

Historic Cultural Heritage Investigation

Gladstone Western Basin Dredging and Disposal Project

GHD

09078C/2009



Converge Heritage + Community undertook this cultural heritage assessment and prepared this report.

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1.0 Introduction

Converge Heritage and Community have been commissioned by GHD to undertake an Historic Cultural Heritage Investigation as part of the Port of Gladstone Western Basin Dredging and Disposal Project (The Project).

The Project seeks to accommodate the long term dredging and disposal of associated dredge material required in order to provide safe and efficient access to the existing and proposed Port facilities in Gladstone Harbour over the foreseeable future. A staged approval process is sought to accommodate the progressive development of the Harbour.

Two areas of development are required for the long-term strategic development of the Port:

- The inner harbour works are required for access to proposed berths and associated wharf facilities located in the Western Basin area of the port; and
- The outer harbour works are associated with the duplication of channels to account for the increased traffic through the port.

The development of the Western Basin incorporates additional dredging associated with the deepening and widening of existing channels and swing basins, and the creation of new channels, swing basins and berth pockets.

Material dredged during the Western Basin development is proposed to be placed into reclamation areas to create a land reserve to be used to service potential new port facilities. At present it is expected that these reclamation areas will consist primarily of the further northerly expansion of the existing Fisherman's Landing reclamation located approximately 11 km north of Gladstone City (the study area, see Figure 1).

Ultimately, this Cultural Heritage Investigation has been undertaken to inform the current Environmental Impact Statement (EIS) assessment in relation to historic (non-Indigenous) cultural heritage.

I.1 Study Area

The Project area excludes the existing Fisherman's Landing Northern Reclamation Project area for which a Historic Cultural Heritage Study and EIS assessment has previously been undertaken (see Converge 2008).



Figure 1: The Project area (designated by black diagonal lines) and study area (designated by red shading) [map courtesy by GHD.]

The majority of the Project area is located below the low water mark within Gladstone harbour and as such could not be surveyed. Accordingly, the historic survey was restricted to surveying that small portion of the Project area incorporating the intertidal zone and adjacent coastline running from immediately north of Fisherman's Landing through to Friend Point (Outlined in red - Figure 1).

1.2 Methodology

The Converge study utilised an integrated approach to establish places and potential places of historic heritage significance in the study area. As such, desktop research of heritage registers and studies (for previously identified places) were combined with primary historical and contextual research to identify places and areas of potential historic heritage significance.

In addition, it was recognised that the possibility existed for sites and/or places of historic heritage significance to be present within the Project area that have been previously listed or acknowledged by any of the registers and databases that were searched. Accordingly, the study also incorporated a visual inspection of accessible portions of the study area (i.e. those above the low water mark – see Figure 1), in an attempt to identify sites and places which might be of previously unidentified significance.

1.3 Organisation of the Report

The report discusses:

- Background information relevant to the Project, including historical research and register searches;
- Historic heritage investigation, including site survey results;
- Levels of significance of and likely impacts on identified historic heritage; and
- The potential impact of the Project on historic heritage sites and recommendations and guidelines relating to the management of such impacts.

1.4 Study Team

Converge Heritage + Community completed this report. Simon Gall and Benjamin Gall undertook the site survey of the study area. The contextual history was condensed from a broader history of the region written by Geoff Ginn (Historico) in (ARCHAEO 2008c). Benjamin Gall prepared the report with the assistance of Stefani Blackmore and Simon Gall.

1.5 Historic Heritage Legislation

Knowledge of cultural heritage legislation is essential when assessing sites, places or items of historic heritage significance. The following section discusses both National and State Legislation relevant to (specifically) non-Indigenous, land-based cultural heritage.

1.5.1 National

At the national level, the *Environment Protection and Biodiversity Conservation Act 1999* is now the key national heritage legislation, and is administered by the Commonwealth Department of the Environment and Water Resources. In addition, the following legislation is relevant to heritage:

The *Australian Heritage Council Act 2003* provides for the establishment of the Australian Heritage Council, which is the principal advisory group to the Australian Government on heritage issues. The AHC Act also provides for registration of places considered of national significance on the National Heritage Register, the Commonwealth Heritage Register and the administration of the former Register of the National Estate (RNE) or the Australian Heritage Places Inventory (AHPI).

In addition, the following legislation is relevant to heritage:

The Australian Heritage Council Act 2003 provides for the establishment of the Australian Heritage Council, which is the principal advisory group to the Australian Government on heritage matters. This Act also provides for registration of places considered of national significance on the (former) Register of the National Estate (RNE) or the Australian Heritage Places Inventory (AHPI).

The Protection of Moveable Cultural Heritage Act 1986 regulates the export of Australia's significant cultural heritage objects. The Act does not restrict normal and legitimate trade in cultural property and does not affect an individual's right to own or sell within Australia.

This study did not identify any known or potential sites of Commonwealth or National Heritage significance and as such, this legislation does not directly affect the heritage items within and adjacent to the Project area.

1.5.2. State (Queensland)

Historical historic heritage matters are covered in the *Queensland Heritage Act 1992* (reprinted in force on 1 April 2008). This legislation provides for a listing of places within a Heritage Register.

Protection is offered to places that have been entered on the Queensland Heritage Register according to a set of criteria.

The *Queensland Heritage Act 1992* and subsequent amendments does not apply to:

- a) a place that is of cultural significance solely through its association with Aboriginal tradition or Island custom; or
- b) a place situated on Aboriginal or Torres Strait Islander land unless the place is of cultural heritage significance because of its association with Aboriginal tradition or Islander custom and with European or other culture, in which case this Act applies to the place if the trustees of the land consent (Section 3).

Recent amendments to the *Queensland Heritage Act 1992* have strengthened the provisions attached to the discovery and protection of non-indigenous archaeological artefacts in Queensland. The relevant section is Part 9, (Section 88-90):

88 Definition for div 1

In this division- *interfere with* includes damage, destroy, disturb, expose or move.

89 Requirement to give notice about discovery of archaeological artefact

(1) A person who discovers a thing the person knows or ought reasonably to know is an archaeological artefact that is an important source of information about an aspect of Queensland's history must give the chief executive a notice under this section.

Maximum penalty—1000 penalty units.

- (2) The notice must—
- (a) be given to the chief executive as soon as practicable after the person discovers the thing;
 - (b) state where the thing was discovered; and
 - (c) include a description or photographs of the thing.

90 Offence about interfering with discovery

(1) This section applies to a thing for which a person has, under section 56, given the chief executive a notice.

(2) A person who knows that the notice has been given must not, without the chief executive's written consent or unless the person has a reasonable excuse, interfere with the thing until at least 20 business days after the giving of the notice.

Maximum penalty—1000 penalty units.

1.5.3. Local Government Legislation (Gladstone Regional Council)

The study area falls within Gladstone Regional Council, following the amalgamation of the Calliope Shire with Gladstone Shire in 2008. At this point in time it is understood that an amalgamated planning scheme is not completed. For this reason, the former Calliope Shire Planning Scheme (2007) remains the local legislation relevant to the study. This scheme includes historic heritage sites on their local heritage list. Searches did not locate any sites or places of local significance within the Project area.

1.6 Previous Studies and Reports

The following recent studies and reports are relevant to the Project and have supplied information regarding the history and environment of the study area:

ARCHAEO Cultural Heritage Services,

- 1999-2000, '*Cultural Heritage Assessment of the Awoonga Dam, Boyne Valley, Calliope Shire, Vol.3: Historical Survey: Archaeology and History*', unpublished report for Gladstone Area Waterboard.
- 2005, '*Enertrade Gas Pipeline, Gladstone Section: Aboriginal Party Report and Technical Report*', unpublished report for Enertrade.
- 2004, '*Cultural Heritage Survey and Assessment of the Stuart Oil Shale Project, Targinie, Central Queensland*', unpublished report for Queensland Energy Resources Ltd.

- 2006, '*Desktop Study for Stanwell Peaker Plant, Stanwell*', unpublished report for Sinclair Knight Merz.
- 2008, '*Historic Cultural Heritage Investigation of the Fisherman's Landing Wharf Extension*', unpublished report to GHD.
- 2008a, '*Historic Cultural Heritage Report for the Gladstone to Fitzroy Pipeline Project*', unpublished report for ARUP.
- 2008b, '*Historic Cultural Heritage Investigation for the Gladstone Sun LNG Project*', unpublished report for RLMS.
- 2008c, '*Non-Indigenous Cultural Heritage Investigation for the Gladstone GLNG Project*', unpublished report to URS.

Bell, P. and Grimwade, G.

- 1997, '*Kutubu to Gladstone Gas Pipeline: historical background, mainland Australia sector*', unpublished report for South Pacific Chevron.

Sinclair Knight Merz, 2000,

- '*Gladstone Cultural Heritage Study, Volumes 1 and 2*', unpublished report for Gladstone City Council.

2.0 Historical Background

2.1 Introduction

This historical background is not intended to be an exhaustive historical treatment of these parts of the present study area. It is based on a limited period of library and archival research in relevant documents and secondary sources, and is intended to provide an historical overview of the broad areas under consideration. Further research and analysis of specific areas and sites may be required to assist with assessment of particular historic heritage issues arising in relation to the present Project and results of the field survey. The following discussion presents a historical background to areas historically related to the study area and to historical themes which influenced the development of the area. Accordingly, the historical background examines the following locations:

- Gladstone / Port Curtis: The major town in the district;
- Yarwun: This was the nearest settlement to the study area and all access to Gladstone from the study area before the late twentieth century was via Yarwun and Calliope;
- Targinie: Another close settlement to the study area.

This information will be followed by an analysis of historic themes relevant to the study area, including:

Peopling the Land:

- Conflicts and control/dispossession of indigenous people;

Exploiting the Land:

- Exploiting natural resources (Mining);
- Pastoral Industries
- Agriculture

Movement of people, goods and information:

- Railways

Building settlements and dwellings (this theme is covered by the contextual history of the Gladstone region).

2.2 Contextual History of the Gladstone Region

The history of economic and community development in the Gladstone district since the onset of European settlement is in many ways representative of Queensland's history as a whole. The region's European history encompasses exploration, pastoralism, conflict with and subsequent pacification of Indigenous people, a long period of gradual 'opening up' of the land and the development of towns and infrastructure. In the late twentieth century the city of Gladstone was transformed from a coastal backwater dependent on a butter factory and a seasonally operational meatworks, to the site of Queensland's largest power station and one of the world's largest alumina plants.

2.2.1 Exploring the Gladstone Region

Lieutenant James Cook was the first European to encounter what is now Port Curtis or Gladstone Harbour. Unfortunately, particularly for Gladstone, Cook sailed past the entrance to Port Curtis in the dead of night and missed discovering his second deepwater port. His oversight was compounded by the fact that in naming Cape Capricorn on the east coast he mistook Curtis Island for the mainland (McDonald 2001:12). Gladstone's fine harbour remained undiscovered until 1802, when Matthew Flinders sailed into the harbour to which he gave the name Port Curtis, after Sir Rodger Curtis the admiral commanding the British squadron in South Africa (Golding 1964: 2). Flinders spent four days mapping the harbour, naming Gatcombe Head and Facing Island, and investigating the shore and naming Mount Larcom, Hill View, South Trees Point and Sea Hill on Curtis Island (McDonald 2001: 13).

It was not until 1823 that a more significant exploration of Port Curtis occurred, when Surveyor General John Oxley was chosen to investigate a number of potential sites for a penal settlement. His instructions were to examine Moreton Bay, Port Curtis and what was then known as Port Bowen, now Shoalwater Bay. Oxley recommended Moreton Bay for subsequent settlement and returned a negative report of Port Curtis and its prospects, as he had visited Port Curtis in a time of severe drought and reported that the stony ridges and poor soil made Port Curtis a unsuitable choice for settlement, whilst the harbour was very difficult for shipping to enter (McDonald 2001: 13; Cumbrae-Stewart 1919: 8-9).

The first European to pass through the area near the contemporary locale of Mount Larcom was the explorer Ludwig Leichhardt during his explorations in the region between 1844 and 1846.

Leichhardt was soon followed by his friends the Archer brothers and during their explorations in the region Charles Archer noted Mount Larcom and the suitability of the land nearby for future agricultural development.

2.2.2 Settling the Gladstone Region

Due to a series of random factors, the early settlement of Port Curtis ranks as one of the strangest episodes in the history of colonial Queensland. In 1845, the British Government was concerned about the future of convict transportation to New South Wales. The emergent middle class of the colony were opposed to convict transportation, while the ruling elite, comprised of wealthy squatters and occupying the Legislative Council, were in favour, as convicts provided free labour (Cochrane 2006: 137). William Ewart Gladstone, then Colonial Secretary, formulated a plan to send reformed convicts from Tasmania to northern Australia and selected Lieutenant-Colonel George Barney of the Royal Engineers as the leader of a planned new settlement (Hogan 1897: 9).

Barney chose Port Curtis as the administrative centre of the vast new Colony of North Australia and he sailed from Sydney on the *Cornubia* in November 1846 for his new destination. Arriving at Port Curtis, Barney began a thorough investigation of the harbour, including Facing Island and the whole shoreline from The Narrows to Bustard Bay (Cumbrae-Stewart 1919: 18). Lt. Colonel Barney was so impressed that he chose Port Curtis without first inspecting Keppel Bay or Shoalwater Bay as instructed. However, the experiment was extremely short lived and ended in disaster when Lt. Colonel Barney and his eighty-seven settlers entered Port Curtis on 25 January 1845 on the *Lord Auckland*. The *Lord Auckland* stuck a reef but the passengers were unloaded safely and set up a tent settlement on Facing Island. There they stayed for seven weeks during an extremely wet season until eventually the *Kangaroo* arrived from Sydney with orders from the British Government to abandon the settlement. Lord Grey was now Colonial Secretary and head of the new government that was opposed to new convict settlement schemes (McDonald 2001: 14).

Barney and a few others stayed at Port Curtis until July and during this time he explored the land around the harbour and climbed Mt Larcom. Barney eventually filed a far more optimistic report than had Oxley, as he saw the land during a good wet season (McDonald 2001: 14). Despite Barney's report, Port Curtis lay undisturbed by Europeans until 1853 when surveyor Francis McCabe arrived to begin surveying town allotments and small farms. His work was prompted by the need for a port from which inland squatters could easily ship their wool as they had to date been sending it as far south as Maryborough. Port Curtis was proclaimed a pastoral district on 10

January 1854 and W.H. Walsh arrived soon after McCabe to mark out runs at Rodd Bay and in the Boyne Valley. Walsh became the largest landholder in what became Calliope Shire and his five runs in the Boyne Valley occupied 126 square miles.

2.2.3 Developing the Town of Gladstone

Urban settlement at Port Curtis began optimistically enough and in March 1854, Governor Fitzroy appointed Captain Maurice O'Connell as the Government Resident, who proceeded to set up a tent town at Barney Point (McDonald 2001: 17). Fitzroy arrived on the HMS *Calliope* in April and officially installed O'Connell in his office. Gladstone, named after the former Colonial Secretary and future prime minister, was therefore officially created – unlike other towns which sprang up according to patterns of land settlement. This was the third attempt to create something out of Port Curtis and growth was slow so that by November 1854, only 109 people, eighteen of whom were private citizens, lived within the town (Mc Donald 2001: 17). The town's growth continued with the establishment of Local Government in February 1863 with the election of six aldermen in May, and the establishment of the usual schools, churches and cultural institutions. By 1870, several hundred people lived in Gladstone and the *Observer* newspaper had been established (Gladstone Municipality Incorporated 1976: 4).

The high hopes officials had for Gladstone collapsed in 1858 with the discovery of gold at Canoona, north of Rockhampton. Gladstone and Rockhampton had been in competition to be the major town of the region and even though the Canoona field was a failure, Rockhampton, with its population inflated from the recent gold rush, prevailed in its race with its southern rival (Mc Donald 2001: 17).

During the time of Gladstone's settlement, occupation of the land extended into what was until recently the Calliope Shire. Named after a British battleship by his Excellency Sir Charles Fitzroy in 1854, Calliope soon became the name of the main township. In 1860, Queensland's first copper mine was established at Inveragh and the Calliope Divisional Board (Calliope Shire Council) was formed in 1879 to the south-west of Gladstone settlement extending into the Callide Valley and westward (McDonald 2001: 17).

2.2.4 Gladstone's Growing Harbour Facilities

Port Curtis became a busy facility with a customs house built in 1860 and the first public wharf constructed in 1863. A lighthouse was built at Cape Capricorn (on Curtis Island) in 1874 with

another at Gatcombe Head built in 1876. This latter lighthouse was replaced in 1900 by a ten metre tower (Mc Donald 2001: 25). British cargo ships used the port to unload steel rails for railways and other heavy goods and an 1898 survey revealed that forty overseas ships used the port that year, together with 205 coastal passenger and cargo vessels (McDonald 2001: 26). Despite the growth of the harbour facilities, the tonnage of coastal shipping declined when the rail lines reached Gladstone in 1903.

2.2.5 Twentieth Century Development of Gladstone

The arrival of rail in Gladstone led to the decline of its harbour as a port and it was not until 1929 that an oil terminal was constructed and coal from Blair Athol began to be exported, beginning Gladstone's slow recovery. Other commodities shipped through the port included the Central Queensland cotton crop, wool from the west and Bundaberg sugar from the South (Gladstone Municipality Incorporated 1976: np). The post World War I years were nevertheless ones of rather slow growth until 1934, when Swifts took over the meatworks and carried out large scale development. The population, which previously hovered around 3,000 rose quickly to 7,000. In World War Two the harbour, like many others along the East coast, sheltered American warships. Callide coal exports began from Gladstone in 1945, and these coal exports were followed by sorghum from 1949 (Gladstone Municipality Incorporated 1976: np). The 1950s saw an upsurge of open-cut coal mining in the Dawson and Callide Valleys and the upshot of this meant not only the expansion of coal loading facilities at the port, but also the construction of further rail infrastructure, beginning with a line from Moura to Gladstone.

Gladstone's port was the key to subsequent industrial development of Gladstone as Queensland's largest industrial area. When Comalco chose Gladstone for its alumina refinery, the town was on its way to becoming the light metals capital of Australia. In 1967, Queensland Alumina began production on the site of the old meatworks at Parsons Point and in addition to aluminium, increasing tonnages of coal were being shipped through the port. 1972 saw Gladstone break all previous records for shipping with 408 ships in port during the year. The large amounts of shipping entering the harbour resulted in a new wharf being built at Fisherman's Landing in the early 1980s. Stage One of the Clinton Coal Loading facility, meanwhile, was opened in 1980 by which time planning for Stage two was well underway (McDonald, 2001: 28).

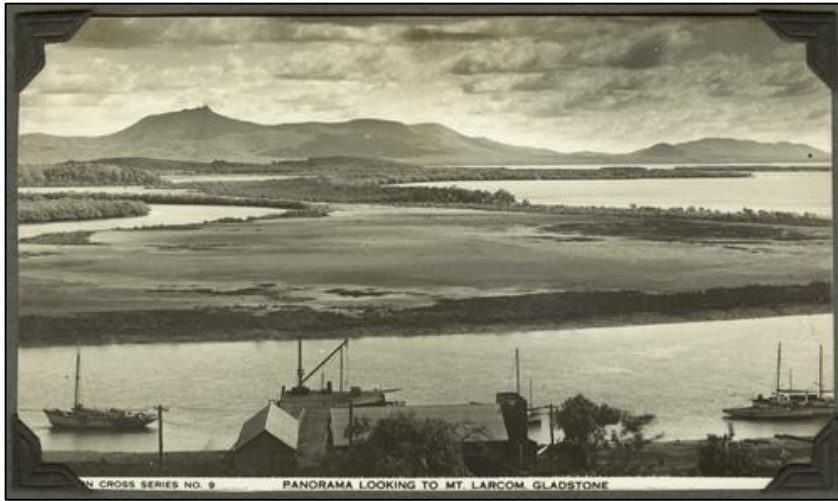


Figure 2: Mount Larcom from Gladstone vicinity in approximately 1937 (JOL APE-078-001-0030).

2.3 Yarwun

2.3.1 Settling Yarwun

Yarwun began life as cattle station country (Loveday 1979:131) although timber soon became an important source of local income. The early settlers of the in the Yarwun-Targinie district were teamsters engaged in hauling mill timber and props for the Mount Morgan Mines. Timber was also extensively cut for railway sleepers, and some local sawmills were established, many near Yarwun. The teams usually worked from May to December (Loveday 1979:131) and the Hoop Pine appears to have been cut commercially in what became the Bulburin State Forest as early as 1897 when Scott and Manchester took it out by wooden tram line (McDonald 1988:282).

2.3.2 Yarwun's Development after 1900

Gold had been discovered in the Targinie/Yarwun district as early as 1880, when a 36 kg gold nugget was discovered on the Golden Fleece deposit in Sneaker's Gully, on the west of the Mt Larcom Range (SPP 1995:2). After 1900, discoveries of gold were made on the eastern side of the Mount Larcom Range. The Archers reefs were mined between the turn of the century and World War II, and other local mines were also situated in the vicinity. Remnants of the local mining industry have been located on private land near Yarwun (Loveday 1979: 139).

The completion of the railway through the district in 1903 proved a durable boost to local fortunes. The rail link between Gladstone and Rockhampton was completed in June 1903, and as the first stop after the Calliope River was situated at Yarwun, this station provided an important focus for the Gladstone hinterland as a whole. With this rail link, local producers could send their goods to market throughout Queensland, but particularly to the large markets in the south. Initially trading in local produce was carried out on premises at the rear of the hotel, but when this was sold, orders were sorted and distributed from the railway platform itself. This, however, was unsatisfactory, and as a result, the first co-op shed was built opposite the railway platform around 1913 (Hooley, 1993).

At Yarwun, a major survey of local scrublands was undertaken in 1907 for the Lands Department, resulting in the creation of a number of 300-500 acre blocks. The Hooley family had selected a block in 1906 and was followed by the Condons and the Fergusons in 1907. Alf Boyle selected in 1911 and Harry Boyle in 1912. The closer settlement of the Yarwun-Targinie district dates from this period, and these and other families have remained prominent in the history of the local area.

A number of different varieties of produce were cultivated on cleared land as pioneering farmers sought to establish profitable agricultural concerns. Some sugarcane was successfully grown in the area from 1913 to 1920 and was railed to the Millaquin Sugar Company in Bundaberg. Initially the Invicta Mill was to be established at Mt Larcom, but was eventually built at Giru. As a consequence, the cost of railing sugar cane to Bundaberg for processing became uneconomical. Ultimately, the production of sugar was not successful in Calliope Shire (McDonald 1988:295).

Cotton was grown as early as 1865 in the area and tentative moves were made to establish this crop more securely between 1915 and 1923 with the establishment of the Callide Cotton Research Station. However, any attempts at cotton crops were devastated by drought, pests, falling prices and government restrictions (McDonald 1988:295). The Yarwun Local Producer's Association, when considering the ratoon cotton problem in 1924 referred to this as hanging 'like a wet blanket over the industry'. The government had decreed that ratoon cotton had to be eradicated, but some farmers preferred to walk off their selections. As a result, the Gladstone Cotton Ginnery, established in 1923, was not successful (McDonald 1988: 295).

While the trend in most districts was towards beef cattle, at Yarwun and Targinie, farmers became specialist tropical fruit growers. The decades during and after World War I saw an influx of new families who took up more of the old Miners' Homestead blocks, cleared them and commenced

orchard cultivation. Many established banana plantations, although tomatoes and papaws were also favoured as cash crops.

2.3.3 Yarwun's Post-World War II Development

In post World War II years, Yarwun was the destination for a new generation of Russian refugee settlers. While many Russian immigrants only remained in the district on a temporary basis, others stayed and embraced Australian citizenship. To this end, the Calliope Shire Council's first rural naturalisation ceremony was held in the Yarwun School of Arts in March, 1963 (Loveday 1979:134).



Figure 3: View of Yarwun approximately 1964 (JOL 93577).

During the 1950s papaws became the main fruit crop, reaching a peak between the late 1950s and early 1960s (Loveday 1979:134). By 1960 up to 30 000 cases of papaws a year went out of Yarwun. In more recent years local agriculture has diversified somewhat. The production of peanuts boomed in the area for several years, but this is now restricted to one or two farms. Grain growing and pig raising is the main sideline farming activities, although some cotton is grown as well as fodder crops.

2.4 Thematic Histories

This section examines and analyses the history of the study area within the context of the Gladstone regions history generally. A thematic approach was adopted in this analysis and the themes discussed were identified as influencing the history and development of the area. The emergence of these themes in the contextual history assisted Converge in knowing what to 'look for' in the study area and to identify sites which demonstrate these themes.

2.4.1 Conflicts and control/dispossession of Indigenous people

With the expansion of European settlement it was inevitable that there would be conflict for ownership and use of the land. The squatters appropriated valuable water holes, frightened away

the game and disturbed sacred sites. The only gain to Aborigines from the arrival of pastoralists and other settlers was that the stock provided good food to replace their normal sources. However, squatters had arrived to use the land for the profit it could yield, and not to have their stock killed by people they considered uncivilized savages (Reynolds 1987: 42). A state of constant tension, frequently breaking into violence, raids and vigilante-style punitive reprisals soon developed between European and Aboriginal communities throughout Central Queensland.

The runs that made up Mt Larcom Station were taken up by William Young in 1855 and, at that time, he was one of only a handful of squatters to ship their wool through the natural harbour at Gladstone (McDonald 1988: 270). In December 1855, an attack by about fifty Aborigines at Mount Larcom Station left five people dead. Lt Murray's Native Mounted Police detachment, then quartered at Police Creek (Auckland Creek) near Gladstone, was the first to arrive at the scene with Murray subsequently leading a party that pursued the perceived offenders, killing eleven and severely wounding three (McDonald 1998:17).

During 1856 and 1857, sporadic attacks continued with local violence escalating in October 1858, when Mount Larcom Station was again attacked. Second Lieutenant Frederick Wheeler, a man notorious for his brutal ill treatment of Aborigines, led the hunt for the offenders with a party of troopers. After scouring the countryside from Raglan back to Mount Larcom the party encountered a group of Aborigines on mud flats near the Calliope River. An unknown number were killed during this expedition without any indication of guilt, for as Wheeler reported to his superiors, "*they all must suffer, for the innocent must be held responsible for the guilt of others...*" (cited in Loveday 1979:30). It is not known how many Aborigines were killed in the bloody aftermath of the Mount Larcom attacks as punitive raids continued even after reprimands from the Colonial Secretary were directed towards Lieutenant Wheeler (McDonald 1988:19-20). Local informants believe that one massacre occurred during this period of bloodshed at the back of Sneaker's Gully on the Mount Larcom Range (Jim Harris, pers. comm. 1999).

2.4.2 Exploiting natural resources – Gold Mining

Gold was one of the initial catalysts for the increased settlement of many areas in Colonial Australia and the Gladstone region was a beneficiary of this trend. The discovery of gold at Canoona (near Rockhampton) in 1858 initially attracted many possible settlers away from Gladstone to the Rockhampton district. With the eventual failure of the Canoona rush miners were to be found in the Yarwun area from the early 1900s onwards. Although the gold mines of the area were not

great successes, many gold miners eventually settled in the region on pastoral leases. The reefs mined through various leases and workings included The Company's, The Perseverance, The Connemarra, and The John Bull (Gladstone Municipality Incorporated, 1976: 4). Gold had been discovered in the Targinie/Yarwun district as early as 1880, when a 36 kg gold nugget (worth \$1.2 million in modern terms) was discovered on the Golden Fleece deposit in Sneaker's Gully, on the west of the Mt Larcom Range. After 1900, discoveries of gold were made on the eastern side of the Mount Larcom Range and the Archers reefs were mined between the turn of the century and World War II, with other local mines were situated in the vicinity. Remnants of some of the local mining industry of the region have been located on private land near Yarwun (Loveday 1979: 139).

The Langmorn Goldfield covers a large area extending from Targinie west to the Dee Range and included the Raglan, Mount Larcom and Targinie fields. Important mines within the Langmorn goldfields included the Mount Bennett Mine about 14 miles south of Raglan, the Mount Turrett Reef about a quarter of a mile of Mount Raglan, the Duke of York Mine and numerous small mines near Targinie, which have been worked at times since the original discovery in 1900. The total recorded gold production from the Langmorn Goldfield from 1893 is 19,566 ounces (http://www.goldtrappers.com/qld_pdfs/central.pdf).

2.4.3 Exploiting natural resources – Other Mining

Coal was mined in the Callide Valley and although not having a direct impact on Gladstone initially the coal mines provided a boost to the Gladstone region through coals exports and the supply of coal to the powers stations of the region such as the massive Gladstone power station. This large facility generates 1600MW from 6 turbines and is the largest power station in Queensland.

Timber was also exploited to some extent within the region, primarily due to the need to supply sleeper to the rail lines as they were constructed through the area. Many mills were built within the Raglan/Yarwun area and not only did these mills supply the railways but also the gold mining operations in the area and also further north around Rockhampton.

Limestone mining had begun in the area before 1900 and received a boost due to the opening of the rail link in 1903. The continuation of the limestone mining in the region would eventually see the Queensland Cement and Lime Co. set up a facility in Gladstone that continues production to this day. The East End mine is situated twenty-four kilometres from Gladstone and was developed in 1964 near the township of Mt Larcom. It is Queensland's largest limestone mine operation and

supplies raw material to the plant at Fisherman's Landing. Queensland Rail constructed a rail link loop from the East End Mine (12km) to the Fisherman's Landing (ARCHAEO 1995). Cement Australia, the old Queensland Cement and Lime at Gladstone, has a production capacity of over 1.6 million tones per annum and processes limestone, clay, silica sand and ironstone to produce cement and clinker.

2.4.4 Pastoral Industries

The initial settlement of the regions inland from Gladstone occurred due to migration northwards from the New England region of New South Wales. These early pastoralist moved north through the Roma district and on towards the area around Emerald. Eventually the continuous waves of settlers turned east and began settling farming runs closer and closer to what it now the Gladstone region. Initially, these pastoralists had large herds of sheep with a smaller number of cattle due to the ease of transporting the wool over long distances to market. As the local infrastructure slowly improved over time and closer settlement became the norm, dairy cattle began to replace the sheep herds on most properties.

By the turn of the century, dairy cattle had become an important source of income for the area with facilities in Gladstone set up to process the milk into butter for export. The advent of the rail line and the influx of American servicemen during World War II only added to the importance of the dairy industry and modern methods and equipment began to see use in the middle years of the twentieth century.

2.4.5 Agriculture

From 1909, there was intense surge in agricultural activity with the clearing of softwood scrubs around Mt Larcom, Ambrose, Yarwun and Targinie. Elsewhere, various agricultural enterprises met with mixed fortunes, such as the 'sugar rush' of 1912. Immigrant Germans established settlements at Ambrose and Raglan in 1910, in a continuing pattern of expanded settlement in the region. Dryland cotton farming held out promise and a ginnery was built in Gladstone in 1923 but lasted only two years before closing down as other crops held more promise. Fruit growing started up at Yarwun in 1913 and was to prove far more enduring than the cotton industry. In 1924, the Yarwun-Targinie Fruit growers association was formed to export produce to domestic markets in the south (McDonald, 2001: 18).

A number of different varieties of produce were cultivated on cleared land as pioneering farmers sought to establish profitable agricultural concerns. Some sugarcane was successfully grown in the area from 1913 to 1920 and was railed to the Millaquin Sugar Company in Bundaberg. Initially, the Invicta Mill was to be established at Mt Larcom but was eventually built at Giru and as a consequence, the cost of railing sugar cane to Bundaberg for processing became uneconomical. Ultimately, the production of sugar was not a successful undertaking for the Calliope Shire (McDonald 1988:295).

Cotton was grown as early as 1865 in the area and tentative moves were made to establish this crop more securely between 1915 and 1923 with the establishment of the Callide Cotton Research Station. However, any attempts at cotton crops were devastated by drought, pests, falling prices and government restrictions (McDonald 1988:295). The Yarwun Local Producer's Association, when considering the ratoon cotton problem in 1924 referred to this as hanging 'like a wet blanket over the industry'. The government had decreed that ratoon cotton had to be eradicated, but some farmers preferred to walk off their selections. As a result, the Gladstone Cotton Ginnery, established in 1923 failed (McDonald 1988: 295).

While the trend in most districts was towards beef cattle, at Yarwun and Targinie, many farmers became specialist tropical fruit growers. The decades during and after World War I saw an influx of new families who took up more of the old Miners' Homestead blocks, cleared them and commenced orchard cultivation. Many of the new settlers established banana plantations, although tomatoes and papaws were also favoured as cash crops (ARCHAEO 2004).

2.4.6 Railways

The railway arrived at Gladstone in 1903, creating easier access to markets for pastoralists and farmers, and boosting the primary industry. By the mid-1920s the Dawson and Callide Valleys were being opened up for closer settlement centred on the regional hubs provided by the towns of Biloela and Theodore. The inland town of Banana declined, due to the railway routes which by 1915 had reached out from Rockhampton as far as Rannes which replaced Banana as the centre of communications (Banana State School 1974: 43). In 1924 the railway was extended to Callide and then on to Biloela and Thangool with another branch from Rannes passing through Baralaba to the new rural centre of Theodore.

The completion of the railway through the district in 1903 proved a durable boost to local fortunes and, as the first stop after the Calliope River on the line was situated at Yarwun, this station provided an important focus for the Gladstone hinterland as a whole. With the rail link in place, local producers could send their goods to market throughout Queensland, but primarily sent their produce to the south. The addition of the line to Moura in the twentieth century to service the growing coal and power production sectors further increased the growth of the region. Today four separate rail lines service Gladstone running from Brisbane, Monto-Brisbane, Biloela-Moura and Rockhampton.

3.0 Register Searches

Searches of National, State and local heritage registers were carried out to identify places and sites of historic heritage significance that may be impacted upon by the proposed Project. Specifically the following registers were searched:

- World Heritage List;
- National and Commonwealth Heritage Lists;
- QLD Heritage Register;
- former Calliope Shire Heritage Schedule;
- the register of the National Trust of Australia (QLD); and
- the (former) Register of the National Estate.

The (former) Register of the National Estate¹ is maintained by the Australian Heritage Council and is an inventory of Australia's natural and cultural heritage places that are worth conserving for the future.

The Queensland Heritage Register is maintained by the Cultural Heritage Branch of the Department of Environment and Resource Management (DERM), with the aim of protecting historic cultural heritage for future generations. All places, trees, natural formations and buildings of historic (non-Indigenous) heritage significance listed on the Register are protected under the *Queensland Heritage Act 1992* as items and places of state heritage significance.

The Register of the National Trust (QLD) is a community based, non-government organisation which maintains a non-statutory register of heritage places.

¹ Following amendments to the *Australian Heritage Commission Act 1975*, the Register of the National Estate (RNE) was frozen on 19 February 2007, which means that no new places can be added or removed. The Register will continue as a statutory register until February 2012. During this period the Minister for the Environment, Water, Heritage and the Arts is required to continue considering the Register when making some decisions under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This transition period also allows states, territories, local and the Australian Government to complete the task of transferring places to appropriate heritage registers where necessary and to amend legislation that refers to the RNE as a statutory list. From February 2012 all references to the Register will be removed from the EPBC Act and the AHC Act. The RNE will be maintained after this time on a non-statutory basis as a publicly available archive.

Searches of all of the abovementioned registers and databases indicated that there are no sites of historic heritage significance which have been previously recorded within the study area or within the immediate vicinity (3km radius).

4.0 Historic Heritage Investigation

4.1 Methodology

Sampling strategies for historic heritage investigations (where to look) can be either *purposive*, where specific areas are targeted (for whatever reason), as is done with predictive modelling; or *probabilistic*, where decisions are made to survey without any prior knowledge or predictive model of what heritage resources might exist in the landscape to be surveyed. So it is that archaeological survey strategies usually involve transects across the study area chosen at random (probabilistic) to avoid possible bias in the results; or transects within areas (purposive) known to be historically significant, or those designated areas specifically earmarked for development.

As a large portion of the study area consists of a body of water, for this particular survey a targeted visual inspection focussing on a narrow corridor of coastline situated above the low water mark and extending north from Fisherman's Landing around to Friend Point was undertaken.

All survey data was recorded in field notebooks and locations of any items or place of historic interest or significance was captured via a hand held global positioning system (GPS), accurate to ± 4 metres. Areas of interest were photographed using a digital camera (Canon Powershot A650 IS) with 12.1 effective mega-pixels. Noted historic cultural heritage areas were recorded with reference to location, environmental context, levels of previous impact, condition and description.

Site surveys are carried out to identify two types of places:

- Items of potential historic heritage significance

Comprising items and places of potential significance to the level which may warrant listing on a local or state heritage register.

- Places of Historic Interest

Comprising those items and places which do not provide a suitable level of historic heritage significance in their own right to justify further assessment but that are included as they contribute (or potentially contribute) to the broader discussion of sites and places of historic heritage significance and, importantly, the potential for further unknown sites and places to exist within the study area.

The presence or likely presence of historic heritage sites and values are usually determined by the identification of Sites of Historic Heritage Significance and Places of Historic Interest during field surveying. The methodology of any such survey should be informed by the results of focussed historical research conducted prior to the commencement of the survey (refer Section 2)

4.2 Constraints to the Survey

4.2.1 Ground Surface Visibility

Ground Surface Visibility (GSV) is most commonly inhibited by vegetation but other inhibitors may include gravel and bitumen and water. Levels of GSV are determined using a percentage scale in that 0% represents zero visibility and 100% represents maximum visibility (bare ground), based on the following scale: *Zero - 0%; Poor - 1-25%; Moderate - 26-50 %; Fair - 51-75 %; Good - 76-85%; Excellent - 86-100%.*

The better the visibility, the more potential there is for locating historical / archaeological material.

As discussed previously, only those areas above the low water mark were surveyed. Much of the study area above the tidal zone demonstrated poor GSV primarily as a result of dense grass and scrub. Areas where GSV was notably higher included tracks, easements and areas exhibiting limited vegetation cover such as the intertidal zone, excluding areas of mangroves and other vegetation such as marine couch and samphire.



Figure 4: General GSV above the tidal zone



Figure 5: GSV presented by mangrove habitat.

4.3 Community Consultation

Public consultation has been undertaken by GHD as part of the requirements for the EIS process and is not reported as part of this study.

4.4 Survey Results

A visual inspection of the study area was undertaken by Benjamin Gall and Simon Gall (Converge) on 16 July 2009, to determine the location of and potential for historic heritage sites, including archaeological sites, to exist within the study area. No sites with historic heritage significance were identified. Seven places of historic interest were noted during the survey.

An estimated 65% of the study area was traversed by a combination of vehicle and pedestrian transects covering accessible areas of the Project area located between the low water mark and approximately 50 metres inland (refer to red shaded area in Figure 1).

4.4.1 Sites of Historic Heritage Significance

Sites of historic heritage significance are those sites which contain suitable value to warrant a significance and impact assessment. Such sites are considered to contain suitable significance and value to the Project area as a result of contextual research conducted prior to the field survey, consultation with relevant stakeholders and other best practice historic heritage assessment techniques.

No sites of historic heritage significance were located within the project area during these surveys or any related research.

4.4.2 Places of Historic Interest

Places of historic interest are those which contribute to the broader discussion of historic cultural heritage values within a study area, but do not provide a suitable level of historic heritage significance in their own right to justify further assessment, protection or specific mitigation strategies.

Seven places of historic interest were located during the survey and are identified in the table below by the prefix HI. Where considered appropriate the location of these sites is provided in Table I and shown on Figure 17.

Table I: Places of Historic Interest identified within the Project area

Place ID	GPS Coordinates ¹		Comments
	Eastings	Northings	
HI-1	0311988	7368043	Fisherman’s Landing Hardstand Area.
HI-2	0311608	7368427	Targinie Landing Ramp.
HI-3	0311536	7368400	Turkey Nest Dam Overflow Channel.
HI-4	0311458	7368498	Historic Marker Tree.
HI-5	-	-	Various Fence Alignments.
HI-6*	-	-	Various Individual Artefacts including glass bottles and fragments.
HI-7	311384	7369031	Informal boat ramp / camping and fishing site.

1. Geodetic Datum: WGS84. Grid Zone 56K.

*Note: Information regarding the location of moveable historic objects has been withheld.

HI-1 Fisherman’s Landing Hardstand Area

A hardstand area and roadway borders the study area to the west in the vicinity of Fisherman’s Landing. This area is situated immediately above the mangrove habitat and intertidal zone and appears to have been constructed relatively recently (say in the last 20-30 years) by cutting of soil from the slopes and filling across part of the former intertidal area and adjacent shoreline, most likely in order to provide access to the Fisherman’s Landing Project (immediately south of the study area). At the time of survey, a small selection of equipment, including steel framed lifting gantries and associated steel formwork were stored within the hardstand area.



Figure 6: HI-1 Hardstand area / roadway

HI-2 Targinie Landing Ramp

A landing ramp at the end of (Targinie) Landing Road was located by the survey team and assumed to be associated with the naming of the abovementioned road, which previously terminated at the ramp, prior to the construction of HI-1. The exact use of the ramp is unknown. It is constructed from gravel and fill that has been laid across the intertidal area to form a ramp which facilitates access from the roadway into the channel (or vice versa). Previous uses are likely to be associated with access to the channel for pastoral and / or leisure activities. Regrowth of mangroves suggests that the landing has not been used for several decades. Evidence of associated fencing also remains in this immediate vicinity, associated with pastoral uses.



Figure 7: HI-2 Targinie Landing Ramp

HI-3 Turkey Nest Dam and Overflow Channel

A small overflow channel believed to be associated with the adjoining Stuart Shale Oil Project exists to the immediate north of Landing Road and HI-2. The overflow channel runs directly across the study area from the adjoining property and discharges water into the intertidal zone.



Figure 8: HI-3 Overflow channel

HI-4 Historic Marker Tree.

A historic marker tree exists within the study area in close proximity to the current vehicle track immediately north of Targinie Landing Road (See Figure 17). While the tree itself is dead and has shed its bark, it was considered most likely to have been an ironbark. The tree has been 'blazed' by the removal of a small, roughly oval portion of the sapwood, and retains a considerable number of clearly discernable steel axe marks. The blaze faces roughly north and, although there is no evidence of a government or other survey mark to provide provenience, it is considered likely that the tree represents a boundary marker from an earlier survey, most likely relating to a pastoral lease.



Figure 9: HI-4 Historic Marker Tree

HI-5 Various Fence Alignments

Various fence alignments running both roughly parallel and perpendicular to the coastline and extending out onto the adjacent marine flats were identified during the field survey. The fences consisted of a variety of types, including hand split and drilled iron bark posts through to steel pickets. Whilst most of these fence lines were considered to represent more recent construction and pastoral activities, several examples, including the fence line associated with HI-2 Targinie Landing Ramp, may be representative of activities from earlier phases of pastoral activity within the study area.



Figure 10 and 11: Examples of fences (HI-5) encountered during the field survey.

HI-6 Various Individual Artefacts

A variety of isolated individual artefacts were found scattered sparsely across the study area. These were considered to date from the nineteenth century (e.g. black glass case gin bottle fragments) through to modern times, and included a variety of old bottles and bottle fragments, stoneware, tins and porcelain.



Figure 12: Black ‘case gin’ bottle bases



Figure 13: “OK Tomato Sauce” bottle



Figure 14: “Victoria Cross Manufacturing Co”



Figure 15: “Wards Gladstone” bottle

While it is difficult to determine the percentage of artefacts that are directly associated with the historic use of the site (primarily those expected to have been deposited as a result of long term informal camping and recreational activities around the shoreline) and those that have arrived as flotsam washed up along the periphery of the intertidal zone from other places, these artefacts do in small measure provide some indication of the nature of and timeframes within which historic activities have been undertaken within the area, including social activities such as camping and fishing.

HI-7 Informal Boat Ramp / Camping and Fishing site.

An informal boat ramp and camping and fishing site is located about half way along the shoreline within the Project area, where a small creek enters the channel. A dirt vehicle track intersects with the shoreline at this point, before heading inland to cross the creek before once again resuming its path parallel to the shoreline.



Figure 16: HI-7 - Informal boat ramp & camping and fishing site

The area's use as an informal boat ramp, camping and fishing site was evidenced by the appearance of the vehicle track, including tracks leading into the channel suggesting the launching of a boat earlier the same morning; several recently extinguished camp fires and isolated deposits of a variety of historic items, such as tins and old bottles dating from a variety of historic periods that confirmed the long term use of this area for the abovementioned activities.

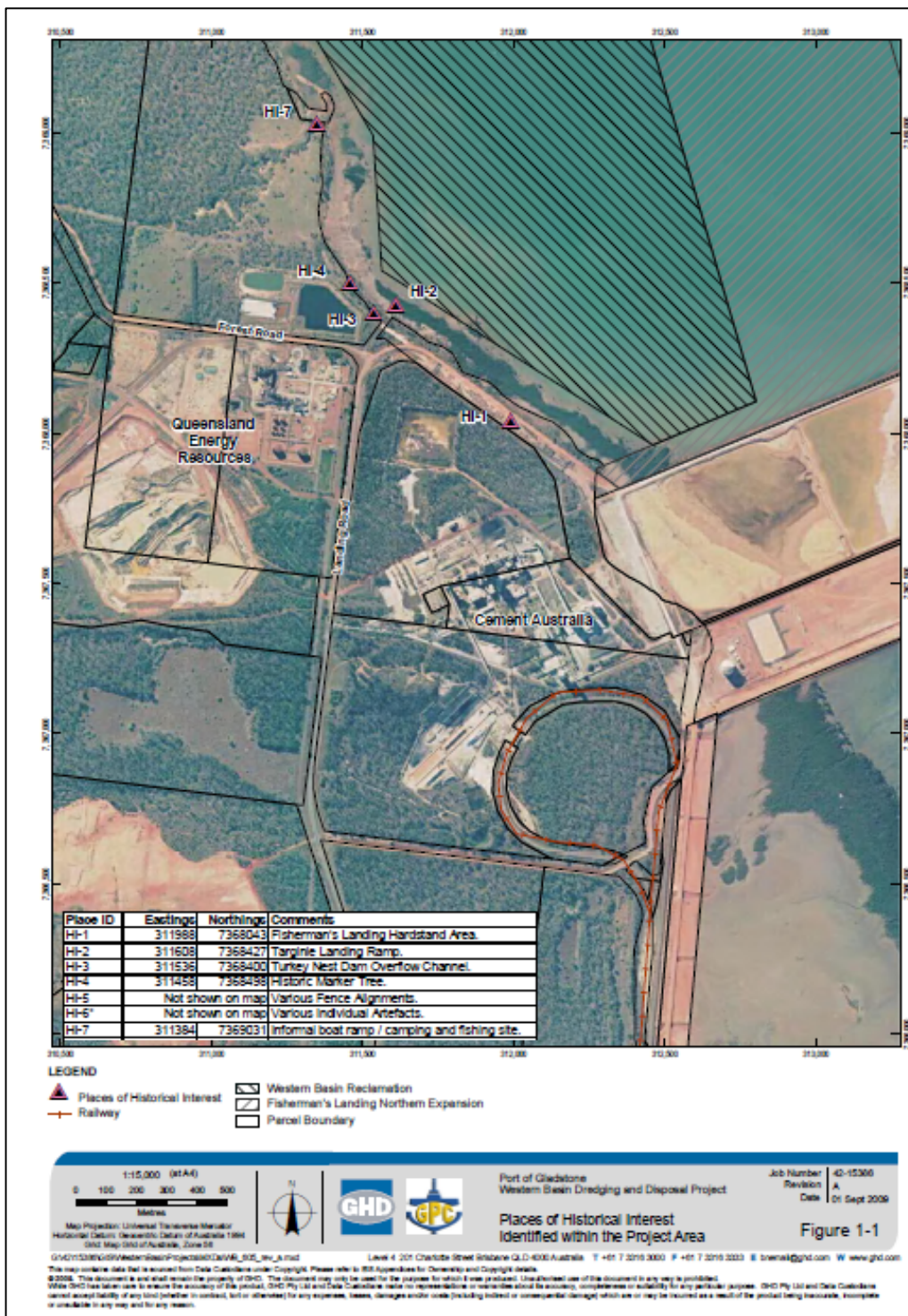


Figure 17: Location of Places of Historic Interest identified within the Project area (courtesy of GHD)

4.4.3 Potential for sites of historic heritage significance

Following a review of the results of the contextual and physical review of the study area, this study finds that there is a nil to low potential for sites of historic heritage significance to be present within the Project area.

The study also finds that there is a low to moderate potential for further places of historic interest to exist within the study area. Any such places or features will most likely be associated with previous pastoral and recreational activities and reflect types such as those noted during the survey e.g. old fence lines and isolated artefacts such as stoneware, porcelain and bottles left behind from a combination of informal camping and recreational activities around the shoreline and as flotsam washed up along the periphery of the intertidal zone.

Although considered unlikely, any sub-surface archaeological record present within the Project area would not be exposed or impacted by construction, due to the amount of reclaimed material being placed over the existing area.

4.4.4 Conclusion

The site survey resulted in no sites of historic heritage significance being defined and only seven places of historic interest being identified within the study area. Places of historic interest are not considered significant and do not require further assessment or specific mitigation strategies.

Additionally, the potential for currently unknown historic heritage sites or places of significance being present is regarded as nil to low. The potential for a sub-surface historical archaeological record being present is also regarded as low to nil.

5.0 Historic Heritage Significance

Historic heritage significance relates to people's perspective of place and sense of value, within the context of history, environment, aesthetics and social organisation.

No sites of historic heritage significance were identified during the field survey.

Seven places of historic interest (HI) were located during the survey. These places are not considered significant however; they do nevertheless provide an insight into the pastoral, commercial and social history of the region and therefore guide the discussions relating to the broad historic values of the landscape within the study area.

5.1 Determining Historic Heritage Significance

A range of standards and criteria are available to assist with determining historic heritage significance. The following sections discuss *the Burra Charter (ICOMOS Australia)* and incorporate aspects from the recognised legislative frameworks, such as the *Queensland Heritage Act 1992* (reprinted 1 April 2008). This discussion enables an insight into the discussions made in relation to significance levels discussed in the following section.

5.1.1 Historic Heritage Significance

The Burra Charter (Marquis-Kyle and Walker 1999) guides cultural heritage management in Australia. First adopted in 1979 by Australia ICOMOS (International Council on Monuments and Sites), the charter was initially designed for the conservation and management of historic heritage. However, after the addition of further guidelines that defined cultural significance and conservation policy, use of the charter was extended to Indigenous studies.

The charter defines conservation as 'the processes of looking after a place so as to retain its cultural significance' (Article 1.4). A place is considered significant if it possesses aesthetic, historic, scientific or social value for past, present or future generations (Article 1.2). The definition given for each of these values is as follows (Articles 2.2 to 2.5).

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

Historic value encompasses the history of aesthetics, science and society, and therefore to a large extent underlies all of the terms set out in this section. A place may have historic value because it has influenced, or has been influenced by, an historic figure, event, phase or activity. It may also have historic value as the site of an important event. For any given place the significance will be greater where evidence of the association or event survives *in situ*, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment.

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

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

Assessing historic cultural heritage significance against set criteria is a widely recognised method of achieving consistent, rational and unbiased assessments. Various authorities and bodies involved in heritage conservation adopt assessment criteria including the Australian Heritage Council, the National Trust, Australia, ICOMOS, the Department of Environment and Resource Management (the former Queensland Environmental Protection Agency) and the Queensland Heritage Council.

5.1.2 Significance Assessment and Relevant Legislation

Whilst consistent with the notions of historic heritage significance inherent in these bodies' criteria, the *Queensland Heritage Act 1992* sets out specific tests for considering places of State heritage value. Under Section 35(1) of this Act, a place may be entered in the State heritage register if it satisfies one or more of the following criteria:

- a) the place is important in demonstrating the evolution or pattern of Queensland's history;
- b) the place demonstrates rare, uncommon or endangered aspects of Queensland's cultural heritage;
- c) the place has potential to yield information that will contribute to an understanding of Queensland's history;

- d) the place is important in demonstrating the principal characteristics of a particular class of cultural places;
- e) the place is important because of its aesthetic significance;
- f) the place is important in demonstrating a high degree of creative or technical achievement at a particular period;
- g) the place has a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- h) the place has a special association with the life or work of a particular person, group or organisation of importance in Queensland's history.

Under Section 60 of this Act, a place may also be entered in the Queensland heritage register as an archaeological place if the place:

- a) is not a State heritage place; and
- b) has potential to contain an archaeological artefact that is an important source of information about Queensland's history.

5.2 Significance Ratings for Sites of Historic Heritage Significance

No sites of historic heritage significance were identified during the field survey.

5.3 Impact Assessment

The development of the Western Basin incorporates additional dredging associated with the deepening and widening of existing channels and swing basins, and the creation of new channels, swing basins and berth pockets.

Material dredged during the Western Basin development is proposed to be placed into reclamation areas to create a land reserve to be used to service potential new port facilities. At present it is expected that these reclamation areas will consist primarily of the further proposed expansion of the Fisherman's Landing reclamation located approximately 11 km north of Gladstone City (Figure 1).

All potential impacts are assessed within the framework of the attributed value or significance of the cultural heritage place, which in turn relates to people's perspective of place and sense of value, within the context of history, environment, aesthetics and social organisation.

5.3.1 Impacts on sites of Historic Heritage Significance

No sites or places of Historic Heritage Significance were found to exist within the Project area. The Project therefore does not impact on any known sites of Historic Heritage Significance, (including Archaeological Places).

5.3.2 Impacts on Places of Historic Interest

Seven places of Historic Interest were located by the study and will be potentially impacted by the Project. These sites are not considered significant and therefore do not warrant specific mitigation measures. General advice in relation to the management of places of Historic Interest is provided in Section 6.

5.3.3 Potential for impact on unknown sites of Historic Heritage Significance

The results of contextual research combined with the fact that only seven places of Historic Interest were located suggest that the Project area is unlikely to contain any unidentified historic heritage sites or places, or a significant sub-surface archaeological record. Despite this, the study considers that there remains some potential for further places of historic interest to exist within the Project area. Such places are considered most likely to be associated with pastoral and informal recreational use of the Project area dating back to the early period of Gladstone's settlement and include further artefacts associated with informal camping and recreational use such as old tins, porcelain and bottles.

6.0 Conclusions and Recommendations

This chapter discusses the final stage of the historic heritage investigation – how to manage the heritage values of the study area in relation to the proposed Project. As no sites of historic heritage significance were located within the study area, this section provides only general recommendations for managing potential impact on unknown sites of Historic Heritage significance and places of Historic Interest located or potentially located within the Project area.

Specifically, it is considered that there is a low to no potential for a sub-surface historical archaeological record to be present within the study area. In the event that a sub-surface record was present, it would not be exposed by construction, due to the amount of reclaimed material being placed over the study area.

Following on from the conclusions abovementioned this section provides a general recommendation for potential impact on unknown sites within the study area. Assuming the recommendation of this report is implemented, this report finds the nature and level of impact by the Project is acceptable given that there were no places of historic heritage significance identified within the study area.

6.1 Recommendation One – Unexpected Finds

This report has found that the study area is unlikely to contain historic heritage sites or places, or a sub-surface archaeological record. However, if during construction, an item or object that may be considered to be historic heritage appears, then the recommendation of this report is that the following measures are taken:

- If the item comprises of an individual or small number of artefacts (e.g. bottles or tins), the items should be collected and their provenance recorded (e.g. GPS coordinates, photographs and brief description of context) for later assessment by the Historical Archaeologist appointed to the project and work can continue.
- If the find consists of a large amount of artefactual material (e.g. bottle dump) or, following consultation with the Historical Archaeologist appointed to the Project, is considered to be of sufficient Historical and/or archaeological significance, then all work at the immediate location of the find must cease and reasonable efforts to secure the site should be made –

a buffer zone of ten metres around the find is suitable – until such time as the Historical Archaeologist appointed to the Project can inspect/assess the find.

- Work can continue at the distance of twenty meters from a find area. Note that the material should not be removed or disturbed any further (barriers or temporary fences may be erected as a buffer around the find if required).
- Following inspection/assessment of the find the Historical Archaeologist will provide a management recommendation to the Site Manager and appropriate management actions will be undertaken.

6.2 Recommendation Two – Management of Places of Historic Interest (HI)

Although HI places do not contain suitable levels of cultural heritage significance to warrant specific mitigation strategies, it is recommended that where possible they be retained. If avoidance is not possible, efforts should be made to collect and accession diagnostic material relating to HI places (i.e. moveable heritage such as bottles) and that minimal analysis and contextual research be conducted on this material (such as identifiable bottles, cans and containers) in order to add to the information available regarding historic use of the study area, and that the diagnostic material be lodged as an appropriately accessioned collection with a suitable organisation, such as the Gladstone Regional Council, at completion of analysis along with a brief written report on the results of this analysis presented to GPC, and the organisation with whom the material is lodged.

6.3 Recommendation Three - Cultural Heritage Management within the Environmental Management Plan

A variety of management initiatives are required in order to mitigate potential impact to unexpected cultural heritage material or sites found during the construction and pre-clearing activities during operations of the project. Management strategies include:

- Provide all new employees with suitable training to provide them with the skills to identify cultural heritage sites or objects and report the find to the Site Environmental Officer;
- Inform all employees of their obligations to notify the, Site Environmental Officer of any cultural heritage finds;

- Implement a procedure that requires a permit before any relevant employees able to undertake any clearing or excavations activities;
- Development of a cultural heritage policy for management of potential cultural heritage sites or finds (if required);
- Inform the Site Environmental Officer of their obligations to notify the Department of Environment and Resource Management (DERM) of any relevant finds;
- Undertake regular cultural heritage educational sessions and distribute educational material. This material should inform the employees of what cultural heritage material may look like, and give them clear instructions on what to do if they find anything;

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