Chapter 9

CULTURAL HERITAGE

9 CULTURAL HERITAGE

Introduction

9.1 This Section presents the assessment results of the potential impacts on cultural heritage resources in the Study Area, which may be impacted as a result of the Project. The discussion is based on an archaeological survey conducted by AMO in August-November 2001. Mitigation measures required to preserve the cultural heritage have been recommended. Rescue plan has been prepared for the affected area, where preservation on site is infeasible.

Legislation, Standards, Guidelines & Criteria

9.2 The following legislation, standards, guidelines and criteria are relevant to the evaluation of impacts on cultural heritage resources in Hong Kong:

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

9.3 The heritage resources of Hong Kong are governed by a range of legislative and planning mechanisms. The *Antiquities and Monuments Ordinance (Cap 53)*, provides statutory protection against the threat of development for declared monuments, historical buildings and archaeological sites to enable their preservation for posterity. The Ordinance establishes statutory procedures to be followed in making such a declaration.

9.4 A wide range of sites of cultural heritage are identified and recorded by the AMO in addition to those in respect of which a declaration has been made under *the Antiquities and Monuments Ordinance (Cap 53)*; historical buildings and structures are so recorded as follows:

- Grade 1 Buildings of outstanding merit, which every effort should be made to preserve if possible.
- Grade 2 Buildings of special merit; effort should be made to selectively preserve.
- Grade 3 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.

9.5 Guidelines on the approach, methodologies and criteria to be used in the conduction a cultural heritage impact assessment (HIA) are included under *Annex 10* and *19* of the EIAO TM, and the assessment criteria are explained in the GN CH. The stated in EIAO-TM *Annex 10* criteria for evaluating impacts to sites of cultural heritage include:

- 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; and

- Adverse impacts on sites of cultural heritage shall be kept to an absolute minimum.

9.6 The HKPSG, Chapter 10 (Conservation), provides general guidelines and measures for the conservation of historical buildings, archaeological sites and other antiquities.

Assessment Methodology

Baseline Study

9.7 In the Theme Park EIA, a baseline study including both desk-top studies and field surveys has been conducted to develop a comprehensive inventory of archaeological and built historical features in the Theme Park Area (including Choey Lee Shipyard) has been compiled to include:

- all sites of archaeological interest (including marine archaeological sites);
- all pre-1950 buildings and structures;
- selected post-1950 buildings and structures of high architectural and historical significance and interest; and
- landscape features including sites of historical events or providing a significant historical record or a setting for buildings or monuments of architectural or archaeological importance, historic field patterns, tracks and fishponds and cultural element such as, fung shui woodlands and clan graves.

9.8 Desk-top studies to identify the above elements has included reference and review of the following:

- records held by the AMO;
- published records;
- unpublished records;
- journals of the Hong Kong Archaeological Society;
- maps and aerial photos from the Land Department;
- information from other government departments; and
- relevant findings of EIA Reports and relevant studies etc.

9.9 Field visits, field scans of historic buildings and structures and focused scoped archaeological field evaluations have been undertaken, which follows AMO's detailed criteria on heritage impact assessment, to supplement the findings of desk-top studies.

Impact Assessment

9.10 The assessment of direct and indirect, positive and negative impacts upon identified heritage resources has been conducted in accordance with the approach outlined in *Annex 19* of the TM and the *Study Brief*. The assessment hierarchy is as follows:

- Preservation in totality will be a beneficial impact and will enhance the cultural and socio-economical environment if suitable measures to integrate the sites of cultural heritage into the proposed project are carried out.

- If, due to site constraints and other factors, only preservation in part is possible, this must be fully justified with alternative proposals or layout designs, which confirm the impracticability of total preservation.

- Total destruction must be taken as the very last resort in all cases and shall only be recommended with a meticulous and careful analysis balancing the interest of preserving the archaeological, historical, architectural and other cultural values as against that of the community as a whole.

Existing Environment

9.11 A review of existing information has focused on the archives held by the AMO and supplemented by the Archaeological Survey Report for Lantau Port Development conducted by the Chinese University of Hong Kong (CUHK) in 1991(CUHK, 1991), the Territory Wide Archaeological Survey report at North Lantau conducted by AMO's appointed specialist team (AMO, 1998), the Wan Tuk Archaeological Site Investigation conducted by AMO's appointed specialist team (Zhuhai Relics Management Committee, 1999) and reviews of other relevant literature.

9.12 No declared archaeological sites under the AMO have been identified within the Study Area.

9.13 According to the archaeological deposits identified at the Penny's Bay area (Scott 1999a and 1999b; Meacham, 1986-88; Lam, 1989-92), the coastal area beneath the existing Cheoy Lee Shipyard (CLS) is considered to have an archaeological potential. However, no field survey has been undertaken prior to the construction of the CLS during the 1960s.

9.14 No declared/deemed monuments, graded historical buildings/features, additional sites have been identified within the Study Area (including CLS) from the desktop literature/ records reviews and field surveys.

Potential Sources of Impacts

9.15 Potential impacts on identified cultural heritage resources within and in close proximity to the Study Area boundary may arise from landtake for both temporary and permanent facilities which may result in damage to, or loss of, archaeological remains and deposits, culturally significant features and changes to the physical coherence of historic landscapes.

9.16 Construction works may result in damage to or loss of buried archaeological sites by:

- Disturbance through excavation/ decontamination at or near an archaeological site
- the passage of heavy machinery on exposed and buried deposits;
- deep excavation for infrastructure construction (e.g. columns for elevated roads)
- Change in the watertable due to construction and development activities;
- 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
- The introduction of archaeological material with spoils from other sites.

Evaluation of Cultural Heritage Impacts

9.17 An archaeological survey of the CLS has been conducted by AMO between August and September 2001. Three areas (namely Area A, B and C) have been investigated. Figure 9.1 shows the location of the three excavated areas.

9.18 The survey revealed that CLS has high archaeological values. Many artifacts of different periods, including the Late Neolithic period, Bronze Age, Tang Dynasty, Song Dynasty, Ming Dynasty and Ching Dynasty have been recovered in the three demarcated zones, along the ancient coastal area. As Penny's Bay is surrounded by hills and is remote from the city centre, the cultural heritage would not be damaged easily. The recovered cultural remains therefore have high archaeological value.

Area A:

9.19 Kiln bricks, kiln furniture and fired clay were found in one of the trail pits (Photos 9.1 – 9.3). They are believed to be the remains from a kiln of Tang Dynasty (from 618 AD to 907 AD).

Area B

9.20 Large amount of artifacts have been recovered in this zone, as described below:

- A piece of corded coarseware was found in this zone (Photo 9.4). This type of pottery shard and its surface decoration are typical remains in the Late Neolithic Period (from 2500 BC to 1500 BC) which is about 4000 years ago.
- A copper coin with mark "Yuan Fang Tong Bao" was found (Photo 9.5). "Yuan Feng" was one of the Region in Song Dynasty and was about 1078 AD to 1085 AD.
- A piece of lattice pattern pottery shard of Six Dynasty was recovered, which is about 1800 years old.
- Layer of black ash, red layer of clay and stones deposits were recovered in this zone. The colour change is attributed to combustion at high temperature. It is believed that the area is the remains of kiln.
- A substantial amount of "blue-and white porcelain shards" from Jinngezhen of Ming Dynasty (1368 AD to 1644 AD), were recovered (Photos 9.6 –9.9).
- Pottery and porcelain shards, from Ming and Ching Dynasty, were recovered.

Area C

9.21 Large amounts of porcelain and pottery shards, from Ming and Ching Dynasty, were recovered.

9.22 No historic buildings and features have been identified within the Study Area and therefore, no impact is expected.

Mitigation of Adverse Environmental Impacts

9.23 The three areas of archaeological significance coincide with the contaminated areas. Decontamination works such as excavation will pose an unavoidable damage to archaeological deposits and preservation *in situ* is therefore not feasible. The archaeological deposits at the three zones at CLS shall therefore be mitigated by rescue excavation and on-site monitoring. Figure 9.3 shows the proposed rescue excavated zones and on-site monitoring zones at CLS.

9.24 It is recommended that impermeable sheeting shall be used to cover the three archaeology zones at CLS for areas where are not subjected to rescue excavation.

9.25 Detailed design of filling ground level adjustment work should protect the site by runoff diversion and laying of granular material over the impermeable sheeting to avoid waterlogged condition.

9.26 The detailed design of structural support locations at the rescue excavated zone should be avoided to ensure the potential impact to any surviving archaeological remains is kept in an absolute minimum.

9.27 As the area in CLS is contaminated with hazardous materials, the rescue team shall adopt the following precautionary measures to ensure the safe and healthful work environment.

- Smoking, open flames and the carrying of matches and lighters is not allowed in the rescue areas;
- Personal protective clothing (plastic gloves and boots) shall be worn by the team members at all time;
- Respirator and gloves for vapour exposure protection shall be worn during excavation;
- Temporary stockpiles beside excavation areas shall be covered by tarpaulin or low permeable sheet to prevent dust emission and contaminated runoff;
- Impermeable sheet should be placed at the bottom of the stockpile to prevent leachate from contaminating the underlying soil/groundwater;
- Inactive excavated area should be covered with impermeable sheet, and
- Any contaminated material shall be backfilled on site after completion of the rescue work.

Impact Summary

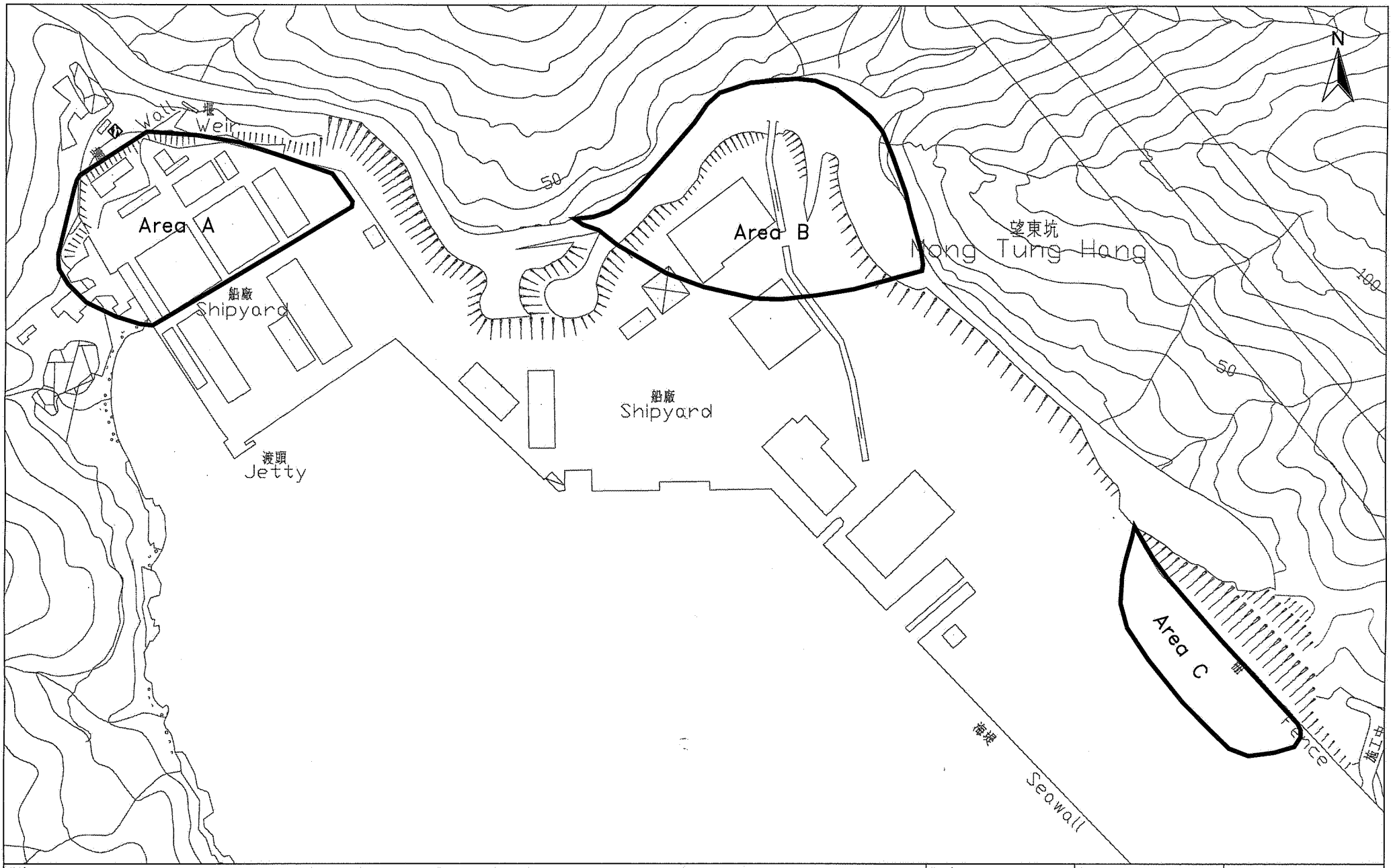
Table 9.1 Cultural Heritage Impact Summary Table

Location	Construction Impact	Mitigation Measures
CLS archaeological potential site	Potential damage to or loss of archaeological deposit at the original coastal area beneath the CLS	The cultural heritage impacted area should be mitigated by rescue excavation and on-site monitoring. All rescue excavation have to be completed prior to the decontamination works. Impermeable sheeting shall be used to cover the archaeological potential site where are not subjected to rescue excavation. Detailed design of filling work should consider laying granular materials over impermeable sheeting and diversion of site runoff to prevent waterlogged conditions. For areas where preservation in situ is not possible, the impact on the heritage resources have to mitigated by rescue excavation.

Conclusion

9.28 An archaeological survey has been conducted for the CLS, and revealed artifacts of high archaeological values in CLS. Many artifacts of different periods, including the Late Neolithic period, Tang Dynasty, Song Dynasty, Ming Dynasty and Ching Dynasty have been recovered in CLS, along the ancient coastal area.

9.29 Potential impact to archaeological resources may arise from landtake, ground compaction, topsoil or subsoil disturbance during construction, change in watertable and a limitation on accessibility for future investigation, which may result in damage to, or loss of the archaeological remains. Preservation measures include covering the archaeological potential sites, where are not subjected to rescue excavation, by impermeable sheeting before filling. Detailed design of filling work should include diversion of site runoff to prevent any waterlogged conditions at the archaeological sites. On-site monitoring has been proposed to minimise the impacts of archaeological deposits. For areas where preservation in situ is not possible, the impact on the heritage resources should be mitigated by rescue excavation. All rescue works have to be completed prior to the decontaminated works of CLS. The rescue excavation shall be carried out by AMO.



Title	Agreement No. CE 68/99 Infrastructure for Penny's Bay Development - Engineering Design and Construction Decommissioning of Cheoy Lee Shipyard	Scale 1:2500	Project No. R06100
	Location of Survey Areas	Date Feb 2002	Figure No. 9.1

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Photo : 9.1 Kiln Brick

Photo : 9.2 Kiln Furniture

Photo : 9.3 Fired Clay

Title	Agreement No. CE 68/99 Infrastrusture for Penny's Bay Development - Engineering Desgin and Construction Decommissioning of Cheoy Lee	Scale	N.T.S.	Project No.	R06100
	Artifacts Recovered at Cheoy Lee Shipyard	Date	Feb-02	Figure No.	9.2

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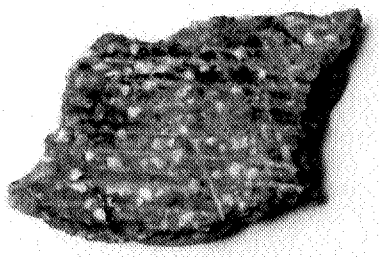

Photo : 9.4 Corded Coarseware

Photo : 9.5 Copper Coin With Mark 'Yuan Fang Tong Bao'

Title	Agreement No. CE 66/99 Infrastructure for Penny's Bay Development - Engineering Desgin and Construction Decommissioning of Cheoy Lee Shipyard Artifacts Recovered at Cheoy Lee Shipyard	Scale N.T.S.	Project No. R06100	Maunsell MAUNSELL ENVIRONMENTAL MANAGEMENT CONSULTANTS LTD
		Date Feb-02	Figure No. 9.2	

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Photo : 9.6 Blue-and-white Porcelain Shards

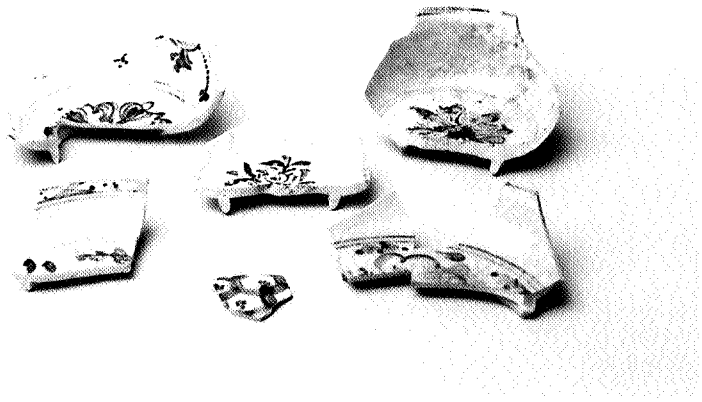

Photo : 9.7 Blue-and-white Porcelain Shards

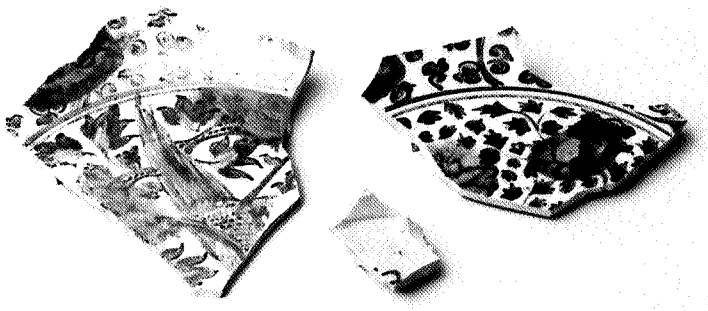

Photo : 9.8 Blue-and-white Porcelain Shards

Title	Agreement No. CE 66/99 Infrastructure for Penny's Bay Development - Engineering Desgin and Construction Decommissioning of Cheoy Lee Shipyard Artifacts Recovered at Cheoy Lee Shipyard	Scale N.T.S.	Project No. R06100	Maunsell MAUNSELL ENVIRONMENTAL MANAGEMENT CONSULTANTS LTD
		Date Feb-02	Figure No. 9.2	

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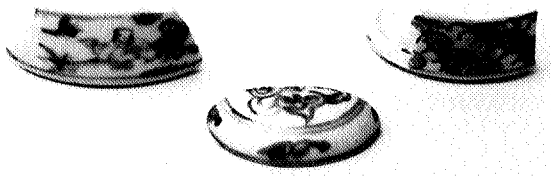

Photo : 9.9 Blue-and-white Porcelain Shards

Title	Agreement No. CE 68/99 Infrastrusture for Penny's Bay Development - Engineering Desgin and Construction Decommissioning of Cheoy Lee Shipyard Artifacts Recovered at Cheoy Lee Shipyard	Scale N.T.S.	Project No. R06100	Maunsell MAUNSELL ENVIRONMENTAL MANAGEMENT CONSULTANTS LTD
		Date Feb-02	Figure No. 9.2	

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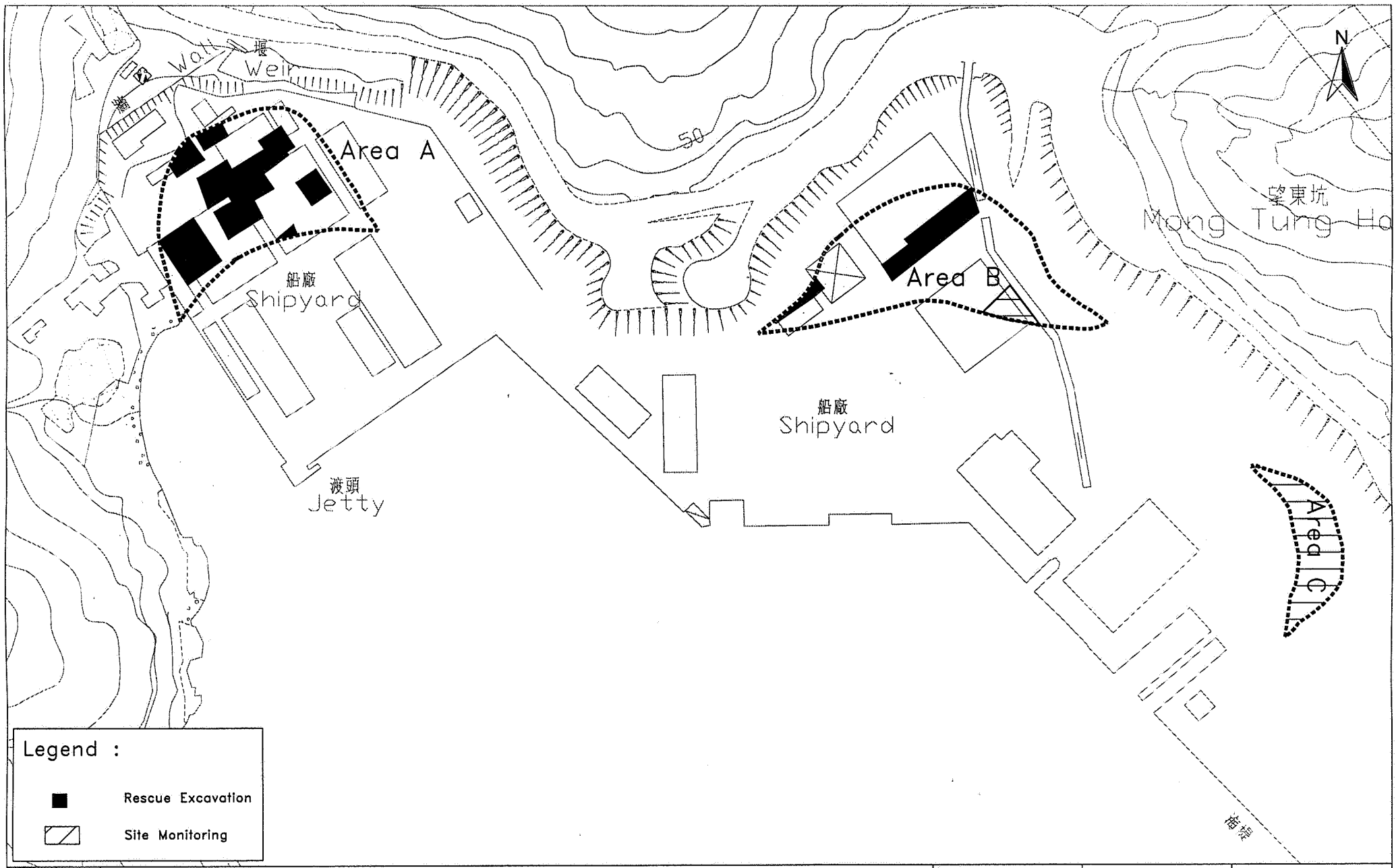

Title	Agreement No. CE 68/99 Infrastructure for Penny's Bay Development - Engineering Design and Construction Decommissioning of Cheoy Lee Shipyard	Scale 1:2000	Project No. R06100
	Proposed Rescue Excavation and Site Monitoring Zone at Cheoy Lee Shipyard	Date Feb 2002	Figure No. 9.3

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