The soil surface in one location during the investigation was found to contain minor asbestos fragments, which potentially is related to the pre existing structures on the site, and a thorough Hazardous Material Survey should be undertaken before any demolition activities on the site

TABLE OF CONTENTS

1 INTRODUCTION

David Lane Associates were engaged by Mr. William Jenner of Attentus Projects and Properties Pty Ltd to perform a Phase 1 - Preliminary Site Investigation on the property located on 740-742 Pacific Highway, Sapphire Beach. Refer to **Figure 1 –** *Site Location* and **Figure 2 –** *Registered Site Survey Plan* for site details.

The site is situated in the Local Government Area of Coffs Harbour City Council and is currently zoned Residential 2E Tourist Zone with an Environmental Protection 7A Habitat and Catchment Zone in the middle of the property. The Environmental Protection 7A Habitat and Catchment Zone is situated on the steep northeastern area of the site. This area has remained heavily vegetated to protect habitat values.

The site occupies the area east of the Pacific Highway to the Tasman Sea and is situated on three (3) different Lots. The entire property is a tourist resort, which comprises of a number of structures for accommodation and recreation.

Refer to **Figure 3 –** *Site Layout with Sample Locations* for site configuration.

Attentus Projects and Properties Pty Ltd requires a Phase 1 – Preliminary Site Investigation as part of due diligence. No solid plans have been made for future redevelopment. In the short to medium term it is intended to remain as the existing land use consistent with tourist zoning.

1.1 Objectives of the Assessment

The project objectives of this Phase 1 – Preliminary Site Investigation is to conduct a review of all existing information on the site, and to provide a sampling and analysis program to assess the possibility for past site activities which may have caused contamination to soils or groundwater underlying the site. The site is to be assessed largely for the potential for contamination as a result of anthropogenic influences.

The NSW EPA indicates that a Preliminary Site Investigation should:

- Identify all past and potentially contaminating activities;
- Identify potential contamination types;
- Discuss the site condition;
- Provide a preliminary assessment of site contamination; and,
- Assess the need for further investigations.

The proposed investigation program and this report were designed to be suitable for due diligence purposes so the document can be used for planning purposes in redevelopment proposals. It is suitable for review by Coffs Harbour City Council and the NSW Environment Protection Authority. In particular the requirements of SEPP 55 (Environmental Planning & Assessment Act, 1979) and the Coffs Harbour City Local Environmental Plan 2000.

The Phase 1 – Preliminary Site Environmental Investigation has the same status as *a Preliminary Investigation* in terms of that definition provided within SEPP 55 relating to the planning aspects of contamination assessment.

2 SCOPE OF WORK

The investigation and assessment was conducted using the following methods:

- Search and review of records and site plans available locally and from the NSW EPA, and the Department of Infrastructure, Planning and Natural Resources (DIPNR);
- Review of historical aerial photographs available from the Department of Lands Information Centre;
- Review of geology and hydrogeology of the area;
- Site inspection and ground review; and,
- Discussion with client and landowner.

The assessment and report has been conducted in accordance with the following:

- NSW EPA *Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites*, November 1997;
- NSW EPA *Contaminated Sites: Sampling Design Guidelines*, September 1995;
- NSW EPA *Contaminated Sites: Guidelines for the NSW Site Auditor Scheme*, June 1998;
- The *Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites* , published by Australian and New Zealand Environment and Conservation Council and the National Health and Medical Research Council (NHMRC), January 1992; and,
- The *National Environment Protection (Assessment of Site Contamination) Measure (NEPM)* published by the National Environment Protection Council 1999.
- Classification of contaminated material is conducted in accordance to *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-liquid Wastes* (NSW EPA, 1999).

Soil sampling was conducted at the site on Thursday 2nd March 2006.

The assessment of the site includes the following:

Site Description
- Site Location
- Site Details

Environmental Features

History of the Site Uses
- Site History
- Historical Certificates of Titles
- Review of Historical Aerial Photos

Site Reconnaissance
- Current Site Status
- Material Use and Storage
- Drainage Systems
- Asbestos
- PCB's
- Acid Sulphate Soil Inquiries
- Miscellaneous Observations
- Neighbouring Properties

Record Review
- Relevant Records
- State

Potential Contamination Issues

Preliminary Sampling Program
- General
- Site Investigation Methodology

Conclusions

Review and investigations were conducted under the above headings to ensure all environmental aspects relevant to 740-742 Pacific Highway Sapphire Beach were investigated.

3 SITE DESCRIPTION

3.1 Site Location

The site locality details are as follows:

- The site is located at 740-742 Pacific Highway, Sapphire Beach NSW approximately ten (10) kms north of Coffs Harbour.
- The site consists of the following titles:
  - Lot 100 DP 629555
  - Lot 101 DP 629555
  - Lot 2 DP 800836
- The total area of the site is approximately 41,500 square metres (4.15 Hectares)
- The site is in the Local Government Area of Coffs Harbour City Council.
- The land is zoned Residential 2E Tourist and a vegetated area northeast of the main structure on the property is zoned Environmental Protection 7A Habitat and Catchment under the provisions of the Coffs Harbour City Local Environmental Plan (LEP) 2000.

The site occupies the area east of the Pacific Highway to the Tasman Sea and is situated on three (3) different Lots. The entire property is a tourist resort at present titled 'Pelican Beach Resort', which comprises a number of structures for accommodation and recreation.

Refer to **Figure 3** – Site Layout with Sample Locations for information regarding the current site configuration.

3.2 Surrounding Land Use

The boundaries at the site are in a stable condition with no significant cross impaction from adjoining sites. The site falls in an area of mixed residential and tourist/resort landuses.

- to the north is a resort development, also situated off the Pacific Highway, similar to Pelican Beach Resort
- to the south is medium density residential development
- to the west is medium density residential development, and
- to the east is the Tasman Sea – South Pacific Ocean Bay

3.3 Future Land Use

No solid plans have been made for future redevelopment, but it would likely consist of a resort/tourist landuse. In the short to medium term it is intended to remain as the existing land use consistent with tourist zoning.

3.4 Site History

The site history has been investigated through a review of aerial photography and discussion with the site owners past and present.

3.5 Aerial Photograph Review

Aerial photographs reviewed from 1954 to 2004 inclusive.

- 1954 Run 6 — The Coffs Harbour to Grafton Road winds through the area, along Coachmans Close and Campbell Close. Some farmland is present in the western (upper) area of the site with two (2) structures present centrally on the site. No development appears to have impacted on the eastern (lower) area of the site. Farmland dominates the surrounding area, to the North, South and West.
- Aug 1964 Run 6 — One (1) new structure is present in the site's North-East. Some dwellings have been constructed around Coachmans Close to the South. Farmland still present to the North, South and West.
- 18.08.1974 Run 4 — Three (3) structures are present in the site's North-West and two (2) more structures are present in the site's North-East. Vegetation in the site's East had been cleared. The Pacific Highway is now present transecting the winding path of Coachmans Close and Campbell Close. All structures on Coachmans Close have been levelled. Small coastal villages of Moonee to the North and Korora to the South have appeared. Farmland remains to the immediate North, South and West of the site.
- 02.09.1984 Run 4 — Eight (8) structures, possibly tourist cabins, are present in a row in the site's South-East. Vegetation to the West of the site has been further cleared with four (4) more structures located centrally on the site. The seafood restaurant structure in the site's North-West is also present with three (3) pre-existing structures to its rear. Further residential has taken place at Moonee and Korora, with more farm houses appearing to the West. A residential development is present to the site's immediate North, with semi-rural land use to the South and West.
- 17.06.1993 Run 22-43 — Pelican Beach Resort is now present and in its current configuration with tennis courts, swimming pool and open grassed area. All pre-existing structures in the site's southern area have been levelled for construction of the resort. Four (4) structures are now present at the restaurant's rear. Residential land use is present to the North with semi-rural land use to the West. Earthmoving activities are occurring to the site's immediate South.
- 18.05.1994 Run 7 — No significant changes to present site or surrounds. Earthmoving activities are continuing to the South.
- 07.09.2002 Run 7 — No significant changes to present site. New residential development to the site's South and on Coachmans Close.
- 07.08.2004 Run 30 — The four (4) structures to the rear of the seafood restaurant are no longer present. No significant changes to surrounds.

The site history indicates little potential for land contamination given the historical land uses identified at the site and adjacent areas.

4 SITE CONDITIONS AND SURROUNDING ENVIRONMENT

4.1 Site Geology

The area and its surrounds is underlain by Quaternary Beach and Dune Sand and then Greywacke, Slate and Siliceous Argillite of the Carboniferous Coramba Beds. These deposits were investigated at the time of the site assessment; by the Dorrigo-Coffs Harbour Map 1: 250 000.

4.2 Site Groundwater

A Geotechnical Investigation conducted by Network Geotechnics revealed that groundwater was at a depth of 4.2 and 3.5 metres in one of the boreholes. Groundwater is predicted to flow in an eastern direction towards the Tasman Sea.

4.3 Acid Sulphate Soils

The Land and Water Conservation ASS Risk Mapping Data Set (1997) identified that Acid Sulphate Soils (ASS) do not exist on the site identified as 740-742 Pacific Highway, Sapphire Beach. ASS were discovered during the search, classified as 'high risk ASS >3m below the surface' exist approximately 500 metres south of the property. These are not expected to impact on the site.

4.4 Ground Conditions

4.4.1 Soil and Groundwater Chemistry

Chemical analyses were performed on soil samples collected during the preliminary site investigation. The analytes tested for comprised: Total Petroleum Hydrocarbons (TPH), Benzene, Toluene, Ethylbenzene, and Xylene (BTEX), Organochlorine and Organophosphates Pesticides (OCP/OPP), Polycyclic Aromatic Hydrocarbons (PAH), Benzene (a) Pyrene (BaP), Polychlorinated Biphenyls (PCB's), and Heavy Metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc). These analytes are considered to be appropriate for assessing the quality of soils at the site. The results of these tests are reproduced in **Tables 9a – 9e**. Nine (9) soil samples were collected from five (5) different sampling locations on 740-742 Pacific Highway utilising a drill rig with samples collected from differing profiles.

A groundwater sample was additionally collected from BH3. The analytes comprised; Total Petroleum Hydrocarbons (TPH), Benzene, Toluene, Ethylbenzene, and Xylene (BTEX), Organochlorine and Organophosphates Pesticides (OCP/OPP), Polycyclic Aromatic Hydrocarbons (PAH), Benzene (a) Pyrene (BaP), and Polychlorinated Biphenyls (PCB's). Twelve (12) Heavy Metals were tested including arsenic, beryllium, boron cadmium, cobalt, chromium, copper, lead, manganese, mercury, nickel and zinc. These analytes are considered to be appropriate for assessing the quality of water at the site. The results of these tests are reproduced in **Tables 9f**.

5 STATUTORY FRAMEWORK AND ASSESSMENT CRITERIA

Environmental Legislation in NSW is primarily divided into four (4) areas:

- Environmental Planning;
- Pollution Control;
- Nature and Cultural Conservation; and,
- Resource Allocation.

The applicable legislations to the site cover Environmental Planning and Pollution Control.

Some Environmental Legislation in NSW has been in force for many years but it is only from the late 1980's that the profile of environmental issues has been sufficiently high for many businesses to recognise that they may have exposures and liabilities associated with this legislation. In 1989 a benchmark piece of legislation, the *Environmental Offences and Penalties Act*, was passed which made not only companies, but their employees, in particular senior executives and managers, liable for prosecution for environmental offences.

Subsequent developments in the administration and enforcement of pollution control legislation saw the establishment of the Environment Protection Authority (EPA) which has been given an expanded role in the scope of the legislation, which it administers. The EPA is responsible for the issue of licences, permits and approvals associated with air, water, soil and noise pollution and waste disposal. Under certain legislation the EPA has approval authority for the installation of, or modification to, pollution control equipment.

The current position adopted by the EPA is that application for approval is required irrespective of whether the new equipment or modifications will result in an increase or decrease in the type or volume of pollutants.

The *Environmental Planning and Assessment Act*, 1979 gives local authorities the power to regulate development within their areas of responsibility and to impose specific consent conditions, which cover environmental issues. In addition, the *Local Government Act* 1993 requires approval from Council for certain works / activities to be obtained.

The pollution control and environmental planning statutes in NSW, which are most likely to apply to the site, are:

- *Contaminated Land Management Act* 1997;
- *Protection of the Environment Operations Act* 1997;
- *Dangerous Goods Act* 1975;
- *Ozone Protection Act* 1989;
- *Waste Avoidance and Resource Recovery Act* 2001;
- *Water Board (Corporatisation) Act* 1994;
- *Environmental Planning and Assessment Act* 1979; and
- *Local Government Act* 1993.

In addition, regulations and planning instruments made under these Acts may also apply.

The *Protection of the Environment Operations Act* (POEO), 1997 commenced operation on 1st July 1999 and has repealed the following Acts:

- *The Clean Waters Act* 1970;
- *The Clean Air Act* 1961;
- *The Noise Control Act* 1975;
- *The Environmental Offences and Penalties Act* 1989; and
- *The Pollution Control Act* 1970

The Act also incorporates the major regulatory provisions of the repealed *Waste Minimisation and Management Act* 1995.

The repealed Acts are incorporated into the POEO Act. Thus, regulations made under the repealed Acts are now regulations under the POEO Act or until otherwise amended and licences issued under the repealed Acts are deemed to be licences under the POEO Act. The POEO Act provides a common licence to cover emissions to all environmental media. The Act lists certain "scheduled activities" which have to be licensed.

The *Contaminated Land Management Act*, 1997 specifies the legal requirements for the registration, investigation, and remediation of contaminated land, and for the registration and accreditation of site auditors. It repeals the requirements of the *Environmentally Hazardous Chemicals Act*, 1985 in relation to audits and the accreditation of site auditors.

The POEO Regulation 1997 aims at achieving more effective pollution control by implementing the principle of load-based licensing by:

- Linking licence fees to the amount of pollution emitted (as opposed to the previous legislation which linked fees to the concentration of pollutants emitted);
- Introducing higher fees for more harmful pollutants and in more sensitive environments.

In addition there are a number of Australian Standards and Codes of Practice, which either complement Legislation or which are directly referenced in Legislation. The following examples, which may apply, include:

- AS 1940, The Australian Standard for the Storage and Handling of Flammable and Combustible Liquids;
- AS 1596, The Australian LPG Gas Code;
- AS 1692, Tanks for Flammable and Combustible Liquids;
- The Australian Dangerous Goods Code;
- Worksafe Australia Guidance Notes for the Completion of Material Safety Data Sheets (MSDS);
- Worksafe Australia Code of Practice for the Safe Removal of Asbestos; and
- AS 2508, Safe Storage and Handling Information Cards for Hazardous Chemicals.

The preparation of this report has referenced the requirements of the:

- *Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites*, November 1997;
- *Contaminated Sites: Guidelines for NSW Site Auditor Scheme*, June 1998;
- *Contaminated Sites: Sampling Design Guidelines*, September 1995; and,
- *National Environmental Protection (Assessment of Site Contamination) Measure*, 1999.

Of particular interest to this site are the requirements as referred to in the following document:

- Coffs Harbour City *Local Environmental Plan* (2000);

FIELD AND LABORATORY INVESTIGATIONS

5.1 Field Investigations

Field investigations at 740-742 Pacific Highway, Sapphire Beach comprised the following:

- Identification of investigation locations prior to the commencement of work;
- Collection of a number of soil and groundwater samples, obtained by a drill rig, in accordance with the NSW EPA *Sampling Design Guidelines* and *National Environmental Protection (assessment of site contamination) Measure* 1999.

5.2 Dangerous Goods

Dangerous goods were not identified within the premises associated with 740-742 Pacific Highway.

Dangerous Goods in any quantity must be stored safely and in compliance with the requirements of the Dangerous Goods Act 1975 and its Regulations.

5.3 Asbestos

Minor asbestos fragments were found on the surface around Borehole One (BH1), possibly from the restaurant or pre existing neighbouring structures located in the northwestern area of the site. The asbestos fragments did not appear to be wide spread and were of a relatively minor quantity. It was discovered through aerial photography that the restaurant was constructed pre 1984, and therefore may contain minor asbestos content eg fibro plaster cement sheets. The main structure of the site was constructed between 1984 and 1993 and therefore has little potential for asbestos material to be present within the structure. Since a detailed hazardous materials survey was not conducted, a more detailed inspection should be carried out prior to demolition or refurbishment.

5.4 PCB's

No transformers were observed during the Phase 1 Preliminary Site Environmental Investigation.

5.5 Ozone Depleting Substances

No large air conditioning systems, refrigeration units or BCF fire extinguishers that may have the potential to contain ozone depleting substances were observed on the site.

5.6 Lead Based Paints

The structures on the site are suspected to contain lead based paints. A comprehensive Hazardous Materials Survey is required before any future demolition or refurbishment works are carried out to determine the lead content of the paints present on site.

5.7 Flora and Fauna

The vegetation within the surrounding area includes rainforest / wet sclerophyll species, banana trees and coastal vegetative species.

The property exists on an Environment Protection 7A Habitat and Catchment Zone, which aims to "protect and enhance sensitive natural habitats and waterway catchments" (Coffs Harbour City LEP 2000). This small area of the property is heavily vegetated with wet sclerophyll vegetation and hosts an extent of various biotic species.

5.8 Archaeological Sites

No archaeological sites were noted either from the historical review or site inspection.

5.9 Heritage

No items of heritage significance were identified on the site.

5.10 Laboratory Investigations – Soils

Soil samples were analysed for a range of contaminant indicators that may be associated with past and present landuses, ie, imported fill material. Samples were analysed by SGS Australia Pty Ltd of Matraville for the following parameters:

Inorganic

Heavy metals: arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), mercury (Hg), nickel (Ni), and zinc (Zn).

Organic

- Total Petroleum Hydrocarbons (TPH);
- Monocyclic aromatic hydrocarbons;
- Organochlorine (OC) Pesticides;
- Organophosphorous (OP) Pesticides;
- Polycyclic Aromatic Hydrocarbons (PAH); and
- Polychlorinated Biphenyls (PCB).

5.11 Laboratory Investigations – Groundwater

A groundwater sample was analysed for a range of contaminant indicators that may be associated with past and present landuses. Samples were analysed by SGS Australia Pty Ltd of Matraville for the following parameters:

Inorganic

Heavy metals: arsenic (As), beryllium (Be), boron (B), cadmium (Cd), cobalt (Co), chromium (Cr), copper (Cu), lead (Pb), manganese (Mn), mercury (Hg), nickel (Ni), and zinc (Zn).

Organic

- Total Petroleum Hydrocarbons (TPH);
- Monocyclic aromatic hydrocarbons;
- Organochlorine (OC) Pesticides;
- Organophosphorous (OP) Pesticides;
- Polycyclic Aromatic Hydrocarbons (PAH); and
- Polychlorinated Biphenyls (PCB).

Soil and Groundwater Laboratory Analytical Results are included as **Appendix 1**