Trinity Point Marina Mixed Use Development
Morisset Peninsula, NSW
Archaeological Assessment

Report to
Johnson Property Group

Prepared by
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EXECUTIVE SUMMARY

The Site

The Trinity Point Marina and Mixed Use Development site is located on the western side of Lake Macquarie at the end of the Morisset Peninsula. The site includes a 9.34ha area of Crown Land that is part of Lake Macquarie (for the proposed marina) and an area of tourism zoned land (for the proposed land based components of the marina and mixed use development). A small component of the proposal also crosses open space zoned acquisition land in three locations (in the northern part of the site) to link the land and water based components, providing marina access and facilities. The combined land based area is 3.944ha.

The Concept Plan

The Trinity Point Marina and Mixed Use Development is to be assessed under Part 3A planning legislation. This initial application is for Concept Plan approval, which provides a broad overview of what is proposed and sets up a framework for future applications and approvals via a set of guidelines. The guidelines include controls relating to land use, building setbacks, building heights, public access & open space, built form, FSR & site coverage, building materials & colours, landscape, roads, vehicular access & parking, stormwater & soils, flooding, services & waste management, marina & helipad, acoustics, sustainable development, indigenous & European heritage and staging.

Broadly, the resultant development to arise out of the proposed guidelines is for a staged 308 berth marina plus associated marina facilities/uses including boat maintenance facilities, daytime use only helipad, marina/tourist village, tourist accommodation and residential units, with associated stormwater management, pedestrian facilities, landscaping and the like. It includes a pedestrian boardwalk for full public access within the site (not in the lake shore land).

Insite Heritage has prepared this assessment consistent with the following specific Director General's Requirements:

11.1 Address the draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC, July 2005)

11.2 Identify whether the site has significance in relation to Aboriginal cultural heritage and identify appropriate measures to preserve any significance. This is to be done by an appropriately qualified person in consultation with the local Aboriginal community.

11.3 Identify any items of European heritage significance and provide measure for conservation of such items.

11.4 Address impacts on World Heritage areas, places listed on the National Heritage List and protected under the EPBC Act.

Background to the Assessment

- The site directly adjoins the approved Trinity Point residential subdivision. That approval provides for 194 residential lots and a road network that will extend up to the western boundary of the tourism zoned site. Construction of the subdivision in line with approvals is underway and progressing towards the tourism site boundary.

- Decisions on zoning of the land for the abovementioned residential subdivision and the subject tourism site, along with zoning of a variable 20m wide strip of land around the lake shore for acquisition and public ownership (Lake Macquarie City Council) were made in 2004.

- During that zoning process, and as part of the abovementioned residential subdivision, a range of indigenous and non-indigenous assessments have been conducted. Summaries of these are appended to this report and available on request. Insite Heritage has drawn on the knowledge obtained from those assessments since 1999 in undertaking this assessment. That has also included s87 artefact testing and salvage excavations associated with Stages 1-4 of the residential subdivision (note: salvage excavation of Stages 5-9 has been approved but is yet to commence). It is relevant to note that there has been limited archaeological investigation throughout Morisset Peninsula, and little sub-surface testing carried out in other foreshore landscapes of Lake Macquarie.

- Negotiations on acquisition of the lake shore land have commenced between the current land owners (Johnson Property Group) and Lake Macquarie City Council. These are occurring via a separate process to the development consent process for this Marina and Mixed Use Development – given that the land was identified for acquisition prior to and separate to the specific development proposal.

- The lake shore land to be ultimately owned and managed by Lake Macquarie City Council (known as Lot 32 DP 1117408) includes saltmarsh and mangrove vegetation around an unnamed bay in the north-west, around the northern edge of the site (which includes sparser casuarina vegetation) along the eastern foreshore to Bluff Point, an eroding cliff face (which includes mature native trees) and extending around that west past former seabaths and including native and other vegetation and cleared areas.

  Other than three crossings of the lake shore land for the marina in the north, and locations along the eastern foreshore identified for potential future four controlled public access crossings, the foreshore land does not form part of the subject site and is not intended to contain development. It is however proposed to undertake ecological vegetation works within this adjoining land consisting of weed removal, removal of unsafe trees, and appropriate plantings.

  Plans of Management for the lake shore land will need to be developed as part of the ownership process, and are likely to draw on information contained in pre-existing assessments, including this archaeological assessment.

DECC Guidelines & Consultation

Trinity Point is located within the Awabakal Aboriginal people's area of interest. The DECC guidelines for Aboriginal Cultural Heritage Standards & Guidelines Kit (1997) and Interim Consultation Guidelines (2005) have been complied with. DECC consultation guidelines and local knowledge. The following groups were contacted regarding the project:

Awabakal Traditional Owners Aboriginal Corporation (Ms Kerrie Brauer)
Awabakal Descendants Traditional Owners Aboriginal Corporation (Mr Shane Frost)
Koompahtoo Local Aboriginal Land Council (over the land component) (Ms Lois Towney)
and the
Bahtahbah Local Aboriginal Land Council (over the water component) (Mr Michael Green).

These groups have been consulted to provide management recommendations in regards to the marina and mixed use development. Department of Environment and Climate Change (DECC) Interim Consultation Guidelines (2005) acknowledge that Aboriginal people are the appropriate source of assessment of their cultural heritage. Comments of any registered parties are acknowledged in the decision making process however final management decisions are best made by those within whose traditional boundaries the project lies.

To this end information has also been supplied to:

Guringai Tribal Link Aboriginal Corporation (Ms Tracey Howie) and
Wonn 1 (Mr Arthur Fletcher).

All comments received are included in their entirety in Appendices A & B. Appendices D & E contain the project advertisement and consultation log respectively.

Indigenous Assessment

The area subject to the Concept Plan will impact upon:

- registered Aboriginal site (AHIMS no. 45-7-0228), that originally comprised an isolated stone artefact but was subsequently upgraded as a result of s87 testing (TA2) to include sub surface artefact deposits in low densities, confined to the Wyong soil landscape. This is sited in the northern lower lying part of the Concept Plan site. There is potential to conserve in-situ deposits in parts of the lake shore area.

Other potential sites that will be impacted upon have been identified:

- registered Aboriginal site (AHIMS no. 45-7-0244) which comprises sub surface artefact deposits and Anadara trapezia shell. This site extends from the Trinity Point residential subdivision (where permits with salvage have been granted) into the Doyalson soil landscape component of the concept plan site that forms the southern part of the development area. The deposits in the Doyalson soil landscape have been truncated by the former buildings and infrastructure from historical development of the site, so the area and continuity of them are diminished.

- Potential sub-surface and fragmented deposits associated with midden deposits on Bluff Point (see below) which may extend into the tourism zoned site. These deposits are likely to form the eastern boundary of site 45-7-0244, as the ratio of artefact to shell decrease to the east.

These registered sites are considered to be of low significance-moderate significance on a scientific basis. The sites are of high significance as assessed on a cultural basis by the community. The Trinity Point area is of high cultural significance to the Aboriginal community as a cultural landscape, and of high public significance given the opportunities for public education and interpretation.

Inspections have also revealed various features in the adjacent lake shore land and tidal edge, including 2 sets of grinding groove sites at the base of Bluff Point (underwater at high tide), lenses of Anadara trapezia in low sand beach deposits, a midden deposit in profile above the rock platform and a lens of midden deposit on top of Bluff Point (exposed by recent cliff erosion). Site cards for these have been lodged.

Taking into account the consultation, assessment, impacts and mitigation measures suggested by the Aboriginal community, this report recommends the following measures:

- The ongoing consultation and involvement with the development of the project shall be carried out with the Aboriginal community as represented by the Koompahtoo and Bahtahbah Local Aboriginal Land Councils and the Awabakal Descendants Traditional Owner Aboriginal Corporation and the Awabakal Traditional Owner Aboriginal Corporation as primary stakeholders. Additional stakeholders may be availed of information as requested, and their opinions documented in the Aboriginal Heritage Management Plan.

- The Concept Plan should include a requirement to have an Aboriginal Cultural Heritage Management Plan and Interpretation Policy prepared. It is to be developed in conjunction with the Aboriginal community and be based on historical data, cultural knowledge and archaeological evidence specific to Trinity Point. The interpretation policy is to provide a framework for interpretation of the Aboriginal values and heritage of the site to the general public, for incorporation into overall site interpretation and into development details. This may be presented in different ways include, interpretation/history boards, display of artefacts in secure cases near the Village Square and local Aboriginal art included within the development's public art/interpretation/landscaping strategies.

- That the proposed boardwalk for public access sited within the tourism zoned land and setback from the lake shore is supported and should be retained within the Concept Plan. This is an appropriate method of providing for controlled public access away from the more sensitive south-eastern lake shore where sensitive aboriginal features have been observed and can remain in-situ without development impact. This also addresses community concern about impacts of increased visitation to the sensitive foreshore edge. Should the Aboriginal community seek to organise public education talks, the public boardwalk may offer a suitable venue.

- That the proposed setback of buildings within the tourism zoned land from the edge of Bluff Point is supported and should be retained within the Concept Plan. This space enables some preservation of in-situ deposits, and an increased space for interpretation.

- Whilst outside the scope of this study, boats should be excluded from the seagrass beds around Bluff Point and boat speed controls around the marina be instigated to ensure limited impact on the lake shore by boat wave wash.

- Whilst outside the scope of this study, the proposed marina site is supported on the basis that it is located to preclude the need for dredging and is clear of larger seagrass beds. In addition, the marina design and proposed piling construction method is supported on the basis that the impacts to the seabed are minimal.

- Lake Macquarie City Council, in its future management and use of the lake shore land at Trinity Point, is to take into account the Aboriginal Heritage Values and features of that land. Any proposals in the future for that land (such as alternative public access paths) outside those included in the Concept Plan are to assess the heritage values and identify appropriate measures to preserve them.

- The Concept Plan should include a requirement for salvage excavations where there is potential for intact deposits to remain and where development footprint is to occur. This to be limited to an additional 50m2 in two x 25m2 excavation areas. Whilst the deposits will not be stratified, the analysis of those excavations in combination with others in the adjoining residential subdivision can provide a landscape analysis of the site for use in the recommended Interpretation Policy. It will add valuable information to the archaeological record of the Lake Macquarie Area.

- The Concept Plan should include a requirement for monitoring of earthworks (top soil stripping earthworks only) to be undertaken by the Aboriginal community. Any artefacts found during this monitoring and in the salvage excavations are to be recovered for relocation by the Aboriginal community in accordance with DECC guidelines.

- Notwithstanding LMCC future ownership and management of the lake shore land, Johnson Property Group to include precautions within the development proposal to

ensure the recorded sites in the lake shore area are not impacted, destroyed or damaged by JPG construction works.

- That the idea of sourcing local plant species for landscaping works where that is suitable from the K2 local indigenous plant nursery operated by Koompahtoo LALC near Eraring be included in the Concept Plan.

- That the idea of Aboriginal employment and training be considered by JPG as part of their Apprenticeship First Scheme.

Non Indigenous Assessment

The European Heritage of the larger Trinity Point site has been significantly reported on and assessed during earlier planning processes. Demolition was approved and undertaken on site, with an archival photographic folio prepared prior to that. Features retained included a grotto below Bluff Point and a sundial from the Bailey occupation period. Recommendations were also made for the retention of cultural landscaping (figs, palms + Norfolk Island pine).

Archaeological excavations of the Bailey residence were undertaken in August 2006, and reported on by Insite Heritage in 2007, which revealed low levels in archaeological integrity.

Given the extent of assessments undertaken previously, the remaining relevance of those and hence recommendations of this report are:

- That the Concept Plan include a requirement for monitoring of particular earthworks in the southern part of the site in the general area of the Bailey residence to record any peripheral infrastructure.

- The Concept Plan should include a requirement to have an Interpretation Policy prepared, drawing from the information in past historic research and heritage/archaeological assessments and investigations. The interpretation policy is to provide a framework for interpretation of the European use of the site to the general public, for incorporation into overall site interpretation and into development details.

- Retain and manage the existing cultural plantings near Bluff Point, and incorporate interpretation of those into the Interpretation Policy.

- Lake Macquarie City Council, in its future management and use of the lake shore land at Trinity Point, is to include measures for in-situ conservation and management of the grotto and the stone base sundial near Bluff Point, and consider interpretation of these features in their management strategies.

1.0 BACKGROUND

Insite Heritage Pty Ltd have been involved in the archaeological management of Trinity Point previously known as the St John of God site since 1999. The development of the site now involves two distinct projects. The Trinity Point housing development and the Trinity Point Marina and Mixed Use Development project located on the eastern portion of the site

Further excavations carried out under a Section 90 with salvage permit (#1947) issued over the Trinity Point housing development (stages 1-4) located west of the marina development also revealed artefacts distributed across the area in discrete clusters (Figure 3). Under this permit AHIP #2845 has been issued over the remaining stages of the housing development with a condition of the salvage of a further two by twenty five metres open areas.

The study area has been subject to intensive agricultural practices during its history as a self sufficient establishment under the Little Company of Mary (1934-1947) who provided for their own community from the land with dairy herds, chickens, orchards and vegetable gardens. The site then became a school for disadvantaged and disabled boys under the The Hospitallers of St. John of God (1947 – 1999) where the boys were provided with many activities and a dairy, piggery and chickens to supplement their staples (Insite Heritage 2006).

The indigenous archaeological potential of the site has been assessed of moderate significance because few similar sites have been identified on the Morisset Peninsula although there is potential for more sub surface deposits to be identified on Lake Macquarie. The management of sub surface archaeological deposits has been a methodology of salvage in areas of impact with the preservation of some sub-surface deposits within the foreshore reserves. The areas of salvage have been found to be disturbed in a stratigraphic context due to the agricultural, construction disturbance and bioturbation. The horizontal integrity of the subsurface deposits has been found to be sufficient to demonstrate spatial patterning. The report recommends conservation of in-situ deposits within the foreshore / open space area of the development. Further mitigation can be achieved with limited salvage excavations within the footprint of development. A Section 90 Heritage Impact Permit under part 6 of the *NPW Act* would be required if the development were not under Part 3A planning legislation.

The non-indigenous heritage values of the site have been explored by archaeological methods in 2006. It was found that little evidence of prior occupation remains in the area of main potential. The report recommends that a Cultural Heritage Management Plan be prepared to address the mitigation measures for Aboriginal heritage and the management of the heritage elements that will be retained within the tourist development, the sundial and the grotto. Further monitoring of particular areas for historic archaeological potential will form part of the CHMP.

Figure 1 Study area general location and location of recorded sites in proximity to the study area (Adapted from Besant 2001).
(Morisset 9131-1N & Doonalong 9131-1S Topographic Maps)

Figure 2 Location of historic excavations

Figure 3 Location of the various stages of work

1.1 The Development

The **Marina** development will be assessed under Part 3(a) of the EP&A Act by the Director General. The layout of the marina and breakwater has been designed to minimise impact on the seagrass beds to the east of the headland. With existing water depths dredging will not be required.

The development involves the following:

- A staged 308 berth floating marina for craft 8-20m in length.
- A breakwater jetty structure
- A floating helipad pontoon
- Repair and maintenance facilities
- Building structures
- Timber decks/boardwalk
- Pumpout facilities
- Water and waste management
- Access and parking
- Landscaping
- Lighting
- and stormwater management

The marina will be constructed of piling and pontoon units. The breakwater will comprise piles installed in pairs at typically four metre intervals. Timber slats, 200 x 100mm of double treated hardwood with 50mm gaps will form the breakwater between piles. The pontoon units and helipad will be constructed off site and towed into position. The berths will be floating pontoon style rather than fixed jetties, comprising a floating system of walkways with finger units at right angles to the walkways.

The north-west part of the marina complex comprises the repair and maintenance facilities are located on the hardstand area with an adjacent two storey workshop. The hardstand area would be 45 metres long with a width of 20-25 metres and an additional 50 metre runway area, 15 metres wide to accommodate a travel-lift.

The village centre buildings are two storey and incorporate restaurants, function rooms cafes and accommodation in hotel and apartment style.

An underground tank is proposed to collect roof water for toilet flushing and vessel wash down. A parking area will also be required.

Tourist and Residential Accommodation

The marina/tourist village includes two x 5 and one x 6 storey buildings, forming the southern edge of the village square, for tourist accommodation. From here, a group of tourist buildings (2-5 storey's) is proposed with a further three groups of residential accommodation buildings (2-5 storey's) through to the southern part of the site. Further details on the Concept Plan are included in the concept Plan document, separate to this assessment.

The project will allow the development of the site whilst retaining a portion of the land in open space. The open space will be accessible to the broader community thus creating an effective venue for the promotion of the archaeological values of the site (refer to Figures 4 & 6).

Figure 4 Property description of the study area

Figure 5 Indicative Outcome Concept Plan

1.2 Environmental Context

Lake Macquarie

Lake Macquarie, the largest coastal lake in Australia, has an area of 11,000 ha, an average depth of 6.7m and was formed by the drowning of a river valley. The narrow entrance to the ocean at Swansea restricts tidal extremes, and the lake generally is a low energy environment.

The drowning of the river valley occurred toward the end of the Holocene marine transgression. Sea level stabilised at the current level about 5,000 years ago and there is no evidence of sea level exceeding a variation of 0.5 m above this level, in spite of evidence of fluctuations of 1-3 m in other parts of Australia (Navin & Officer 1996). Tidal range of the lake is about 0.1m although in recent storms (June 2007) surges of one metre were recorded. Winds are common from all directions but are more common from the NE east and the strongest from the SW.

The study area

The study area covers the eastern extremity of a small peninsula orientated to the south east from the larger Morisset Peninsula. The study area includes foreshore on the northern, southern and eastern boundaries. The western boundary abuts an area of approved residential development.

The peninsula was a small ridge system with a dendritic drainage pattern, and the study area comprises a ridge which formed the southern side of Bardens Bay. The ridge has subsequently been added to on the northern side as alluvial deposit has accumulated in the protected bay.

The southern portion of the site includes a low rise with a steep frontage to the lake. The topography falls slightly to the east and a long gentle slope to low lying land on the northern portion. The western portion comprises a gentle slope to the north east.

The site lies over two soil landscapes
Doyalson - gently undulating rises on Munmorah Conglomerate. Slope gradients <10%, local relief to 30m. Broad crests and ridges with long gently inclined slopes. Soils are moderately deep 50 to 150cm, Yellow Earths, Yellow Podzolic Soils and Soloths occur on sandstone and conglomerates. Moderately deep Yellow Leached Earths and Grey Earths, Soloths and Gleyed Podzolic Soils occur along drainage lines.

The original vegetation would have been open-forest with species such as: scribbly gum (*Eucalyptus haemastoma*), red bloodwood (*E. gummifera*), brown stringybark (*E. capitellata*), smooth-barked apple (*Angophora costata*) and grey gum (*E. punctata).* Understory species consisted of hill banksias (*Banksia spinulosa* var. *collina*), banksias (*B. oblongifolia*) and mountain devil (*Lambertia Formosa*). Despite the introduction of pasture species, remnant stands of the above species can still be found in the general area.

Wyong – broad poorly drained deltaic floodplains and alluvial flats of Quaternary sediments. Slope gradients, 3%, local relief to 10m. Meander scrolls and oxbows are common. Soils are deep >200 cm Yellow Podzolic Soils, Brown Podzolic Soils, Soloths and some Humus Podzols are common around lake edges. The Quaternary sediments comprise sand, silt, gravel and clay.

Approximately two thirds of the site had been developed with buildings including dormitories, gymnasium, church, swimming pool and family units.

2.0 INDIGENOUS ARCHAEOLOGICAL CONTEXT

2.1 Regional context

The antiquity of occupation of Australia by Aboriginal peoples has been a contentious issue frequently debated within the field of archaeology. The majority of evidence dates to the Holocene (the last 10,000 years) although it is generally accepted that Aboriginal occupation could date to 60,000 or more years ago. In general in the Hunter it has been shown that minor sea rises up to a metre may have occurred around three thousand years ago. During the Pleistocene sea levels were significantly lower and the coast line kilometers off shore to its present position. There are few dated sites in the Lake Macquarie area. Relic sand dunes from the Pleistocene were the source of dates to 17,000 years, about 60 km, north of the study area at Moffats Swamp (Baker, 1994). At Swansea, midden material was dated to 7,850 and although this date has been disputed (Dallas et al.1993) there is no reason to doubt Aboriginal occupation of the area at the time of sea level stabilisation. Evidence of Pleistocene occupation may well be found below water level.

One method used to assign sites to a particular time period is the morphology of stone tools. A shift in the approach to tool technology occurred about 5,000 years ago with the introduction of microliths. These small, finely worked flakes often hafted to produce a functional tool. The change in manufacturing technique replaced the long cutting edges of the previous large flake with a composite tool comprised of small artefacts, resin, bindings and wood. Advantages of change may have been the use of raw material previously too small for this purpose (Moore, 2000). These microliths are frequently found in artefact scatters on the eastern coast of NSW.

2.2 Local ethnographic context

The study area is a part of the country of the Awabakal Tribe whose territory extended from the southern reaches of Lake Macquarie to the Sugarloaf ranges in the west and the Hunter River in the north. The Awabakal comprised numerous clans – the "Kourumbung" clan appears to be the closest clan identified in the literature. The name Yererung also appears on the 1828 grant plan of Lake Macquarie and may be the place name of Morisset Peninsula (Clouten, 1967).

L. E. Threkeld was a missionary who established a Mission initially on the eastern side of Lake Macquarie near Belmont and subsequently relocated to the western side of Lake Macquarie in 1824. Threkeld maintained records of the Aboriginal peoples in this area, documenting 'observations' which serve as one of the few records of Aboriginal culture in this period. Threkeld was one of the 'new breed' of missionary trained in the period after 1815 when observation based information was espoused as the valid method of documenting unfamiliar cultures (Gunson, 1974). The documentation of Awabakal language, clan territories, kinship and mythology, by Threkeld, has produced some of the best ethno-history in the early 19th Century (Gunson, 1974, Mulvaney 1992).

Food sources referred to by Threkeld include – cobra a 'maggot' found inside grass tree stumps, described to Threkeld as "all the same as oyster to you, and just as nice!" (Gunson p55). The fern root was roasted and ground to make bread. Marsupials, particularly large kangaroo were favoured as were the plentiful wild ducks, geese, swans and pigeons. Large craw-fish (lobster) were collected with some difficulty at times, when 'choosing a calm day at sea, in one of their frail canoes … dive along side of the rock, and pull the fish out of the holes in the rock …..sometimes a shark would make its appearance, when the utmost agility would be required to escape the monster, who would, as readily seize the legs of the biped and devour him as …. [a] cretaceous one." Indeed Threkeld describes a shark attack on the Lake - a canoe upset and sunk, was attacked by a shark taking the woman and then pursuing the man to the shore, and lacerating his legs (Gunson, 1974 p56).

Threkeld recorded some of the material culture of the local Aboriginal people. In spite of the frequency with which stone artefacts can be located in the Lake Macquarie area, there are surprisingly few references to stone implements use within Threkeld's records. Threkeld noted that

hunting and fishing spears were tipped with hard wood that was hardened by heat treatment. These tips are unlikely to be preserved in open archaeological deposits.

The information recorded by Threkeld shows the adaptation of tradition methods to new materials, for example the replacement of stone barbs on war spears with barbs of glass.
"The battle -spear .....[has] pieces of sharp quartz stuck along the hard wood joint on one side so as to resemble the teeth of a saw. The march of intellect directed the blacks, latterly, to use fragments of broken glass-bottles instead of quartz, thus inflicting fearfully lacerated wounds with the deadly weapon" (Threkeld in Gunson ed., 1995 p67).
Threkeld also noted that his Aboriginal adviser M'Gill whose traditional name was Biraban (Awabakal for sea eagle), may have been *'a knight of the ancient order of the holy Eagle-stones'*. Threkeld noted that high places were held as sacred, and on elevated ranges there were circular structures of stone, *'5 or 6 feet diameter, and two or three feet high, evidently built.....'* (ibid, p 66). Tradition held that the structures were built by the Eagle-Hawks, *'a bird of mysterious omen, and much reverence..'* (Miles in Gunson ed.,p 78).
Carved trees frequently demarcated areas of cultural importance such as burial areas and ceremonial sites. Rev. Threkeld's writings (in Gunson 1974) record that adults tended to be cremated, while children were buried in relatively shallow graves. In the case of cremation or should soil prove acidic, little or no skeletal remains would be expected. Shallow graves may have limited the degree of preservation of burials while post depositional forces shall have dispersed evidence.

2.3 General archaeological context

Koettig in 1980 surveyed the Eraring to Kemps Creek Transmission Line. While conducting the survey an isolated artefact was located south west of Mount Nellinda. A second artefact was found 1km northeast of Dora Creek.
Mary Dallas in 1990 surveyed approximately 116 ha between Wangi Wangi and Myuna Bay. During the survey an open midden was identified within the foreshore reserve. In 1991, Dallas and Navin surveyed approximately 112 ha between Dora Creek and Myuna Bay. No Indigenous sites were located.
Dallas in 1992, surveyed Wangi Peninsula. Six shell middens were identified during this survey. In 1992 Dallas and Navin also surveyed Fishing Point Peninsula. During this survey two Indigenous shell middens were found. Dallas, Navin and McConchie conducted a survey of Morisset Peninsula in 1993 during which twelve Aboriginal shell middens were found.
In 1993, Nelson and Ruig surveyed the site of the Henry Kendall Retirement Village at Bonnells Bay. During the survey an isolated artefact and an Aboriginal shell midden (on the foreshore of the lake) were identified. Later in 1998 Mills surveyed the Dynamic Lifter Plant site on Wyee Road, Morisset. No sites were located during the survey, however, an area of potential archaeological deposit was identified on Wyee Creek.
Bonhomme Craib & Associates undertook a study of Central Coast shell middens in the 1990's for the National Parks and Wildlife Service of New South Wales in order to "…better identify the archaeological record in this area, assess its significance, identify potential impacts to the remaining middens and establish appropriate management strategies for these resources".[1] The results of the study would seem to indicate that Aboriginal people used the coast for long periods of the year with very little movement away from the main camps. Indigenous sites would have consisted of the following types: a main camp, smaller field camps, locations were food was gathered, areas where ceremonies were held and places where tools are stored. An analysis of the evidence gathered suggests that most of the middens on the lakes and bays of the Central Coast area were probably locations where shellfish was gathered, prepared and eaten as there is little evidence to suggest that other activities were taking place. The report does however state that some of these midden sites (especially those located on headlands next to open beaches) may have in fact been main camps as these sites are larger than lake and bay sites and they contain a lot of shell. In addition they have stone tools and fireplaces.

[1] Bonhomme, T. *The Central Coast Midden Study Interim Report,* Unpublished report to National Parks & Wildlife Service of New South Wales, June 1993.

In 1995, Navin Officer Archaeological Resource Management carried out test excavations at 'The Hole 1' Mannering Bay, Lake Macquarie. An Indigenous site had been previously recorded adjacent to a ventilation or flushing channel on land Pacific Power leased at Mannering Bay on the south western shore of Lake Macquarie. The investigations conducted by Navin Officer Archaeological Resource Management established that the maximum dimensions of the site were 180m by 100m. The site yielded a hundred and thirty-seven artefacts. Ninety-five of the artefacts occurred on the surface and an additional forty-two were found in eight test pits. Shell material observed on the site was identified as having a natural or recent human origin.

In 2004 Besant surveyed the site a flood evacuation road on the south side of Dora Creek adjacent to the western side of the railway easement. During the survey no indigenous cultural material was found and no areas of potential archaeological deposit were identified.

No. 55 Alton Road, Cooranbong was surveyed by Besant in 2004. No archaeological material was found during this survey and no areas of potential archaeological deposit were identified.

Surveyed of Lot 9 DP 244002 and Lot 358 DP 755242 Morisset Park Road, Morisset Park found no Aboriginal sites were located in the course of this survey although an area of potential deposit was noted. Subsequent test probes of the PAD failed to find any artefactual material (Besant 2004).

2.4 Excavations Southern Lake Macquarie

An excavation was carried out in a similar environment (foreshore), at Mannering Park located two kilometers due south across Wyee Bay (Navin & Officer 1996). Artefacts were found on a spoil heap where a channel had been dug between Wyee Creek and Lake Macquarie. The results of the excavation were:

- In spite of the site's proximity to the lake, no shell material was associated with the site. A hypothesis proposed is that the site was not used by family groups.
- Stone artefacts were found in densities up to 52 per 50cm square (208 per sq m). This density is high and would generally be found in areas of high resource availability.
- The density of artefacts was significantly higher in sub- surface test pits than on the surface (5.2 per m2 to 32 per m2). The deflation of the surface reduces the sample to the extent that sub-surface testing is required to assess the significance of a site in this situation.
- A ground hatchet head was found.
- 19% of surface material and 5% of sub-surface material had alluvial pebble cortex, possibly indicating the coast as a stone resource?
- A trend for densities to be higher on spurline crests and higher again along the shoreline.
- The site was found to have a minimum area of 180 metres x 100 metres.

A large midden was excavated at Swansea (NPWS site 45-7-37) provided evidence of long and repeated occupation. Burials within the midden produced a base date of 7,850 +/- 100 years before present. The stratigraphic position of the burials related them to later levels of occupation.

A survey and test excavation of the route of the Morisset Peninsula sewage scheme located 12 midden sites and a number of areas of shell of uncertain origin. One of these sites was located on Bardens Bay to the north of the study area in fine black/brown loam with some gravel. The shell, abundant large *Anadara trapezia,* was found to be relatively undisturbed and therefore retained high archaeological value (Dallas et al 1993). The sub surface testing involved in this project was auger holes with a 12cm diameter to a depth of 10 to 50 cm. The material was sieved using 2.5mm mesh. The testing was not designed to establish character and significance of the cultural deposits (ibid. p 13).

A survey of a retirement village site at Bonnells Bay on the northern side of Morisset Peninsula appears to be the only other area survey similar to the study area. Areas of midden material were found on the foreshore and retained in a 30 metre buffer zone. No sites were found set back from the water front and no further work was required (Ruig & Nelson 1993).

Excavations located on the corner of Morisset Park Road and Chifley Road found no artefacts in six square metres of testing (Besant 2004) one kilometer to the north west of the study area. A survey of the Koompahtoo LALC land covering an area of 400 hectare in the old Morisset Hospital grounds on Pourmalong Creek, located 3 to 4 kilometers west of the study area found only three new sites in addition to the two already recorded and two areas of potential archaeological deposit. The sites were small comprising less than ten artefacts and were defined by surrounding sterile deposits (Besant 2006).

In contrast, test excavations and subsequent salvage excavation, within the Trinity Point housing area has revealed sub surface deposits with a peak density of 15.3 per sq metre. Whilst the deposits have been subject to vertical disturbance by bioturbation and ploughing, the horizontal distribution retained sufficient integrity to demonstrate a pattern of site distribution with a focus on the foreshore.

3.0 ARCHAEOLOGICAL ASSESSMENT OF TRINITY POINT

The entire Trinity Point Precinct has been subject to ongoing archaeological assessment since 1999. The aim of these assessments is too produce a final analysis which identifies variations over the Trinity Point landscape.

An initial field survey of the entire site identified two archaeological sites. Site 45-7-0277 comprises midden material on the foreshore within the foreshore reserve on the southern side of the site. Site 45-7-0228 comprised an isolated find (artefact) in the area of the marina development. The study area has always been subject to limited surface visibility.

Test probes confirmed the presence of Aboriginal archaeological relics in discrete sub surface concentrations (Besant 2000, 2002) in two locations TA 1 & TA 2 (see Figure 6).

During site visits carried out in the course of the consultation for this project an additional lens of midden and two sets of grinding grooves have been identified. A lens of midden, has been exposed by storm events in profile, within the foreshore reserve and has been recorded as a separate site. The grinding grooves are located on scree boulders at the base of the headland to the east and the south and are inundated at high tide. These sites are located within the proposed Council acquisition area, too be managed by Lake Macquarie City Council. Two scarred trees were also recorded in the Trinity point housing development stages 5-9 and will be managed as part of that project.

3.1 Section 87 2001

Section 87 testing work has been undertaken in two locations, under AHIP #SZ3509. TA1 is located in the Trinity Point housing development area. TA 2 is located in the Trinity Point Marina location (see Figure 6). Artefacts were found in both locations. The artefacts found within the marina development were considered to be a sub surface extension of site 45-7-0228. The full analysis of the artefacts from the testing program can be seen in Appendix B.

Area TA 1 – Trinity Point Housing Development

Test excavations at TA 1 found a well defined predominately silcrete artefact scatter the extended 6 m x up to 10m (AHIMS # 45-7-0244). The six metre length was defined by the probes where sterile probes were located at each end deposit. The mid section probes which contained artefacts were opened up to a total area of four square metres.
The artefacts were present in low densities (0-11) and one additional square metre excavated yielded 54 of the total of 73 artefacts. The site #45-7-0244 was then redefined to include sub surface deposits over the Doyalson soil landscape of the Trinity Point area. This included stages 1-4 and stages 5-9 of the housing development and the mixed use development area of the current proposal. The site is described as subsurface deposits of stone artefacts and fragmented Anadara shell in varying ratios and densities.

Area TA 2 Trinity Point Marina

This area comprises a sand ridge that contained low density artefact deposits with evidence of reworking by on shore forces. Artefacts were found to be water worn in deposits mixed with artefacts not water worn. The artefacts were considered to be subsurface continuum of site 45-7-0228.

A total of 14 artefacts were found in a series of five, one square metre probes. Forty three percent of the artefacts were found to be water-worn indicating deposition in times of high tides or abrasion in-situ. These artefacts demonstrate the presence of sub surface deposits and the recording of 45-7-0228 (isolated find) has been amended to reflect this.

There was no stratigraphic separation between the water worn artefacts and those not exhibiting any signs of wear.

The artefacts were considered to be of low local significance on a scientific basis due to the mixing of anthropogenic discarded artefacts and natural re-deposited artefacts, probably due to bioturbation.

3.2 Salvage Excavations Trinity Point Housing Development

Stages 1 – 4.

During 2005 and 2006 salvage excavation works were undertaken in Stage 1-4 of the Trinity Point housing development under AHIP #1947 (see Figure 8).

Excavation results indicated that the artefacts in the area of stages 1-4 were concentrated in the lower slope areas with areas of sterile deposit evident further from the lake margins. A total of 468 artefacts were retrieved from a total of 30 test probes and two twenty five square meter open area excavations. The range of artefact density was 15.3 to 0 per sq metre.

The excavations in the various parts of the landscape have also shown variation in distribution of raw material. The salvage excavations in stages 1-4 were predominately tuff (a volcanic stone sourced locally), whereas at TA 2, the predominate raw material was chert and tuff. At TA 1 silcrete dominated the assemblage. Thus the variation in distribution of raw materials may indicate different occupation events over time. Sydney cockle (Anadara trapezia), highly fragmented, was found in area TA1 and was absent from the stages 1-4 salvage.

The results from Trinity Point Housing Development Stages 1-4 are highly consistent with the excavations by Navin, Officer & Saunders (1996) at Mannering Park, due south on Wyee Bay. Both sites are located on lower slopes (<10m) on the water, the sites are in excess of two hectares in area, the assemblage technological attributes indicates occupation within the last 5,000 years to recent times. There is an absence of shellfish at both sites.

Stages 5-9

Further salvage work is proposed for the housing development area and these will concentrate on the southern part of the study area in stages 7, 8 & 9. The work will be carried out under AHIP#2845 dated 18th December 2007. There it is proposed to use test probes to best locate a further two by twenty five metre open area excavations.

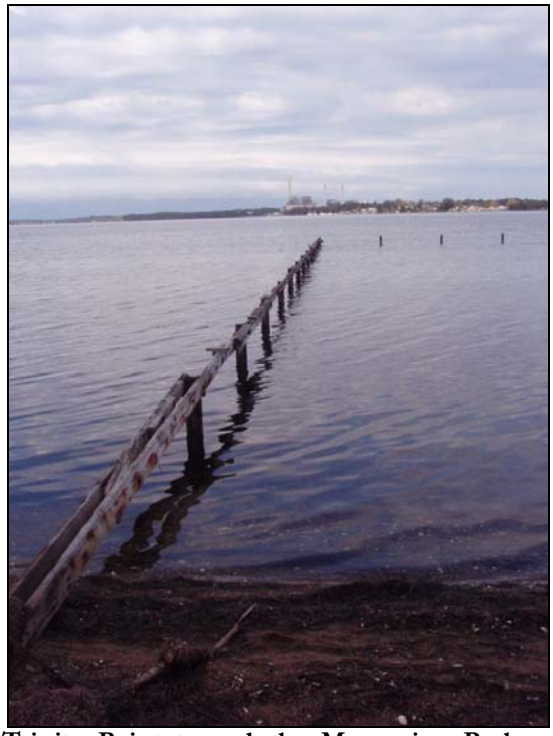

Photo 1 View from Trinity Point toward the Mannering Park excavation site (Navin &Officer), in the background

Photo 2 Open area excavation in Stage 3 BS1 in stages 1-4 Trinity Point Estate displayed similar results to the Vales Point excavation.

Photo 3 Open area T 1 in stages 1-4 Trinity Point Estate