (Banks, 2001:32) – some of which are known to be resources utilised by Aboriginal people for the manufacture of stone artefacts.



5.3 Vegetation

Original vegetation across the Glemore, Warral Station and Duri soil landscapes was assessed by Banks (2001) to be very similar, being classified as open woodland and closed grasslands. The woodlands consisted mainly of various eucalypt species, but also included acacia species and other moderate growth bushes and shrubs. The closed grasslands were mainly plains grass (*Stipa aristigulumis*) and Blue Grass (*Dicanthium sericeum*). The current landscape has since been heavily cleared and extensively cultivated. Currently vegetation over the Assessment Area is fallow cultivation, planted cultivation or thick plains grass coverage and isolated trees.

6. REVIEW OF HISTORIC IMAGERY AND MAPPING

6.1 Historic Aerial Photography

Historic aerial photographs of the Assessment Area were reviewed to ascertain the level of past ground disturbance. This information is used to assist in developing a predictive model for potential cultural heritage site locations. Aerial photographs from 1953 and 1984 were reviewed as part of this assessment (Appendix B).

The 1953 Historic Aerial images (Figure 31 and Figure 32) illustrates that by the 1950's the Assessment Area had been extensively cleared, excluding only isolated pockets of vegetation on the banks of creek lines and gullies. Both the Oxley Highway and Wallamore Road are well-formed at this time. Mitchell (1831) noted the areas surrounding Tamworth as generally thinly wooded. It is likely then that the initial clearing of this area was undertaken by hand. The Assessment Area appears to be set up for pastoral or for cultivation purposes stemming from the Australian Agricultural Company Grant (Section 6.2 and Section 7), both of which were the most common land use practices throughout the region.

The 1984 (Figure 33) photograph illustrates that the main land usage remained virtually unchanged, indicating a general uniformity in land use, though further infrastructure has been constructed nearby to the Assessment Area. There appears to be little change in the types of disturbance through time other than the addition of contour banks, visible as curvilinear lines in the central paddocks. Land use practices were relatively consistent as the town of Tamworth continued to develop.

Conclusions: From the historic aerial photography, it is clear that initial vegetation clearing activities took place prior to the 1950's. This selective clearing may have caused ground disturbance and may have had an impact upon the integrity of any Aboriginal Objects within the Assessment Area, however this cannot be demonstrated through analysis of the historic aerial photographs alone. Other disturbance likely to have impacted on the



integrity of any Aboriginal sites, should they be located within the Assessment Area, may come as a result of intensive historic use of the Assessment Area for mustering of stock or cultivation under the Australian Agricultural Company Grant (Section 6.2 and Section 7). With the lack of vegetation clearly evident over this area, and having regard to the soil type, periods of rain would have seen ground disturbance up to half a metre deep in gully areas particularly adjacent to the Tangaratta, Boltons and Murroon Creek systems. That being said, the Assessment lands remain virtually unchanged over the last >30 years. The potential for stock trampled stone artefacts and undisturbed artefacts to be located well below the ground surface within the Assessment Area cannot be completely ruled out, particularly given the results of the AHIMS search results (Section 4.1).

6.2 Parish Mapping

Parish Maps were sourced for the analysis of land disturbance and tenure history of the Assessment Area. This information is used to assist in developing a predictive model for potential cultural heritage site locations. The consulted maps date from 1909, 1922, 1933 and 1964 and have been included in Appendix C of this report. The 1909 Parish map (Figure 34) indicates that the Assessment Area and the surrounding lands were set apart for settlement purchase within the greater west Tamworth district.

A number of land holders purchased lands within the Assessment Area at this time for agricultural purposes, including A.W. Morrison, F, H Robson in the south and H.A. Campbell, P.T. Potter and A.G. Warner in the north. At this point, the Oxley Highway/Gunnedah Road, Wallmore Road and the West Tamworth Barraba Railway have been established, servicing the greater Tamworth district. Lands to the south of the Assessment Area were also slated for agricultural purposes as part of the Australian Agricultural Company's Grant for lands in the Peel and surrounding Districts (Section 7).

Land ownership and tenure remained consistent within the Assessment Area until the early 1920's (Figure 35) when F.H. Robson expanded ownership of lands within the Assessment Area with the purchase of the property owned by A.W. Morrison to the northwest. Further development has occurred to the east of the Assessment Area with a number of smaller lots available for increased development within the western Tamworth region. By 1933 (Figure 36).

The Rural Bank of New South Wales gained title of the Northern section of the Assessment Area while F.H. Robson maintained title in the south. Lands to the south of the Assessment Area had at this time been reserved for the construction of what is now Tamworth regional Airport. The final parish map from 1964 (Figure 37) illustrates that tenure and land use remained relatively consistent since the publication of the previous map in 1933.



Conclusions: From the available parish mapping records, it is clear that initial settlement of the western Tamworth district was heavily weighted towards agricultural and pastoral land use purposes, a conclusion which is supported by the available aerial photographs consulted in Section 6.1. A review of land tenure changes through time indicate that the Assessment Area lands were likely used for cultivation and pastoral purposes since the early 1900's, likely stemming from the Australian Agricultural Company Grant (Section 6.2 and Section 7). This particular type of land use is common in the region and is currently in practice today.

7. PREVIOUS ARCHAEOLOGICAL AND CULTURAL HERITAGE ASSESSMENTS

Although a review of previous archaeological and/or cultural heritage assessments is not a requirement of the OEH guidelines for a standard Due Diligence assessment, it is the view of the Consultant that such a review assists in the accurate formulation of archaeological models and associated recommendations.

7.1 Synthesis of Archaeology and Ethno-history

7.1.1 Settlement

The Gamilaroi (also referred to as Komilaroi) has been recognised by researchers as the primary linguistic group for the greater New England region (Wilson and McAdam 2000; Carey 2006; Tindale 1974). The exact territorial boundaries of the Gamilaroi have been disputed. One of the earliest attempts to map the language group territory was by Matthews (1917) who recorded the dialect from Jerry's Plains in the Hunter River region, stretching north to the Gwydir River and into the southern reaches of Queensland (see also Wilson and McAdam 2000). Tindale (1974) disputed Matthews (1917) assertion of the southerly extent of Gamilaroi territory, arguing that the Gamilaroi only maintained a marginal strip of territory which did not extend as far south as Jerry's Plains in the Hunter River region. Carey (2006) argued further that the Gamilaroi territory extended from the Hunter Valley westward to Coonabarabran and north of the township of Moree into south-western Queensland (Carey 2006:5).

As a linguistic group, the Gamilaroi people spoke a range of dialects throughout the New England region. Wilson and McAdam (2000) cite Milliss (1980a; 1980b) who also recognised two distinct groups, the *Corbon Gamilaroi* who occupied areas surrounding the Peel River including Liverpool Plains, and the *Gammon Gamilaroi* who occupied the southern part of the language territory. Wilson and McAdams (2000) note that within these two language groups existed a number of subgroups, each maintaining individual group identities and land territories. Carey (2006:5) identifies two sub-communities of the Gamilaroi which occupied the area now known



as Tamworth: the Mooni people and the Goonoo Goonoo people. Wilson and McAdam (2000) also record the Gunnedah and Manilla people, originally recorded by Garret (n.d.). The Goonoo Goonoo people are said to have occupied the Peel River flatlands, including the lands which comprise Assessment Area (Carey 2005).

The antiquity of occupation of northern New South Wales is still debated, with sites dated between 3,600BP and 20,000BP (Wilson and McAdam 2000). Wilson and McAdam (2000) provided a brief summary of the dated sites for the Tamworth region, the oldest of which was Bendemeer II, dating to 4,950BP. This is not to say that occupation of the Tamworth region did not occur prior to this date. Rather, it is likely a reflection on the lack of archaeological investigations in the region and the preservation of datable materials in *in situ* contexts.

7.1.2 Movement

Hobden et al (2005) describes the Gamilaroi as having strict laws based on the intricate relationship with the landscape around them. Early population estimates made by European settlers record that between 4000 and 12,000 Aboriginal peoples inhabited camps located in the Peel River valley, south of modern day Tamworth (Hobden et al 2005; Wilson and McAdam 2000). Groups would gather and move across the landscape, participating in trading practices with other groups throughout the region (Carey 2006). However, it was a way of life that rapidly disappeared under the impacts of disease and restrictions on Aboriginal groups by 'authorities' on the movement of Aboriginal people. Unfortunately, conflicting historical accounts and the lack of detailed reports means that the exact numbers and movement of the Gamilaroi populations in the Tamworth region will never be accurately determined. That being said, the TRC noted that in the 2006 census a total of 3,739 people, representing 7.3% of the Tamworth regional population identified as Aboriginal (TRC 2012:88). So while the numbers of past populations of Aboriginal groups cannot be accurately determined, the higher than average number (being 2.2% across most of NSW according to the TRC) of Aboriginal identified persons within the Tamworth region, does indicate the rich cultural history of the region.

The few eyewitness accounts of the Aboriginal occupation of the Tamworth region come from early settlers who entered the region as part of John Oxley's 1818 expedition (Carey 2006). Oxley recorded the Peel River flatlands as an extensive grassed vale ideal for settlement (Carey 2006:8). It was this recommendation that spurred an influx of European settlement north of Liverpool Plains through to what is now Tamworth, as part of the ambitions of the Australian Agricultural Company.

Established in 1824, the Australia Agricultural Company was provided unoccupied lands by the crown for the purposes of "cultivation and improvement of wastelands in the colony of New South Wales and other purposes amongst which was the production of fine merino wool as an article of export to Great Britain" (Carey 2006:12). The Peel River district was selected as an area suitable for these purposes.



Increasing presence of Europeans from the 1830's had detrimental impacts for the Gamilaroi peoples inhabiting the Peel River region south of Tamworth (Carey 2006), with conflict and disease decimating the population (Carey 2006). The increasing agricultural cultivation forced groups to extend their subsistence practices further from the Peel River in pursuit of plant resources and game which had been driven further from the valley as a result of the expanding European settlements (Carey 2006).

7.1.3 Economy

Early historical accounts record the strict division of land territories by Gamilaroi sub-groups, with some accounts of inter-group violence as a result of territory and resource based clashes, particularly after the intensification of European settlement (Wilson and McAdams 2000). A range of materials utilised by the Gamilaroi groups was recorded by Parker (1909); Mitchell (1839) and O'Rourke (1997). The stone tool element in the material culture included axes, though small and unspecialised flakes were also commonly noted (Balme 1986; Parker 1909; O'Rourke 1997), though to the Consultant's knowledge, little analysis of assemblages from this region has been conducted in any great deal. The resources of the Pilliga forests were used extensively in the technology of the Peel River region, which is heavily dependent on wood and bark fibre (Parker 1909). Timbers were used to manufacture spears, a variety of clubs, shields and boomerangs. Bark was also used for shelter. Parker (1909) Also documented is the fashioning of bone into fine needle like points which were used to craft water canteens from the skins of possum and kangaroo species.

Subsistence practices of the Aboriginals of the Tamworth area were based on the exploitation of both terrestrial and freshwater resources located within the landscape (Mitchell 1839; Parker 1909; O'Rourke 1997). Parker (1909) records the methods used to trap smaller game such as bird species, possums and pademelons included the crafting of netting from Kurrajong bark and Burraungah grass. Netting was used both actively and as part of snares (Parker 1909). Larger species, such as Kangaroo and Wallaby, were often stalked and herded in groups and taken by spears once surrounded by a hunting party, particularly during ceremonial gatherings (Parker 1909; Wilson and McAdams 2000).

Ethnohistorical records are largely directed towards descriptions of hunting techniques which employed large groups of people and obvious types of technology requiring demonstrable physical skills: the use of the woomera, spears, clubs, boomerangs and the like. The role of plant foods in the local economy is often understated or overlooked entirely. Parker (1909) accounts gathering activities including the raiding of emu nests, sourcing of honey from native bees and procuring thistle tops, pigweed and crowfoot, all of which were eaten raw. Parker also notes extensive seed exploitation and grinding activities (1909), where the seeds of *Sterculia* and other similar species were ground and made into cakes. She describes the grinding stones as similar to the "saddle-stone querns' occasionally found in ancient British sites" (Parker 1909).



7.2 Predictive Modelling- Previous Archaeological Assessments

The review of previous assessments has been particularly informed by the Wilson and McAdam (2000) study as part of the *Tamworth Aboriginal and Archaeological Study* in conjunction with the Tamworth LALC. The study included a review of all previous Aboriginal heritage/archaeological assessments, oral Aboriginal history and historical data for the Tamworth region. These reports include Balme 1986, Byrne 1989, Griffiths 1995a, 1995b, Gaynor and Wilson 1995, 1998, Lovell and Jones 1996, McAdam 2000, McDonald 1998. A review of numbers of previous cultural heritage studies prior to the Wilson and McAdam report is not attempted here as those findings and their outcomes are included within the findings made by Wilson and McAdam. At that point, the year 2000, very few Aboriginal archaeological sites had been registered in the Tamworth region being composed of 8 isolated artefacts, 14 artefact scatters, 1 quarry and 2 Modified trees (Wilson and McAdam 2000: 50).

Of studies specific to the Assessment Areas there are two prior to the current assessment. The first in 1996 (Lovell and Jones) in relation to the *Tamworth Effluent Irrigation Scheme*, assessed an area that appears to have included the Bolton Creek floodplain where it passes between the current assessment lands of Lots 6, 100 and 102. According to Wilson and McAdam, the Lovell and Jones report noted five (5) isolated artefacts and one (1) artefact scatter with little information as to the nature of the artefacts or their location.

A subsequent study by Gaynor and Wilson (1998) assessed virtually the same lands as the Lovell and Jones report, unaware of the previous study as there was no record of the report with the NSW NPWS and no site card details. Therefore Wilson and McAdam concluded that the details of site contents and four of the site locations remained unknown at the time of their report i.e 2000. However according to the AHIMS search there are now four (4) artefact scatters and one (1) scarred tree in the area assessed by Lovell and Jones. Conversely these may not be the Lovell Jones sites as they are referred to as, five (5) isolated artefacts and one artefact scatter. As the site locations are not within the lands of the Glen Artney Assessment the issue does not have a bearing on the current Assessment.

The Gaynor Wilson study assessed a small portion of the *Oakburn* property for Baiada Pty Ltd recording three Aboriginal sites: three (3) isolated artefacts. These were located in a non-perennial branch of Bolton's Creek to the east of the current Baiada Pty Ltd construction site on the Oxley Highway. The three artefacts were removed for analysis by Consent and not returned to their 'found' location. In effect the sites exist in name only unless further Aboriginal materials were found in the same locations.

Wilson and McAdam made a number of relevant predictive modelling statements for archaeological sites in the immediate Tamworth region, on the basis of their review of Aboriginal site types and their environmental



contexts recorded up to the year 2000. They found that (although note the results of the Everick 2014 assessment discussed below):

- All sites are within 400m of a water source and generally much closer.
- Modified trees and artefact scatters are usually within 150m of a water source. Modified trees are commonly found on white box, or red river gum.
- Larger sites that contain a greater number and variety of stone artefacts, are found near more permanent creeks and springs and /or rock pools.
- The most common artefact types are flakes, broken flakes, retouched flakes, flaked pieces and cores. Raw materials included chert, cherty argillite, hornfels, quartz, andesitic greywacke tuff and chalcedony (Wilson and McAdam 2000:60-61).

Their review of Aboriginal site contexts in a radius of 50 km of the Tamworth PO concludes with the following predictive model:

- The majority of Aboriginal archaeological sites are in areas of low slope in close proximity to water courses.
- Largest sites i.e. those containing >500 artefacts are near permanent rivers or creeks and contain a wider variety of artefacts.
- The second largest group of sites i.e. with <1000->150 artefacts are found on small tributaries with permanent holes or springs.
- A third group containing <150 artefacts are found on the upper reaches of intermittent creeks and tributaries.
- All Modified trees are within 100m of a water course produced on Moombi apple box, red gum, white box and bimbale box (Wilson and McAdam 2000:66-70).

Everick (2014a & 2014b) undertook cultural heritage due diligence studies of large tracts of land immediately south of Tamworth city, along Goonoo Goonoo Road and Duri Road respectively. Adopting a targeted survey strategy, Everick recorded twenty (20) sites in total. The majority of these sites were artefact scatters (10), located along ephemeral watercourses. However, expanding on Wilson and McAdam's (2000:66-70) research, four of these sites (2 scarred trees with associated artefact scatters, and two artefact scatters) were found between 500m and 1000m from the nearest water source. All four sites were located on a prominent ridge line adjacent to Duri Road, with high quality metamorphic cobbles scattered across the surface.



It was Evericks conclusion that these cobbles represented a local stone resource which was accessed for the production of stone tools. The high levels of ground disturbance across the ridge line, including evidence of rock picking and ploughing, meant that conclusions as to the intensity of use, or whether the ridge could be classified as a traditional 'quarry', could not be made. However, on the evidence there was a possibility that quarrying activities were occurring in this area.

In relation to existing development in the Tamworth City environs and future development options in the northwest Tamworth region, the report advances a number of predictive models. The most relevant to the current Glen Artney Lands Assessment, is the section under *Areas of Future Investigation*. The following is a summary of the Wilson and McAdam conclusions.

- Aboriginal sites will predominately consist of isolated artefacts and artefact scatters on lower slopes close to water courses.
- Modified trees may be found within 100m of watercourses.
- Burials occur along watercourses.
- Ceremonial grounds may be found within 600 m of the ecotone between alluvial flats on water courses and red brown solodic soils on slopes and crests.
- Ongoing cultivation means high disturbance and the likelihood of undisturbed sites is highly unlikely. Therefore south of the Peel River, Aboriginal sites are most likely to consist of highly disturbed artefact scatters and the occasional scarred tree in cultivated areas. (Wilson and McAdam 2000:98-99).

Purcell (2000; 2002) conducted a regional cultural heritage assessment for the Brigalow Belt South Bioregion, which was presented as a report for NPWS. The report was conducted in two stages over a 52,409sq km survey area. On completion, 1940 Aboriginal sites were identified from Stage 1 and Stage 2 and 98 sites from an AGL gas pipeline survey that included the headwaters of Boltons Creek and Timbumburi Creek in the Tamworth region. In regard to predictive modelling for sites and their relationships to water the study found that 90% of sites were within 200-300m of a water source. The results for Stage 2 were consistent, with the addition that sites in floodplains of first order rivers were on average 400m from the watercourse (Purcell 2002:48-49).



7.3 Predictive Modelling-Potential Site Types: Aboriginal Archaeological Sites in the Tamworth Region

From the review of previous archaeological and cultural heritage assessments in the Tamworth region and beyond, it is proposed that specific environment contexts including alluvial landforms, low hills, lower slopes and spurs, are likely to contain the majority of evidence of Aboriginal occupation. The following site types have been identified in the above contexts in the Tamworth region.

7.3.1 *Isolated Artefacts*

These will consist of single stone artefacts, which may have been randomly discarded or lost. They may occur in almost any environmental context exploited by Aboriginal people. They are commonly stone axes, single cores, hammer stones, pebbles, flakes and grinding stones and/or grooves. Their presence may indicate that more extensive scatters of stone artefacts exist or existed nearby, perhaps obscured by vegetation or dispersed by mechanical means. Predicting isolated artefacts that fall into a nonspecific category archaeologists refer to as 'background scatter' is not possible but are most likely within 300m of Boltons, Tangaratta and Murroon Creeks.

7.3.2 *Open Campsites/Artefact Scatters*

Scatters of stone tools, stone debris and possibly associated with bone and hearths. Their exposure to the elements means that evidence of food resources used on the site (with the exception of shellfish) is usually lacking. They consist of low or high density scatters of primary and secondary flakes in addition to the types of artefacts found as isolated finds. Artefact scatters may be associated with other features e.g. quarries, hearths, ground ovens, Modified trees, rock shelters, ceremonial grounds. Open campsites may also contain burials when located on sand strata.

The review of predictive modelling from previous reports suggests artefact scatters may be found on lower slopes within a radius of up to 200-300 metres beyond the channels of Tangaratta, Bolton and Murroon Creeks.

7.3.3 *Middens*

Shell middens are deposits of shell and other food remains accumulated by Aboriginal people as food refuse. Cupper describes inland NSW middens as typically comprising shells of the freshwater lacustrine mussel *Velesunio ambiguus* or the freshwater riverine mussel *Alathyria jacksoni*. Freshwater middens are most frequently found as thin layers or small patches of shell and often contain stone or bone artefacts and evidence



of cooking. Such sites are relatively common along the watercourses of the North West Slopes and their associated lakes and other wetlands (Landscape 2010: E24-27).

The Peel River and its tributaries have been a central landscape feature for the Aboriginal occupation of the Tamworth Region. The conditions for freshwater shellfish within the two stream channels no doubt exist. however there does not appear to be a report of midden sites in the Tamworth region to date.

7.3.4 Quarry Sites

The most well-known Aboriginal quarry in the Tamworth region is the 'Daruka' axe quarry in the upper reaches of Moore Creek where andesitic greywacke has been excavated from beds and fabricated and traded in blank form across the region and down the Darling River system. The Marengo quarry is in the same general area, where hornfels have been extracted from scree slopes below outcrops and fabricated. Other sources of siliceous types of stone are reported to be the pebble beds of the Peel River. It is highly unlikely that stone resources other than pebble beds exist in the assessment areas.

7.3.5 Modified Trees

Modified trees result from the removal of bark for use as covering, shields, containers or canoes. There may also be carved trees where the bark has been removed and geometric patterns incised on the tap wood in the vicinity of burials. No doubt, as an outcome of widespread intensive land clearing and natural causes their numbers are greatly diminished. The historical imagery does show that the configuration of trees within the Assessment Area has remained relatively unchanged since the 1950's.

Numerous modified trees have been located within the Tamworth region (Wilson and McAdam 2000). They are numerically the most common type of site after artefact scatters, to be recorded in the open plains and hills landscapes. If old growth trees survive, particularly within 100m of the watercourses there is a potential for Modified trees.

7.3.6 Burials

Human burials are typically individual or small group internments which can usually be found in sandy soil substrates such as creek lines or within small rock crevices. Most of the known burials have been located by accidental means through mechanical disturbance or natural erosion.



Burials can be considered of very low potential to be located within the Assessment Area given the location of the long and high levels of ground disturbance. That being said, landscapes in areas immediately surrounding drainage lines have increased archaeological potential to contain burials, though the overall risk is very low. Additionally, natural erosion patterns within this landscape may have resulted in the displacement and destruction of these features.

7.3.7 Ceremonial Sites

Ceremonial grounds are typically places identified by Aboriginal groups as places of importance which were visited by groups to mark or commemorate rites or other occasions. One such example is Bora grounds, earthen mounds crafted in a circular formation which were used for the purposes of ceremonial practices.

There is no previous record of the presence of a ceremonial site at the Assessment Area, nor knowledge in relation to such sites, conveyed during the Cultural Heritage Survey undertaken on May 8-10, 2014 and January 15, 2015.

7.3.8 Mythological Sites

These sites are natural features, which derive their significance from an association with stories of the creation and mythological heroes.

There is no previous record of the presence of a ceremonial site at the Assessment Area, nor knowledge in relation to such sites, conveyed during the Cultural Heritage Survey undertaken on May 8-10, 2014 and January 15, 2015.

8. FIELD SURVEY METHODS AND RESULTS

8.1 Aboriginal Community Participation

The Assessment Area is within the area administered for Aboriginal cultural heritage purposes by the Tamworth Local Aboriginal Land Council ('Tamworth LALC'). A survey for Aboriginal cultural heritage was conducted by Christopher 'Don' Fermor, Sites Officer of the Tamworth LALC and Everick Consultant, Adrian Piper on the 8-10 July 2014 and January 15, 2015.



8.2 Survey Strategy and Methods

As this assessment relates to potential rezoning of the Assessment Area rather than to any specific development proposals, a sampling strategy was adopted. The survey was targeted at inspecting the areas which were considered to have increased archaeological potential based on a predictive model from a review of studies from the region. The desktop predictive modelling (Section 7.2, 7.3), suggests that the greatest potential for Aboriginal archaeological sites within the Glen Artney lands is within 200-300m of water courses which in this case are the stream channels of Tangaratta, Boltons and Murroon Creeks.

The brief for this assessment excludes the Bolton Creek stream channels from field survey with exception of a flood channel to the east of the current Baiada Pty Ltd construction site on the old 'Oakburn' property. Therefore AHIMS sites in that area excluded from assessment were not evaluated. The three isolated artefacts that comprise the 'Oakburn' sites have been removed by Consent in 1998.

Lands immediately surrounding poultry production infrastructure were excluded from the survey at the request of Baiada Pty Ltd management and as future rezoning options will not affect lands zoned for those purposes. This also applies to the poultry production site at Lot 41 and the Baida Pty Ltd construction site (Lot 100) on the Oxley Highway.

For the purposes of description the Glen Artney lands are assessed as four distinct entities.

Area A is Lots sloping to Boltons Creek (Lots 6,100, 102, 431, 17 and 19).

Area B is Lots sloping to Tangaratta Creek, (Lots 43, 21, 421, 22 and 41).

Area C is the 'Heather Brae' property on Murroon Creek (Part Lot 2 and Lot 462).

Area D is adjoining Lots on Old Winton Road (Lots 5 and 6).

The archaeological or scientific aim of the cultural heritage survey was to locate physical evidence of Aboriginal occupation within the Assessment Areas; the evidence of which is most commonly stone artefact scatters; individual (isolated) artefacts; shell debris and in clear ground situations traces of bone (human and animal) and ash-stained earth that might represent fireplaces. Woodland areas or isolated 'old growth' trees were inspected for evidence of Aboriginal scarring due to bark removal or holes/notches cut into bark and tap wood.



The survey methods aimed to inspect exposed ground surfaces as conditions would allow; to record any archaeological material found and assess its significance; and assess the potential for concealed Aboriginal archaeological sites.

Had any sites or artefacts been found; at this level of assessment their location would have been recorded with a GPS (WSG84 datum), photographed and generally described. A note would be made of artefact types and their numbers. General characteristics of the artefacts would be noted including; raw material type and condition; the degree of weathering and heat cracking; and the length, width and thickness of all or a sample number of artefacts. The details would be logged on standard OEH Site Recording Forms for registration with the OEH AHIMS.

In addition to assessing the cultural heritage potential of the Assessment Area, the survey aimed to confirm the interpretation of the nature and degree of ground disturbance observed in historical aerial photographs and satellite imagery. A system of pedestrian transects was maintained in these areas of interest, identified in Figure 4. A small section adjoining the Oakburn construction site was traversed by vehicle due to time constraints and the perfectly level and ground clear conditions.

Photographs were taken to record general features and conditions, and the content/ context of any Aboriginal sites found. Notes were made on:

- ground surface visibility;
- the area or amount of visibility;
- amount of ground cover;
- visible evidence of current land uses; and
- other relevant features.

8.3 Constraints to Site Detection

An assessment of the constraints to site detection is made to assist in formulating a view as to the effectiveness of the field inspection to find Aboriginal sites and cultural materials. It also assists in the forming of a view of the likelihood of concealed sites keeping in mind a site specific knowledge of the impacts that European land uses and natural processes may have had on the 'survivability' of Aboriginal sites in an Assessment Area. The constraints to site detection are almost always most influenced by post European settlement land uses and in some areas by natural erosion processes. The area of surface exposure and the degree of surface visibility within



exposed surfaces are usually the product of 'recent' land uses e.g. ploughing, road construction, natural erosion and accelerated (manmade) erosion (McDonald et al 1990:92).

The available field Assessment Areas have undergone extensive manmade ground disturbance in terms of the Due Diligence Code, in the forms of extensive clearing, long term grazing, contour banking, fencing, dams, stock yards and intensive cultivation. Access to the areas available for field inspection was mainly limited by closed grassed ground covers.

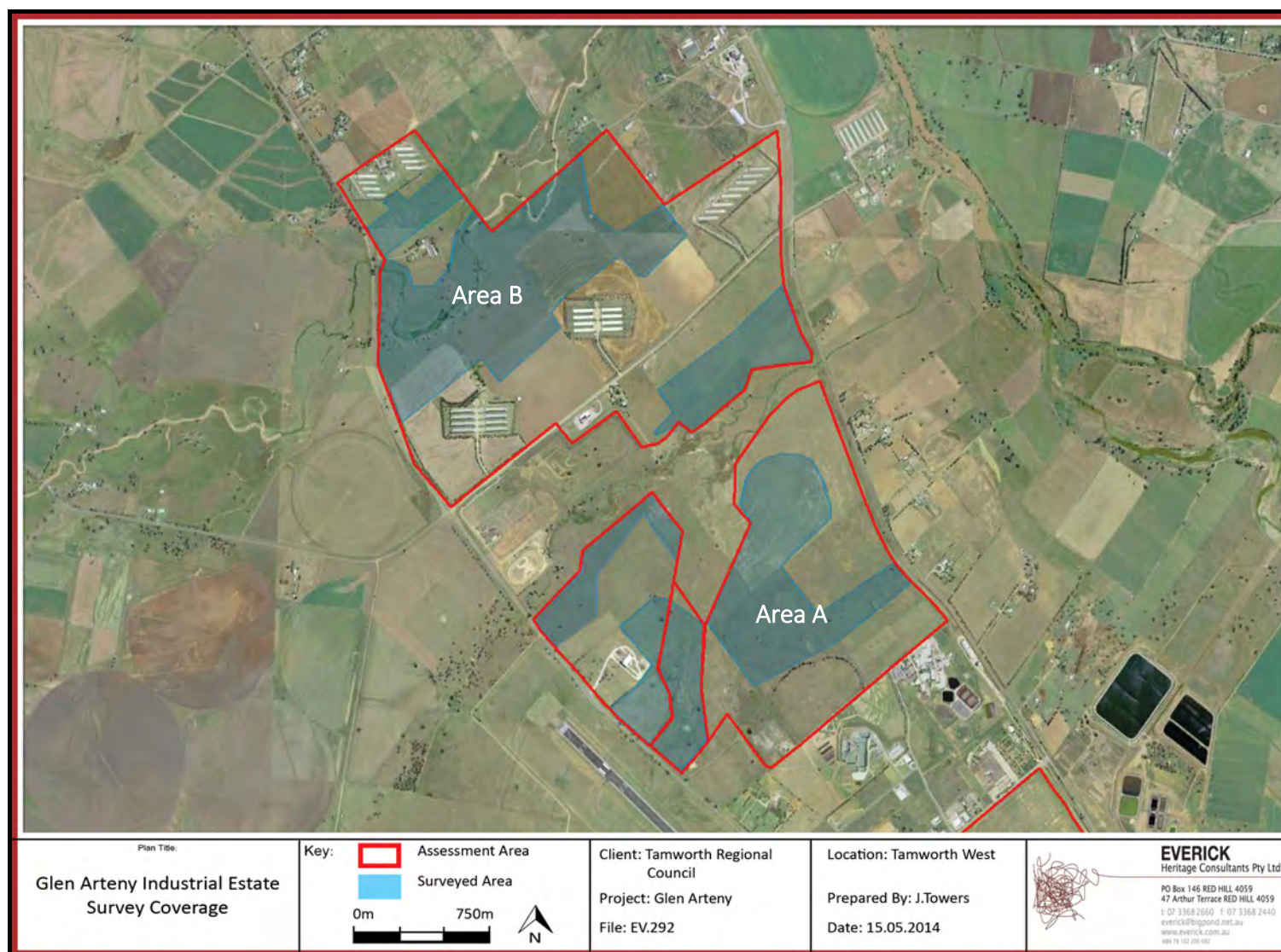


Figure 4: Survey Plan (Areas A and B)

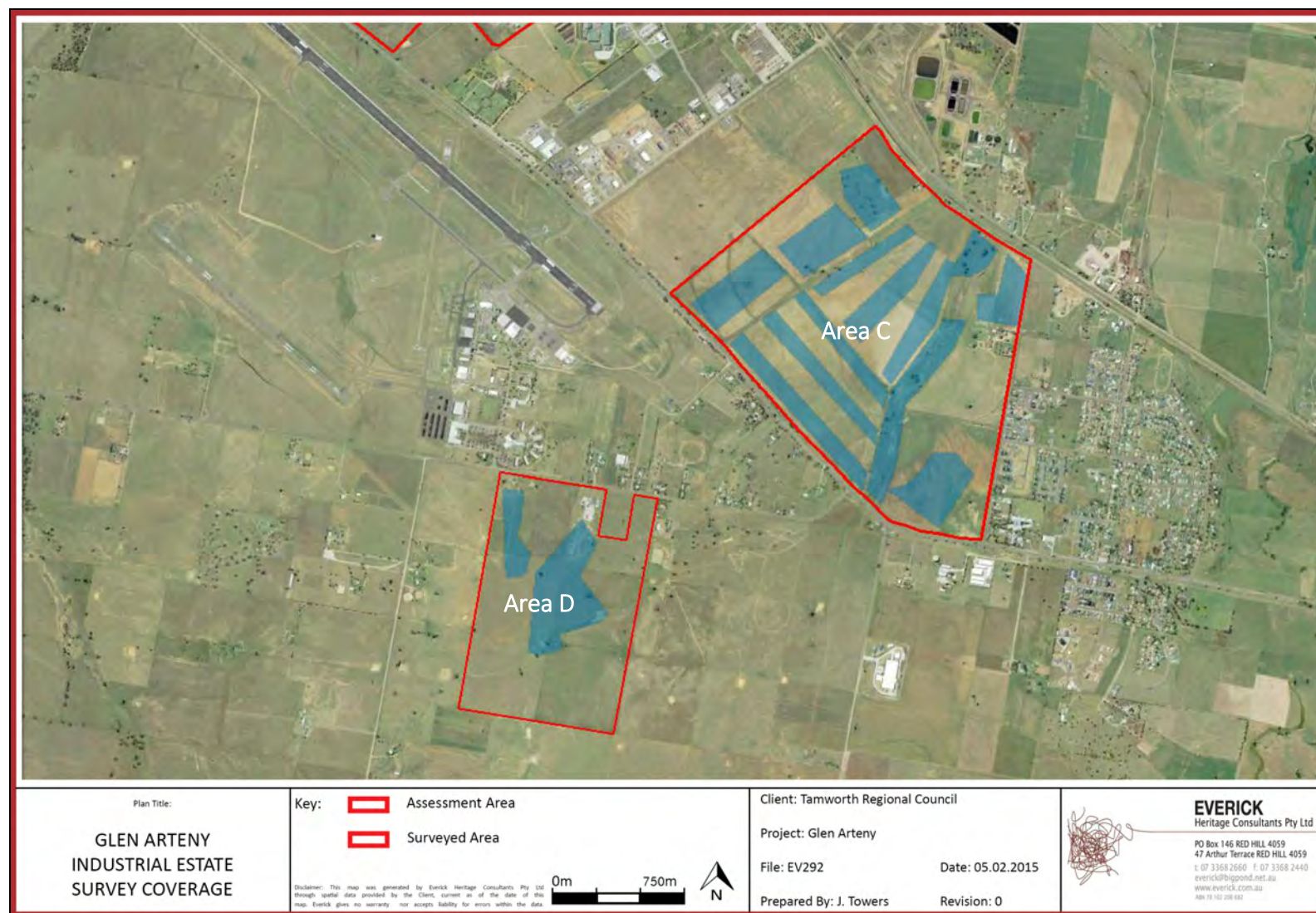


Figure 5: Survey Plan (Area C and D)



8.4 Survey Units

The survey units correspond with the land parcels of Area A, Boltons Creek, Area B, Tangaratta Creek, Area C Murroon Creek, Area D Old Winton Road. The following is a summary of conditions for site detection in each Area.

8.4.1 Area A. Boltons Creek

Survey Units/Land Parcels: 6, 100, 102, 431, 17 and 19.

Landforms: Flood channel, narrow alluvial flats, gentle east and west slopes, low hill crests.

Vegetation: Isolated trees.

Disturbances/Land Uses: Limited clearing, grazing and associated infrastructure e.g. dams etc, stock yard infrastructure, contouring, cultivation.

Ground Visibility: Low levels (5%-20%) of visibility restricted by close grass cover in grazing areas on lower slopes of Lot 102 and areas of Lot 100 near Boltons Creek. All other areas had high rates ranging of 80-100%.

Areas of Sampling for Aboriginal Sites: Flats, lower slopes, broad hill crests. See Figure 4.

Survey Coverage: See Table 3.



Figure 6: View East - Bolton Creek Landscapes.



Figure 7: View East - Bolton Creek Slopes and Hillcrest Fallow Cultivation.



Figure 8: View North East - Bolton Creek Lower Slopes and Flats.



Figure 9: View North West - Bolton Creek Typical Eroded Creek Channel, Grazing Only.



Figure 10: View North - Bolton Creek Closed Grasslands, Very Low GSV.



Figure 11: View South - Bolton Creek Typical Stock Damage and Soil Spread.

8.4.2 Area B. Tangaratta Creek

Survey Units/Land Parcels: 43, 421, 22, 44.

Landforms: Stream lines, narrow alluvial flats, gentle east and west slopes, low hill crests, gullying.

Vegetation: Isolated trees.

Disturbances/Land Uses: Limited clearing grazing and associated infrastructure e.g. dams etc, cultivation, poultry production.

Ground Visibility: Low levels (5%-20%) of visibility restricted by close grass cover in grazing areas on Tangaratta alluvial flats. All other areas generally high rates in the range of 80-100%.

Areas of Sampling for Aboriginal Sites: Stream beds and flats, lower slopes and broad hill crests. See Figure 4.

Survey Coverage: See Table 4.



Figure 12: View North East - Tangaratta Creek Landscapes.



Figure 13: View South East - Tangaratta Creek Erosion Gullies



Figure 14: View West - Tangaratta Creek Ponds and Flats



Figure 15: View South - Tangaratta Creek Typical Cultivated Hill Slope Landscape



Figure 16: View South - Tangaratta Creek Typical Hill Crest Landscape

8.4.3 Area C. Murroon Creek

Survey Units/Land Parcels: Part Lot 2, Lot 462.

Landforms: Narrow alluvial flats, gentle east and west slopes, stream gullying.

Vegetation: Isolated trees.

Disturbances/Land Uses: Cultivation and associated infrastructure e.g. contour banks, fencing etc.

Ground Visibility: High levels (generally 90%) in cultivation areas, visibility restricted by close stubble/grass cover. All other areas generally low rates on creek flats and a block in the northwest, in the range of 10 %.

Areas of Sampling for Aboriginal Sites: Stream bank and flats, mid and lower slopes. See Figure 4.

Survey Coverage: See Table 4.



Figure 17: View East - Murroon Creek Landscape Mid to Lower Slopes



Figure 18: View North West - Murroon Creek Flats



8.4.4 Area D. Old Winton Road

Survey Units/Land Parcels: Lot 5, Lot 6.

Landforms: Broad slope.

Vegetation: Isolated trees.

Disturbances/Land Uses: Grazing (uncertain if cultivated) and associated infrastructure e.g. dam, fencing etc.

Ground Visibility: Very low due to closed grass cover.

Areas of Sampling for Aboriginal Sites: Slopes to south of residences. See Figure 4.

Survey Coverage: See Table 4.



Figure 19: Winton Road view over Grass Flats



8.5 Survey Coverage

A plan of the survey coverage is shown in Figure 4. The survey covered a selection of all major landform elements, being:

8.5.1 Area A. *Boltons Creek lands*

- a) Flood channel/ drainage lines (Est. 15 % coverage).
- b) Lower slopes (Est. 40% coverage).
- c) Hill crests (Est. 90% coverage).

8.5.2 Area B. *Tangaratta Creek lands*

- a) Creek flats and creek bed (Est. 20 % coverage).
- b) Lower slopes (Est. 46% coverage).
- c) Hill crests/slopes (Est. 90% coverage).

8.5.3 Area C. *Murroon Creek lands*

- a) Mid slopes (Est. 60% coverage).
- b) Lower slopes (Est. 20% coverage).
- c) Flats and creek banks (Est. 10% coverage).

8.4.4 Area D. *Old Winton Road lands*

- a) Mid slopes (Est 5 % coverage).

8.6 Ground Surface Visibility

Ground Surface Visibility (GSV) is a measure of how much ground surface (or bare earth) can be seen at the time of an archaeological survey. It is usually worked out as a percentage (%) of the overall Assessment Areas, although it can also be worked out as a range when GSV changes dramatically within the Assessment Areas. For this assessment, GSV was worked out by assessing a 1 m x 1 m area and inferring how much ground surface was



seen within that. This gave a percentage of GSV within the square, which was extrapolated to an entire Assessment Area – so long as the ground conditions did not fundamentally change.

Table 3 and Table 4 present information on the extent to which survey data provides sufficient evidence for an evaluation of the distribution of archaeological materials across the study area. The evaluation of survey coverage provides a measure of the potential for each of the landform elements to reveal archaeological evidence. The calculations in Table 1 do not provide an exact percentage of area but a reasonable estimate of ground available for sampling.

Table 3: Area A: Boltons Creek. Survey Coverage

<i>Survey</i>	<i>6</i>	<i>102</i>	<i>431</i>	<i>17</i>	<i>19</i>	<i>100</i>
<i>Unit/Land Parcel</i>						
<i>Landform</i>	Low	Low	Low	Low	Low	Low
	Hills	Hills	Hills	Hills	Hills	Hills
<i>Landform Element</i>	Lower	Mid/Lower	Crest/	Crest/	Crest/Slope	Flats/Flood
	slopes	slopes	slopes	slopes		Channel
<i>Area (ha)</i>	42	74	41	40	5	30
<i>Exposure %</i>	5	40	95	95	5	15
<i>Area of Exposure ()</i>	2.1	41	39	38	0.25	4.5
<i>Visibility %</i>	60	90	90	100	20	60
<i>Area for Site Detection (ha)</i>	1.26	45	35	38	0.05	2.7
<i>% of LF for Site Detection</i>	3	44	85	95	1	9
<i>Total for Ground Detection: approximately 55 %</i>						

Table 4: Area B: Tangaratta Creek. Survey Coverage

<i>Survey</i>	<i>43</i>	<i>21</i>	<i>21</i>	<i>21</i>	<i>22</i>	<i>41</i>	<i>421</i>
<i>Unit/ Land Parcel</i>							
<i>Landform</i>	Low	Low	Low	Low	Low	Low	Low
	Hills	Hills	Hills	Hills	Hills	Hills	Hills
<i>Landform Element</i>	Lower	Creek flats	Lower	Hill	Hill crest	Hill crest	Hill crest
	slopes		slopes	crest/slopes			
<i>Area (ha)</i>	12	50	56	40	12	18	18
<i>Exposure %</i>	20	20	95	95	90	90	90
<i>Area of Exposure (ha)</i>	2.4	10	53	38	11	16	16
<i>Visibility %</i>	70	90	90	90	90	90	90
<i>Area for Site Detection (ha)</i>	3.4	9	48	34	10	14	32
<i>% of LF for Site Detection</i>	28	18	85	85	81	81	81
<i>Total for Ground Detection: approximately 69 %</i>							



Table 5: Area C & D: Murroon Creek/Old Winton Road Survey Coverage

<i>Survey</i>	<i>2</i>	<i>462</i>	<i>462</i>	<i>5</i>	<i>6</i>
<i>Unit/ Land Parcel</i>					
<i>Landform</i>	Low	Low	Low	Low	Low
	Hills	Hills	Hills	Hills	Hills
<i>Landform Element</i>	Mid	Lower	Flats/creek	Mid	Mid
	slopes	slopes		slopes	slopes
<i>Area (ha)</i>	50	55	30	37	40
<i>Exposure %</i>	60	20	10	1	1
<i>Area of Exposure (ha)</i>	30	11	3	0.37	0.37
<i>Visibility %</i>	90	90	10	90	90
<i>Area for Site Detection (ha)</i>	27	10	3	0.3	0.3
<i>% of LF for Site Detection</i>	54	18	1	0.9	0.75
<i>Total for Ground Detection: approximately 29 % and 0.7%</i>					

8.7 Results

No places of intangible (non-physical) cultural heritage significance were identified in the literature review or by the Tamworth LALC during the archaeological site inspection. A total of six (6) Aboriginal heritage sites were located during the inspection (Figure 28), which have since been registered with the OEH AHIMS as per the requirements of the NPW Act. These are an *isolated artefact* and a *modified tree* located in the north western sector of Lot 21 and a low density *artefact scatter* on the western boundary of Lot 100.

8.7.1 Tangaratta Creek 1 (TC 1)

An isolated artefact in Lot 21, found at the base of deep eroded gullies on the eastern side of Tangaratta Creek. The artefact is a flake /blade of a black stone possibly basalt. Given the deep erosion there is no possibility the artefact is *'in situ'*. The artefact has three scars for its length on the dorsal surface. The distal end is snapped. Dimensions: 18 mm x 12 mm x 2 mm (Figure 20).



Figure 20: Tangaratta Creek 1 (TC1) Isolated Stone Artefact

8.7.2 Tangaratta Creek Modified Tree (TMT 2)

A modified tree in Lot 21 is located on a flat above the bend in Tangarrata Creek opposite a gate, approximately 40m from the Oxley Highway. The tree is believed to be a yellow box although unconfirmed. The scar is elongated in shape, on the south side of the tree facing the highway. The dimensions of the scar are 100 mm x 200 mm. The scar exhibits axe marks at the base. Distance from water is approximately 100 m. A more detailed description is contained in the OEH AHIMS site card (Figure 21 and Figure 22).



Figure 21: Tangaratta Creek Modified Tree (TMT2)



Figure 22: Tangaratta Creek Modified Tree (TMT2) Modified Tree



8.7.3 Boltons Creek 5 (BC5)

A low density artefact scatter composed of two stone flakes and four micro flakes scattered over approximately 50m on the western boundary of Lot 100 and Boltons Creek. The materials are not '*in situ*' and appear to have been exposed through tree plantings in the adjoining parcel. Two of the flakes have fabrication features while the remainder are micro fragments (<5mm) of a siliceous stone (Figure 23).

Technically the materials are not within the Assessment Areas however additional materials may be concealed, extending into the Assessment Area.



Figure 23: Boltons Creek 5 (BC5) Stone Artefacts

8.7.4 Murroon Creek (Heather Brae 1)

An isolated artefact on the crest of a contour bank adjoining the western boundary fence of Lot 462. The artefact is a core of possibly andesitic greywacke. The artefact is not *in situ*. The core is flaked over almost all surfaces with step flaking around all margins. Dimensions: 120 mm x 100 mm x 35 mm (Figure 20). Distance from water is approx.. 750 m. A more detailed description is contained in the OEH AHIMS site card (Figure 24).



Figure 24: Murroon Creek (Heather Brea 1) Core

8.7.5 Murroon Creek (Heather Brae 2)

An isolated artefact on the fence line boundary to the Oxley Highway of Lot 462. The artefact is a small flake of a black siliceous material exposed from fibre optic trenching. Dimensions 12 mm x 20 mm x 5 mm. A more detailed description is contained in the OEH AHIMS site card (Figure 25).



Figure 25: Murroon Creek (Heather Brea 2) Isolated Flake Ventral surface

8.7.6 Murroon Creek (Heather Brae 3)

An isolated artefact near a fence line on a lower slope to creek flats. The artefact is a flake of a grey siliceous material exposed in a fallow paddock. Dimensions 82 mm x 42 mm x 20 mm. A more detailed description is contained in the OEH AHIMS site card (Figure 26 and Figure 27).



Figure 26: Murroon Creek (Heather Brea 3) Retouched Flake Dorsal Surface



Figure 27: Murroon Creek (Heather Brea 3) Retouched Flake Ventral Surface



8.8 Discussion and Interpretation

There are believed to be no specific features or resources such as exploitable stone that would make the Assessment Area lands a particular focus of Aboriginal activities. The low range and number of Aboriginal sites is believed to reflect the highly disturbed terrain of the Assessment Area. High degrees of disturbance through limited clearing, stock trampling and intensive cultivation can be expected to have had a major destructive impact upon ground sites making it highly unlikely that 'in situ' and therefore scientifically significant sites will have survived. The exception to some extent is modified trees of which there are many in the region and one within the Assessment Area. Given the close proximity of possibly permanent water sources, Tangaratta, Boltons and Murroon Creeks, the predictive model proposed that there may be a higher potential for sites within 200-300m however that was not the case. The surviving sites in Boltons Creek at least, are within the stream flow zone which may suggest that beyond the immediate flow zones, land uses have removed all other cultural heritage evidence. Factors such as soil cracking and subsidence particularly on the heavily eroded eastern slopes to Tangaratta Creek may be another factor contributing to an absence of visible Aboriginal sites, in a context in which they would be expected. The three isolated artefacts found on the Murroon Creek slopes represent a random discard typical of what archaeologists refer to as a background scatter.

Surface visibility over immediate flats on Murroon Creek was poor due to heavy grass cover with little opportunity to detect heritage objects had they existed. However a gas pipeline installation for the length of the creek line across the Assessment Area, was previously assessed for cultural heritage with no results. The excavation of the trench and construction of the pipeline to a facility on the Wallamore Road was also monitored in the event that Aboriginal heritage materials were found. A working strip of approximately 30m width and a trench approximately 3.2m by 1.5m was excavated. I am informed (Allan Robson pers. comm. 15.1.2015) that none were found which suggest that concentrations of significant Aboriginal heritage in the Murroon Creek are unlikely.

An archaeological assessment commissioned by Mr Allan Robson over Lot 2 and the current assessment area recorded one modified tree in the northwest block, in land zoned industrial and not within the boundaries of the Glen Artney Lands Assessment. Although the site is beyond the limits of this assessment the tree was inspected and photographed to ascertain its condition, which was found to be good with no apparent deterioration to the tree. The survey by Hudson (2008) conducted nine transects by foot and vehicle over the property. No sites in addition to the modified tree were found. The report also refers to the gas pipeline on the route of Murroon Creek and states "...no Aboriginal relics had been found along the pipeline..." (Hudson 2008:5).

The Old Winton Road lands were so heavily grassed as to render ground visibility almost impossible. It is uncertain whether the low proportions of land possible to inspect were adequate to make statements with any



certainty as to the presence or absence of Aboriginal cultural materials. However an inspection of trees found none modified by Aboriginal scarring. It is also relevant that the OWR properties are not on major tributaries of the creek systems referred to above and while it may not preclude Aboriginal sites it certainly reduces the probability considerably.

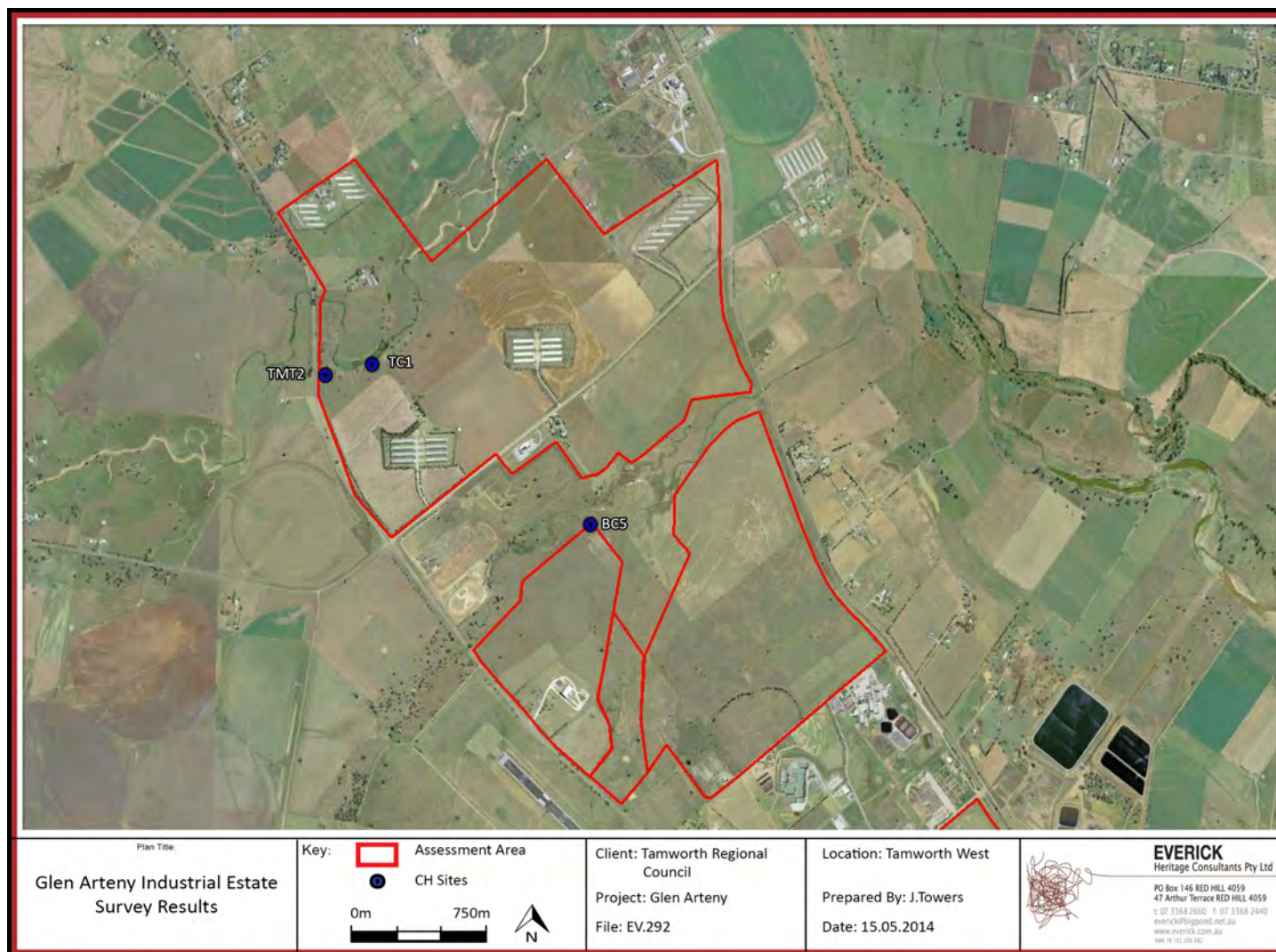


Figure 28: Survey Results Plan (note: as the Robson property was not accessible during the survey, it is not shown in this plan)

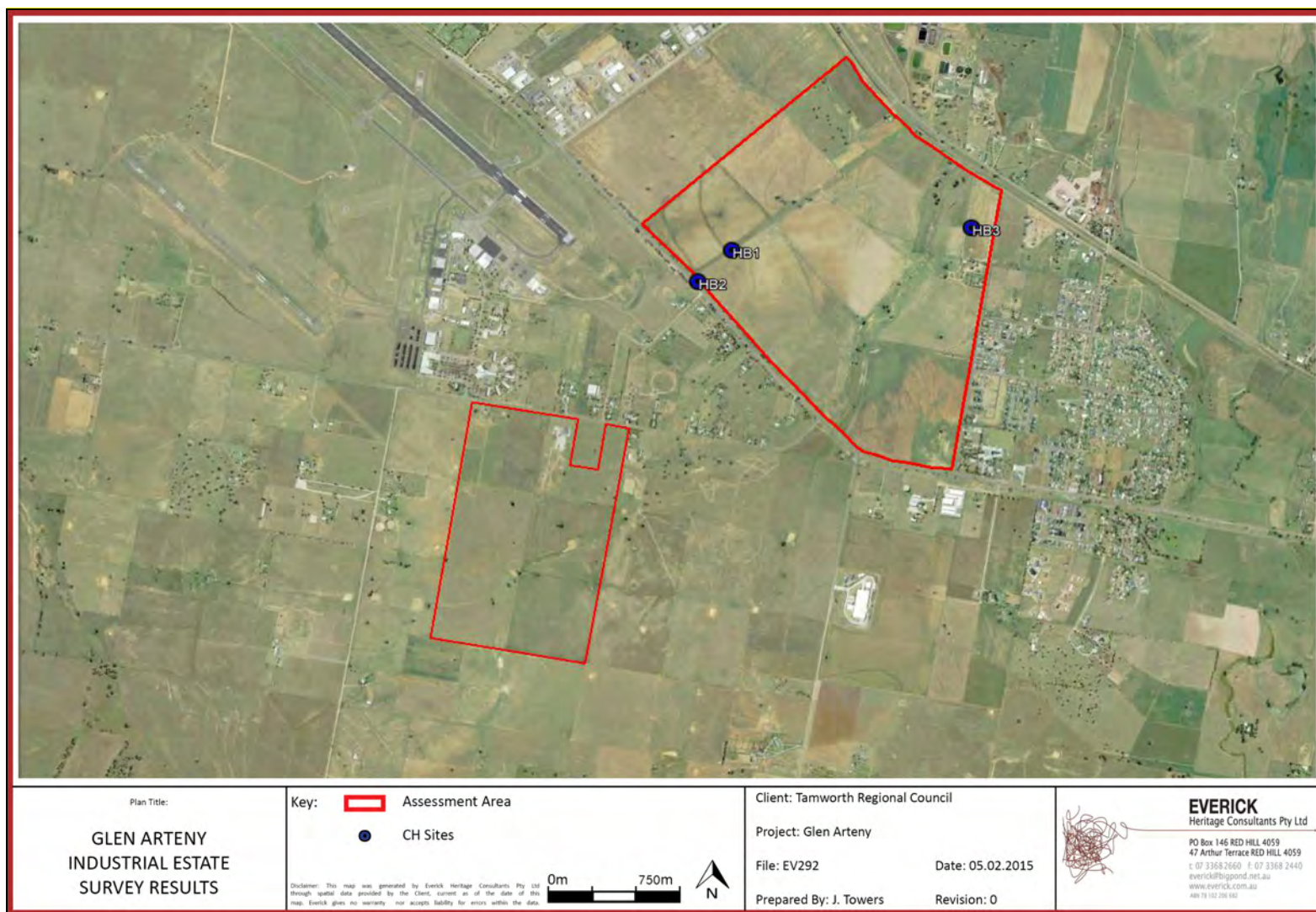


Figure 29: Results for Survey Completed January 2015



9. Aboriginal Cultural Heritage Significance Assessment

9.1 Principles of This Significance Assessment

9.1.1 *Significance Criteria*

The assessment of archaeological (scientific) significance is a key aspect of developing future cultural heritage management strategies. There are many considerations that contribute to the evaluation of a site or landscape's potential archaeological significance. Two important criteria, listed in the New South Wales *Aboriginal Heritage Standards and Guidelines Kit* (1997:88), are research potential (defined as the potential to elucidate past human behaviours) and educational potential. The primary considerations when evaluating a site's research potential are discussed below.

Rarity: This is related to how prevalent a particular site type is in a given region. Sites that are particularly scarce have the potential to contribute more to our knowledge of past behaviours relative to sites which are common place. For example, in the north coast of New South Wales, coastal (beach) middens would have been common prior to European settlement. However, the impacts of sand mining and development have resulted in coastal middens becoming relatively rare, thus increasing their archaeological significance.

Antiquity: The value in a site's antiquity is closely linked to its rarity. As a general rule, the numbers of particularly old sites will reduce as time progresses. When sites of great antiquity are identified, they are of high archaeological significance.

Representativeness: A site's representativeness indicates whether a site is considered to represent a particular pattern of past human behaviour. It is important to identify sites that have high representative value and conserve them for future generations (Pearson and Sullivan 1995:148). Representativeness is assessed based on current research questions and technologies, and may change through time. It should be noted that a site's representativeness is also related to its cultural value, as distinct from its purely scientific value.

Complexity: A site may demonstrate a range of human behaviours and/or past climate and environmental changes (Pearson and Sullivan 1995:148).

Integrity: The stratigraphic integrity of a site relates to the subsequent disturbance of a site once it has entered the archaeological record. Disturbance may have been the result of impacts by humans (such as land clearing) or natural causes (such as erosion or bioturbation from ants). It is generally the case that the greater a site's integrity, the greater its archaeological significance.



Connectedness: A site should not be viewed in isolation, as the human behaviours that were responsible for the creation of the site were invariably connected to other sites reflecting different behaviours nearby.

9.2.2 Limitations

With all scientific research, including the assessment of 'scientific significance', it is important to acknowledge the limitations of any conclusions that have been drawn in relation to the assessment of the Assessment Area.

The assessment of archaeological significance is a highly subjective activity, and depends much on the values of the researcher(s) involved. In this assessment, we have categorised the Assessment Areas into areas of 'High', 'Moderate – High', 'Moderate', 'Low – Moderate', 'Low' and 'No/Nil' archaeological significance. The values we have used are not precise. They exemplify arbitrary distinctions that are necessary for ease of demonstrating the scientific value of the Assessment Area as a whole. These categories represent a relative continuum of significance, which is demonstrated by the diagram in Figure 30. The intention of Figure 30 is to show examples of the values used in this assessment. Of course, it is quite possible that even a single artefact may be of high archaeological significance, where it can be demonstrated that the artefact exhibits one or more of the criteria above.

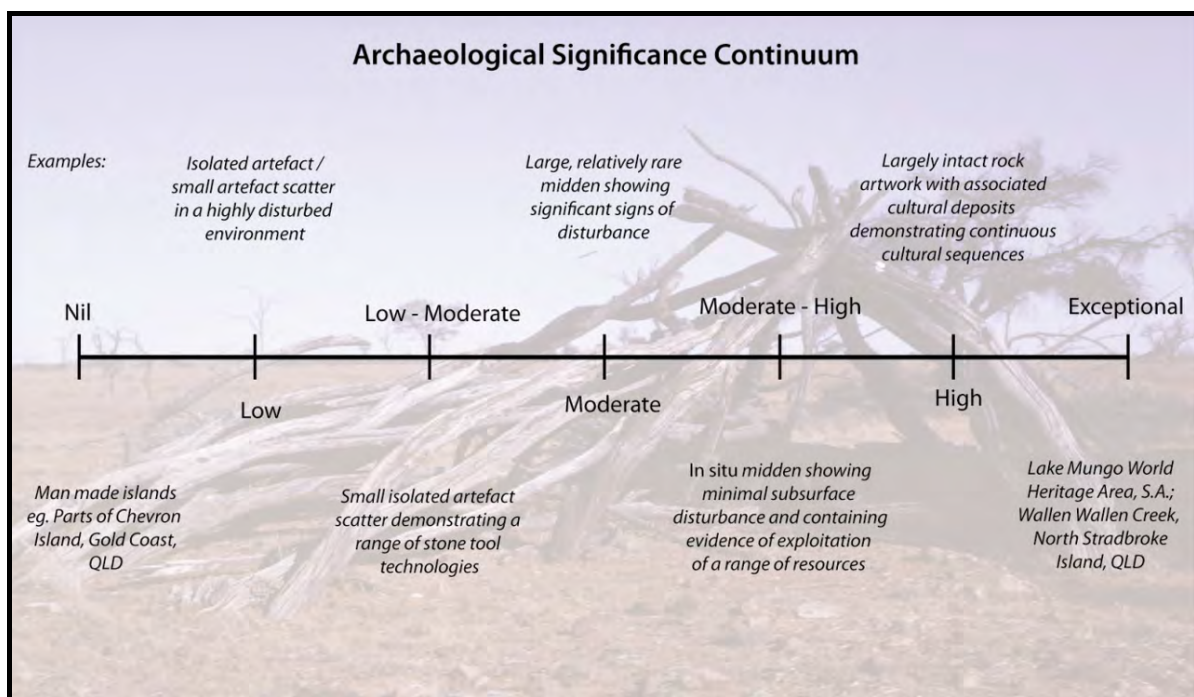


Figure 30: Archaeological Significance Continuum applied in this assessment



9.2 Aboriginal Cultural Heritage Statement of Significance - Stone Artefacts

Archaeological Significance: The Glen Artney Assessment lands are situated within an area of predominately low, but occasionally low to moderate, archaeological significance. It is anticipated that if the area is to contain further Aboriginal Objects they would be limited to 'background scatters' and isolated artefacts. The archaeological synthesis in this report demonstrates that if such Aboriginal Objects exist, their numbers would be low. In addition, the heavily disturbed landscape of the Assessment Areas means that much of their archaeological context is lost.

The six stone artefacts identified in this assessment have no known potential to add to the current knowledge of stone tool technology in the Tamworth region. They represent an element of the 'background' scatter of stone artefacts that would be expected across the Assessment Area and wider region.

Cultural Significance: The cultural significance of the stone artefacts is a matter for the TLALC. The artefacts are not a particular distinctive type or material so it is unlikely the TLALC would wish to collect for purposes of safe keeping. However it may be an option they would wish to exercise in the future, in consultation with their members.

9.3 Aboriginal Cultural Heritage Statement of Significance- Modified Tree

Archaeological Significance: The modified tree is of moderate scientific significance. There is no doubt as to its human origins as opposed to natural or mechanical damage causes. Axe marks at the base of the scar attest to its probable Aboriginal origins although whether by steel or stone axe is not certain. Modified trees together with artefact scatters are the most common Aboriginal site type in this region.

Cultural Significance: The cultural significance of the modified tree is a matter for the TLALC. However in conversation with the Sites Officer, it was expressed that the tree would most likely be considered of high cultural significance to the TLALC and equally so to many of the wider Aboriginal community. They will be particularly concerned that future land management retains the tree. At present the tree appears to be good health apart from some upper limb damage.

10. Historic Cultural Heritage

No items or places of potential historic heritage significance were located within the Assessment Area. It is unlikely that significant places not identified by this assessment remain within the Assessment Area.



11. CONCLUSIONS AND RECOMMENDATIONS

For the purposes of any rezoning of the Assessment Area lands, there should be considered minimal cultural heritage constraints. The overall survey results located fewer Aboriginal Objects than initially expected. However, the survey was impacted by limited areas possible to inspect although often high levels of ground surface visibility. These conditions are the norm for cultural heritage assessments. As such, the potential of further Aboriginal Objects to be located within the Assessment Area cannot be categorically ruled out. The following recommendations are therefore cautionary in nature. Further specific recommendations may be required for lands with known heritage values at Development Application stage.

Note: The NSW government is currently undertaking an extensive review of cultural heritage legislation in the State. Current models being proposed will involve land users negotiating directly with cultural heritage committees over future developments. It is anticipated that legislative changes may come into effect as early as 2015. The recommendations below may therefore need to be reviewed following the implementation of the legislative changes. In particular, recommendations concerning the use of the Due Diligence Code may not remain current after 2015.

Recommendation 1: Rezoning of the Assessment Area

No cultural heritage impediments to the proposed rezoning to the Assessment Area were identified. The located artefacts and scarred tree will require further assessment at Development Application stage, pending investigation of concept designs and if it is determined that proposed works will impact on these objects.

Recommendation 2: Further Assessment at Development Application Stage

It is recommended that TRC ensure that any development activities within the Assessment Area are undertaken in accordance with the OEH *Due Diligence Code of Practice of the Protection of Aboriginal Objects in NSW*. The Due Diligence Code, read in conjunction with this assessment, should provide the basis for assessing whether further cultural heritage assessment is required. In particular, regard should be had to the following:

- d) is there any known Aboriginal cultural heritage within the area to be developed; and
- e) has the area to be developed (including any access roads and service locations) been subject to extensive ground disturbance such as through consistent ploughing and cultivation of crops.



Where development proposals will not result in substantial ground surface modification, or are in areas that have seen extensive ground disturbance, further cultural heritage assessment will likely not be required. This is subject to any legislative changes that may come into effect in the near future.

Recommendation 3: Minimal Disturbance of Creek Banks

It is recommended that, as a general planning principle, TRC plans for minimal disturbance to the banks of the Boltons, Tangaratta and Murroom Creeks as these areas retain the potential for subsurface Aboriginal Objects. However, it should be noted that no areas of particular cultural or archaeological sensitivity were identified along these creek banks (excluding the culturally scarred tree). This assessment therefore identified no impediments to modification of the creek banks, provided appropriate Aboriginal Heritage Impact Permits are in place.

Recommendation 4: Aboriginal Objects Find Procedure

As there remains a potential that Aboriginal Objects could be located within all parts of the Assessment Area, it is recommended that TRC ensure that any development approvals are accompanied with an appropriate Aboriginal heritage Finds Procedure. A suitable Finds Procedure might be drafted as follows:

“ if it is suspected that Aboriginal material has been uncovered as a result of development activities within the Assessment Area:

- f) work in the surrounding area is to stop immediately;
- g) a temporary fence is to be erected around the site, with a buffer zone of at least 10 metres around the known edge of the site;
- h) an appropriately qualified archaeological consultant is to be engaged to identify the material; and
- i) if the material is found to be of Aboriginal origin, the Aboriginal community is to be consulted in a manner as outlined in the OEH guidelines: *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (2010).”

Recommendation 5: Aboriginal Human Remains

Although it is highly unlikely that Human Remains will be located at any stage during earthworks within the Assessment Area, should this event arise it is recommended that the TRC ensure that any development approvals are accompanied with an appropriate Aboriginal Human Remains Procedure. A suitable Aboriginal Human Procedure might be drafted as follows

“in the event of a suspected Aboriginal human remains find, all works must halt in the immediate area to prevent any further impacts to the remains. The Site should be cordoned off and the remains themselves should be left



untouched. The nearest police station (Tamworth), the Tamworth Local Aboriginal Land Council and the OEH Regional Office are all to be notified as soon as possible. If the remains are found to be of Aboriginal origin and the police do not wish to investigate the Site for criminal activities, the Aboriginal community and the OEH should be consulted as to how the remains should be dealt with. Work may only resume after agreement is reached between all notified parties, provided it is in accordance with all parties' statutory obligations.

Recommendation 6: Notifying the OEH

It is recommended that if Aboriginal cultural materials are uncovered as a result of development activities within the Assessment Area, they are to be registered as Sites in the Aboriginal Heritage Information Management System (AHIMS) managed by the OEH. Any management outcomes for the site will be included in the information provided to the AHIMS.

Recommendation 7: Aboriginal Heritage Impact Permit

It is recommended that, should any of the Aboriginal Objects identified in this assessment be potentially impacted by future land use or development activities, an Aboriginal Heritage Impact Permit should be sought. For planning purposes, it should be noted that under the current legislative regime, and AHIP will take approximately 5 months to acquire.

Recommendation 8: Historic Cultural Heritage

The literature review and site inspection did not identify any items or places of potential historic heritage significance within the Assessment Area. It is recommended that no further historic heritage assessment be required for future development applications within the Assessment Area.



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APPENDIX A: AHIMS SEARCH RESULTS

 Office of Environment & Heritage		AHIMS Web Services (AWS)				Your Ref Number : EV292				
		Extensive search - Site list report				Client Service ID : 130607				
SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	Site Features	Site Types	Reports
29-2-0094	DTG/ST1 - Timburnduri Creek	AGD	56	298140	6556700	Open site	Valid	Modified Tree (Carved or Scarred) :	Scarred Tree	
	Contact	Recorders	Mr.Mark Rawson					Permits		
29-2-0026	Pox Gully (Nemingha) Mt Falcon	AGD	56	300620	6557500	Open site	Valid	Artefact :	Open Camp Site	2184,102239
	Contact	Recorders	Anne Lloyd					Permits		
29-2-0076	Oakburn 1	AGD	56	293800	6560750	Open site	Valid	Artefact :	Isolated Find	
	Contact	Recorders	J.M Wilson,Archaeological Surveys & Salvage ,Mr Richard Kelly					Permits	1139	
29-2-0077	Oakburn 3	AGD	56	294200	6560450	Open site	Valid	Artefact :	Isolated Find	
	Contact	Recorders	J.M Wilson,Archaeological Surveys & Salvage ,Mr Richard Kelly					Permits	1139	
29-2-0054	Peel River 1:	AGD	56	294850	6566880	Open site	Valid	Artefact : , Stone Quarry :	Open Camp Site,Quarry	
	Contact	Recorders	Mr.Jason Wilson,Janice Wilson					Permits		
29-2-0056	Peel River 3:	AGD	56	292990	6565700	Open site	Valid	Grinding Groove :	Axe Grinding Groove	
	Contact	Recorders	Mr.Jason Wilson,Janice Wilson					Permits		
29-2-0057	Peel River 4:	AGD	56	292870	6565600	Open site	Valid	Grinding Groove :	Axe Grinding Groove	
	Contact	Recorders	Mr.Jason Wilson,Janice Wilson					Permits		
29-2-0058	Peel River 5:	AGD	56	292900	6565700	Open site	Valid	Stone Quarry : , Artefact :	Quarry	
	Contact	Recorders	Mr.Jason Wilson,Janice Wilson					Permits		
29-2-0110	Pigtree Gully (Nemingha)	AGD	56	300600	6558200	Open site	Valid	Artefact :		102239
	Contact	Recorders	Anne Lloyd					Permits		
29-2-0129	Boltons Creek 1	AGD	56	293313	6560814	Open site	Valid	Artefact : 15		97360
	Contact	Recorders	Janice Wilson					Permits		
29-2-0130	Boltons Creek 2	AGD	56	293555	6561168	Open site	Valid	Artefact : 28		97360
	Contact	Recorders	Janice Wilson					Permits		
29-2-0131	Boltons Creek 3	AGD	56	293570	6561459	Open site	Valid	Artefact : 4		97360
	Contact	Recorders	Janice Wilson					Permits		
29-2-0132	Boltons Creek 4	AGD	56	294039	6561643	Open site	Valid	Artefact : 141		97360
	Contact	Recorders	Janice Wilson					Permits		
29-2-0133	Boltons Creek ST 1	AGD	56	293508	6561076	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	Recorders	Janice Wilson					Permits		

Report generated by AHIMS Web Service on 03/04/2014 for Jordan Towers for the following area at Lat, Long From : -31.102, 150.7809 - Lat, Long To : -31.0186, 150.9131 with a Buffer of 1000 meters. Additional Info : DUE DILIGENCE. Number of Aboriginal sites and Aboriginal objects found is 74

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Extensive search - Site list report

Your Ref Number : EV292
Client Service ID : 130607

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
29-2-0296	Wallanore Road ST1	GDA	56	296632	6560564	Open site	Valid	Modified Tree (Carved or Scarred) :		
	<u>Contact</u>	<u>Recorders</u>	Ivan Johnson, Mr Patrick Gaynor					<u>Permits</u>	3146,3152	
29-2-0298	Wallanore Road ST 3	GDA	56	296744	6560659	Open site	Valid	Modified Tree (Carved or Scarred) :		
	<u>Contact</u>	<u>Recorders</u>	Mr. Patrick Gaynor					<u>Permits</u>	3146,3152	
29-2-0299	Wallanore Road ST 4	GDA	56	296654	6560600	Open site	Valid	Modified Tree (Carved or Scarred) :		
	<u>Contact</u>	<u>Recorders</u>	P.J. Gaynor Consultant Archaeologist, Ivan Johnson					<u>Permits</u>	3146,3152	
29-2-0300	Wallanore Road ST 5	GDA	56	296645	6560564	Open site	Valid	Modified Tree (Carved or Scarred) :		
	<u>Contact</u>	<u>Recorders</u>	P.J. Gaynor Consultant Archaeologist					<u>Permits</u>	3146,3152	
29-2-0160	Timbumburi Creek Cole dale	AGD	56	298575	6556000	Open site	Valid	Artefact : 34		
	<u>Contact</u>	<u>Recorders</u>	Janice Wilson					<u>Permits</u>		
29-2-0154	Moore Creek Road 1	AGD	56	300841	6561821	Open site	Valid	Artefact : 11		
	<u>Contact</u>	<u>Recorders</u>	Janice Wilson					<u>Permits</u>		
29-2-0155	Moore Creek Road 2	AGD	56	300796	6561935	Open site	Valid	Artefact : 4		
	<u>Contact</u>	<u>Recorders</u>	Janice Wilson					<u>Permits</u>		
29-2-0156	Moore Creek Road 3	AGD	56	300756	6562125	Open site	Valid	Artefact : 18		
	<u>Contact</u>	<u>Recorders</u>	Janice Wilson					<u>Permits</u>		
29-2-0157	Moore Creek Road 4	AGD	56	301194	6561158	Open site	Valid	Artefact : 1		
	<u>Contact</u>	<u>Recorders</u>	Janice Wilson					<u>Permits</u>		
29-2-0158	Moore Creek Road 5	AGD	56	301343	6560990	Open site	Valid	Artefact : 2		
	<u>Contact</u>	<u>Recorders</u>	Janice Wilson					<u>Permits</u>		
29-2-0159	Moore Creek Road 6	AGD	56	301332	6561335	Open site	Valid	Artefact : 1		
	<u>Contact</u>	<u>Recorders</u>	Janice Wilson					<u>Permits</u>		
29-2-0186	Kurrajong Park IP/8	AGD	56	301517	6566874	Open site	Valid	Artefact : 3		99317
	<u>Contact</u> T Russell	<u>Recorders</u>	Archaeological Surveys & Salvage					<u>Permits</u>	2693	
29-2-0188	Kurrajong Park IP/10	AGD	56	301429	6566400	Open site	Valid	Artefact : 1		99317
	<u>Contact</u> T Russell	<u>Recorders</u>	Archaeological Surveys & Salvage					<u>Permits</u>	2693	
29-2-0189	Kurrajong Park IP/11	AGD	56	301432	6566516	Open site	Valid	Artefact : 1		99317
	<u>Contact</u> T Russell	<u>Recorders</u>	Archaeological Surveys & Salvage					<u>Permits</u>	2693	
29-2-0190	Kurrajong Park IP/12	AGD	56	301429	6566400	Open site	Valid	Artefact : 1		99317

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Client Service ID : 130607

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
	Contact T Russell	Recorders						Permits		
29-2-0191	Kurrajong Park IP/13	AGD	56	301373	6566544	Open site	Valid	Artefact : 2	2693	99317
	Contact T Russell	Recorders						Permits		
29-2-0192	Kurrajong IP/14	AGD	56	301024	6566688	Open site	Valid	Artefact : 1	2693	99317
	Contact T Russell	Recorders						Permits		
29-2-0193	Kurrajong Park IP/15	AGD	56	300937	6566750	Open site	Valid	Artefact : 1	2693	99317
	Contact T Russell	Recorders						Permits		
29-2-0194	Kurrajong Park IP/16	AGD	56	300814	6566750	Open site	Valid	Artefact : 1	2693	99317
	Contact T Russell	Recorders						Permits		
29-2-0195	Kurrajong Park IP/17	AGD	56	300981	6566598	Open site	Valid	Artefact : 1	2693	99317
	Contact T Russell	Recorders						Permits		
29-2-0201	Kurrajong Park IP/23	AGD	56	301009	6567057	Open site	Valid	Artefact : 1	2693	99317
	Contact T Russell	Recorders						Permits		
29-2-0172	Hills Plain IP/10	AGD	56	299790	6563340	Open site	Valid	Artefact : 3		
	Contact Searle	Recorders						Permits		
29-2-0173	Hills Plain IP/11	AGD	56	299982	6562580	Open site	Valid	Artefact : 2	3153,3154	
	Contact Searle	Recorders						Permits		
29-2-0174	Hills Plain IP/12	AGD	56	300073	6562594	Open site	Valid	Artefact : 2	3153,3154	
	Contact Searle	Recorders						Permits		
29-2-0175	Hills Plain IP/13	AGD	56	300158	6562586	Open site	Valid	Artefact : 4	3153,3154	
	Contact Searle	Recorders						Permits		
29-2-0176	Hills Plain IP/14	AGD	56	300717	6562584	Open site	Valid	Artefact : 1		
	Contact Searle	Recorders						Permits		
29-2-0177	Hills Plain IP/15	AGD	56	300658	6562595	Open site	Valid	Artefact : 1		
	Contact Searle	Recorders						Permits		
29-2-0178	Barnas Gully IP/1	AGD	56	301256	6568659	Open site	Valid	Artefact : 1		99292
	Contact T Russell	Recorders						Permits		
29-2-0214	Oakburn 3	AGD	56	294100	6560650	Open site	Valid	Artefact : 1		
	Contact T Russell	Recorders						Permits		
29-2-0229	IP-15	AGD	56	301015	6565757	Open site	Valid	Artefact : 1		
	Contact Searle	Recorders						Permits		
29-2-0230	IP-16	AGD	56	301118	6565750	Open site	Valid	Artefact : 1	2387,2388	
	Contact Searle	Recorders						Permits		
29-2-0231	IP-17	AGD	56	301216	6565739	Open site	Valid	Artefact : 1	2387,2388	

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SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
29-2-0232	Contact Searle	Recorders	Archaeological Surveys & Salvage							
	IP-18	AGD	56	301023	6565831	Open site	Valid	Artefact : 1	Permits	2387,2388
29-2-0233	Contact S Scanlon	Recorders	Archaeological Surveys & Salvage							
	IP-19	AGD	56	301189	6565136	Open site	Valid	Artefact : 1	Permits	2387,2388
29-2-0234	Contact Searle	Recorders	Archaeological Surveys & Salvage							
	IP-20	AGD	56	301010	6565251	Open site	Valid	Artefact : 6	Permits	2387,2388
29-2-0217	Contact Searle	Recorders	Archaeological Surveys & Salvage							
	IP-3	AGD	56	301668	6565863	Open site	Valid	Artefact : 1	Permits	2387,2388
29-2-0236	Contact Searle	Recorders	Archaeological Surveys & Salvage							
	Tamworth Hills Plain 2 (THP 2)	AGD	56	301292	6563749	Open site	Valid	Artefact : 7	Permits	2387,2388
29-2-0237	Contact T Russell	Recorders	Mrs Angela Besant							
	THP 5	AGD	56	301133	6564104	Open site	Valid	Artefact : 6	Permits	2387,2388
29-2-0238	Contact T Russell	Recorders	Mrs Angela Besant							
	THP 4	AGD	56	301455	6564119	Open site	Valid	Artefact : -	Permits	2387,2388
29-2-0239	Contact T Russell	Recorders	Mrs Angela Besant							
	THP 3	AGD	56	301500	6563843	Open site	Valid	Artefact : -	Permits	2387,2388
29-2-0240	Contact T Russell	Recorders	Mrs Angela Besant							
	THP 7	AGD	56	301363	6563089	Open site	Valid	Artefact : -	Permits	2387,2388
29-2-0241	Contact T Russell	Recorders	Mrs Angela Besant							
	THP6	AGD	56	301498	6563160	Open site	Valid	Artefact : -	Permits	2387,2388
29-2-0242	Contact T Russell	Recorders	Mrs Angela Besant							
	THP 8	AGD	56	301490	6564895	Open site	Valid	Artefact : -	Permits	2387,2388
29-2-0228	Contact T Russell	Recorders	Mrs Angela Besant							
	IP-14	AGD	56	301334	6565708	Open site	Valid	Artefact : -	Permits	2387,2388
29-2-0208	Contact Searle	Recorders	Archaeological Surveys & Salvage							
	Glenmore IP/1	AGD	56	300630	6564902	Open site	Valid	Artefact : 1	Permits	2663
29-2-0209	Contact Searle	Recorders	Archaeological Surveys & Salvage							
	Glenmore IP/2	AGD	56	300632	6564706	Open site	Valid	Artefact : 1	Permits	2663
29-2-0210	Contact Searle	Recorders	Archaeological Surveys & Salvage							
	Glenmore IP/3	AGD	56	300279	6564734	Open site	Valid	Artefact : 1	Permits	2663
29-2-0211	Contact Searle	Recorders	Archaeological Surveys & Salvage							
	Glenmore IP/4	AGD	56	300226	6564626	Open site	Valid	Artefact : 7	Permits	2663
29-2-0212	Contact Searle	Recorders	Archaeological Surveys & Salvage							
	Glenmore IP/5	AGD	56	300156	6564370	Open site	Valid	Artefact : 1	Permits	2663

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Extensive search - Site list report

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Client Service ID : 130607

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	Site Features	Site Types	Reports
29-2-0213	Contact Searle	Recorders	Archaeological Surveys & Salvage							
	Glenmore IP/6	AGD	56	300001	6564717	Open site	Valid	Artefact : 2	2663	
29-2-0258	Contact Searle	Recorders	Archaeological Surveys & Salvage							
	Rockleigh IP/3	AGD	56	299425	6563918	Open site	Valid	Artefact : 1	2663	
29-2-0259	Contact	Recorders	Archaeological Surveys & Salvage, Tamworth LALC, Ivan Johnson							
	Rockleigh ST1	AGD	56	299543	6564547	Open site	Valid	Modified Tree (Carved or Scarred) : 1	3125, 3148	
29-2-0260	Contact	Recorders	Archaeological Surveys & Salvage, Ivan Johnson							
	Rockleigh IP/2	AGD	56	299222	6564284	Open site	Valid	Artefact : 24	3125, 3148	
29-2-0261	Contact	Recorders	Archaeological Surveys & Salvage, Ivan Johnson							
	Rockleigh IP/1	AGD	56	299223	6564206	Open site	Valid	Artefact : 10	3125, 3148	
29-2-0055	Contact	Recorders	Archaeological Surveys & Salvage, Ivan Johnson							
	Peel River 2;	AGD	56	293100	6565900	Open site	Valid	Grinding Groove :- Axe Grinding Groove		
29-2-0277	Contact	Recorders	Mr. Jason Wilson, Janice Wilson							
	DTG/ST 1 - Turramurrah Ck.	GDA	56	298140	6556700	Open site	Valid	Artefact :-		
29-2-0283	Contact	Recorders	Stephanie Garding							
	TAB 1-5 Isolated Artefacts	GDA	56	292300	6559000	Open site	Valid	Artefact :-		
29-2-0284	Contact	Recorders	Armidale NP WS							
	TIS-1	GDA	56	293100	6558500	Open site	Valid	Artefact :-		
29-2-0285	Contact	Recorders	Armidale NP WS							
	WAB ST 1 (Wallamore Anabranch Scarred Tree 1)	GDA	56	300143	6559413	Open site	Valid	Modified Tree (Carved or Scarred) : -		
25-2-0008	Contact	Recorders	Janice Wilson, Leila McAdam							
	Heather Brae Scarred Tree	AGD	56	296468	6559903	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	Contact	Recorders	Ms. Suzanne Hudson							

Report generated by AHIMS Web Service on 03/04/2014 for Jordan Towers for the following area at Lat, Long From : - 31.102, 150.7809 - Lat, Long To : - 31.0186, 150.9131 with a Buffer of 1000 meters. Additional Info : DUE DILIGENCE. Number of Aboriginal sites and Aboriginal objects found is 74

This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

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APPENDIX B: HISTORICAL AERIAL PHOTOGRAPHY



Figure 31:1953 Part 1 historic aerial photograph (red Assessment Area outline is approximate only)

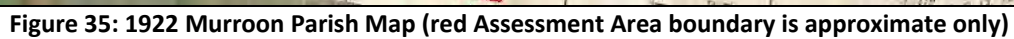


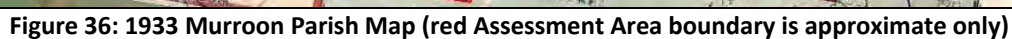
Figure 32:1953 Part 2 historic aerial photograph (red Assessment Area outline is approximate only)



Figure 33: 1984 historic aerial photograph (red Assessment Area outline is approximate only)

Figure 34: 1909 Murroon Parish Map (red Assessment Area boundary is approximate only)





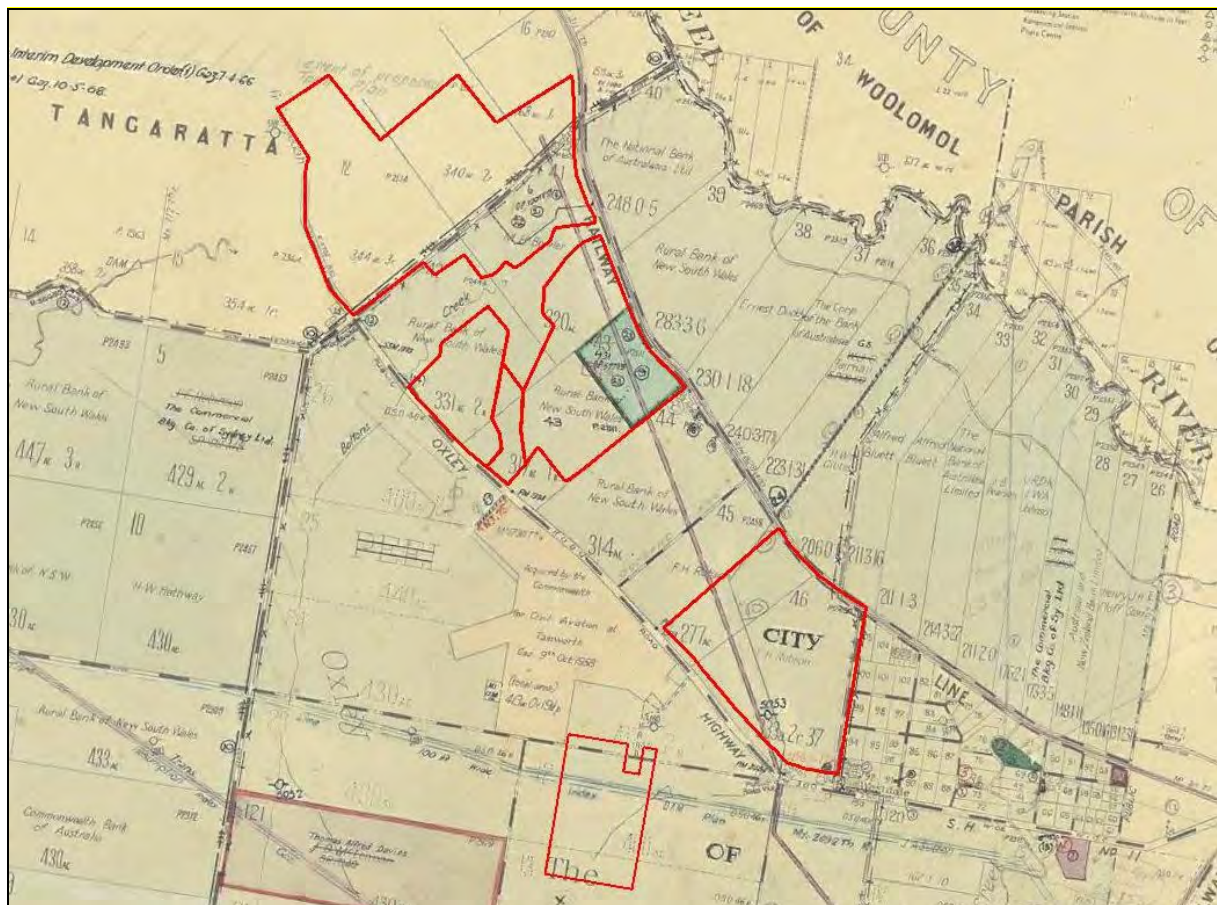


Figure 37: 1964 Murron Parish Map (red Assessment Area boundary is approximate only)