6 CULTURAL HERITAGE IMPACT

Introduction

6.1 The Lung Kwu Chau Archaeological Site is known as one of the recorded archaeological sites in Hong Kong. The earliest cultural remains found within the site can be dated to the middle phase of the Neolithic, representing the beginning of cultural history in the Hong Kong area.

6.2 This chapters presents an investigation and evaluation of the cultural heritage of the assessment area, assessment of potential impacts associated with the proposed Project, and identification of appropriate mitigation measures, wherever necessary.

Environmental Legislation and Standards

6.3 The legislation, polices, plans, standards and criteria relevant to this study are:

- Guidance Notes on Assessment of Impact on Sites of Cultural Heritage in Environmental Impact Assessment Studies (GN-CH);
- Environmental Impact Assessment Ordinance (EIAO) (Cap. 499);
- Technical Memorandum on Environmental Impact Assessment Process (EIAO TM);
- Antiquities and Monuments Ordinance (Cap. 53); and
- Hong Kong Planning Standards and Guidelines (HKPSG).

EIAO, EIAO TM and GN-CH

6.4 The EIAO stipulates that consideration must be given to issues associated with cultural heritage and archaeology as part of the EIA process. Annexes 10 and 19 of the EIAO TM outline the guideline and criteria for cultural heritage assessment. The criteria for evaluating impacts to sites of cultural heritage stated in Annex 10 of the EIAO TM are:

- The general presumption in favour of the protection and conservation of all sites of cultural heritage because they provide an essential, finite and irreplaceable link between the past and the future and are points of reference and identity for culture and tradition.
- Adverse impacts on sites of cultural heritage shall be kept to an absolute minimum.

6.5 The GH-CH serves as a reference to assist the understanding of the requirements set out in Section 2 of Annex 10 and Annex 19 of the EIAO TM under the EIAO in assessing impact on sites of cultural heritage in EIA studies.

Antiquities and Monuments Ordinance (Cap. 53)

6.6 The Antiquities and Monuments Ordinance provides statutory protection against the threat of development for Declared Monuments including historical buildings / structures and archaeological sites (both on land and underwater), which have been recommended by the Antiquities Advisory Board (AAB), approved by the Chief Executive and gazetted to enable their preservation for posterity.

6.7 Certain Deemed Monuments have been identified by the Antiquities and Monuments Office (AMO) and agreement reached with the owners of the Monuments to ensure their preservation. Deemed monuments have the potential to be upgraded to statutory Declared Monuments.

6.8 For archaeological sites, all relics dated prior to 1800AD belong to the Hong Kong Government under the Antiquities and Monuments Ordinance. Once identified as having the potential for conservation, archaeological sites are entered into the record.

6.9 Since the introduction of the EIAO, the Antiquities and Monuments Office (AMO) have the power to request a Marine Archaeological Investigation (MAI) for developments affecting the seabed.

6.10 In addition, a wide range of non-statutory sites of cultural heritage are identified and recorded by the AMO. Recorded historic buildings and structures are classified into grades I, II and III by the AAB to indicate their relative importance, as defined below:

- Grade I – Buildings of outstanding merit, of which every effort should be made to preserve if possible.
- Grade II – Buildings of special merit, of which efforts should be made to selectively preserve.
- Grade III – Buildings of some merit, but not yet qualified for consideration as possible monuments. These are to be recorded and used as a pool for future selection.

6.11 Although the graded buildings and structures, and deemed monuments carry no statutory protection, the Government has administrative procedures that require consideration be given to these historic buildings and sites of cultural interest.

Hong Kong Planning Standards and Guidelines

6.12 Chapter 10 of the HKPSG provides general guidelines and measures for the conservation of historical buildings, archaeological sites and other antiquities.

Assessment Methodology

Scope

6.13 Potential impacts on the archaeological, historical and cultural resources within the assessment area (areas including land and seabed that will be affected by the construction of the proposed jetty) are assessed through the study of available information and site

investigations. The scope of the assessment covers identification and evaluation of the potential cultural heritage impacts associated with the construction and operation of the Project, addressing items such as:

- landscape features, including sites of historical events, historic of field patterns, tracks and cultural elements and clan grave sites; and
- archaeological remains, including a variety of buried and upstanding forms dating from the prehistoric times and comprising upstanding ruins, earthworks, finds scatters and evidence of landuse management, settlements and cultural attributes.

Methodology

6.14 A baseline study has been conducted to collect available data regarding known and potential sites of cultural heritage in the assessment area, based on:

- records held by the AMO and other Government records;
- archaeological and historical academic publications;
- geological publications and archives information on shipwrecks in Hong Kong waters;
- archaeological test pits for the onshore area; and
- marine geophysical survey for archaeological material in the offshore area.

6.15 Assessment of potential impacts arising from construction and operation of the Project has been undertaken, with reference to the approach outlined in Annex 19 of the EIAO TM, wherever appropriate.

Baseline Condition

Land Archaeology

6.16 The proposed jetty is located within the Lung Kwu Chau (LKC) Archaeological Site (Figure 6.1). LKC is formed of Hong Kong granite and is unoccupied. The only structure on the island is the DVOR/DME Station on the 76 m high hill to the north.

6.17 According to the AMO, the LKC Archaeological Site is one of the recorded archaeological sites in Hong Kong. The earliest cultural remains can be dated to the middle phase of the Neolithic (ca. 4000-2000 B.C.), representing the beginning of cultural history in the Hong Kong area. Its archaeological discovery dates from 1925, when Dr. Heanley and Prof. Shellshear collected artefacts from the site. They noted the collection of sand from the island and the coarse cord-marked pottery commonly found on its beaches. Subsequent investigation was conducted by W. Schofield (1969a), W.J. Kelly (1974 and 1975), W. Meacham (1975b) focusing on the low southern isthmus. They found archaeological remains including coarse corded pottery, polished adzes, polishing stones, soft and hard geometric pottery, plain and incised chalky pottery, and human burials. The deposits on the site belong to several major cultural periods of Hong Kong history, including geometric pottery of the Bronze Age, celadon of the Tang and Song dynasties, and blue-and-white porcelain wares of the Qing dynasty, and glazed Han/Six dynasties pottery.

6.18 In 1985, archaeological surveys were carried out by AMO on the west of the northern isthmus which are at a distance of only approximately 100m away from the work boundary. In these surveys, coarseware and chalky sherds were found. This strongly suggests the potential for remains of cultural deposit in the isthmus beach area. Therefore, it is important to investigate and confirm the distribution and density of archaeological remains should this area be affected.

6.19 In order to obtain reliable information on the subsurface deposits in the entire work areas, an archaeological survey, including five test pit excavations within the works area (Figure 6.2), was carried out in November 2001. The result of the field survey is summarised below:

Test Pit T1

- Underneath the surface deposit are layers of modern fill interfaced by coarse or fine marine sand. Some red brick pieces might be dated to the early 20th century but they were in the same context with modern porcelain and glass pieces. Modern garbage were found in this pit down to the depth of over 2 meters, indicating that the beach deposit was originally extended to this part of the site, and the low tier of the terrace was only formed in the past decades.

Test Pit T2

- The modern deposit is also thick at the top, and sandy layers are also found underneath. But at the bottom of the pit is the reddish hard clay that is commonly found on the slope and other three pits, indicating this location should be the original edge of the hillfoot facing the bay.
- Some modern or late historical remains are found from the surface layer, probably deposited there by modern human disturbance. Remarkably, a single piece of cord-marked sherd with sandy paste is discovered at the bottom of C203 or surface of C204, but deposit layer underneath is purely natural sandy silt without any sign of human activity. This sherd might have been carried here by either human or natural forces.

Test Pit T3

- The location of T3 is slightly higher than that of others, around 12 metres above the see level. The depth of T3 is therefore shallow than that of others, and there is no remain found from this pit.

Test Pit T4

- The location of T4 is on the same level as T5 and the stratigraphy of the two pits is also similar. A bronze coin is found from the top layer of T4, but it has been severely worn and cannot be recognized for its date.

Marine Archaeology

Lung Kwu Chau Island

6.20 Lung Kwu Chau Island (Dragon Drum Island) to the west of Urmston Harbour, features prominently in early accounts of the Hong Kong region's maritime history. On many early charts, Lung Kwu Chau is transliterated variously as Tung Koo, Tung Koo, Toon Oo or Toon-quoo. The small island to the south is known as Sha Chau (Sandy Island), and frequently appears on early charts as Saw-Chow. Lung Kwu Chau is clearly marked in O Livro de Francisco Rodrigues, (translated by Armando Cortes as The Suma Oriental of Tomé Pires and The Book of Francisco Rodrigues, written in 1514). Rodrigues was a very early Portuguese pilot, cartographer and captain who sailed in HK waters in the early sixteenth century. Rodrigues was one of the commanders of Alvares' flotilla during the voyage from Malacca to China in 1517-18 (Braga, 1955). His Book contains the earliest maps of the region drawn by a European based on actual observation and by men who were familiar with the places depicted. Usually such maps are approximations drawn from the oral accounts of usually Malay or Arab professional pilot (Braga, 1955).

The Portuguese Presence At Lintin And Tuen Mun

6.21 Reference has been made in numerous works to the early Portuguese presence at Lintin and Tuen Mun. The first European navigator known to have reached the China coast, a Portuguese named Jorge Alvares, made his landfall in 1513. Alvares commenced his mission in Malacca, now in Malaysia, that the Portuguese had captured in 1511. Merchandise brought from China, especially porcelain, fetched extremely high prices, with good quality ceramics fetching twice their own weight in silver when re-sold at Goa. Instead of relying on Chinese traders the Portuguese intended to establish their a sea-route to China, and purchase trade goods for themselves at source.

6.22 The local mandarinate at Tuen Mun anchorage, headquartered at nearby Nam Tau, received the Portuguese in a friendly manner and trade commenced. A padr or stone carved with the Portuguese cross and crest was erected by Alvares at Lintin, though nothing of it now survives. These stones functioned more as a marker of passage for later seafarers than as a territorial claim, and were erected wherever the Portuguese mariners sailed, from Mombassa and Ormuz to western India and the Moluccas. They can still seen in some of these places today. Alvares' young son accompanied him on the voyage from Malacca, but he died at Lintin and was buried at the base of the padr erected by his father (Braga, 1955). Alvares, flotilla remained at Tuen Mun for ten months, only returning to Malacca when the south-west monsoon winds permitted them to sail. While not given much freedom of movement, the traders visiting Lin Tin were not as closely confined by the Chinese authorities as in later centuries.

6.23 Jorge Alvares made two further voyages to China, in 1519 and again in 1521. On what was his last voyage to the China coast, he died on 8th July 1521 and was buried beneath the padr in the same spot as his son (Braga, 1955). No trace remains today of the padr . Ming Dynasty gazetteers record that in 1516 the Portuguese came again, but the Chinese under Naval Commander Wang Hong defeated them (Ng, 1983). Later the Portuguese navigator Sim Peres de Andrade built a fort in the neighbourhood of Tuen Mun without first receiving permission from the Chinese to do so; in 1521 a Chinese naval force attacked the Portuguese in the vicinity and defeated them (Ng, 1983).

South-East Asian Junk Trade In The Waters Around Lung Kwu Chau

6.24 The roadstead between Lintin, Nam Tau on the northern side of Deep Bay and Tuen Mun was a popular rendezvous for vessels from South-East Asia trading with south China. The Siamese in particular had quite a large seasonal presence, anchoring further out along the northern coast of Lantau. Their presence must have been of some lasting influence; K.M.A Barnett, a Hong Kong Cadet and very talented Chinese linguist, recorded in the 1940's that an old temple on Lantau had some distinctly Thai characteristics.

6.25 The junk trade from South-East Asia to China in the sixteenth and seventeenth centuries was considerable. The chief merchandise was pepper - at times as much as ten junk-loads a year - cloves, nutmeg, considerable quantities of incense, elephant's tusks, tin, apothecaries requirements, Borneo camphor, red beads, white sandalwood, brazil, large quantities of Straits-grown blackwood known as "Syngapura", carnelians, and coloured woolen cloth. (Braga, 1955).

6.26 Junks anchored in the roadstead between Tuen Mun and Lung Kwu Chau, in the lee of Castle Peak; those from Malacca anchored off Tuen Mun, while those from Siam stopped off the islands round the coast presumably Lung Kwu Chau (Braga, 1955). The principal item of trade from China exchanged in this area was raw white silk in large quantities, loose coloured silks, satins of all colours, damask, taffetas and other thin silk cloths known as xaas (thin turban-material), locally-produced seed-pearls in various shapes, mostly irregular, apothecaries camphor, alum, saltpetre, sulphur, copper, iron, rhubarb, cast-iron kettles, bowls, basins, boxes, needles, and copper bracelets (Braga, 1955).

Urmston's Harbour

6.27 Urmston's Harbour, sometimes referred to as Urmston Bay or Toon -Koo (Tung Koo) Harbour, is the passage of water bounded by coast of Castle Peak Bay, and the small islands of Lung Kwu Chau and Sha Chau situated just to the west of Castle Peak. Urmston Roads was named after Sir James Brabazon Urmston, who was the British East India Company's China chief from 1819 to 1826. He joined the Company's service in 1799, and in 1812 was one of the company's supercargoes employed below the Se lect Committee at Canton (Ride, 1995). The passage received its English name in 1823; prior to that it was referred to as Toon-Koo Bay.

Opium Wars

6.28 The stretch of sea between Kap Shui Mun Passage, between the island of Ma Wan, and Lantau and Lung Kwu Chau was a particularly popular anchoring point for ships in the days of East India and country trade. Coastal waters in the vicinity were extensively surveyed by Captain James Horsburgh, hydrographer to the East India Company in 1806-19. In his report to the Foreign Office he enumerates, among the abundant safe harbours near Canton, " " (Sayer 1980). By early 1836, the area was in regular use as an anchorage. In December 1836, a party of Americans and Englishmen

“*through [passed] the safe anchorage known as Urmston’s Harbour, or Toon Kwu. Till two or three years past, the opium-laden vessels used to anchor here from July till October for shelter against typhoons*” (Sayer, 1980). During the 1840 Anglo -Chinese hostilities, the area was used extensively by British merchant and naval vessels as they were no longer welcome in the vicinity of Macao.

6.29 On 24th of March 1840, H.M.S. *Druid* arrived at Toon Kwu, and six weeks later her commander Lord John Churchill died and was buried at Macao. With the change of the monsoon the merchant fleet arrived at Kap Shui Mun, where in June 1840 it successfully survived an attack by ten fire-rafts. In the words of an eye-witness, Captain Bingham “ *the boats of the men-of-war quickly hooking onto these formidable-looking fire-ships towed them ashore on The Brothers*” (Sayer, 1980).

6.30 In 1857, at the time of the Second Opium War (1857-60) Castle Peak Bay was used by the French fleet for two months from October to December prior to the outbreak of hostilities with China (Sayer, 1980). Urmston Road was especially popular for vessels trading illegally at the nearby island of Lintin, a frequently used rendezvous point for opium smugglers. In one particularly bad typhoon that struck the area the vessel *Governor Findlay*, the British brig *Watkins*, the naval sloop *Raleigh* and the Portuguese brig *Santa Anna* were all dismasted. Eleven other vessels including British, Danish, Portuguese, Spanish, American were all forced to cut away their masts or were driven ashore or foundered at anchor, all with great loss of life and armament. The entire crew of a ship’s cutter, returning to the East India Company ship *Atlas* was lost at Urmston’s harbour. The body of one was recovered [illegible] *a few hats of the crew, and the stretchers of the boat* ”

Archive Search

6.31 The UK Hydrographic Office (UKHO) holds a database of surveyed shipwrecks in Hong Kong, including those not shown on Admiralty Charts. There are no records of wrecks within the assessment area. However, it should be noted that the Hydrographer’s main concern is with navigation and only wrecks or material that may be an obstruction to navigation are recorded. Survey work is also targeted on the main shipping lanes. While the data is useful, it is not a reliable index to the total resource. Archaeological material could be buried in shallow bays, such as Lung Kwu Chau not covered by their surveys.

Geophysical Survey

6.32 In order to obtain accurate information about the seabed and subsurface sediments of the assessment area, a marine geophysical survey was carried out in February 2002 to assess the seabed and sub-surface sediments for archaeological material.

6.33 The side scan sonar records collected within the assessment area are characterised by the following features:

- Rock outcrop
- Isolated dumped materials
- Clusters of dumped materials
- Colluvial cobbles/boulders on the seabed
- Seabed with numerous trawl marks

6.34 Interpretation of the side scan sonar records indicated that there were no features with archaeological potential. The seismic records were examined in detail and there was no indication of buried objects within the assessment area.

Identification and Evaluation of Potential Impacts

6.35 Any area of potential archaeological interest immediately at and in the vicinity of the proposed jetty would potentially be impacted by activities associated with the construction and operation of the jetty.

6.36 Permanent land take (both land and marine) may result in damage or loss of any archaeological remains and deposits, and culturally significant features, and changes of the physical coherence of historic landscape due to the following activities:

- disturbance through excavation at or near an archaeological site, and the passage of heavy machinery on exposed and buried deposits;
- the burial of sites resulting in a limitation on accessibility for future archaeological investigations (including surface survey and remote sensing techniques) and obscuring visible surface evidence; and
- disturbance by machinery working on the present surface.

Land Archaeological Impacts

6.37 Based on the layout plan (Figure 2.1), the proposed jetty will be located on the east of the northern isthmus of the Lung Kwu Chau Archaeological Site. It is expected that construction works such as site clearance and excavation would be undertaken for the jetty on the archaeological site, and would cause the damage or loss of archaeological deposits, if present.

6.38 According to the desktop review and archaeological survey, the result of the field survey in the works area at Lung Kwu Chau indicates that the distribution of archaeological deposits on the island is confined on the sandy tombolo and along the western beach in the middle part of the island. Cultural remains such as cord-marked pottery sherds can still be found along the western beach. The works area of the proposed construction, however, has no remains of human activities from the Neolithic and historical times. Therefore, it is concluded that the construction of the proposed jetty at Lung Kwu Chau will not cause any adverse impact to cultural heritage within the boundary of the works area.

Marine Archaeological Impacts

6.39 The dredging of the approach channel to a depth –2.5m CD will have a negative impact on the seabed and would result in the destruction of any archaeological material, if present. Similarly, construction of the jetty will cause significant seabed disturbance.

6.40 The side scan sonar data provided clear evidence that the seabed within the assessment area has been extensively trawled. This is indicated by the presence of a large number of deeply incised trawl scars on the seabed. The trawling method of fishing is very common in Hong Kong. Inspection of boats in any of the main fishing ports such as Aberdeen and Cheung Chau reveals numerous fishing boats fitted with trawling gear deploying otter boards. Otter boards are attached to the lower edge of trawling nets, and serve to keep the net down and the net jaws apart. Otter boards penetrate the seabed by between 0.5m and 1m when in use. The trawling activities may therefore have served to destroy or redistribute archaeological material, if present, thereby reducing the archaeological potential of the assessment area.

6.41 The baseline review indicated high archaeological potential for shipwrecks in the assessment area. However, the geophysical survey did not reveal any features with archaeological potential. The side scan sonar data indicated the presence of scattered dumped material and extensive deeply incised trawl marks on the seabed. The trawling activities may have served to destroy or redistribute archaeological material, if present, thereby reducing the archaeological potential of the assessment area. Since there are no archaeological resources present within the seabed of the assessment area, it follows that there are no related constraints on the proposed development.

Mitigation Measures

6.42 Based on the findings of the archaeological test pits and marine geophysical survey, there is no need for any further archaeological investigation or mitigation measures.

Conclusion

6.43 The proposed jetty will be constructed within the Lung Kwu Chau Archaeological Site. A baseline study has been carried out to collect available information through desktop review, archaeological test pits and marine geophysical survey.

6.44 The desktop review and archaeological survey indicate that the distribution of archaeological deposits on the island is confined on the sandy tombolo and along the western beach in the middle part of the island. The on-shore works area of the proposed construction, however, has no archaeological remains and deposits and hence, no adverse impact to land cultural heritage is expected.

6.45 The marine geophysical survey did not reveal any features with archaeological potential. Since there are no archaeological resources present within the seabed of the assessment area, there are no related constraints associated with the construction of the proposed jetty.

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