

## **Criteria for Cultural Heritage Impact Assessment**

### **(1) Baseline Study**

#### 1.1 A baseline study shall be conducted:

- a. to compile a comprehensive inventory of archaeological sites (including marine archaeological sites), historic buildings and structures within the proposed project area, which include:
  - (i) all sites of archaeological interest (including marine archaeological sites);
  - (ii) all pre-1950 buildings and structures;
  - (iii) selected post-1950 buildings and structures of high architectural and historical significance and interest; and
  - (iv) landscape features include 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 fish ponds and cultural element such as *fung shui* woodlands and clan grave.
- b. to identify the direct and indirect impacts on the site of cultural heritage at the planning stage in order to avoid causing any negative effects. The impacts include the direct loss, destruction or disturbance of an element of cultural heritage, impact in its settings causing impinge on its character through inappropriate sitting or design, potential damage to the physical fabric of archaeological remains, historic buildings or historic landscapes through air pollution, change of ground water level, vibration, recreation pressure and ecological damage by the development. The impacts listed are merely to illustrate the range of potential impacts and not intended to be exhaustive.

#### 1.2 The baseline study shall also include a desk-top study and a field evaluation.

#### 1.3. Desk-top Study

- 1.3.1 Desk-top searches should be conducted to analyse, collect and collate extant information. They include:
  - a. Search of the list of declared monuments protected by the Antiquities and Monuments Ordinance (Chapter 53).

- b. Search of the list of deemed monuments through the Antiquities and Monuments Office (AMO) of the Leisure and Cultural Services Department.
- c. Search of the list of sites of cultural heritage identified by the AMO.
- d. Search of publications on local historical, architectural, anthropological, archaeological and other cultural studies, such as, Journals of the Royal Asiatic Society (Hong Kong Branch), Journals of the Hong Kong Archaeological society, Antiquities and Monuments Office Monograph Series and so forth.
- e. Search of other unpublished papers, records, archival and historical documents through public libraries, archives, and the tertiary institutions, such as the Hong Kong Collection and libraries of the Department of Architecture of the University of Hong Kong and the Chinese University of Hong Kong, Public Records Office, photographic library of the Information Services Department and so forth.
- f. Search of any other unpublished archaeological investigation and excavation reports kept by the AMO.
- g. Search of historical documents in the Public Records Office, the Land Registry, District Lands Office, District Office and the Hong Kong Museum of History and so forth.
- h. Search of cartographic and pictorial documents. Maps of the recent past searched in the Maps and Aerial Photo Library of the Lands Department.
- i. Study of existing Geotechnical information (for archaeological desk-top research).
- j. Discussion with local informants.

## 1.4 Field Evaluation

1.4.1 The potential value of the project area with regard to the cultural heritage could be established easily where the area is well-documented. However, it does not mean that the area is devoid of interest if it lacks information. In these instances, a site visit combined with discussions with appropriate individuals or organisations should be conducted by those with expertise in the area of cultural heritage to clarify the position.

### 1.4.2 Historic buildings and structures survey

- a. Field scan of all the historic buildings and structures within the project area.
- b. Photographic recording of each historic building or structure including the exterior (the elevations of all faces of the building premises, the roof, close

up for the special architectural details) and the interior (special architectural details), if possible, as well as the surroundings of each historic building or structure.

- c. Interview with local elders and other informants on the local historical, architectural, anthropological and other cultural information related to the historic buildings and structures.
- d. Architectural appraisal of the historic buildings and structures.

#### 1.4.3 Archaeological Survey

- a. Appropriate methods for pricing and valuation of the archaeological survey, including by means of a Bill of Quantities or a Schedule of Rates should be considered in preparing specifications and relevant documents for calling tenders to carry out the archaeological survey. The specifications and relevant documents should be sent to the Antiquities and Monuments Office for agreement prior to calling tenders to conduct the archaeological survey.
- b. A licence shall be obtained from the Antiquities Authority for conducting an archaeological survey. It takes at least two months to process the application.
- c. A detailed archaeological survey programme should be designed to assess the archaeological potential of the project area. The programme should clearly elaborate the strategy and methodology adopted, including what particular question(s) can be resolved, how the archaeological data will be collected and recorded, how the evidence will be analyzed and interpreted and how the archaeological finds and results will be organized and made available. Effective field techniques should also be demonstrated in the programme. The programme should be submitted to the Antiquities and Monuments Office for agreement prior to applying for a licence.
- d. The following methods of archaeological survey (but not limited to) should be applied to assess the archaeological potential of the project area:
  - (i) Definition of areas of natural land undisturbed in the recent past.
  - (ii) Field scan of the natural land undisturbed in the recent past in detail with special attention paid to areas of exposed soil which were searched for artifacts.

- (iii) Conduct systematic auger survey and test pitting. The data collected from auger survey and test pitting should be able to establish the horizontal spread of cultural materials deposits.
- (iv) Excavation of test pits to establish the vertical sequence of cultural materials. The hand digging of 1 x 1 m or 1.5 x 1.5 m test pits to determine the presence or absence of deeper archaeological deposits and their cultural history.
- (v) The exact quantity and location of auger holes and test pits should be agreed with the Antiquities and Monuments Office prior to applying for a licence.
- (vi) A qualified surveyor should be engaged to record reduced levels and coordinates as well as setting base points and reference lines in the course of the field survey.

1.4.4 If the field evaluation identifies any additional sites of cultural heritage within the study area which are of potential historic or archaeological importance and not recorded by AMO, the office should be reported as soon as possible. The historic and archaeological value of the items will be further assessed by the AMO.

## 1.5 The Report of Baseline Study

1.5.1 The study report should have concrete evidence to show that the process of the above desk-top and field survey has been satisfactorily completed. This should take the form of a detailed inventory of the sites of cultural heritage supported by full description of their cultural significance. The description should contain detailed geographical, historical, archaeological, architectural, anthropological, ethnographic and other cultural data supplemented with illustrations below and photographic and cartographic records.

### 1.5.2 Historic Buildings and Structures

- a. A map in 1:1000 scale showing the boundary of each historic building or structure.
- b. Photographic records of each historic building or structure.
- c. Detailed record of each historic building or structure including its construction year, previous and present uses, architectural characteristics, as well as legends, historic persons and events, and cultural activities associated with the structure.

### 1.5.3 Archaeological Sites

- a. A map showing the boundary of each archaeological site as supported and delineated by field walking, augering and test-pitting;
- b. Drawing of stratigraphic section of test-pits excavated which shows the cultural sequence of a site.
- c. Reduced levels, coordinates, base points and reference lines should be clearly defined and certified by a qualified surveyor.
- d. *Guidelines for Archaeological Reports* should be followed (Annex 1).

1.5.4 A full bibliography and the source of information consulted should be provided to assist the evaluation of the quality of the evidence. It is expected that the study and result are up to an internationally accepted academic and professional standard.

## 1.6 Finds and Archives

1.6.1 Archaeological finds and archives should be handled following *Guidelines for Handling of Archaeological Finds and Archives* (Annex 2).

## (2) Impact Assessment

2.1 Culture heritage impact assessment must be undertaken to identify the impacts of the sites of cultural heritage which will be affected by the proposed development subject to the result of desktop research and field evaluation. The prediction of impacts and an evaluation of their significance must be undertaken by an expert in cultural heritage. During the assessment, both the direct impacts such as loss or damage of important features as well as indirect impacts such as change of ground water level which may affect the preservation of the archaeological and built heritage in situ should be stated. A detailed description and plans should be provided to elaborate to what extent the site of cultural heritage will be affected.

2.2 Preservation in totality must be taken as the first priority. Please refer to paragraph 4.3.1(c), item 2 of Annex 10, items 2.6 to 2.9 of Annex 19 and other relevant parts of the Technical Memorandum on Environmental Impact Assessment Process for the detailed requirements of the impact assessment.

### **(3) Mitigation Measures**

- 3.1 It is always a good practice to recognise the site or monument early in the planning stage and site selection process, and to avoid it, i.e. preserve it in-situ, or leaving a buffer zone around the site. Built heritage, sites and landscapes are to be in favour of preservation unless it can be shown that there is a need for a particular development which is of paramount importance and outweighs the significance of the heritage feature.
- 3.2 If avoidance of the cultural heritage is not possible, amelioration can be achieved by reduction of the potential impacts and the preservation of heritage features, such as physically relocating it. Measures like amendments of the sitting, screening and revision of the detailed design of the development are required to lessen its degree of exposure if it causes visual intrusion to the cultural heritage and affecting its character.
- 3.3 All the assessments should be conducted by an expert in cultural heritage and further evaluated and endorsed by the Antiquities and Monuments Office and the Antiquities Advisory Board.
- 3.4 Besides refer to paragraph 4.3.1(d), items 2.10 to 2.14 of Annex 19 and other relevant parts of the Technical Memorandum. Proposals for mitigation measures should be accompanied with a master layout plan together with all detailed treatment, elevations, and landscape plan. A rescue programme, when required, may involve preservation of the historic building or structure together with the relics inside, and its historic environment through relocation, detailed cartographic and photographic survey or preservation of an archaeological site “by record”, i.e. through excavation to extract the maximum data as the very last resort.
- 3.5 The programme for implementation of agreed mitigation measures should be able to be implemented. It is to be clearly stated in the EIA report, as required in Annex 20 of the Technical Memorandum. In particular, item 6.7 of Annex 20 requires to define and list out clearly the proposed mitigation measures to be implemented, by whom, when, where, to what requirements and the various implementation responsibilities. A comprehensive plan and programme for the protection and conservation of the partially preserved Site of Cultural Heritage, if any, during the planning and design stage of the proposed project must be detailed.

**Annex 1 to Appendix C****Guidelines for Archaeological Reports****I General**

1. All reports should be written in a clear, concise and logical style.
2. The reports should be submitted in A4 size and accompanying drawings of convenient sizes, but not exceeding A3 size unless otherwise approved by the Antiquities and Monuments Office (AMO).
3. Draft reports should be submitted to AMO for comments within two months after completion of archaeological work unless otherwise approved by AMO.
4. The draft reports should be revised as required by AMO and relevant parties. The revised reports should be submitted to AMO within three weeks after receiving comments from AMO and relevant parties.
5. At least 3 hard copies of the final reports should be submitted to AMO for record purpose.
6. At least 2 digital copies of the final reports in both Microsoft Word format and Acrobat (.PDF) format without loss of data and change of appearance compared with the corresponding hard copy should be submitted to AMO. The digital copies should be saved in a convenient medium, such as compact discs with clear label on the surface and kept in protective pockets.

**II Suggested Format of Reports**

1. Front page:
  - Project/Site name
  - Nature of the report  
e.g. (Draft/Final)  
Archaeological Investigation/Survey Report  
Archaeological Impact Assessment Report  
Watching Brief Report  
Rescue Excavation Report  
Post-excavation Report
  - Organization
  - Author
  - Date of report
2. Contents list  
Page number of each section should be given.
3. Non-technical summary (both in English and in Chinese)  
This should outline in plain, non-technical language, the principal reasons for the archaeological work, its aims and main results, and should include reference to authorship and commissioning body.
4. Introduction  
This should set out background leading to the commission of the reports. The location, area, scope and date of conducting the archaeological work must be given. The location of archaeological work should be shown on maps in

appropriate scales and with proper legends.

5. Aims of archaeological work  
These should reflect the aims set in the project design.
6. Archaeological, historical, geological and topographical background of the site  
Supporting aerial photos and maps (both old and present) in appropriate scales, with proper legends and with the site locations clearly marked on should be provided.
7. Methodology  
The methods used including any variation to the agreed project design should be set out clearly and explained as appropriate.
8. Result  
This should outline the findings, known and potential archaeological interests by period and/or type. Their significance and value with reference/inclusion of supporting evidence should be indicated. For impact assessment, the likely effect of the proposed development on the known or potential archaeological resource should be outlined.
9. Conclusion  
This should include summarization and interpretation of the result.
10. Recommendation  
Recommendations on further work and the responsible party as well as a brief planning framework should be outlined.
11. Reference and bibliography  
A list of all primary and secondary sources used should be given.
12. Supporting illustrations  
They should be clearly numbered and easily referenced to the text. They should be scanned and saved in TIFF or JPEG formats.

(i) Maps

Archaeological work locations, such as auger hole and test pit locations (with relevant coordinates certified by a qualified surveyor), should be clearly shown on maps in appropriate scales and with proper legends and captions.

(ii) Drawings of test pits, archaeological features and finds

The below scales should be followed:

Cross section and profile drawings of test pits	1:20
Archaeological feature drawings	1:10
Finds drawings	1:1

If drawings of the above stated scales are not appropriate to be incorporated into the report under certain occasions, reduced copy of the drawings with the same scales are acceptable. Proper captions, legends and indication of reduced size should be given.



- (iii) Photos of site and finds  
All photos should be at least in 3R size with proper captions and scales. They should be clearly numbered and easily referenced to the text. They should be scanned and saved in TIFF or JPEG formats.

- 13. Supporting data in appendices  
These should consist of essential technical details to support the result. These may include stratigraphy record of test pits and auger holes, record of general and special finds discovered with description, quantity and context number/stratigraphical sequence, index of field archives.
- 14. Comment and Response  
All comments and responses from AMO and relevant parties should be attached.

### **III Green Measures**

- 1. All reports should be of single line spacing and printed on both sides of the paper.
- 2. Excessive page margins should be avoided. A top/bottom margin of 2 cm and left/right margin of 2.5 cm are sufficient.
- 3. Use of blank paper should be avoided as far as possible.
- 4. Suitable font type of font size 12 should be used generally in balancing legibility and waste reduction objective.

## **Annex 2 to Appendix C**

### **Guidelines for Handling of Archaeological Finds and Archives**

#### **I. General**

##### **1. Site Code**

The Licensee should contact the Central Archaeological Repository (CAR) of the Antiquities and Monuments Office (AMO) [Contact Person: Mr. Michael TANG, Tel: 2384 5446; Email: mkstang@lcsd.gov.hk] about the allocation of site code before the commencement of the project to avoid duplicate of site code assignment.

#### **II. Archaeological Finds**

##### **2. Cleaning**

Every excavated finds should be properly cleaned before handing over to the CAR of the AMO.

##### **3. Marking**

- All the excavated finds should be cleaned before marking object number.
- “Sandwich” technique<sup>1</sup> should be adopted for marking permanent identification number on an object.
- Every special finds should be marked with site code, context number and object number, etc.
- All representative samples collected from general finds should be marked.
- For the finds which is too small, has unstable surface, or leather, textiles or wood, it should not be marked/labeled directly and should be bagged separately or attached with tags by tying. The tag should contain information about the object number, context number and site code, etc.

##### **4. Labeling and bagging**

- A label should be attached on each bag.
- Information about the object number, context number, test-pit number, site code and bag number should be stated clearly on the label.
- Finds excavated within the same context should be bagged together.

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#### <sup>1</sup> *Steps for “Sandwich” technique*

1. First of all, the object should be marked in appropriate area and size that does not impact important diagnostic or aesthetic parts of the object.
2. Clean the area to be marked.
3. Apply a thin coat of clear reversible lacquer on the area. Use white lacquer if the object is dark in colour. Let the base coat dry completely.
4. Use a permanent water-based ink to write the object number on top of the base coat. Let ink dry completely.
5. Apply a top coat of clear varnish.
6. Let the marking dry completely before packing.

However, if they have been categorized according to their types, materials or characteristics, separate bagging is required.

5. Conservation
  - To refit and reconstruct pottery vessels by appropriate adhesive. A heat and waterproof adhesive, e.g. product of H. Marcel Guest Ltd., is recommended.
  - Any adhesives which are not reversible or will damage artefacts, e.g. the pottery vessel should not be applied on the finds.
6. Finds register

A clear finds register with information about the finds description, quantity, form, weight, dimensions and field data should be prepared for handover to the CAR.

### **III. Field Archives and Laboratory Records**

7. Field archives include field diary, context recording sheet, special finds recording sheet, soil sample/sample recording sheet, map, survey sheet and video/visual records etc. Laboratory records also form part of the archaeological archives, which include finds processing record, conservation record, finds drawings and photos, records of typological analysis and objects card etc.
8. All the aforesaid archives should be handed over to the CAR after the compilation of the excavation report. Attention should be drawn to the followings:
  - All the field archives should be submitted together with their indexes.
  - The video footage should be submitted together with a detailed script introducing the content of the video record.
  - All the slides, colour/black & white negatives and digital photographs should be submitted together with their contact prints and indexes.

#### ***Handover of Finds***

9. Packing
  - Every special finds should be protected with tissue paper, bubble sheet or P.E. foam with shock-proofed packing. No packing material other than the aforesaid items should be used.
  - All the general finds should be stored in heavy duty plastic container with shock-proofed packing.
  - The heavy duty plastic container, e.g. product of the Star Industrial Co., Ltd. (No. 1849 or 1852), is recommended.
  - For oversized finds, prior advice on packing method should be sought from the AMO.
10. Handover procedure
  - The Licensee should arrange to transport the finds and archives to the CAR upon the completion of the finalized excavation report.
  - Separate handover forms for finds and archives should be signed by the representatives of the Licensee and the AMO.