archaeological risk assessment services

ABORIGINAL AND HISTORIC HERITAGE DESKTOP DUE DILIGENCE ASSESSMENT

For

LOT 3 DP 237264, 30 Swan Street Morpeth

A Report to

Mr H. Lantry

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By

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Project Name.	**Lot 3 DP 237264 30 Swann St Morpeth**		
Document Description	Aboriginal and Historic Heritage Desktop Due Diligence Assessment Rezoning Project Lot 3 DP 237264 Swan St Morpeth		
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1. INTRODUCTION & BACKGROUND

The consultant was engaged by Pulver, Cooper & Blackley (PCB) on behalf of Mr Hilary Lantry to carry out an Aboriginal and Historic Heritage Desktop due diligence assessment. The assessment was required in order to determine likely Aboriginal and European heritage constraints and opportunities for a re-zoning proposal of land identified as: Lot 3 DP: 237264 located at 30 Swan St Morpeth. The proposed rezoning project is being carried out on behalf of local land-owner Mr Hilary Lantry.

Currently the land is zoned RU1 Primary Production under the Maitland Local Environmental Plan 2011 and the intention is to rezone the land to residential R1 General Residential. The land is located within the Maitland City Council Local Government Area (See Figure 1 & 2: Appendix 1.). The assessment area covers approximately 1 hectare or 7908m2.

The aims of this desktop assessment were to:

- Review any relevant existing Aboriginal and Historic heritage information and relevant data-bases;
- Carry out an archaeological desktop risk assessment to identify likely Aboriginal or Historic heritage issues on the ground and make an assessment of likely Aboriginal and Historic heritage potential;
- Provide advice as to the likely land use restrictions posed by known Aboriginal or Historic heritage objects or potential Aboriginal heritage objects;
- Provide appropriate risk management advice in order to reduce any likely impacts on identified Aboriginal or Historic heritage places or sites as a result of the rezoning proposal; and
- Determine whether or not further archaeological investigation is required.

1.1 Project Description

The proposed rezoning assessment area is made up of riverine floodplain terrace units of the Hunter River all of which have been disturbed as a result of previous urban residential and infrastructure development in the village of Morpeth. Approximately 1 hectares of rural/residential land farm land is being assessed having been identified as potential long term residential expansion.

2. LEGISLATIVE FRAMEWORK

2.1 The National Parks and Wildlife Act 1974 (NSW)

The *National Parks and Wildlife Act 1974* (NSW) (the 'NPW Act') is the primary piece of legislation for the protection of Aboriginal cultural heritage in New South Wales. The Office of Environment and Heritage (OEH) administer the NPW Act. The NPW Act provides statutory protection for Aboriginal objects by making it illegal to harm Aboriginal objects and Aboriginal places, and by providing two tiers of offence against which individuals or corporations who harm Aboriginal objects or Aboriginal places can be prosecuted. The NPW Act defines Aboriginal objects and Aboriginal places:

> *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 section 84.*

The highest tier offences are reserved for knowledgeable harm of Aboriginal objects or knowledgeable desecration of Aboriginal places. Second tier offences are strict liability offences—that is, offences regardless of whether or not the offender knows they are harming an Aboriginal object or desecrating and Aboriginal place—against which defences may be established under the *National Parks and Wildlife Regulation 2009* (NSW) (the 'NPW Regulation').

Section 87 of the NPW Act establishes defences against prosecution under s.86 (1), (2) or (4). The defences are as follows:

- An Aboriginal Heritage Impact Permit (AHIP) authorising the harm (s.87(1))
- Exercising due diligence to establish Aboriginal objects will not be harmed (s.87(2)) Due diligence may be achieved by compliance with requirements set out in the *National Parks and Wildlife Regulation 2009* (the NPW Regulation) or a code of practice adopted or prescribed by the NPW Regulation (s.87(3))
- Undertaking "low impact" activities (s.87 (4)).

This assessment report follows the Due Diligence Code and aims to establish whether Aboriginal objects would be harmed by the proposed rezoning project in accordance with S.87(2) of the NWP Regulation.

2.2 The National Parks and Wildlife Regulation 2009 (NSW)

The NPW Regulation 2009 (cl.80A) assigns the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* (NSW Department of Environment, Climate Change and Water 2010)(the Code) as one of the codes of practice that can be complied with pursuant to s.87 of the NPW Act.

In addition the NPW Regulation describes "certain low impact activities" in s.80B. Disturbed land is defined by cl.80B (4) as "disturbed if it has been the subject of a human activity that has changed the land's surface, being changes that remain clear and observable". Examples given in the notes to cl.80B (4) include "construction or installation of utilities and other similar services (such as above or below ground electrical infrastructure, water or sewerage pipelines, stormwater drainage and other similar infrastructure)".

2.3 The Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales 2010

The Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (the Code) describes the process that must be followed and the actions that must be taken by a proponent, and the site conditions that must be satisfied, to show due diligence in the consideration of potential harm to Aboriginal objects.

The Due Diligence Code sets out a basic framework with the following steps followed in order to make an assessment of whether or not proposed activities may impact Aboriginal objects:

Step 1.	*Will the activity disturb the ground surface?*
Step 2a.	*Search the AHIMS database and use any other sources of information of which you are already aware*
Step 2b.	*Activities in areas where landscape features indicate the presence of Aboriginal objects*
Step 4:	*Desktop assessment and visual inspection*
Step 5.	*Further investigations and impact assessment*

The process set out in the Code involves consideration of harm to Aboriginal objects at increasing levels of detail, with additional information incorporated at each step and used to support the decisions being made. If the proposed activities are not "low impact activities" (a defence for which is provided under the Regulation) the considerations result in a determination of whether or not:

- further approval (an AHIP) under the NPW Act is required, or;
- Due Diligence obligations for the protection of Aboriginal objects are discharged by the process under the Code.

2.4 Provisions of the NSW Heritage Act 1977

Items and relics that are found within the boundaries of the assessment area will have to be managed under the *NSW Heritage Act (1977).* There may be other items or relics that have not yet been found that will require managing under the *NSW Heritage Act (1977).* Under the *Heritage Act 1977,* relics are defined as:

"relic" means any deposit, object or material evidence:

a) which relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and

b) which is 50 or more years old.

Section 139 states:

139 Excavation permit required in certain cases.

(1) A person must not disturb or excavate any land 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 unless the disturbance or excavation is carried out in accordance with an excavation permit.

(2) A person must not disturb or excavate any land on which the person has discovered or exposed a relic except in accordance with an excavation permit.

(3) This section does not apply to a relic that is subject to an interim heritage order made by the Minister or a listing on the State Heritage Register.

(4) The Heritage Council may by order published in the Gazette create exceptions to this section, either unconditionally or subject to conditions, in respect of any of the following:

(a) (a) any relic of a specified kind or description,

(b) (b) any disturbance or excavation of a specified kind or description,

(c) (c) any disturbance or excavation of land in a specified location or having specified features or attributes,

(d) (d) any disturbance or excavation of land in respect of which an archaeological assessment approved by the Heritage Council indicates:

(i) that there is little likelihood of there being any relics in the land, or

(ii) that any relics in the land are unlikely to have State or local heritage significance.

(5) This section does not prevent a person from disturbing or excavating land in which a historic shipwreck is situated in accordance with a historic shipwrecks permit in force in respect of that shipwreck.

3. BACKGROUND ABORIGINAL HERITAGE RESEARCH

Through the NSW Office of Environment and Heritage (OEH) an extensive Aboriginal Heritage Information Management System (AHIMS) search was conducted by ARAS Pty Ltd on 25th of March 2014 (AHIMS search ID 129594). The search covered an area of approximately 3 km^2 that encompassed the project area. There are no registered Aboriginal archaeological sites located near (within 500m) or directly on the search area. The AHIMS search results are presented in Table 1 below. A majority of these registered Aboriginal sites are located to the north of Morpeth, near the locality of Hinton or to the south near Four Mile Creek catchment (Figure 3: Appendix 1).

Table 1: AHIM's search results (ID#129594) for sites located within the project area

OEH Site ID No.	Site name	Grid Reference	Site Type
38-4-0988	Hunter River Morpeth	370900 6378200	Open site: Hearth
38-4-1209	Hinton PADs (1-3)	373260 6379000	Open sites partially destroyed
38-4-1521	HINTON BRIDGE MIDDEN	373164 6379406	Open site-shell midden
38-4-0148	Kanawarry	377350 6379580	Open Campsite

The above Aboriginal site distribution list is only a small portion of what is known for the entire Morpeth/Maitland region in the Lower Hunter Valley. Aboriginal occupation sites have been recorded along the following major riverine landforms, creek catchments and associated forest/wetlands but are not necessarily registered:

- Hunter River;
- Paterson River;
- Tenambit;
- Largs;
- Bolwarra Heights;
- McClement Swamp;and
- Four Mile Creek.

The land is located within the boundary area of the Wonnarua Aboriginal language group (Tindale 1974, Horton 1994.) According to OEH database records, there are no existing or proposed Aboriginal place declarations for the land in question.

3.1 Previous Archaeological Research

Previous archaeological work in the Lower Hunter (See, Baker (1997), Beasant (2002), Brayshaw (1984), Hamm (2005, 2008), HLA-Envirosciences Pty Ltd (1995) Kuskie (1994, 2000, 2004, 2006), Kuskie & Kamminga (2000), Umwelt Australia (1991, 1999a, 2001a); ERM (2002a);; Dagg (1996); Curran (Resource Planning 1994); Curran (Resource Planning 1993); Dean-Jones (1986) and Silcox & Ruig 1995 have provided solid evidence concerning the known site patterning and Aboriginal occupation models. At a local government level Maitland City Council commissioned a study to look at Aboriginal heritage landscapes in the general Thornton area (i.e. Thornton Masterplan). This study (Beasant 2002) came up with a number of criteria showing where Aboriginal sites and objects would be detected. It predicted that:

- Sites increase in density on slopes less than 5 degrees;
- Sites increase in density as they are found near or adjacent to existing wetlands;
- Knolls located adjacent to wetlands containing outcrops of flakeable stone are likely to contain sites; and
- Sites are less likely to occur on land with slopes greater than 10 degrees (Beasant 11: 2002).

In her work in the Rouse Hill area in Sydney, McDonald (2001) suggests that site patterning and intensity of occupation correlates well with stream order. Sites located near permanent water were more likely to contain complex and overlapping use over longer periods of time. The amount of land-use disturbance is also a significant factor in the survival of archaeological evidence as is the nature of the depositional environment.

The most significant archaeological work conducted near the Rutherford area is that undertaken by Kuskie and Kamminga at Black Hill and Woods Gully (Kuskie & Kamminga 2000). This project was located within the Hexham land-system (Story et al 1963) approximately 17km north-west of Newcastle and approximately 30 km south-east of Maitland. The area consists of undulating low hills and rises. Hexham Swamp is located approximately 36km south-east of the study area, with the Hunter River located a few kilometres to the north. The land under investigation was to be developed as part of the RTA's F3 freeway extension between Minmi and the New England Highway.

Three archaeologists have contributed to this project (Effenberger 1995, Baker 1996, Kuskie & Kamminga 2000). The most significant excavation and salvage work has been undertaken by Kuskie & Kamminga (2000). The original survey work and sub-surface testing was focussed on two sites: Black Hill 2 (38-4-376) and Woods Gully (38-4-410). Both sites were originally recorded as scatters of stone artefacts with extensive sub-surface deposits. However, the main concern for researchers was how much sub-surface evidence was actually present at the two sites.

The principal problem in the salvage of both sites was to determine the extent of sub-surface deposits and to ascertain how that could be effectively recovered. The work of Kuskie and Kamminga (2000) is significant in that it attempts to use a range of recovery techniques, assessing the validity of each one. It also uses finer scale analytical techniques. These include:

- On-site lithic work station, where every lithic item was examined under a low magnification binocular microscope and identified and recorded database;
- Residue and usewear analysis on a significant number of recovered items using a total retrieval process;
- Replicative microblade and microlith knapping experiments; and
- A combination of test excavation, broad area excavation by shovel and trowel, and mechanical surface scrapes.
- The main results are summarised below:
- In the **first phase**, 612 test pits (0.25m x 0.25m) were dug, initially measuring 38.25m^2. These were excavated 3m apart on a rectangular grid across each site. This approach was used to initially detect the basic patterns of sub surface evidence.
- In the **second phase**, larger areas were opened up using broad area excavation by shovel and trowel.
- At Black Hill, 63m^2 were excavated on a ridge crest. At Woods Gully, 87m^2 were excavated adjacent to a watercourse including 39m^2 of narrow trench leading away from the creek upslope. Hand excavation was carried out, digging in 0.25m x 25m unit squares in successive 5–10cm spits. Each bucket of deposit was labelled and transported to a sieving station. The method of 'total sieve retrieval' was used for the first time anywhere in the Hunter Valley. This method involved retention of all residues in the sieve, which was artificially dried. Items were later extracted under laboratory conditions.
- In the **third phase**, surface scrapes were used to detect larger features such as hearth and heat treatment pits. Five surface scrapes were used to remove grass cover and upper soil layers at Black Hill 2 and two at Woods Gully. After each surface scrape had been undertaken, spoils were examined carefully and any material recovered. An additional area was identified for broad excavation (8m^2) using this technique.
- A total area of 196.25m^2 was excavated by hand with surface scrapes making up a combined area of 34,422m^2. A total of 72.4 tonnes of soil were excavated. A total of 37,585 cultural items were identified and recorded. This was made up of 22,921 recognisable artefacts with 14,664 lithic fragments. Approximately 546.2 artefacts/m^3 were recovered from Black Hill 2 and 209.5 artefacts/m^3 from Woods Gully.
- 44 artefact categories were defined for Black Hill 2 and Woods Gully. Six stone working activities were identified, these being: bi-polar, microblade production, non-specific stone working, backing retouch of microblades, loss or intentional discard of non-microlithic tools and intentional loss or discard of microlithic tools. Production of microblades was the most common stone working activity.
- Replicative microblade and microlithic knapping experiments using silcrete and rhyolitic tuff (mudstone) showed that possibly less than 150 bondi points were made on site at broad area C3/B and less than half that number at broad area F5/A. A huge amount of microblade debitage was recovered showing a high percentage of 'waste'. A considerable time was spent preparing silcrete for heat treatment and subsequent flaking. Researchers concluded that given the amount of bondi point production, its role and purpose may have been of some social significance.

- Artefact assemblages are predominantly small (89%) measuring less than 20mm in length. Over 60% of all artefacts recorded measured less than 10mm in length. This recording of high density numbers of small artefacts was probably the result of intense microblade production and the use of the total sieve retrieval method. Over 70% of the assemblages from Black Hill 2 and Woods Gully contain rhyolitic tuff with silcrete making up just over 20% of the raw materials used.

- There is substantial evidence that a high proportion of silcrete assemblages have been heat-affected, with two heat-treatment pits being identified for the Black Hill 2 site.

- Spatial analysis of environmental variables shows that human activity was focused on the level crest and gently inclined north-facing upper slope at zone C3 (Black Hill 2). A single direct date of 2,130+ years BP was retrieved from a fireplace from Woods Gully. It is assumed that no site was likely to be older than 4,000 years BP.

- Kuskie and Kamminga argue that broad area excavation has allowed them to address all of their relevant research questions. They suggest that tuff and silcrete were the primary stone raw materials used for production of tools in the Central Lowlands of the Hunter Valley. Heat treatment of silcrete was widespread. A majority of artefacts recorded are the result of microblade production with implements occurring widely but in low numbers. Bi-polar knapping occurs on sites but in low frequency.

- A model of occupation was put forward for Black Hill 2 and Woods Gully. Human settlement probably represented one or more nuclear or extended family base camps, involving low numbers of people and several episodes of short-term occupation.

Woodberry Swamp Test Excavations: Thornton North Lot 2 & 310

Archaeological test excavation work undertaken at Thornton North by Hamm (2008) for land overlooking Woodberry Swamp has also revealed interesting regional archaeological results. This area is located within the Lower Hunter Wetlands environmental zone and has relevance to the current study. The principal method of archaeological testing used was shovel test pitting and grader scrapes. Shovel testing was also used where intact deposits may have been detected. The grader scrapes were strategically positioned near existing sites on Lots 2 and 310 and within a ridge crest land unit on Lot 2.

- A total of 67 (1.0m x 0.50mx 0.20m averaged) shovel test pits were excavated parallel to the main ephemeral drainage on Lot 2 within 50–100 metres of the existing flood-line. A total of 209 artefacts were recovered from these test pits.

- A total of 13 grader scrapes were undertaken across Lots 2 & 310. These were positioned in relation to the main gully/ephemeral stream section on Lot 310 adjacent to the existing sites and on the main ridge crest land unit on Lot 2. A total of 58 artefacts were recovered as a result of this mechanical testing.

- A total 14.23 tonnes of soil was wet sieved using standard 5mm and 8 mm sieve mesh.

- A total of 267 artefacts were recovered from the shovel test pits and grader scrapes at Lot 2.

- No artefacts were recovered from Lot 310 as a result of grader scrapes.

- No cultural features (i.e. hearths or campsite structures) were recorded for Lots 310 or 2.

- The majority of the artefacts recovered were made from red or yellow silcrete, with minor quantities of tuff being present.

- The majority of the artefacts recovered were broken flakes, followed by complete flakes and flaked pieces made from silcrete raw materials. Retouched or utilised stone tool items were poorly represented within the salvaged assemblage. Only 5 exhausted blade like cores were recovered and three broken backed items.

- Artefact analysis shows that the majority of the assemblage recovered reveals opportunistic flaking patterns and general maintenance activity associated with small tool production and manufacture principally with silcrete raw materials.A large piece of heat treated silcrete also adds weight to the argument that people were preparing stone for specialised flaking rather than general domestic use. It is likely that prepared cores were already in use while Aboriginal people were camping in this area in the past.

- A low density retouched assemblage and an absence of finished tools (i.e. food processing type tools) indicates that Lot 2 was probably a hunting camp more likely to be associated with gearing up tool kits for backed item production. A lack of hearth like structures and associated hearth heat retainers would also indicate a short term hunting camp rather than a more permanent base camp occupation area with multiple activities taking place on site.

- The location of a site on Lot 2 adjacent to an existing drainage feature associated with Woodberry Swamp supports previous land-use models for the general area (i.e. Kuskie 2004, 2006). The relationship to stream type and the impact of land-use is critical in detecting larger more significant base camp sites in this region.

- The archaeological material recovered on Lot 2 is assessed to be commonly represented in the local area and not considered scientifically significant based on previous archaeological research, Aboriginal community values, past land-use impacts and the nature of the recovered material.

- The above evidence also indicates that surface evidence alone cannot adequately detect the real extent of prehistoric Aboriginal settlement patterns in this type of Lower Hunter Wetland landscape.

- The distribution and size of recovered artefacts shows that flood damage may have removed a larger proportion of smaller items from the deposits over time.

- The distribution pattern and the density of artefacts recovered show a narrow band of occupation from within 50–70 metres either side of the existing creek-line within a gentle slope alluvial land-unit.

- A lack of artefacts detected on top of Lot 2's main ridge crest indicates that Aboriginal people were rather specific about where they positioned their hunting camps in the past.

- It is likely based on previous research in the area and given the nature of the sediments excavated that the artefacts recovered are likely to be no more than late Holocene in age (i.e. within the last 2,000 years BP).

- The grader scrapes and shovel testing have revealed that much of the deposits within Lots 310 & 2 are disturbed from either ploughing and or bioturbation through plant and insect activity. No charcoal deposit examined can be described as cultural in origin. As a result no samples were extracted for dating purposes.

Recent archaeological test excavation work undertaken by Reeves pers comm 2012 (Niche Environment & Heritge 2012) at Thornton Rural Fire Brigade site for the RTA has revealed an extensive open site. This area is part of the Woodberry swamp complex. Over 22,000 artefacts were recovered in the test excavation work from an area of approximately 400 sqm tested.

3.2 Regional Modelling, Site Distribution and Cultural Landscape Values

Whilst no regional or local Aboriginal heritage study is available for the Lower Hunter region, it is acknowledged that evidence of Aboriginal occupation is widespread and in some locations particularly abundant. A regional study completed for the Upper Hunter which covers parts of the Central Lowlands land system (see ERM 2004) tried to model which areas of landscape might contain highly unique potential for Aboriginal archaeological resources. In their base-line report on behalf of the Upper Hunter Heritage Trust (ERM) states that:

> *The overwhelming majority of archaeological sites recorded in the study area are stone artefact scatters and isolated artefacts. These sites are common in most regions, have been recorded and many (in the Central Lowlands) have been salvaged and the assemblages are available for archaeologists for further investigation. Most other site types are quite rare and have not been well recorded studied or salvaged. (ERM 2004:74).*

These rarer site types include burials, scarred trees, carved trees, stone arrangements and estuarine shell middens.

In addition to the above site type assessment, some landscapes and geomorphic units contain potential for unique archaeology or Pleistocene Age cultural remains. Some of these landform types are also considered to be poorly understood for the region. These landform features include:

- sand dunes;
- sand sheets; and
- Hunter River terraces.

As well as these rarer landforms which could contain significant cultural resources, other local landscapes may contain cultural landscape values which are important to Aboriginal people. Examples of these cultural landscapes in the Lower Hunter region may include fringe campsites and mission sites, pristine wetlands, riverine corridors, untouched woodlands, forested landscapes and prominent scenic escarpments, all having a natural and cultural heritage quality.

3.3 Definition of a 'site'

The NSW Office of Environment & Heritage (OEH) advises developers and consultants that the term 'site' is used to group Aboriginal Objects or define a location where an Aboriginal Object or cultural item occurs. They propose general criteria to assist in the classification of a site. *Sites* can be defined as:

- exposures where archaeological evidence is revealed;

- a topographic or land form unit where occupation evidence has been recorded. This may be an entire landform unit (ridge, creek, valley) or part of a landform unit (saddle on ridge, creek bank);
- sites which have physical boundaries defined by rocks (stone arrangement), earthworks (mounds) or cleared land (ceremonial ground);
- sites defined by Aboriginal community groups as culturally significant;
- arbitrary or the assignation of a boundary for the convenience of recording (in cases where the site would probably be much larger if based on the criteria above). Arbitrary criteria include the use of a fence-line, dirt track or gully as a boundary. In some cases the area may simply be designated as 50m x 50m, or as a smaller sample plot, on the basis of convenience;
- artefact density. (In some cases a site boundary may be defined by the average number of flakes per square metre.) This is a specialised type of arbitrary criterion and justification of the rules used must be made explicit; and
- the chosen definition of a site or isolated find needs to be specified for the study. It is the consultant's responsibility to decide on an appropriate definition, suited to the particular project, the research goals and comparability with other regional studies. OEH requires site forms to be completed for isolated finds.

3.4 Aboriginal Site Types likely to be found in the general assessment area.

Aboriginal site types that have been typically recorded in the general region include:

- Open campsites made up of stone artefacts dominated by tuff, silcrete and quartz assemblages and sometimes containing hearth material in the form of burnt or cracked sandstone heat retainers. These sites vary in complexity and density depending on their physical condition in the modern landscape and their proximity to major resource zones;
- Isolated Find representing a single isolated artefact located on its own in the landscape;
- Artefact Scatter representing a collection or scatter of stone artefacts exposed by erosion that appear to be defined by their spatial relationship to one another and the land unit they are located on;
- Archaeological Deposit representing a buried surface which has some soil depth and structure likely to contain archaeological remains;
- Scarred Trees representing Aboriginal removal of bark material to make shelters, dishes, canoes, string, shields, boomerangs and carved trees. Within the study area most Aboriginal scars are found on River Red Gum (*Eucalyptus camaldensis*) or Blakely's Red Gum (*Eucalyptus blakelyi*), White Box (*Eucalyptus albens)* and Grey Box (*Eucalyptus largiflorens*). There is a strong correlation between large canoe type scars and more permanent river;
- Burial sites are sites that show evidence of Aboriginal burial in discrete locations. Burials in the study region are usually associated with major areas of occupation found next to rivers, lagoons, lakes, waterholes and some creeks. Skeletal material is normally discovered eroding out of sandy deposits, where interment is easiest. Burials may occur in an isolated context or they may be part of a larger cemetery;

- Axe grinding grooves. These types of sites are associated with Aboriginal people using sandstone outcrops to sharpen stone implements and in particular stone axes. Grinding grooves are usually 5–20cm in length and 2–3cm in depth depending on how often the person is using the groove section. Grooves may be found in clusters and are usually concentrated around a surface rock pool where people use water to assist them in sharpening an edge;

- Contact sites. A contact site is site where there is evidence of Aboriginal people living traditionally in close proximity to European settlement. Aboriginal people may be using European items in traditional hunting and gathering practices, for instance bottle glass as a substitute for stone, or metal as a substitute for bone or stone;

- Sites may be associated with Aboriginal people working for European settlers, such as gathering bark sheeting for bark slab huts. Often historic items associated with that contact would be found in certain traditional campsites; and

- Waterhole/well. These types of sites, as well as being important places for obtaining water, may also be sacred places and of religious significance to living Aboriginal people.

Hunter Valley researchers such Dean Jones & Mitchell (1993) argue that many of the sites recorded in the Hunter Valley have been distributed along drainage lines. They observe that far fewer sites have been recorded on landforms remote from watercourses. This, they argue is due in part to how surface erosion processes are concentrated along drainage features and the historical focus of archaeological assessment. Less is known about how Aboriginal occupation may have been structured in higher altitude locations especially areas that contain a range of relief types.

In her analysis of site location across the Hunter Valley, Koettig argues that:

"sites in the Central Lowlands often comprise discrete concentrations of artefacts distributed in a continuous, but apparently unpatterned way across creek flats. These concentrations varied in frequency, size, content and association, possibly representing different activities (manufacturing, maintenance and or tool production)" (Koettig 1994: 7). In the Hunter Valley, a number of researchers have expressed concern with the effectiveness of surveying for sites, which are constantly obscured due to a lack of ground visibility. In their overview of methodological issues for the assessment of Hunter Valley archaeological resources, Dean-Jones and Mitchell summarise the most important site detection issues as factors affecting site visibility which include:

- The original size and pattern of the deposit;

- The present vegetation cover;

- Post depositional processes causing artefact burial and/or erosion; and

- Artefact density and clustering, and presumably the increasing age of the site (Dean Jones & Mitchell 1993: 46)."

Other researchers such as Koettig (1990) point out, in the Hunter Valley survey strategies and thus the success of site detection have varied considerably. Archaeological surveys carried out during the 1970's, 1980's and some even in the early 1990's, often only inspected areas of *potential* leaving a higher proportion of development areas unsurveyed. Koettig defines these areas as "lesser" archaeological potential usually

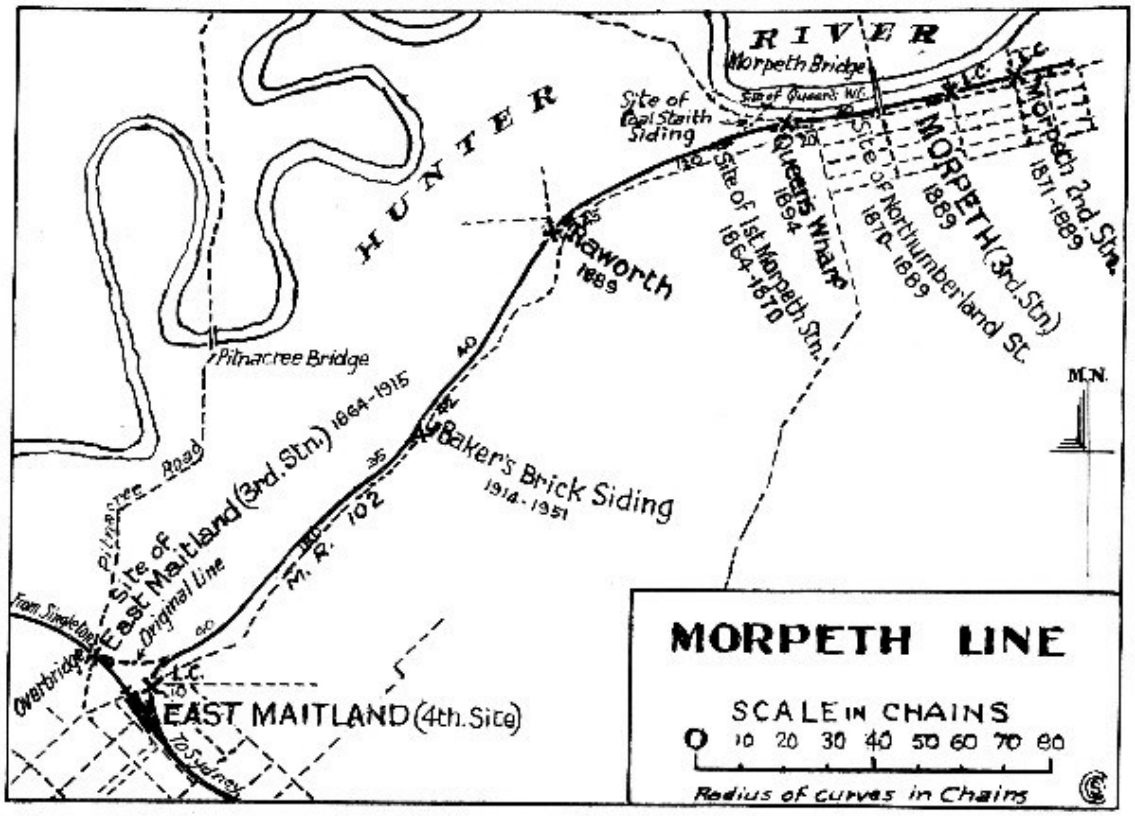
resulting in certain land units being ignored by surveyors (i.e. hillslopes, ridgecrests etc.) in favour of land units associated with creek-lines and watercourses.

3.5 Historic Heritage Background Research and Archaeological Sites

Morpeth was first settled in 1821 and free settler Edward Charles Close a retired military officer took up land in and around the future site of Morpeth township. He and others built a number of commercial buildings (e.g. stores and shipping offices) to take advantage of river transport activities that were beginning to grow and developed in response to commercial activity associated with the wool industry and coal mining in the Hunter Valley(Jervis 1953).

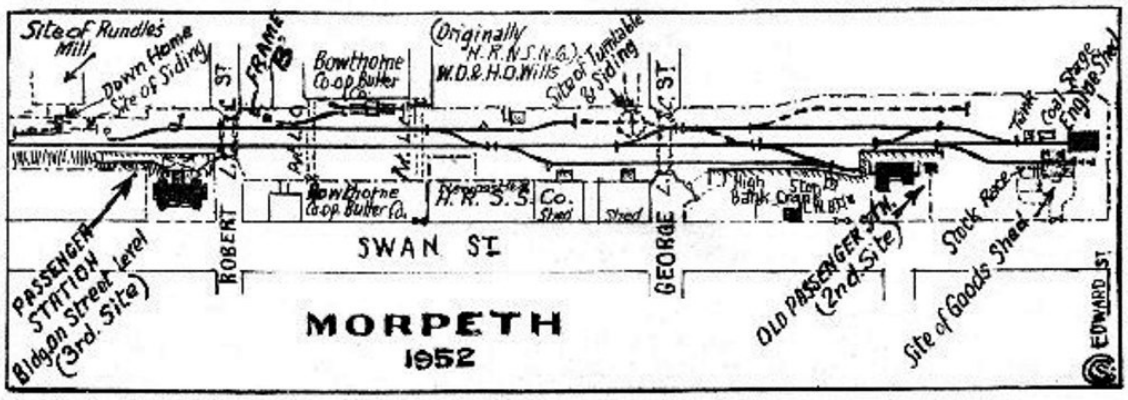
By the 1830s' steam ships were commonly used up and down the Hunter River and Morpeth became a port hub for the transfer of goods from ships to road transport (Jervis 1953). The major wharf located at Morpeth was called Queens Wharf. The town began to grow rapidly with a watch-house, school house and post office built between 1836 and 1838s (Jervis 1953). In the 1840's coal mining shipments began to replace agricultural trade and a local coal mine owned by Edward Close was opened approximately half a mile from Morpeth. As a shipping transport hub Morpeth continued to be important until the 1860's when a railway was built to the north of the town. The rail-line was built in two phase; the first phase(in the 1860's) saw a rail built to Queen's Wharf (1862-1863) and then a second extension into the town north of Swan St was built in 1868 (Figs 4-5).

Figure 4: Maitland–Morpeth rail-line route (from Singleton 1953)



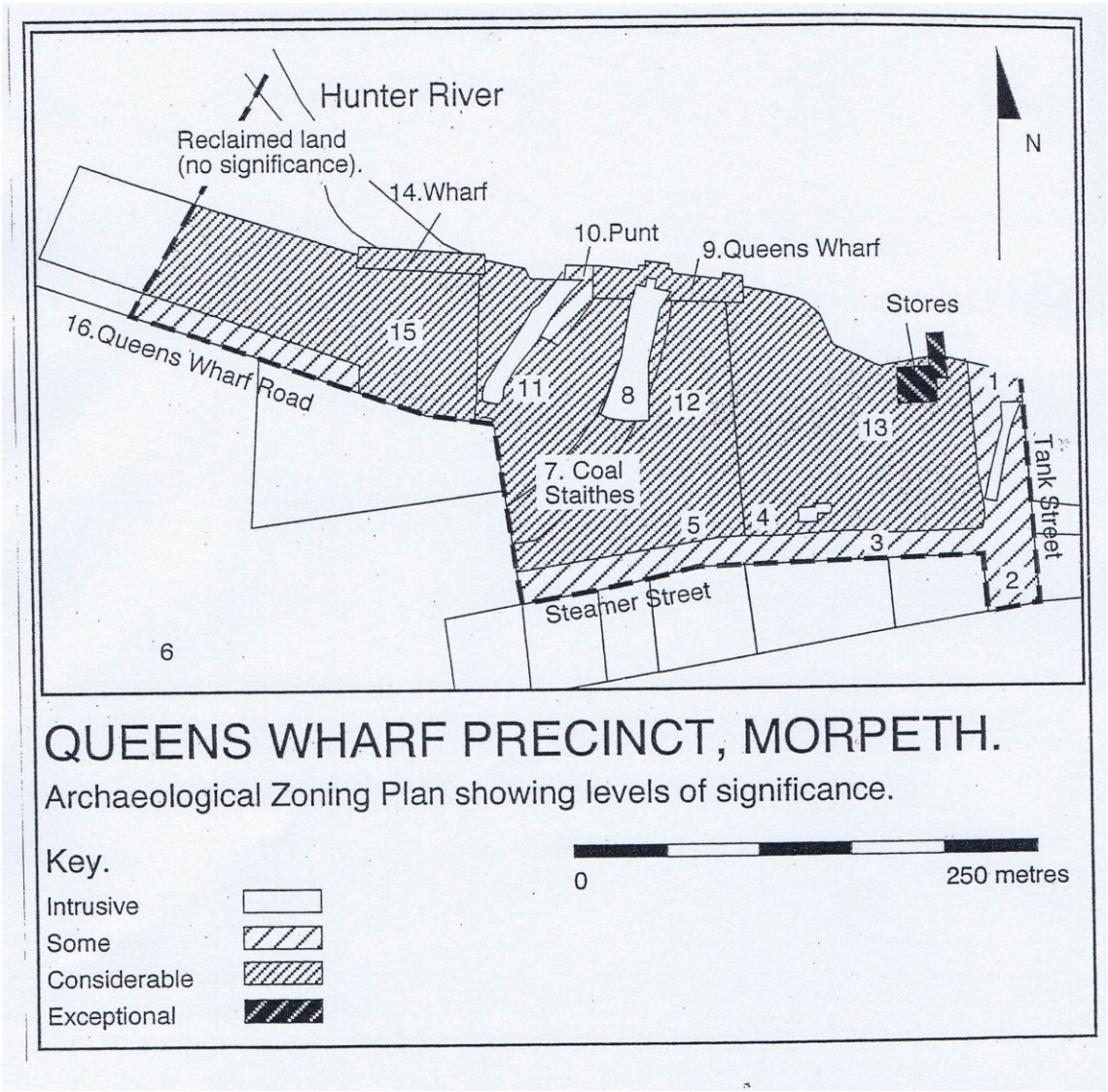
By 1877, an engine shed and a water tank were erected at the dead-end section of the rail line (east of 30 Swan St) and just east of the second Morpeth station (Figure 4). In 1878, a 60 feet x 27 feet brick goods shed was built adjacent to the engine shed, with a goods siding which extended from the dock past a high timber-faced wool bank to beyond the George Street crossing. A stock race was also added in 1882. In 1880, a siding was laid in to serve Bundle's Flour-Mill. In 1904, the siding was still in existence but was known as Eales' Duckenfield siding, the large stone building having been converted into a warehouse (Singleton, 1953). There is no evidence that either the brick building or the rail siding still exists today.

Figure 5: Location plan of the Maitland- Morpeth rail line as it enters Morpeth (source Singleton 1953)



Given the historical significance of Morpeth, a number of historical archaeological sites have been identified by various studies. The most relevant is that undertaken by Higginbotham (2002). This work identified the Queens Wharf precinct area as being of archaeological significance and defined its archaeological values by providing a detailed archaeological zoning plan. This plan shows which areas within the Queens Wharf precinct have different levels of archaeological significance (Figure 6).

Figure 6: Archaeological Zoning Plan from Higgenbotham (2002)



In their historical reference book *The Morpeth Story* (Morpeth Progess Association Inc. 1971) there is reference to a convict road being built between Maitland and Green Hills (near Morpeth). This is listed as The Start of the Great North Road in Fig 1 on page 32. Further review of the NSW Roads and Maritime Heritage Register shows that there is no reference to the Great North Road in this part of Morpeth. Additional enquires to Maitland City Council (Steve Punch peers comm 2014) also confirm that based on current knowledge there is no physical evidence of the Great North Road in any part of Swan St Morpeth.

The cultural significance of Morpeth is that of a town that has retained its historic heritage significance as a place that represents an early colonial river port in the European settlement of the Hunter Valley Region. The town has a unique historical character, outstanding for its urban design and rural setting. It contains early historic buildings and residential buildings from all eras. From

1982, its heritage qualities and the potential for cultural tourism have been documented. Some of the existing heritage buildings have been refurbished and rehabilitated (Morpeth POM 2000).

According to the Morpeth POM, homes built since 1950 make up 60% of all dwellings; and over 100 new dwellings have been built since 1982. Growth in tourism has led to intrusion in local residents' amenity; but it has also supported local business and employment. Regional traffic associated with coal mining and urban development, especially heavy vehicles, is impacting on amenity for residents and businesses.

There is a need from the community that a balance is required to retain the long-term overall amenity of Morpeth as a place with its own identity, local businesses and community life, as well as a place outstanding for its heritage and that also attracts visitors (Morpeth POM 2000).

3.6 Historic Heritage Site Searches.

3.6.1 NSW State Heritage Register Search

The *State Heritage Register* (SHR) holds items that have been assessed as being of State Significance to New South Wales. The *State Heritage Inventory* (SHI) contains items that are listed on Local Environmental Plans and/or on a State Government Agency's Section 170 registers (NSW Office of Environment and Heritage Website – www.heritage.nsw.gov.au/index.html - searched on the 25th of March 2014). An assessment of heritage significance is required for items greater than 50 years in age. Items appearing on either the SHR or SHI have been granted a defined level of statutory protection under NSW legislation. Searches of the SHR and SHI were completed on the 25th of March 2014. A number of heritage items were found registered on the SHR or SHI. These state heritage listed items are detailed in Table 2 below and Figure 7.

Table 2: Heritage items listed for Morpeth village as having state significance according to the NSW State Heritage Register and State Heritage Inventory.

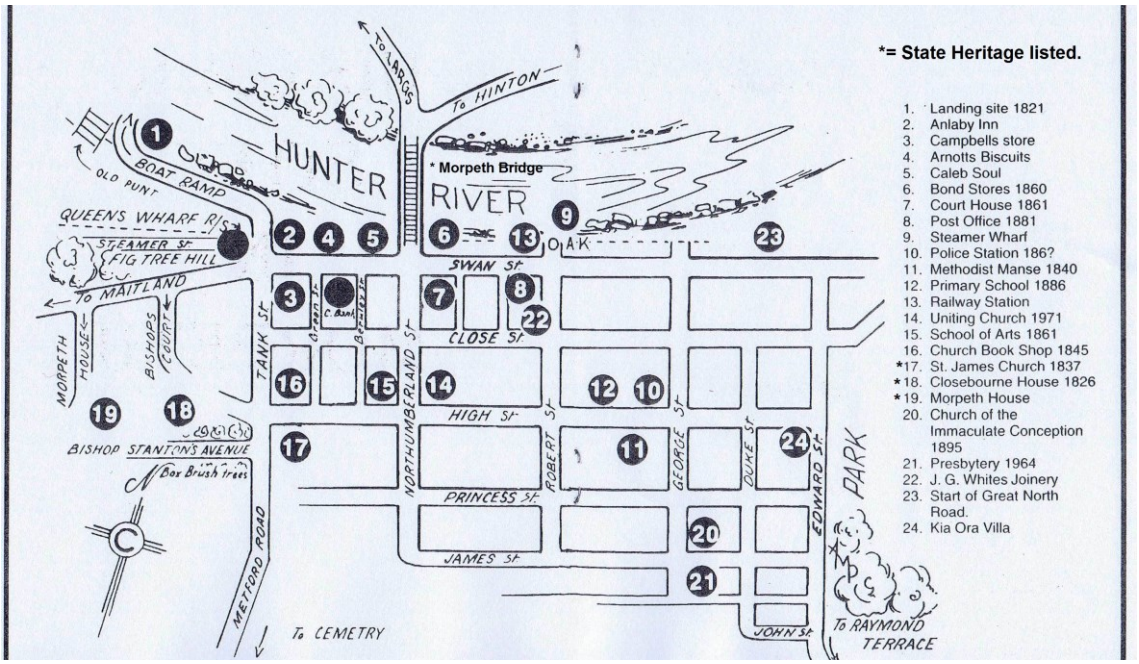
Table 2: Heritage items listed for Morpeth village as having state significance according to the NSW State Heritage Register and State Heritage Inventory

Suburb	Item Name	Item Address	Property description	Heritage Significance level	Item ID
Morpeth	Morpeth House, Closebourne House, adjoining chapels and Diocesan Registry group	Morpeth Road	Lot 2 and Part Lot 3, DP 841759	State	I201
Morpeth	Avenue of Brush Box trees	363 Morpeth Road	Part Lot 3, DP 841759	State	I204
Morpeth	"Closebourne House" and adjoining Chapel	363 Morpeth Road	Part Lot 3, DP 841759	State	I202
Morpeth	Former Diocesan Registry	363 Morpeth Road	Part Lot 3, DP 841759	State	I203

Suburb	Item Name	Item Address	Property description	Heritage Significance level	Item ID
Morpeth	Morpeth Bridge over the Hunter River	Northumberland Street	Road reserve	State	I205

All these state heritage listed items are located at the western end of Morpeth Township (Figure 6), approximately 300-500 metres west from 30 Swann St Morpeth.

Figure 7: Distribution of historically important heritage listed items including those of state heritage significance in Morpeth (Map from The Morpeth Story, Morpeth Progress Association Inc. 1971



3.6.2 National Heritage Register

Under the Commonwealth's *Environment Protection Biodiversity Conservation Act 1999*- Amendments (No. 88, 2003), two mechanisms have been created for the protection of heritage places of National or Commonwealth significance) – the National Heritage List (NHL) and the Commonwealth Heritage List (CHL). The NHL provides protection to places of cultural significance to the nation of Australia, while the CHL comprises natural, Aboriginal and historic heritage places owned and controlled by the Commonwealth. There are no management constraints associated with listing on the Register of the National Estate unless the listed place is owned by a Commonwealth agency. Searches of the NHL and RNE were undertaken on the 25th of March, 2014. No items were identified to be located within the assessment area.

3.6.3 Maitland Local Environmental Plan (LEP) 2011

Each Local Government Area (LGA) is required to create and maintain an LEP that identifies and conserves Aboriginal and Historic heritage items. These items are protected under the EP&A Act 1979 and the Heritage Act 1977.

A search of the Maitland City Council LEP (2011) was undertaken on the 25th March 2014. A number of heritage items were listed in Schedule 5: Environmental Heritage in the LEP are located within or in close proximity to the assessment area. These are described in Table 3 below. These items are classified as being of local heritage significance.

Table 3: Heritage listed items from Schedule 5 of the Maitland City Council LEP located in the township of Morpeth

Suburb	Item Name	Item Address	Property description	Heritage Significance level	Item ID
Morpeth	Former bakery	98 Close Street	Lot B, DP 161543	Local	I190
Morpeth	Grandstand	20 Edward Street	Lot 7001, DP 1052969	Local	I191
Morpeth	"Kiora"	7 High Street	Lot 1, DP 535966	Local	I192
Morpeth	Police station	32 High Street	Lot 1, DP 904664	Local	I193
Morpeth	Morpeth Public School	36–46 High Street and 35 Close Street	Lot 1, DP 724176; Lot 1, DP 782470; Lot 1, DP 782303; Lots 1 and 2, DP 782304	Local	I194
Morpeth	Grandstand	20 Edward Street	Lot 7001, DP 1052969	Local	I191
Morpeth	Former cinema	85 High Street	Lot 1, DP 64366	Local	I195
Morpeth	School of Arts	110 High Street	Lot 1, DP 782444	Local	I196
Morpeth	St James Parish Hall	138 High Street	Lot 200, DP 872144	Local	I197
Morpeth	Roman Catholic Church	James Street	Lot 3, DP 844638	Local	I198
Morpeth	Former Catholic school and convent group	20 James Street	Lots 1 and 2, DP 844638	Local	I199
Morpeth	Georgian house	5 John Street	Lot 1, DP 924593	Local	I200
Morpeth	White's Factory	7 Robert Street	Lots 3 and 4, DP 592403	Local	I206
Morpeth	Marlborough House	75 Swan Street	Lot 631, DP 1091885	Local	I207
Morpeth	Former Queens Wharf and Railway Station	90 Swan Street	Lot 1, DP 714289	Local	I208
Morpeth	Post office and residence	105 Swan Street	Lot A, DP 411508	Local	I209
Morpeth	Former Bond Store group	122 Swan Street	Lots 1, 2, 5 and 6, DP 260922;	Local	I210

Suburb	Item Name	Item Address	Property description	Heritage Significance level	Item ID
			Lots 7 and 8, DP 628665		
Morpeth	Former courthouse	123 Swan Street	Part Lot 1, DP 526098	Local	I211
Morpeth	Commercial Hotel	127 Swan Street	Lot 1, DP 744896	Local	I212
Morpeth	Former CBC Bank	149 Swan Street	Lot 10, DP 57156	Local	I213
Morpeth	Former Campbell's Store	175 Swan Street	Lot 1, DP 735924	Local	I214
Morpeth	General Cemetery	Tank Street	Lots 1–4, DP 775155	Local	I215
Morpeth	St James group	19 Tank Street	Part Lot 63, DP 755205; Lot 631, DP 1137280	Local	I216

Three locally listed sites: the Former Cinema (85 High St), Marlborough House (75 Swann St) and a Villa (67/69 Swann St) are located within 300-500m of 30 Swann Street Morpeth.

3.6.4 Heritage Planning and Conservation Issues

Number 30 Swan St Morpeth is currently zoned RU1 Primary Production under the Maitland City Council LEP 2011. However, 30 Swann St Morpeth is also zoned as part of a Heritage Conservation area (part of the Morpeth Heritage Conservation Area, Figure 8) under the provisions of the Maitland City Council's Development Control plans and section 5.10 which states (in respect of sub section b):

Heritage assessment

The consent authority may, before granting consent to any development:

(a) on land on which a heritage item is located, or

(b) on land that is within a heritage conservation area, or

(c) on land that is within the vicinity of land referred to in paragraph (a) or (b),

require a heritage management document to be prepared that assesses the extent to which the carrying out of the proposed development would affect the heritage significance of the heritage item or heritage conservation area concerned.

3.6.5 Morpeth Management Plan

Maitland City Council has also prepared an overarching plan of management document (Morpeth Plan of Management) for the Morpeth Township (Maitland CC 2000). This POM aims to:

- Focus on the key issues for the management of public land and other responsibilities of the Maitland City Council in the town of Morpeth, and its immediate surrounds; and

- Provide a framework for long term management, decision-making and action and will be implemented in accordance with available resources.

Its key objectives are to build on the information and reports already available about Morpeth and to:

- Analyse the issues relating to the existing and future development of Morpeth;
- Consult with the Morpeth community;
- Build on the information and reports already available about Morpeth;
- Analyse the issues relating to the existing and future development of Morpeth;
- Provide material that can be translated into Council's Local Environment Plan (LEP) and Development Control Plan (DCP);
- Consult with the Morpeth community; and
- Provide recommendations with priorities and staging and a time frame for monitoring and review.

3.6.6 Guiding principles for management of heritage listed items.

There are key provides overarching principles on which the POM is based. These are:

(i) Understanding and sustaining Morpeth's heritage and character;

(ii) Protecting local amenity, village character and community life;

(iii) Tourism business and activities respecting local concerns and amenity;

(iv) Recognizing the interdependence (mutual benefits) of heritage, tourism business and local business;

(v) Providing facilities that benefit the Morpeth community and visitors;

(vi) Making the significance of Morpeth accessible to both the community and visitors;

(vii) Marketing derived from significance and facilities; and

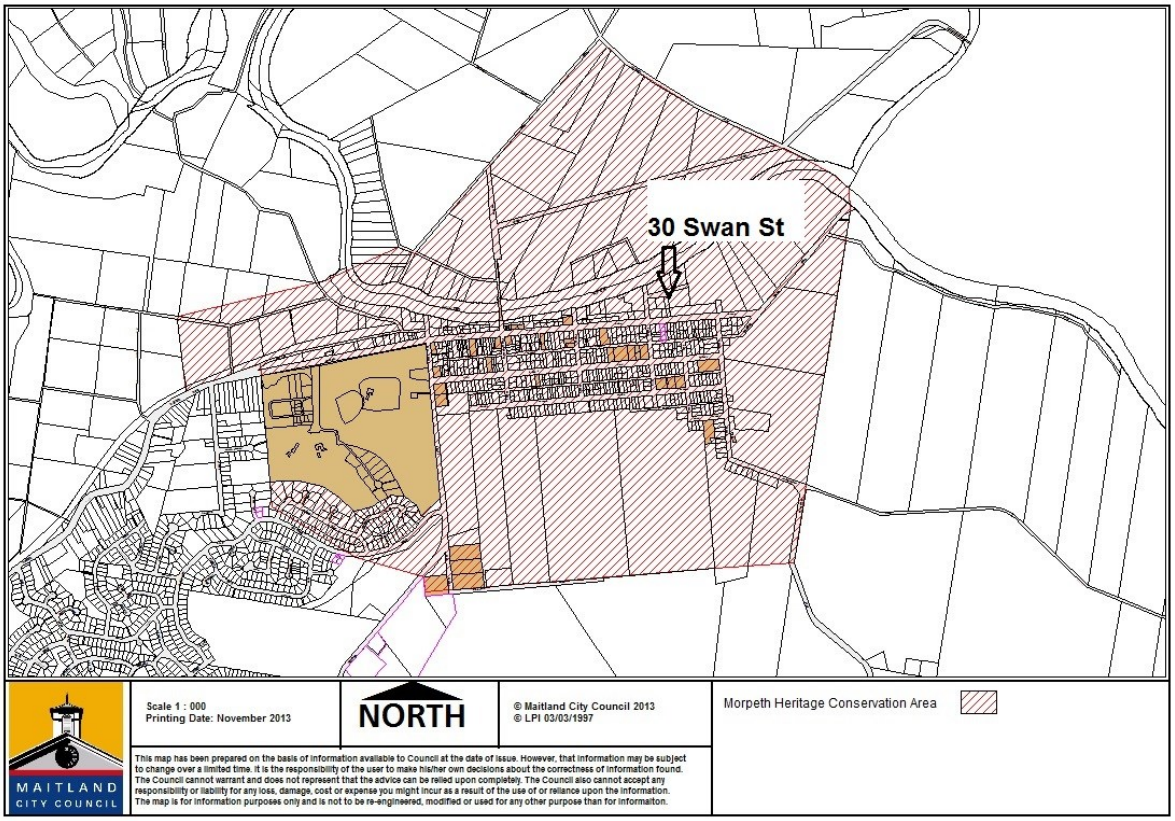
(viii) Sustaining Morpeth as a place with industrial workplaces.

(ix) Working with indigenous people; and

(x) Continual improvement and service excellence.

These principles are derived from discussions at workshops and meetings; from the Heritage Tourism Principles published by the Australian Heritage Commission and the Australian Tourism Council in late 1999 (Morpeth Plan of Management 2000: 1).

Figure 8: Maitland City Council's Morpeth Heritage Conservation Area map and 30 Swan St



4. LAND USE HISTORY

4.1 Existing Environment and Land Use History

The assessment area falls within the Lower Hunter Plain topographic/physiographic region of the Lower Hunter Valley. The assessment area comprises of principally of Quaternary alluvial creek floodplain landforms made up of a series of river terrace features (Matthei 1995). Generally the land is described as flat with slopes > 1% and elevation being between 2-11 m with local relief to 2m. There are swampy backplain features, levees, oxbows and point bar deposits (Matthei 1995). Soils are dominated by Prairie Soils, with some Chernozems, Brown Clays and Humic Clays in the lower Hunter delta. Solonchaks occur on the tidal flats. Brown Podzolics Soils and Red and Yellow Earths are found on alluvial terraces.

Prior to European settlement, vegetation communities found locally in the assessment area would have been dominated by tall open forest with Casuarina cunninghamiana (river oak) and the occasional Melaleuca styphelioides (prickly –leaved paper bark-Matthei 1995).

The major land uses of the Morpeth region are dairy farming, Lucerne cropping, turf farming and animal grazing. Initially the town of Morpeth grew from the 1830's and by the 1880's many fine building were erected. As a river port it served as a transport hub until the rail easement from Maitland was put through. When the Hawkesbury River Bridge was opened in 1889, the river port operations of Morpeth also declined drastically finally ceasing in 1931. The Queens Wharf continued to operate for a brief period in 1940 when a local coal miner used its facilities. In 1953 the rail branch line to the wharf was closed (DUAP 1996).

Current Land use impacts at 30 Swan St Morpeth

The land proposed for rezoning contains the following features: (Figure 2 Appendix 1 & Plates 1-7: Appendix 2):

- A brick veneer house with inbuilt garage built in the 1970's;
- Tennis court and swimming pool built in the 1970;
- Modern fencing dated to the 1960-70's;and
- A number of vehicle and farm tracks.

The majority of land use disturbance within the assessment area is associated with house construction, tree clearing for past rail infrastructure development and pasture improvement with some flood mitigation works.

Prior to the 1970's, the Morpeth railway line was built along the upper river terrace of 30 Swan St. According to the existing historic records some of the existing track way may still be intact along sections of the land proposed for rezoning (Figure 5).

5. ABORIGINAL CONSULTATION

As this project aims to avoid any culturally sensitive areas it did not require consultation with Aboriginal community stakeholders.

6. RESULTS & DISCUSSION

No known Aboriginal sites or potential Aboriginal sites were identified within the area proposed for rezoning as a result of this desktop assessment. No known historic heritage sites were identified within the area proposed for rezoning as a result of this desktop assessment. Given the scale of previous development on 30 Swan St Morpeth, most physical cultural heritage evidence has probably been removed.

7. RECOMMENDATIONS

The following recommendations are made in light of the above due diligence desktop assessment results based on the existing and proposed legal requirements of the NSW National Parks and Wildlife Act (1974), NSW Heritage Act 1977 and the type of archaeological evidence found on: LOT 3 DP 237264, 30 Swan Street Morpeth . It is recommended that:

- The assessment area is located within the Maitland City Council's zoned Morpeth Heritage Conservation Area;
- The assessment area is considered to have **low** Aboriginal heritage potential;
- The assessment area is considered to have **low** Historic heritage potential; and
- The above conclusion is reached based on background archaeological/historical research, and land-use history.

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APPENDIX 1
FIGURES

APPENDIX 2
PLATES

Plate 1: Looking west along 30 Swan St Morpeth with old fig trees in road reserve

Plate 2: Looking west from the eastern boundary of 30 Swan St Morpeth open horse paddock

Plate 3: Looking west along the upper river terrace and northern boundary 30 Swan St Morpeth

Plate 4: Evidence of shed remains or concrete foundation blocks scattered on surface of upper terrace

Plate 5: Looking north-west to western boundary and local neighbour's fence-line

Plate 6: Looking at the eastern end of Lot 3/30 Swan St Morpeth upper river terrace

APPENDIX 3
GENERAL GLOSSARY OF TERMS

Analysis	Evaluation of archaeological data to determine the archaeological significance of sites recorded within an impact area
Analytical Recording	A process of site recording which obtains detailed archaeological data useful in archaeological analysis
Archaeological Comparability	The evaluation of whether archaeological sites are uniformly different or similar across an impact area
Archaeological Data	Archaeological information that is recorded as a result of an archaeological investigation
Archaeological Deposit	A layer of soil material containing archaeological remains
Aboriginal object	A statutory term defined under the National Parks and Wildlife Act 1974 meaning, 'any deposit, object or material evidence (not being handicraft made for sale) relating to Aboriginal habitation of the area comprising NSW, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes human remains
Archaeological Investigation	The process of assessing the archaeological potential of an impact area by a qualified archaeologist
Artefact Scatter	A collection of artefacts usually lying as a lag deposit on an eroding surface
Artefact	Any object made by human agency (e.g. stone artefacts)
Assemblage	1 - A group of stone artefacts found in close association with one another 2 - Any group of items designated for analysis - without any assumptions of chronological or spatial relatedness (Witter 1995)
Avoidance	A management strategy which protects Aboriginal Sites within an impact area by avoiding them totally in development
Broken Flake	A flake which is either a distal fragment or proximal fragment
Campsite	A site which contains a variety of artefactual data not specific to one type of stone tool reduction sequence

Complete Flake	A flake which is whole and not broken
Core	A lump or nodule of stone from which flakes have been removed
Debitage	Unmodified flakes or fragments of stone material removed as a result of stone tool manufacture or modification
Flake	A piece of stone detached from a core, displaying a bulb of percussion and striking platform
Flaked Piece	A fragment of stone where negative flake scarring is visible but no obvious striking platforms are present
Hearth	The site of a campfire represented by charcoal, burnt earth, ash and sometimes stones used as heat retainers
Impact Area	An area that requires archaeological investigation and management assessment
In situ	Latin words meaning 'on the spot, undisturbed'
Isolated Find	A single artefact found in an isolated context
Knapping Floor	A location on a site which normally represents a stone artefact reduction episode
Land System	An area, or group of areas, commonly delineated on a map, throughout which there is a recurring pattern of topography, soils, and vegetation
Land Unit	An area of common landform, and frequently with common geology, soils, and vegetation types, occurring repeatedly at similar points in the landscape over a defined region. It is a constituent part of a land system
Landform	Any one of the various features that make up the surface of the earth
Landscape	That part of the land's surface, more or less extensive being viewed or under study, that relates to all aspects of its physical appearance, including various vegetation associations and landforms
Management Plans	Conservation plans which identify short and long term management strategies for all known sites recorded within an impact area

Methodology	The procedures used to undertake an archaeological investigation
Minimum Requirements	The minimum standard for which NPWS will accept the reporting of an archaeological investigation
Mitigation	To address the problem of conflict between land use and site conservation
Open Area Excavation	A method of excavation where large areas of an archaeological site are open at any one time. A horizontal representation of Aboriginal occupation of different archaeological features is considered to be more important than vertical stratigraphic relationships
Open Site	An archaeological site situated within an open space (e.g. archaeological material located on a creek bank, in a forest, on a hill etc)
Research Design	A research strategy for carrying out an intensive archaeological investigation and analysis
Salvage	A method by which an archaeological site or group of sites may be fully investigated before they are totally destroyed by a development
Sample Unit	An area of investigation which is uniform size or density and which can be quantified for analytical reasons
Sampling	The process of selecting part of an area under archaeological investigation as a basis for generalising about the whole
Site Recording	The systematic process of collecting archaeological data for an archaeological investigation
Site	A place where past human activity is identifiable
Spatial Significance	A site which may contain potential sub-surface deposits or in situ material useful in the analysis of human use of land and site formation process
Summary Recording	A process of site recording where archaeological data is collected on a summary level only
Survey Coverage	A graphic and statistical representation of how much of an impact area was actually surveyed and therefore assessed

Technological Significance	Artefactual material which may contain types or items, although not unique, may be included in a sample to demonstrate an aspect of stone artefact variability
Test excavation	A process of exploratory excavation carried out on a small scale and used to determine site extent, site condition and excavation potential