

本署檔號
OUR REF: () in EP2/N1/C/68
來函檔號
YOUR REF:
電話
TEL. NO.: 2835 1105
圖文傳真
FAX NO: 2591 0558
電子郵件
E-MAIL: qng@epd.gov.hk
網址
HOMEPAGE: <http://www.epd.gov.hk>

**Environmental Protection Department
Branch Office**

28th Floor, Southorn Centre,
130 Hennessy Road,
Wan Chai, Hong Kong.



環境保護署分處
香港灣仔
軒尼詩道
一百三十號
修頓中心廿八樓

11 August 2023

By Registered Post & Fax

Civil Engineering and Development Department

Dear

**Environmental Impact Assessment (EIA) Ordinance, Cap.499
Application for EIA Study Brief**

**Project Title: Ma Liu Shui Reclamation
(Application No. ESB-361/2023)**

I refer to your above application received on 3 July 2023 for an EIA Study Brief under Section 5(1)(a) of the EIA Ordinance.

In accordance with Section 5(7)(a) of the EIA Ordinance and after public inspection of the project profile, I issue the attached EIA Study Brief (No. ESB-361/2023) for your preparation of an EIA report.

Under Section 15 of the EIA Ordinance, the EIA Study Brief will be placed on the EIA Ordinance Register. It will also be placed on the EIA Ordinance website (<http://www.epd.gov.hk/eia/>).

You may submit an application for approval of the EIA report in accordance with Section 6(2) of the EIA Ordinance after its completion. Upon receipt of your application, this department will decide under Section 6(3) of the EIA Ordinance whether the EIA report meets the requirements of the EIA Study Brief and Technical Memorandum on EIA Process, and accordingly advise you under Section 6(4) of the EIA Ordinance whether a submission to the Advisory Council on the Environment (ACE) or its subcommittee is required. In this connection, you are required to provide sufficient copies of the Executive Summary of the EIA report to the Secretariat of the EIA Subcommittee of the Council for selection for submission when you submit the EIA report to this department for approval. Please liaise with Ms. Sally SHEK (Tel: 2594 6324) regarding the details in due course.

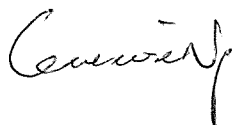
If the EIA report is selected by ACE for submission and presentation, you are expected to provide ACE with an account of the environmental issues arising from the project, major

conclusions and recommendations of the EIA study. In particular, the main environmental concerns of the general public and interest groups who may be affected by the Project should be identified and addressed in the EIA study. As such, you are strongly advised to engage the public and interest groups during the course of the EIA study. Please find attached a copy of the "*Modus Operandi of the EIA Subcommittee of the Advisory Council on the Environment*" for your reference.

Please note that if you are aggrieved by any of the content of this EIA Study Brief, you may appeal under Section 17 of the EIA Ordinance within 30 days of receipt of this EIA Study Brief.

Should you have any queries on the above application, please contact my colleague Ms. Eva LAU at 2835 1843.

Yours sincerely,



(Miss Queenie Y. C. NG)
Acting Principal Environmental Protection Officer
for Director of Environmental Protection

Encl.

c.c. (w/o encl.)

ACE EIA Subcommittee Secretariat (Attn. : Ms. Sally SHEK) Fax: 2872 0603

**MODUS OPERANDI OF THE
ENVIRONMENTAL IMPACT ASSESSMENT SUBCOMMITTEE OF
THE ADVISORY COUNCIL ON THE ENVIRONMENT**

Purpose

This paper sets out the *modus operandi* of the Environmental Impact Assessment (EIA) Subcommittee of the Advisory Council on the Environment (ACE) so as to facilitate smooth proceedings of subcommittee meetings. The current *modus operandi* was last updated and endorsed by ACE in July 2009.

Background

2. ACE is the Government's principal advisory body on matters relating to environmental protection and nature conservation. The terms of reference of ACE are –

- (a) to keep under review the state of the environment in Hong Kong; and
- (b) to advise the Government, through the Secretary for the Environment, on appropriate measures which might be taken to combat pollution of all kinds, and to protect and sustain the environment.

3. The EIA Subcommittee is set up under ACE to study EIA reports of major development projects. It also comments on strategic environmental assessment reports of major planning projects. The terms of reference of the EIA Subcommittee are –

- (a) to receive and study EIA reports of major development projects; and
- (b) to report on its deliberations and findings and make recommendations to ACE.

EIA Process

4. ACE and the EIA Subcommittee are involved in three main stages of the EIA process, namely commenting on the project profiles for designated projects, selection of EIA reports for submission to ACE and commenting on selected EIA reports. In accordance with ETWB Technical Circular (Works) No. 13/2003, the statutory gazetting of a project under the relevant ordinances can be done in parallel with the EIA process. Separately, consultation with District Councils and other relevant parties may proceed in advance of or in parallel with the submission of EIA reports to the EIA Subcommittee.

Project Profiles

5. Under section 5 of the EIA Ordinance, ACE and members of the public may comment on the project profile of a designated project within 14 days of it being advertised. It is hence not necessary for the EIA Subcommittee to present to the Director of Environmental Protection (DEP) the collective view of the EIA Subcommittee on project profiles. To ensure that comments on project profiles, if any, are given to DEP within the statutory time limit, individual ACE Members would write to DEP directly. Where necessary, the ACE Member may copy his/her comments to the Chairman and Members for information.

Selection of EIA Reports

6. Project proponents of designated projects will have to present their EIA reports to ACE if they are required to submit the reports to the Council. Members of the EIA Subcommittee will be asked to select those projects which they consider should require a presentation to the EIA Subcommittee by the project proponent. The selection outcome is for internal planning of the schedule of the EIA Subcommittee and will not be divulged to the project proponent. Only those projects selected by half or more of EIA Subcommittee Members will be selected. The project proponent concerned will be notified of the selection outcome only after DEP has decided that the EIA report is ready for public inspection and submission to ACE for advice.

7. During the project selection process, if individual EIA Subcommittee Member has special concerns/comments on a certain project, he/she could draw the EIA Subcommittee Chairman's attention to his/her concerns/comments and the Chairman would consider the need to review the decision on selection of the EIA report for submission to ACE.

8. For projects not selected, the project proponent will be required to send the Executive Summary of the EIA report to the EIA Subcommittee. Members would pass their comments, if any, to DEP directly within the prescribed public inspection period and if necessary, copy his/her comments to the Chairman and Members of the EIA Subcommittee for information. At the ACE meeting immediately following the issue of the Executive Summaries of the EIA reports, the EIA Subcommittee Chairman will report to ACE about the submission of these Executive Summaries for information of Members and record as projects not selected for discussion.

Meeting Arrangements

9. The EIA Subcommittee will basically meet on a monthly basis. Meetings will be held when there is submission of EIA report(s) or issue(s) to be discussed.

10. To facilitate focused discussion, the EIA Subcommittee will generally consider no more than two EIA reports in each meeting. EPD will prepare a paper on each EIA report to be submitted to the EIA Subcommittee highlighting the key environmental issues and major findings of the EIA study. Upon expiry of the report inspection period by the general public, EPD will summarize all public comments received during the period for consideration of the EIA Subcommittee. The project proponent, where applicable, will provide the EIA Subcommittee with a report on the site selection process of the project, setting out the alternative sites that have been considered and the reasons of the selection of the particular site when such information is not provided in the EIA report. The paper, the EIA report and the site report, if any, will normally be issued to EIA Subcommittee Members two weeks before the scheduled meeting. The summary of public comments will also be given to Members before the meeting. Members will be asked to indicate whether it is necessary for the project proponent to attend the meeting or the report could be considered by circulation. Project proponents will be informed accordingly before the scheduled meeting.

11. Summary of the public comments will also be provided to non-EIA Subcommittee Members for reference to facilitate their discussion of the EIA Subcommittee's recommendations at the next ACE meeting before the Council tenders its comments to DEP on the EIA report as provided for under the EIA Ordinance.

12. Members of the EIA Subcommittee may raise questions in writing on an EIA report before the scheduled meeting and the project proponent should provide written response to the Secretariat at least three working days before

the meeting.

13. Each discussion item on an EIA report would include a Presentation Session by the project proponent, a Question-and-Answer Session and Internal Discussion Sessions. The Presentation Session and the Question-and-Answer Session are open up for broadcasting and members of the public can view the sessions real time in the public viewing room. The EIA Subcommittee would allocate as much time to the Question-and-Answer Session as possible.

14. The presentation by the project proponent should cover, inter alia, the major conclusions and recommendations of the EIA study. In addition, the project proponent should provide a concise and objective account of the main concerns of the general public and interest groups made known during the EIA study and the public inspection stages, and explain how these concerns are addressed in the EIA study.

Criteria for Assessing EIA Reports

15. EIA reports will be assessed by the EIA Subcommittee according to the requirements of the Technical Memorandum on the EIA Process and the study brief of the individual projects issued by DEP.

Recommendations to the Full Council

16. The EIA Subcommittee can make one of the following recommendations to the full Council –

- (i) endorse the EIA report without condition; or
- (ii) endorse the EIA report with condition(s); or
- (iii) reject the EIA report and inform the proponent the right to go to the full Council.

17. If the EIA Subcommittee cannot reach a consensus (i.e. if two or more Members do not agree with the conclusion of the EIA Subcommittee) during the meeting, it may –

- (i) ask for a second submission to the EIA Subcommittee; or
- (ii) defer the decision to the full Council and highlight issues or reasons for not reaching a consensus for the full Council's deliberation.

18. Other than the scenario in paragraph 17 above or the EIA

Subcommittee Chairman considers it appropriate, the recommendations of the EIA Subcommittee will not be discussed in detail in the full Council.

Other Rules that apply to EIA Subcommittee Meetings

19. Apart from the procedures mentioned above, the following rules also apply to EIA Subcommittee meetings –

- (i) the quorum for EIA Subcommittee meetings should be half of the number of EIA Subcommittee Members, including the Chairman;
- (ii) ACE Members who are not EIA Subcommittee Members may attend EIA Subcommittee meetings and participate in the discussion of the meetings but they shall not vote when votes are taken;
- (iii) Council Members and EIA Subcommittee Members should declare direct and indirect interest before deliberating on agenda items so that the EIA Subcommittee Chairman could decide whether they should take part in the discussion or in the case of EIA Subcommittee Members to vote;
- (iv) the confirmed minutes of the EIA Subcommittee (with Members' names deleted) are uploaded on the ACE's website for public inspection;
- (v) the Presentation Session and Question-and-Answer Session of a discussion item on an EIA report at the EIA Subcommittee meeting requiring the attendance of the project proponent team will be opened to the public. The opening up of these sessions is an administrative arrangement only. The open meeting arrangements are not applicable to internal discussion sessions of a discussion item on an EIA report and all other sessions of the meetings of the EIA Subcommittee;
- (vi) special meetings may be called to consider urgent items. The EIA Subcommittee will consider each case individually should there be requests for direct submissions to the full Council;
- (vii) there will not be a limit on the number of professionals/experts to be invited to each EIA Subcommittee meeting for items requiring their assistance. In these cases and where votes are

taken, these professionals/experts shall not vote; and

- (viii) to facilitate effective deliberation at meetings of the EIA Subcommittee, the EIA Subcommittee may appoint Members to advise the EIA Subcommittee on specific subject areas of EIA reports. The appointed Members would consider the assigned subjects of an EIA report, and seek advice from the relevant authorities designated under the EIAO as necessary before EIA Subcommittee meetings.

20. The revised *modus operandi* of the EIA Subcommittee has taken effect in April 2013 upon endorsement of ACE.

EIA Subcommittee Secretariat
April 2013

Environmental Impact Assessment Ordinance (Cap. 499), Section 5(7)**Environmental Impact Assessment Study Brief No. ESB-361/2023**

**Project Title: Ma Liu Shui Reclamation
(hereinafter known as the “Project”)**

**Name of Applicant: Civil Engineering and Development Department
(hereinafter known as the “Applicant”)**

1. BACKGROUND

- 1.1 An application (No. ESB-361/2023) for an Environmental Impact Assessment (EIA) study brief under Section 5(1)(a) of the Environmental Impact Assessment Ordinance (EIAO) was submitted by the captioned Applicant on 3 July 2023 with a project profile (No. PP-656/2023) (the Project Profile).
- 1.2 The Applicant proposes to carry out the reclamation and associated marine works at Ma Liu Shui. The location of the Project is shown in **Appendix A** and the scope of works of the Project is described as follows:-
- (i) reclamation works covering a sea area of about 60 hectares;
 - (ii) seawall construction for the proposed reclamation works;
 - (iii) re-provisioning of the Sha Tin Sewage Treatment Works (STSTW) emergency submarine sewage outfall;
 - (iv) protection/re-provisioning of the Tolo Harbour Effluent Export Scheme (THEES) submarine pipe;
 - (v) extension of the existing Drainage Services Department (DSD) drainage outfalls;
 - (vi) re-provisioning of the seawater intake for Simon F.S. Li Marine Science Laboratory of the Chinese University of Hong Kong (CUHK);
 - (vii) re-provisioning of the seawater intake for Water Supplies Department (WSD) Saltwater Pumping Station; and
 - (viii) dredging works for seawall construction and re-provisioning of STSTW emergency submarine sewage outfall, if found necessary.

- 1.3 Based on the information provided in the Project Profile, the Project constitutes the designated projects (DPs) in Part I, Schedule 2 of EIAO as set out below. More DP items may be identified in the course of the EIA study:
- (i) Item C.1 - Reclamation works (including associated dredging works) more than 5 ha in size;
 - (ii) Item F.5 - A submarine sewage pipeline with a diameter of 1 200 mm or more and a length of 1 km or more; and
 - (iii) Item F.6 - A submarine sewage outfall.
- 1.4 Pursuant to Section 5(7)(a) of the EIAO, the Director of Environmental Protection (the Director) issues this Environmental Impact Assessment (EIA) study brief to the Applicant to carry out an EIA study.
- 1.5 The purpose of this EIA study is to provide information on the nature and extent of environmental impacts arising from the Project (i.e. construction and post-construction of the reclamation, and construction and operation of the associated marine works) and associated activities that will take place concurrently. This information will contribute to decisions by the Director on:
- (i) the overall acceptability of any adverse environmental consequences that are likely to arise as a result of the Project;
 - (ii) the conditions and requirements for the detailed design, construction, post-construction and operation of the Project to mitigate against adverse environmental consequences wherever practicable; and
 - (iii) the acceptability of residual impacts after the proposed mitigation measures are implemented.

2. OBJECTIVES OF THE EIA STUDY

- 2.1 The objectives of the EIA study are as follows:
- (i) to describe the Project and associated works together with the requirements and environmental benefits for carrying out the Project;
 - (ii) to identify and describe the elements of the community and environment likely to be affected by the Project and/or likely to cause adverse impacts to the Project, including both the natural and man-made environment and the associated environmental constraints;
 - (iii) to identify and quantify any potential impacts from point and non-point pollution sources on the identified water systems and sensitive receivers and

to propose measures to mitigate these impacts;

- (iv) to identify and quantify emission sources and determine the significance of impacts on sensitive receivers and potential affected uses, and to propose measures to mitigate these impacts;
- (v) to identify and quantify potential waste management requirements and to propose measures to mitigate these impacts;
- (vi) to identify, evaluate and address potential ecological impacts and to propose measures to mitigate these impacts;
- (vii) to identify and quantify potential fisheries impacts and to propose measures to mitigate these impacts;
- (viii) to identify potential landscape and visual impacts and to propose measures to mitigate these impacts;
- (ix) to identify any negative impacts on sites of cultural heritage and to propose measures to mitigate these impacts;
- (x) to identify potential hazard to life impacts and to propose mitigation measures to mitigate these impacts if required;
- (xi) to propose the provision of infrastructure or mitigation measures so as to minimise pollution, environmental disturbance and nuisance during the construction, post-construction and operation of the Project;
- (xii) to investigate the feasibility, practicability, effectiveness and implications of the proposed mitigation measures;
- (xiii) to identify, predict and evaluate the residual environmental impacts (i.e. after practicable mitigation) and the cumulative impacts expected to arise during the construction, post-construction and operation of the Project in relation to the sensitive receivers and potential affected uses;
- (xiv) to identify, assess and specify methods, measures and standards, to be included in the detailed design, construction, post-construction and operation of the Project which are necessary to mitigate these residual environmental impacts and cumulative impacts and reduce them to acceptable levels;
- (xv) to investigate the extent of the secondary environmental impacts that may arise from the proposed mitigation measures and to identify constraints associated with the mitigation measures recommended in the EIA study, as well as the provision of any necessary modification;

(xvi) to design and specify the environmental monitoring and audit requirements; and

(xvii) to identify any additional studies necessary to implement the mitigation measures, monitoring and proposals recommended in the EIA report.

3. DETAILED REQUIREMENTS OF THE EIA STUDY

3.1 The Purpose

3.1.1 The purpose of this EIA study brief is to set out the purposes and objectives of the EIA study, the scope of environmental issues which shall be addressed, the requirements that the EIA study shall need to fulfil, and the necessary procedural and reporting requirements. The Applicant shall demonstrate in the EIA report whether the criteria in the relevant sections of the Technical Memorandum on the Environmental Impact Assessment Process of the Environmental Impact Assessment Ordinance (hereinafter referred to as “the TM”), are fully complied with.

3.2 The Scope

3.2.1 The scope of this EIA study shall cover the Project and associated works mentioned in Section 1.2 of this EIA study brief. For the purpose of assessing whether the environmental impacts shall comply with the criteria of the TM, the EIA study shall address the key issues described below, together with any other key issues identified during the course of the EIA study:

- (i) potential air quality impacts on existing and planned air sensitive receivers (ASRs) due to the Project during construction and post-construction stages;
- (ii) potential noise impacts on existing and planned noise sensitive receivers (NSRs) due to the Project during construction stage;
- (iii) potential water quality impacts on existing and planned water sensitive receivers (WSRs) and relevant water system(s) due to the Project during construction, post-construction and operation stages and arising from the potential change in hydrodynamics due to formation of the reclaimed land and associated marine works;
- (iv) potential waste management implications arising from the construction of the Project;
- (v) potential ecological impacts (terrestrial and marine) due to the Project during construction, post-construction and operation stages;
- (vi) potential fisheries impacts due to the Project during construction, post-construction and operation stages;

- (vii) potential landscape and visual impacts due to the Project during post-construction stage;
- (viii) potential cultural heritage impacts due to the Project during construction and post-construction stages;
- (ix) potential hazard to life impacts associated with the existing Towngas submarine pipelines in the vicinity of the Project during construction stage;
- (x) potential cumulative environmental impacts arising from the Project through interaction or in combination with other existing, committed and planned projects in the vicinity of the Project, and that such impacts may have a bearing on the environmental acceptability of the Project. Such assessment shall be based on the best available information to which the Applicant is able to access at the time of the assessment; and
- (xi) identification of individual DPs proposed under the Project that fall under Schedule 2 of the EIAO, in addition to those mentioned in Section 1.3 of this EIA study brief; to ascertain whether the findings of this EIA study have adequately assessed and addressed the environmental impacts of those DPs; and where necessary to identify the outstanding issues that need to be assessed and addressed in any further detailed EIA studies.

3.3 Description of the Project

3.3.1 Purpose(s) and Objectives of the Project

The Applicant shall provide information on the Project, including the purpose(s), objectives and environmental benefits of the Project, and describe the scenarios with and without the Project.

3.3.2 Details of the Project

The Applicant shall indicate the nature and status of Project decision(s) for which the EIA study is undertaken. The Applicant shall describe the siting, scale/size, layout design, alignment, construction methods, sequence of construction works, and other major activities involved in the Project, using diagrams, plans and/or maps as necessary. The estimated duration of the construction phase(s), post-construction phase and operational phase of the Project together with the programme within these phases, where appropriate, shall be given. The areas to be taken by the Project, including construction sites, any associated access arrangements and auxiliary facilities, shall be shown on a scaled map.

3.3.3 Background and History of the Project

The Applicant shall provide information on the site location and site history of the Project, interactions with other projects, and the consideration of different development options, taking into account the principles of avoidance, minimising and control of adverse environmental impacts. The options might include siting, scale/size, layout design, alignment, construction methods and sequence of construction works for the Project. The key reasons for selecting the preferred development option(s) and the part environmental factors played in the selection shall be described. The main environmental impacts of different development options shall be compared with those of the Project and with the likely future environmental conditions in the absence of the Project.

3.4 **Technical Requirements**

3.4.1 The Applicant shall conduct the EIA study to address the environmental aspects of the activities as described in the scope as set out above. The assessment shall be based on the best and latest information available during the course of the EIA study.

3.4.2 The Applicant shall include in the EIA report details of the construction programme and methodologies. The Applicant shall clearly state in the EIA report the time frame and work programmes of the Project and associated works and other concurrent projects and assess the cumulative environmental impacts from the Project with interacting projects, including staged implementation of the Project and associated works.

3.4.3 The EIA study shall follow the technical requirements specified below and in the Appendices of this EIA study brief.

3.4.4 **Air Quality Impact**

3.4.4.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing the air quality impacts as stated in Section 1 of Annex 4 and Annex 12 of the TM respectively.

3.4.4.2 The assessment area for the air quality impact assessment shall be defined by a distance of 500 metres from the site boundary of the Project and the works of the Project as identified in the EIA study, which shall be extended to include major existing, committed and planned air pollutant emission sources identified to have a bearing on the environmental acceptability of the Project. The assessment shall include the existing, committed and planned air sensitive receivers (ASRs) within the assessment area as well as areas where air quality may be potentially affected by the Project. The assessment shall be based on the best available information at the time of the assessment. The assessment shall also take into account the impacts of emission sources from nearby concurrent projects, if any.

3.4.4.3 The assessment of air quality impact arising from the construction and post-construction of the Project shall follow the detailed technical requirements given in **Appendix B** of this EIA study brief.

3.4.5 **Noise Impact**

3.4.5.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing the noise impacts as stated in Annexes 5 and 13 of the TM respectively.

3.4.5.2 The assessment shall cover the potential construction noise impacts of the Project on the existing, committed and planned noise sensitive receivers (NSRs) reflected on the relevant Outline Zoning Plans, Development Permission Area Plans, Outline Development Plans, Layout Plans and other relevant published land use plans, including plans and drawings published by the Lands Department and any land use and development applications approved by the Town Planning Board, in the vicinity of the Project.

3.4.5.3 The noise impact assessment for the construction of the Project shall follow the detailed technical requirements given in **Appendix C** of this EIA study brief.

3.4.6 **Water Quality Impact**

3.4.6.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing water pollution as stated in Annexes 6 and 14 of the TM respectively.

3.4.6.2 The assessment area for the water quality impact assessment shall include areas within 500 metres from the site boundary of the Project and the works of the Project as identified in the EIA study, and shall be extended to cover water sensitive receivers (WSRs) within the Tolo Harbour and Channel Water Control Zone as designated under the Water Pollution Control Ordinance (Cap. 358), and WSRs within other areas if the WSRs within these areas are found also being impacted by the Project during the course of the EIA study and have a bearing on the environmental acceptability of the Project.

3.4.6.3 The water quality impact assessment for the construction, post-construction and operation of the Project shall follow the detailed technical requirements given in **Appendices D** and **D-1** of this EIA study brief.

3.4.7 **Waste Management Implications**

3.4.7.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing the waste management implications as stated in Annexes 7 and 15 of the TM respectively.

3.4.7.2 The assessment of waste management implications arising from the construction of the Project shall follow the detailed technical requirements given in **Appendix E** of this EIA study brief.

3.4.8 **Ecological Impact (Terrestrial and Marine)**

- 3.4.8.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing ecological impact as stated in Annexes 8 and 16 of the TM respectively.
- 3.4.8.2 The assessment area for the terrestrial ecological impact assessment shall include areas within 500 metres from the site boundary of the Project and the works of the Project as identified in the EIA study, any other areas likely to be impacted by the Project.
- 3.4.8.3 The assessment area for the marine ecological impact assessment shall be the same as the assessment area for the water quality impact assessment described in Section 3.4.6.2 of this EIA study brief and any other areas likely to be impacted by the Project.
- 3.4.8.4 The ecological impact assessment for the construction, post-construction and operation of the Project shall follow the detailed technical requirements given in **Appendix F** of this EIA study brief.

3.4.9 **Fisheries Impact**

- 3.4.9.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing fisheries impact as stated in Annexes 9 and 17 of the TM respectively.
- 3.4.9.2 The assessment area for the fisheries impact assessment shall be the same as the assessment area for the water quality impact assessment described in Section 3.4.6.2 of this EIA study brief. This assessment area shall be extended to include other areas with potential fisheries impacts found during the course of the EIA study and have a bearing on the environmental acceptability of the Project.
- 3.4.9.3 The fisheries impact assessment for the construction, post-construction and operation of the Project shall follow the detailed technical requirements given in **Appendix G** of this EIA study brief.

3.4.10 **Landscape and Visual Impact**

- 3.4.10.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing landscape and visual impact as stated in Section 1 of Annex 10 and Annex 18 of the TM respectively, and the latest version of the EIAO Guidance Note “Preparation of Landscape and Visual Impact Assessment under the EIAO” published on the website of the Environmental Protection Department, unless otherwise agreed by the Director.
- 3.4.10.2 The assessment area for the landscape impact assessment shall include areas within 100 metres from the site boundary of the Project and the works of the Project as identified in the EIA, while the assessment area for the visual impact assessment

shall be defined by the visual envelope of the Project. The extent of the defined visual envelope shall be shown on a plan and documented in the EIA report.

3.4.10.3 The landscape and visual impact assessment for the post-construction of the Project shall follow the detailed technical requirements given in **Appendix H** of this EIA study brief.

3.4.11 **Impact on Cultural Heritage**

3.4.11.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing the cultural heritage impacts as stated in Section 2 of Annex 10 and Section 2 of Annex 19 of the TM respectively.

3.4.11.2 The assessment area for the cultural heritage impact assessment shall include areas within 500 metres from the site boundary of the Project and the works of the Project as identified in the EIA. The cultural heritage impact assessment shall include a Marine Archaeological Investigation (MAI) covering the area(s) which may be affected by the marine works associated with the Project and an Archaeological Impact Assessment (AIA).

3.4.11.3 The cultural heritage impact assessment for the construction and post-construction of the Project shall follow the detailed technical requirements given in **Appendices I and I-1** of this EIA study brief.

3.4.12 **Hazard to Life**

3.4.12.1 The Applicant shall follow the criteria for evaluating hazard to life as stated in Section 2 of Annex 4 of the TM.

3.4.12.2 The hazard to life assessment for the construction of the Project shall follow the detailed technical requirements given in **Appendix J** of this EIA study brief.

3.5 **Environmental Monitoring and Audit (EM&A) Requirements**

3.5.1 The Applicant shall identify and justify in the EIA study whether there is any need for EM&A activities during the construction, post-construction and operation of the Project and, if affirmative, to define the scope of the EM&A requirements for the Project in the EIA study.

3.5.2 Subject to the confirmation of the EIA study findings, the Applicant shall comply with the requirements as stipulated in Annex 21 of the TM.

3.5.3 The Applicant shall prepare a Project Implementation Schedule (in the form of a checklist as shown in **Appendix K**) containing the EIA study recommendations and mitigation measures with reference to the implementation programme.

3.6 Presentation of Summary Information

3.6.1 Summary of Environmental Outcomes

The EIA report shall contain a summary of key environmental outcomes arising from the EIA study, including estimated population protected from various environmental impacts, environmentally sensitive areas protected, environmentally friendly options considered and incorporated in the preferred option, environmental designs recommended, key environmental problems avoided, compensation areas included and the environmental benefits of environmental protection measures recommended.

3.6.2 Summary of Environmental Impacts

To facilitate effective retrieval of pertinent key information, the EIA report shall contain a summary table of environmental impacts showing the assessment points, results of impact predictions, relevant standards or criteria, extents of exceedances predicted, impact avoidance measures considered, mitigation measures proposed and residual impacts (after mitigation). This summary shall cover each individual impact and shall also form an essential part of the executive summary of the EIA report.

3.6.3 Documentation of Key Assessment Assumptions, Limitation of Assessment Methodologies and related Prior Agreement(s) with the Director

The EIA report shall contain a summary including the assessment methodologies and key assessment assumptions adopted in the EIA study, the limitations of these assessment(s) methodologies/assumptions, if any, plus relevant prior agreement(s) with the Director or other Authorities on individual environmental media assessment components. The proposed use of any alternative assessment tool(s) or assumption(s) have to be justified by the Applicant, with supporting documents based on cogent, scientific and objectively derived reason(s) before seeking the Director's agreement. The supporting documents shall be provided in the EIA report.

3.6.4 Summary of Alternative Mitigation Measures

The EIA report shall contain a summary of alternative mitigation measures considered during the course of the EIA study, including design, scale, extent and layout of the reclamation and associated marine works as well as construction methods, disposal/treatment methods and sequences of works for the Project, with a view to avoiding, minimising and mitigating adverse environmental impacts. A comparison of the environmental benefits and dis-benefits of applying different mitigation options shall be made. This summary shall cover the key impacts and shall also form an essential part of the executive summary of the EIA report:

3.6.5 Documentation of Public Concerns

The EIA report shall contain a summary of the main concerns of the general public, special interest groups and the relevant statutory or advisory bodies received and identified by the Applicant during the course of the EIA study, and describe how the relevant concerns have been taken into account.

4. **DURATION OF VALIDITY**

- 4.1 The Applicant shall notify the Director of the commencement of the EIA study. If the EIA study does not commence within 36 months after the date of issue of this EIA study brief, the Applicant shall apply to the Director for a fresh EIA study brief before commencement of the EIA study.

5. **REPORTING REQUIREMENTS**

- 5.1 In preparing the EIA report, the Applicant shall refer to Annex 11 of the TM for the contents of an EIA report. The Applicant shall also refer to Annex 20 of the TM, which stipulates the guidelines for the review of an EIA report. When submitting the EIA report to the Director, the Applicant shall provide a summary, pointing out where in the EIA report the respective requirements of this EIA study brief and the TM (in particular Annexes 11 and 20) have been addressed and fulfilled.
- 5.2 To facilitate the updating of the ecological information of the Centralised Environmental Database, the Applicant shall provide the raw data of the ecological habitat maps including the project location and boundary, types and locations of habitats, findings of ecological field surveys and species of conservation interest in the assessment area in shapefile or GeoJSON or other format as agreed with the Director. The data shall be submitted in 3 copies of CD-ROM, DVD±R or other suitable means as agreed with the Director.
- 5.3 The Applicant shall supply the Director with hard and electronic copies of the EIA report and the executive summary in accordance with the requirements given in **Appendix L** of this EIA study brief. The Applicant shall, upon request, make additional copies of the above documents available to the public, subject to payment by the interested parties of full costs of printing.

6. **OTHER PROCEDURAL REQUIREMENTS**

- 6.1 If there is any change in the name of the Applicant for this EIA study brief during the course of EIA study, the Applicant must notify the Director immediately.
- 6.2 If there is any key change in the scope of the Project mentioned in Section 1.2 of this EIA study brief and in Project Profile (No. PP-656/2023), the Applicant must seek confirmation from the Director in writing on whether or not the scope of issues covered by this EIA study brief can still cover the key changes, and the additional issues, if any, that the EIA study must also address. If the changes to the Project

fundamentally alter the key scope of the EIA study brief, the Applicant shall apply to the Director for a fresh EIA study brief.

7. LIST OF APPENDICES

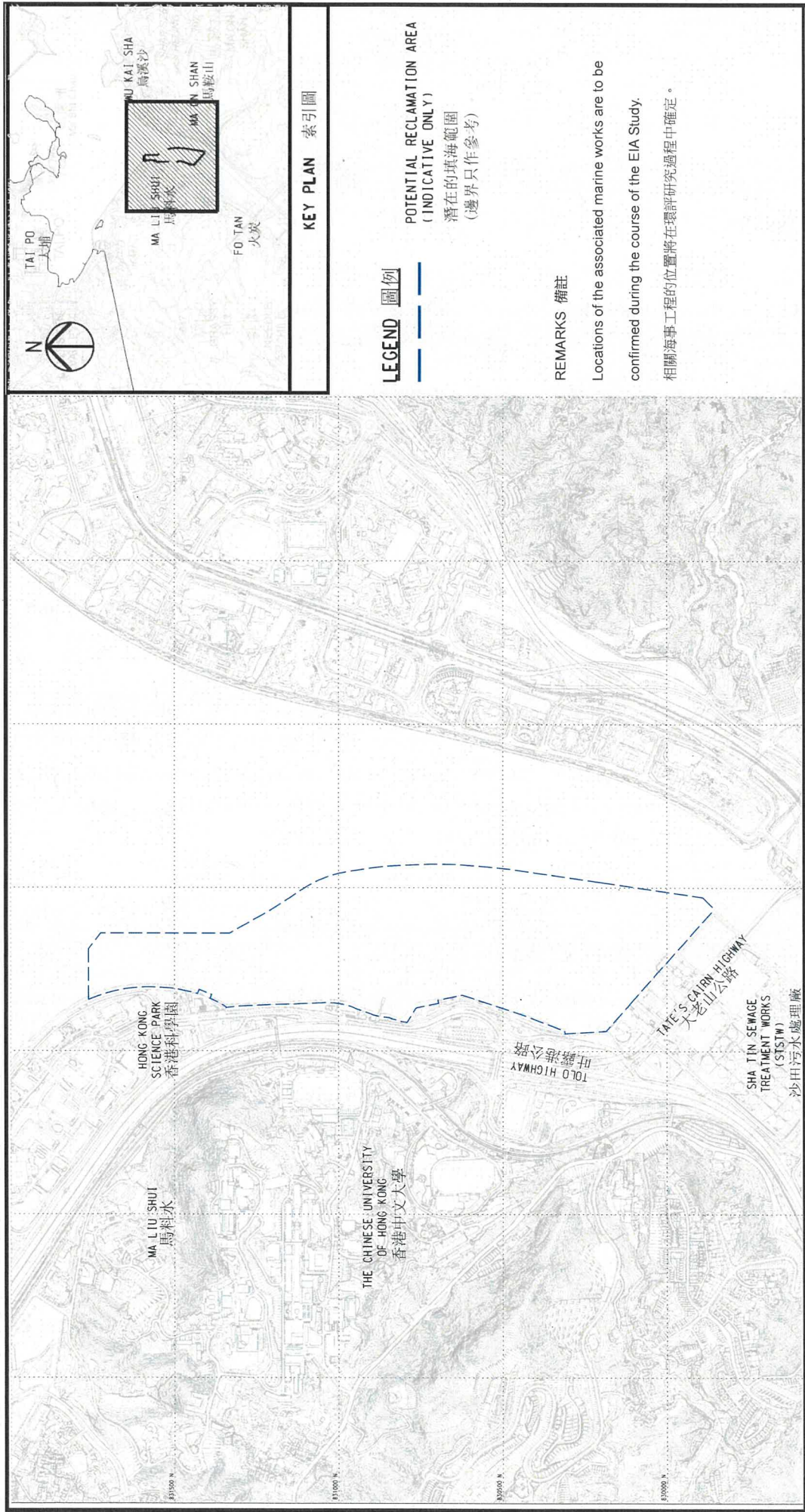
7.1 This EIA study brief includes the following appendices:

- Appendix A - Project Location Plan
- Appendix B - Requirements for Air Quality Impact Assessment
- Appendix C - Requirements for Noise Impact Assessment
- Appendix D - Requirements for Water Quality Impact Assessment
- Appendix D-1 - Hydrodynamic and Water Quality Modelling Requirements
- Appendix E - Requirements for Assessment of Waste Management Implications
- Appendix F - Requirements for Ecological Impact Assessment (Terrestrial and Marine)
- Appendix G - Requirements for Fisheries Impact Assessment
- Appendix H - Requirements for Landscape and Visual Impact Assessment
- Appendix I - Requirements for Cultural Heritage Impact Assessment
- Appendix I-1 - Guidelines for Marine Archaeological Investigation
- Appendix J - Requirements for Hazard to Life Assessment
- Appendix K - Implementation Schedule of Recommended Mitigation Measures
- Appendix L - Requirements for EIA Report Documents

--- END OF EIA STUDY BRIEF ---

August 2023
Environmental Assessment Division
Environmental Protection Department

Appendix A



<p>Project Title: Ma Liu Shui Reclamation 工程項目名稱: 馬料水填海</p>		
<p>(This figure is prepared based on Figure 1.1.1 of Project Profile No.: PP-656/2023) (本圖是根據工程項目簡介編號 PP-656/2023 圖則 1.1 編製)</p>		
<p>EIA Study Brief No.: ESB-361/2023 環評研究概要編號:</p>		
<p>Appendix A: Project Location Plan 附錄 A: 工程項目位置圖</p>		

LEGEND 圖例

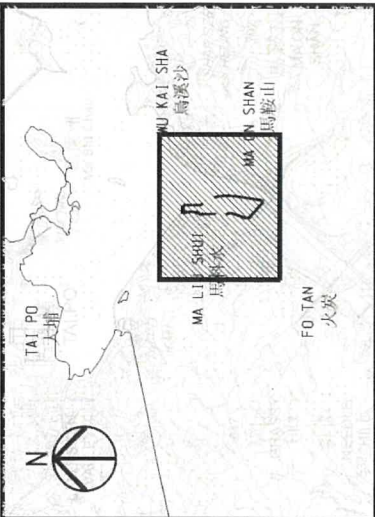


POTENTIAL RECLAMATION AREA
(INDICATIVE ONLY)
潛在的填海範圍
(邊界只作參考)

REMARKS 備註

Locations of the associated marine works are to be confirmed during the course of the EIA Study.
相關海事工程的位置將在環評研究過程中確定。

KEY PLAN 索引圖



Appendix B**Requirements for Air Quality Impact Assessment**

1. Background and Analysis of Activities
 - (i) Provision of background information relating to air quality issues relevant to the Project, e.g. description of the types of activities of the Project that may affect air quality during the construction and post-construction of the Project.
 - (ii) Provision of an account, where appropriate, of the consideration/measures that have been taken into consideration in the planning of the Project to avoid and minimise the air pollution impact. The Applicant shall consider alternative construction methods and phasing programmes to minimise the air quality impact during the construction and post-construction of the Project.
 - (iii) Provision of the background air quality levels in the assessment area. Projection of future year background air quality shall be based on the “Pollutants in the Atmosphere and their Transport over Hong Kong” (PATH) model released by the Director with necessary modification according to the emission scenarios(s) of the assessment year(s). If a modification to the emission sources is to be adopted in the PATH model to update the projection of future year background air quality, details of the emission sources adopted in the modification should be clearly presented.

2. Identification of Air Sensitive Receivers (ASRs) and Examination of Emission/Dispersion Characteristics
 - (i) Identification and description of the existing, committed and planned ASRs that would likely be affected by the Project, including those earmarked on the relevant Outline Zoning Plans, Development Permission Area Plans, Outline Development Plans, Layout Plans and other relevant published land use plans, including plans and drawings published by the Lands Department and any land use and development applications approved by the Town Planning Board. The Applicant shall select the assessment points of the identified ASRs that represent the worst impact point of these ASRs. A map clearly showing the location and description such as name of the buildings, uses and height of the selected assessment points shall be given. The separation distances of these ASRs from the nearest emission sources shall also be given.
 - (ii) Provision of a list of air pollutant emission sources, including any nearby emission sources which are likely to have impact related to the Project based on the analysis of the construction and post-construction activities in Section

1 above. Examples of such emission sources include dust emissions from excavation works, backfilling, material handling, stockpiling; exhaust emissions from construction plant and equipment, marine vessel and vehicular movements; odour emissions from dredging activities, etc. Confirmation regarding the validity of assumptions and the magnitude of activities (e.g. volume of construction materials to be handled) shall be obtained from the relevant government departments/authorities, where applicable, and documented in the EIA report. Validity of the traffic flow and traffic speed prediction shall be confirmed with Transport Department.

- (iii) Identification of existing and potential chimneys and obtainment of relevant chimney emission data in the assessment area, where appropriate, by carrying out a survey for assessing the cumulative air quality impact of air pollutants through chimneys. The Applicant shall ensure and confirm the validity of the emission data used in their assessment. Any errors found in their emission data used may render the submission invalid.
- (iv) The emissions from any concurrent projects identified as relevant during the course of the EIA study shall be taken into account. The impacts at the existing, committed and planned ASRs within the assessment area shall be assessed, based on the best information available at the time of assessment.

3. Construction and Post-Construction Phases Air Quality Impact

- (i) The Applicant shall follow the requirements stipulated under the Air Pollution Control (Construction Dust) Regulation to ensure that construction dust impacts are effectively controlled. Construction dust assessment should be conducted qualitatively to ensure that the Air Pollution Control (Construction Dust) Regulation is complied with. If the Applicant proposes any alternative assessment methodologies for the air quality impact during construction and post-construction phases, prior agreement with the Director on the proposed methodologies should be sought.
- (ii) The Applicant shall consider and evaluate direct mitigation measures, including but not limited to water-spraying, re-scheduling construction programme to minimise concurrent dust impact arising from different construction sites, for fugitive dust control. The Applicant shall also consider connecting construction plant and equipment to mains electricity supply and avoid use of diesel generators and diesel-powered equipment as far as practicable to minimise air quality impact arising from the construction machinery. Zero emission or clean fuels shall be considered as far as practicable for transportation activities. The Applicant shall describe the means of transportation and their routings involved, with a view to addressing potential air quality impact caused by transportation activities

including marine vessels. Mitigation measures for minimising odour emissions shall also be considered. The feasibility, practicability, programming and effectiveness of the recommended mitigation measures shall be assessed and documented in the EIA report. Specific reasons for not adopting certain workable mitigation measures to reduce the air quality to a level meeting the criteria in the TM or to maximise the protection of the ASRs as far as possible should be clearly substantiated and documented in the EIA report.

- (iii) A monitoring and audit programme for the Project shall be devised to verify the effectiveness of the proposed control measures so as to ensure proper control of emissions.

Appendix C**Requirements for Noise Impact Assessment**

The noise impact assessment shall include the following:

1 Description of the Noise Environment

1.1 The Applicant shall describe the prevailing noise environment in the EIA report.

2 Construction Noise Impact Assessment**2.1 Construction Noise Impact Assessment Methodology**

2.1.1 The Applicant shall carry out construction noise impact assessment (excluding percussive piling) of the Project during daytime, i.e. 7am to 7pm, on weekdays other than general holidays in accordance with methodology in Sections 5.3 and 5.4 of Annex 13 of the TM.

2.1.2 The Applicant shall conduct a qualitative assessment in the EIA to demonstrate no adverse construction noise impact would be associated with the project by adopting quieter construction method and equipment during the construction stages. The Applicant shall firstly identify the major noise sources/activities, then propose the corresponding quiet construction methods and noise mitigation measures, and commit to submitting a Construction Noise Management Plan (CNMP) to the Director.

2.2 Identification of Construction Noise Impact**2.2.1 *Identification of Assessment Area and Noise Sensitive Receivers (NSRs)***

- (a) The Applicant shall propose the assessment area for agreement of the Director before commencing the assessment. The assessment area for the construction noise impact assessment shall generally include areas within 300 metres from the site boundary of the Project and the works of the Project.
- (b) The Applicant shall identify the existing, committed and planned NSRs in the assessment area and select assessment points to represent identified NSRs for carrying out construction noise impact assessment.
- (c) The assessment points shall be confirmed with the Director before commencing the assessment and may be varied subject to the best and

latest information available during the course of the EIA study.

- (d) A map showing the location and description such as name of building, use, and floor of each and every selected assessment point shall be given. Photographs of existing NSRs shall be appended to the EIA report.

2.2.2 *Inventory of Noise Sources*

The Applicant shall identify an inventory of noise sources for representative construction equipment for the purpose of construction noise impact assessment. Validity of the inventory shall be confirmed with the relevant government departments, authorities or the Applicant's construction professionals and documented in the EIA report.

2.3 Mitigation of Construction Noise Impact

- 2.3.1 The Applicant shall consider and evaluate the application of direct mitigation measures including but not limited to, quieter construction method and equipment, barriers, enclosures, etc. The feasibility, practicability, programming and effectiveness of the recommended mitigation measures shall be qualitatively assessed. Any direct mitigation measures recommended shall be well documented in the report. Specific reasons for not adopting certain direct mitigation measures to maximise the protection for the NSRs as far as possible should be clearly substantiated and documented in the EIA report.

2.4 Construction Noise Management Plan (CNMP)

- 2.4.1 The Applicant shall propose to submit a CNMP to the Director. The CNMP shall contain the quantitative construction noise impact assessment, the adopted quieter construction method and equipment, noise mitigation measures and the construction noise impact monitoring and audit programme, with reference to the updated and identified noise mitigation measures once available and in any case before the tender invitation if there is any change to the construction noise mitigation measures recommended in the EIA report and before the commencement of construction of the project. Any technical constraint that would hinder the use of these quieter construction method and equipment shall be evaluated and clearly recorded in the assessment.
- 2.4.2 The CNMP shall include an implementation schedule clearly listing out the mitigation measures, the implementation party, location and timing of implementation. Mitigation measures recommended and requirements specified in the CNMP shall be fully implemented.

Appendix D**Requirements for Water Quality Impact Assessment**

1. The Applicant shall identify and analyse physical, chemical and biological disruptions of the water system(s) arising from the construction, post-construction and operation of the Project.
2. The Applicant shall predict, quantify and assess any water quality impacts arising from the construction, post-construction and operation of the Project by appropriate mathematical modelling and/or other techniques proposed by the Applicant and approved by the Director. The mathematical modelling requirements are set out in **Appendix D-1**. Possible impacts due to, but not limited to, dredging, filling, transportation and disposal of dredged/excavated materials, other marine works activities, construction of the emergency submarine sewage pipeline(s) and outfall, overflow of sewage treatment works, effluent discharge and site runoff shall include changes in hydrology, flow regime, sediment erosion and deposition patterns, morphological change of seabed profile, water and sediment quality. The prediction shall include possible different construction stages or sequences of the Project. Affected sensitive receivers shall be identified by the assessment tool with indications of degree of severity.
3. The assessment shall include, but not be limited to the following:
 - (i) the water quality impacts including but not limited to impacts on suspended solid level, dissolved oxygen concentration, sediment plume dispersion, contaminant and nutrient release arising from reclamation and associated marine works (e.g. reclamation, dredging (if any), filling construction/demolition of seawalls, re-provisioning of existing submarine facilities, etc.) and those specified in the ProPECC Practice Note 1/94 on “Construction Site Drainage”, during construction;
 - (ii) the water quality impacts of the emergency discharge from the Sha Tin Sewage Treatment Works and drainage discharge to the surrounding waterbodies, including Tolo Harbour and Channel Water Control Zone during the operation of the Project;
 - (iii) the change in hydrological condition due to formation of the reclaimed land and associated marine works and the change in coastline configuration, which may be resulted in changing in water quality; and
 - (iv) the water quality impacts on seawater intake points, beaches, fish culture zones, coral communities, other water sensitive receivers and areas of ecological or conservation values which may be affected by the Project.

4. The Applicant shall address water quality impacts due to the construction, post-construction and operation of the Project. Essentially, the assessment shall address the following:
- (i) collect and review background information on affected existing and planned water system(s), their respective catchments and sensitive receivers which might be affected by the Project;
 - (ii) characterise water quality of the water system(s) and sensitive receivers, which might be affected by the Project based on existing best available information and through appropriate site survey and tests when existing data are insufficient;
 - (iii) identify and analyse relevant existing and planned future activities, beneficial uses and water sensitive receivers (WSRs) related to the affected water system(s). The Applicant should refer to, *inter alia*, those developments and uses earmarked on the relevant Outline Zoning Plans, Development Permission Area Plans, Outline Development Plans and Layout Plans, and any other relevant published land use plans including plans and drawings published by Lands Department and any land use and development applications approved by the Town Planning Board;
 - (iv) identify pertinent water quality objectives and establish other appropriate water quality criteria or standards for the water system(s) and the sensitive receivers identified in (i), (ii) and (iii) above;
 - (v) review the specific construction methods and configurations, and operation of the Project to identify any change of shoreline or bathymetry and change of flow regimes; identify and predict the likely water quality impacts arising from the Project;
 - (vi) identify any alteration of any drainage systems, water courses, natural streams, change of water holding/flow regimes of water bodies, change of catchment types or areas; erosion or sedimentation due to the Project and any other hydrological changes in the assessment area;
 - (vii) identify and quantify existing and likely future water pollution sources, including point discharges and non-point sources discharges to the water system(s), sewage from the workforce and polluted discharge generated from the Project, contaminant release from works on marine sediment and sediment release or re-suspension from works into water bodies;
 - (viii) provide an emission inventory on the quantities and characteristics of those existing and future pollution sources in the assessment area. Field investigation and laboratory test, shall be conducted as appropriate to fill

relevant information gaps;

- (ix) identify and quantify the water quality impacts of the re-provisioned sewerage infrastructure. The water quality concerns shall include, but not limited to, possible sewage overflow, emergency discharge under maintenance or due to overflow/plant breakdown/capacity constraints of the sewerage system, and emergencies arising from the Project;
- (x) predict and quantify the impacts on the water system(s) and its/their sensitive receivers due to the alterations, changes and the pollution sources as identified above. Possible impacts include change in hydrology, flow regime, water quality and release of contaminants, etc. The prediction shall take into account and include possible different construction, post-construction and operation stages of the Project;
- (xi) assess the cumulative impacts due to other related concurrent and planned projects, activities or pollution sources within the assessment area that may have a bearing on the environmental acceptability of the Project;
- (xii) analyse the provision and adequacy of existing and planned future facilities to handle or reduce pollution arising from the point and non-point sources identified in (vii) above;
- (xiii) develop effective infrastructure upgrading or provision, contingency plan, water pollution prevention and mitigation measures to be implemented during construction, post-construction and operation stages, so as to reduce the water quality impacts to within standards. Requirements to be incorporated in the Project contract document shall also be proposed;
- (xiv) investigate and develop best management practices to reduce storm water and non-point source pollution during construction, post-construction and operation of the Project, as appropriate; and
- (xv) evaluate and quantify residual impacts on water system(s) and the sensitive receivers with regard to the appropriate water quality objectives, criteria, standards or guidelines. If the mitigated water quality impact still exceeds the relevant criteria in Annex 6 of TM, the Applicant shall identify, predict and evaluate the residual water quality impact in accordance with Section 4.4.3 of the TM and estimate the significance of the residual impact to the water system(s) and the water sensitive receivers.

Appendix D-1**Hydrodynamic and Water Quality Modelling Requirements****1. Water Quality Modelling Plan**

- (i) The Applicant shall submit a Water Quality Modelling Plan for agreement with the Director before commencement of modelling assessment. The Plan shall demonstrate that the models meet the requirements as stipulated under the sections of Modelling Software, Model Details – Setup, Calibration and Validation, and Model Details – Simulation (Sections 2 to 4) in this Appendix. The Plan shall also set out the methodology for the modelling assessment in accordance with the requirements as stipulated under the Modelling Assessment section (Section 5) in this Appendix.

2. Modelling Software

- (i) The modules, D-Flow Flexible Mesh and D-Water Quality, of the Delft3D Flexible Mesh (DFM) Suite modelling software shall be used to simulate the far field hydrodynamic and water quality conditions of the water bodies under different representative scenarios of the EIA study.
- (ii) An initial dilution model shall be used to characterize the initial mixing of the effluent discharge, and to estimate the terminal level and size of the plume to be fed into the far field water quality model where necessary. The initial dilution model shall have been proven with successful applications locally and overseas (such as Cormix and VISJET).

3. Model Details – Setup, Calibration and Validation

- (i) The Applicant shall locally refine the DFM model provided by the Director (HK-DFM Model, version 202210 or later, available in the Centralised Environmental Database of EPD), and update the model input such as pollution loading inventory, coastline, bathymetry, and other model configurations, where necessary, to suit the needs of the EIA study.
- (ii) The HK-DFM Model refined by the Applicant shall be properly calibrated and validated against the latest available field data and checked against the original HK-DFM Model before use in the EIA study. The field data set for calibration and validation shall be agreed with the Director.
- (iii) If nested modelling is considered to be absolutely necessary, the Applicant shall use the refined HK-DFM Model (refers to paragraphs (i) and (ii) of Section 3 of this Appendix) to generate the open boundary conditions for the nested / detailed local model as appropriate. The Applicant shall demonstrate that the use of the nested / detailed local model will not eliminate the essential features for hydrodynamic and water quality processes in the area of concern. In addition, the Applicant shall demonstrate to the satisfaction of the Director that the results of the nested / detailed local model at all key monitoring points are highly consistent with and closely

resembling those of the refined HK-DFM Model in selected scenario(s) for the Study (e.g. the baseline scenario) as well as available field data.

- (iv) In addition to the model simulation of selected study period including calibration and validation runs, proper model spin-up shall be carried out to ensure that the model results have largely stabilised. Spin-up test results shall be provided to demonstrate that the model is sufficiently spun up to minimise any numerical artifacts from initial conditions.
- (v) For the purpose of calibration and validation, the model shall run for at least a real sequence of 15-day spring-neap tidal cycle (excluding model spin up) each for the dry and the wet seasons.
- (vi) The hydrodynamic model shall satisfactorily reproduce the observed variations of tide level and tidal current (in terms of magnitude and direction), and the temporal variations of salinity along the water column. In general, model calibration and validation shall achieve the following level of fitness with field data as far as possible.

<u>Parameters</u>	<u>Level of fitness with field data</u>
(a) tidal elevation (@)	< 8 %
(b) maximum phase error at high water and low water	< 20 minutes
(c) maximum current speed deviation	< 30 %
(d) maximum phase error at peak speed	< 20 minutes
(e) maximum direction error at peak speed	< 15 degrees
(f) maximum salinity deviation	< 2.5 ppt

@ Root mean square of the error including the mean and fluctuating components shall meet the criteria at no less than 80% of the monitoring stations in the model domain.

4. Model Details – Simulation

- (i) The water quality modelling results shall be qualitatively explainable, and any identifiable trend and variations in water quality shall be reproduced by the model. The water quality model shall be able to simulate and take account of the interaction of dissolved oxygen, phytoplankton, organic and inorganic nitrogen, phosphorus, silicate, BOD, salinity, temperature, suspended solids, contaminants release of dredged and disposed material, air-water exchange, *E. coli* and benthic processes. Reference shall be made to Water Quality Objectives (WQOs) of the corresponding Water Control Zone (WCZ) as appropriate.
- (ii) The model shall take into account the processes of settling, deposition, erosion and re-suspension when assessing impacts of sediment loss due to marine works. The values of the modelling parameters shall be agreed with the Director. Contaminants release and DO depletion during dredging and dumping shall be simulated by the model.
- (iii) The model shall incorporate the physical processes of thermal discharge and flow abstraction, buoyancy effect of the thermal plume, and surface heat exchange when assessing impacts of thermal discharge. Dispersion of biocides in the discharge shall also be simulated with appropriate decay rates.

- (iv) In general, grid size within and around the study area of the Project shall be less than 400 m in open waters and less than 75 m around discharge points or sensitive receivers. The grid shall also be able to reasonably represent coastal features existing and proposed in the Project. The grid schematization shall be agreed with the Director.
- (v) The pollution load inventory for water quality modelling shall include both the background and project pollution loads. The Applicant may adopt the pollution load inventory provided by the Director as the background pollution loads. Any update or revision to the background pollution loads as well as the project pollution loads shall be justified and agreed with the Director.

5. **Modelling Assessment**

- (i) The assessment shall include the construction, post-construction and operation stages of the Project. Potential impacts of the water quality due to the Project, and potential changes in hydrodynamic regime due to any breakwater construction, reclamation, other works involving coastline and bathymetry changes, and/or major discharges under the Project shall be assessed. Where appropriate, the assessment shall also include maintenance dredging. Scenarios to be assessed shall cover the baseline condition and scenarios with various different options proposed by the Applicant in order to quantify the environmental impacts and improvements that will be brought about by these options. Corresponding pollution load, bathymetry and coastline shall be adopted in the model setup.
- (ii) If applicable, the assessment shall cover accidental spillage associated with the Project. Potential locations, quantities and rates of spill shall be identified and quantified. The spill modelling shall cover combinations of different tides, wind and seasonal conditions. The methodology for modelling spill and scenarios to be covered should be agreed with the Director.
- (iii) The water quality model shall run for a complete year to assess water quality impacts during post-construction stage of the Project. Construction stage impacts, thermal discharge, and floating refuse and debris entrapment, where appropriate, shall be assessed by simulating at least a 15-day spring-neap tidal cycle in both the dry and wet seasons.
- (iv) For temporary discharges via the emergency submarine sewage outfall, the potential affected area and sensitive receivers, and the associated impacts shall be assessed using modelling. The Applicant shall estimate the temporary discharge loading, pattern and duration. The worst case scenario, such as discharge near slack water of neap tide, shall be simulated. The simulation period shall be at least a 15-day spring-neap tidal cycle in both the dry and wet seasons, and long enough for the recovery of the receiving water to the status before the discharge. Detailed methodology shall be agreed with the Director.
- (v) Compliance of WQOs and other relevant criteria in the relevant WCZs during both the construction, post-construction and operation stages of the Project shall be assessed.

-
- (vi) Any changes in hydrodynamic regime shall be assessed with the model run for at least a 15-day spring-neap tidal cycle in both the dry and wet seasons. Daily erosion/sedimentation rate on identified sensitive receivers shall be computed and assessed with relevant criteria.
 - (vii) The impacts of water quality and/or hydrodynamic changes on identified sensitive receivers shall be assessed.
 - (viii) Cumulative impacts due to other projects, activities or pollution sources within a boundary to be agreed with the Director shall also be predicted and quantified.
 - (ix) If nested modelling is adopted (paragraph (iii) of Section 3 of this Appendix) and the modelling results indicates that certain scenarios are sensitive/critical, e.g. where the predicted water quality only marginally meets the WQOs, the Applicant may be required to verify the findings from the nested model by re-running the identical scenarios using the refined HK-DFM Model (refers to paragraphs (i) and (ii) of Section 3 of this Appendix), if deemed necessary by the Director.
 - (x) All modelling input data and results shall be submitted in digital media to the Director upon request.

Appendix E**Requirements for Assessment of Waste Management Implications**

The assessment of waste management implications shall cover the following:

1. Analysis of Activities and Waste Generation

- (i) The Applicant shall identify the quantity, quality and timing of the waste arising as a result of the construction activities of the Project, based on the sequence and duration of these activities, e.g. any dredged/excavated sediment/mud, construction and demolition (C&D) materials, floating refuse and other wastes which would be generated during construction stage.
- (ii) The Applicant shall adopt appropriate design, general layout, construction methods and programme to minimise the generation of public fill/inert C&D materials and maximise the use of public fill/inert C&D materials for other construction works.

2. Proposal for Waste Management

- (i) Prior to considering the disposal options for various types of wastes, opportunities for reducing waste generation, on-site or off-site re-use and recycling shall be evaluated. Measures which can be taken in the planning and design stages (e.g. by modifying the design approach) and in the construction stage for maximising waste reduction shall be separately considered.
- (ii) After considering the opportunities for reducing waste generation and maximising re-use, the types and quantities of the wastes required to be disposed of as a consequence shall be estimated and the disposal methods/options for each type of wastes shall be described in detail. The disposal methods/options recommended for each type of wastes shall take into account the result of the assessment in sub-section (iv) below.
- (iii) The EIA report shall state the transportation routings and the frequency of the trucks/vessels involved, any barging point or conveyor system to be used, the stockpiling areas and the disposal outlets for the waste identified.
- (iv) The impact caused by handling (including stockpiling, labelling, packaging and storage), collection, transportation and reuse/disposal of wastes shall be addressed in detail and appropriate mitigation measures shall be proposed.

3. Dredging/Excavation and Dumping

- (i) The Applicant shall identify and estimate dredging/excavation, dredged/excavated sediment/mud transportation and disposal activities and requirements. Potential dumping ground to be involved shall also be identified. Appropriate field investigation, sampling and chemical and biological laboratory tests to characterise the sediment/mud concerned shall be conducted for marine disposal option. The ranges of parameters to be analysed; the number, type and methods of sampling; sample preservation; chemical and biological laboratory test methods to be used shall be agreed with the Director (with reference to Section 4.4.2(c) of the TM) prior to the commencement of the tests and document in the EIA report for consideration. The categories of sediment/mud which are to be disposed of in accordance with the Dumping at Sea Ordinance (DASO) shall be identified by both chemical and biological tests and their quantities shall be estimated. If the presence of contamination of sediment/mud which requires special treatment/disposal is confirmed, the Applicant shall identify the appropriate treatment and/or disposal arrangement and demonstrate its viability in consultation with relevant authorities.
- (ii) The Applicant shall identify and evaluate the practical dredging/excavation methods to minimise dredging/excavation and dumping requirements based on the criterion that existing sediment/mud shall be left in place and not to be disturbed as far as possible.

Appendix F**Requirements for Ecological Impact Assessment (Terrestrial and Marine)**

1. The Applicant shall examine the flora, fauna and other components of the ecological habitats within the assessment area. The aim shall be to protect, maintain or rehabilitate the natural environment. In particular, the Project shall avoid or minimise impacts on recognised sites of conservation importance and other ecologically sensitive areas. The assessment shall identify and quantify as far as possible the potential ecological impacts associated with the Project, both directly by physical disturbance and indirectly by potential impacts such as change of water quality and hydrodynamic regime to natural habitats and the associated wildlife groups and habitats/species.
2. The assessment shall include the following major tasks:
 - (i) review the findings of relevant studies/surveys and collate the available information regarding the ecological characters of the assessment area;
 - (ii) evaluate the information collected, identify any information gap relating to the assessment of potential ecological impacts to terrestrial and marine environment, and determine the ecological field surveys and investigations that are needed for an impact assessment as required in the following sub-sections;
 - (iii) carry out necessary ecological field surveys with a duration of at least 6 months covering both wet and dry seasons, and investigation to verify the information collected, fill the information gaps as identified in sub-section (ii) above, and to fulfil the objectives of the EIA study. The field surveys shall cover flora, fauna and any other habitats/species of conservation importance, and shall include intertidal survey, benthic survey, and underwater dive survey for coral communities and associated species;
 - (iv) establish the ecological profile of the assessment area based on information collected in the tasks mentioned in sub-sections (i) to (iii) above, and describe the characteristics of each habitat found, the data set should be comprehensive and representative, and is up to date and valid for the purpose of this assessment. Major information to be provided shall include:
 - (a) description of the physical environment, including recognised sites of conservation importance and ecologically sensitive areas;
 - (b) habitats maps of suitable scale (1:1000 to 1:5000) showing the types and locations of habitats and species of conservation interest in the assessment area;

- (c) ecological characteristics of each habitat type such as size, vegetation and/or substrate type, species present, dominant species found, species richness and abundance of major taxa groups, community structure, seasonal patterns, ecological value, inter-dependence of the habitats and species, and presence of any features of ecological importance;
 - (d) representative colour photographs of each habitat type and any important ecological features identified; and
 - (e) species found that are rare, endangered and/or listed under local legislation, international conventions for conservation of wildlife/habitats or Red Data Books.
- (v) investigate and describe the existing wildlife uses of various habitats with special attention to those wildlife groups and habitats with conservation interest, including but not limited to the following:
- (a) woodland and plantation
 - (b) terrestrial fauna (e.g. avifauna including ardeids and terns, mammals, herpetofauna, butterflies, odonates)
 - (c) the intertidal, subtidal soft-bottom and hard-bottom habitats and communities (e.g. coral communities and associated species e.g. seahorse and pipefish);
 - (d) Kei Ling Ha Mangal SSSI, Ting Kok SSSI and Hoi Ha Wan Marine Park; and
 - (e) any other habitats and wildlife groups identified as having special conservation interest by the EIA study.
- (vi) describe recognised site of conservation importance, conservation areas and other ecological sensitive areas in the assessment area and assess whether these sites will be affected by the Project and associated works;
- (vii) using suitable methodologies (including those adopted in other relevant studies in Hong Kong, etc.), and considering any works activities from other projects reasonably likely to occur at the same time, identify and quantify as far as possible any direct (e.g., loss of habitats, physical disturbance, etc.), indirect (e.g., light, changes in water qualities, hydrodynamics properties, hydrology, noise and other disturbance generated by the construction activity, etc.), on-site, off-site, primary, secondary and cumulative ecological impacts on the wildlife groups and habitats identified such as destruction of habitats, disturbance to wildlife, reduction of species abundance/diversity, loss of roosting, foraging, feeding and breeding

grounds, reduction of ecological carrying capacity and habitat fragmentation and any other possible disturbance caused by the Project, and in particular the following:

- (a) loss of habitats due to the reclamation and associated works under the Project;
 - (b) noise, glare, dust, traffic and other human disturbance and other deterioration of environmental quality to ecological sensitive areas and wildlife during the construction, post-construction and operation of the Project;
 - (c) indirect ecological impacts (such as shift in community pattern and species composition) due to potential hydrological disruption, change in hydrodynamic regime, sediment erosion or deposition pattern and deterioration of water quality on the natural coastline of Ma Liu Shui, during construction, post-construction and operation of the Project;
 - (d) impact on ardeids and flight path;
 - (e) impact due to obstruction to wildlife corridor, habitat fragmentation and isolation; and
 - (f) cumulative impacts due to other planned and committed concurrent development projects at or near the Project area.
- (viii) evaluate ecological impact based on the best and latest information available during the course of the EIA study, using quantitative approach as far as practicable and covering the construction, post-construction and operation of the Project;
- (ix) recommend possible and practicable mitigation measures to avoid, minimise and/or compensate for the adverse ecological impacts identified during the construction, post-construction and operation of the Project, such as the provision of eco-shorelines, artificial reefs, oyster shell reefs, restocking of fish fries/shellfishes and restoration of corals;
- (x) evaluate the feasibility and effectiveness of the recommended mitigation measures and define the scope, type, location, implementation arrangement, resource requirement, subsequent management and maintenance of such measures;
- (xi) determine and quantify as far as possible the residual ecological impacts after implementation of the proposed mitigation measures;
- (xii) evaluate the significance and acceptability of the residual ecological impacts using well-defined criteria in Annex 8 of the TM; and determine if off-site mitigation

measures are necessary to mitigate the residual impacts and if affirmative, guidelines and requirements laid down in Annex 16 of the TM should be followed; and

- (xiii) review the need for and recommend any ecological monitoring programme required.

Appendix G**Requirements for Fisheries Impact Assessment**

1. Existing information regarding the assessment area shall be reviewed. Based on the review results, the study shall determine the need for fisheries baseline surveys, and conduct field surveys to collect adequate baseline information as necessary taking into account the relevant reclamation configuration(s) to be assessed. The surveys to be conducted for the study shall include fisheries resources surveys for at least 6 months covering both wet and dry seasons and fishing activities surveys for 12 months within the study area.
2. The Applicant shall propose appropriate methodology (in particular sampling gear type and specification, number and location of sampling stations, duration and timing of surveys and data analyses to be performed, etc.).
3. The fisheries impact assessment shall cover any potential direct/indirect, on-site/off-site, short-term and long-term impacts on capture and culture fisheries during the construction, post-construction and operation of the Project.
4. The fisheries impact assessment shall provide the following information:
 - (i) description of the physical environmental background;
 - (ii) description and quantification of the existing fisheries activities;
 - (iii) description and quantification of the existing fisheries resources/production;
 - (iv) identification of parameters (e.g. water quality parameters) and areas that are important to fisheries and will be affected;
 - (v) prediction and evaluation of any direct/indirect and on-site/off-site impacts on fisheries, such as loss or disturbance of fishing grounds, fisheries production and operations, fisheries resources and habitats, important spawning and nursery grounds of commercial fisheries resources in Tolo Channel, artificial reefs, as well as impacts on hydrodynamics and water quality deterioration at sensitive receivers such as fish culture zones;
 - (vi) evaluation of cumulative impacts on fisheries;
 - (vii) where necessary, proposals of feasible, practicable and effective alternatives and/or mitigation measures to enhance fisheries resources and habitats; and

- (viii) review the need of monitoring during the construction, post-construction and operation of the Project and associated works and, if necessary, propose a monitoring and audit programme.

Appendix H**Requirements for Landscape and Visual Impact Assessment**

1. A system shall be derived for judging the landscape and visual impact significance as required under the Annexes 10 and 18 of the TM and the latest version of the EIAO Guidance Note “Preparation of Landscape and Visual Impact Assessment under the EIAO” published on the website of the Environmental Protection Department, unless otherwise agreed by the Director. Landscape and visual impact during post-construction phase within the assessment area shall be assessed. Cumulative landscape and visual impacts of the Project with other existing, committed and planned developments in the assessment area shall be assessed.
2. The Applicant shall assess the landscape impact due to the Project during post-construction stage. The Applicant shall describe, appraise, analyse and evaluate the existing and planned landscape resources and characters of the assessment area including those landscape design proposed under the Project. Annotated oblique aerial photographs and plans of suitable scale showing the baseline landscape resources and landscape character areas and mapping of impact assessment shall be extensively used to present the findings of impact assessment. Descriptive text shall provide a concise and reasoned judgment from a landscape point of view. The assessment shall be particularly focused on the sensitivity of the landscape character areas and resources and its ability to accommodate change. The Applicant shall identify the degree of compatibility of the Project with the existing and planned landscape setting and scenic spot. The landscape impact assessment shall quantify and qualify potential landscape impact as far as possible, so as to illustrate the significance of such impact arising from the Project. Clear mapping of the landscape impact is required. Broad brush tree and vegetation survey and survey on Old and Valuable Trees and trees of particular interest within the assessment area shall be carried out and the impacts on them, in particular flora species of conservation importance regardless of size, shall also be addressed. Cumulative landscape impacts of the Project with other committed and planned developments shall be assessed.
3. The Applicant shall assess the visual impact due to the Project during post-construction stage. Clear illustrations including mapping of visual impact is required. The Visual Impact Assessment should take into account existing/planned/approved land uses as the baseline conditions. All direct impacts on existing/planned/approved land uses, and on future outlook of the area should be discussed. Cumulative visual impact of the Project with other existing, committed and planned developments in the assessment area shall be assessed. The assessment shall include the following:

- (i) identification and plotting of visual envelope of the Project;
 - (ii) appraisal of existing visual resources and characters as well as future outlook of the visual system of the assessment area;
 - (iii) identification and justification of the key public viewing points within the visual envelope and their views at sea level, ground level and elevated vantage points, and clearly indicate the key public viewing points on a plan of appropriate scale. Prior to the Visual Impact Assessment (VIA), the selection of representative public viewing points shall be agreed with Planning Department and the Director;
 - (iv) evaluation of the magnitude of change in terms of visual composition, visual obstruction and visual change of the Project with the existing and planned visual context, and sensitivity of viewers in terms of types of viewers and value of existing views;
 - (v) the visual impact of the Project with and without mitigation measures during post-construction phase shall be included and illustrated so as to demonstrate the effectiveness of the proposed mitigation measures across time; and
 - (vi) evaluation and explanation with supportive arguments of factors considered in arriving the significance thresholds of visual impact. The visual impacts should include presentation of an evaluation matrix derived for judging impact significance.
4. The Applicant shall evaluate the merits of preservation in totality, in parts or total destruction of existing landscape and the establishment of a new landscape character area. In addition, alternative location, layout, development options, alignment, design, built-form and construction methods that would avoid or reduce the identified impacts on landscape, and/or visual amenity shall be thoroughly examined before adopting other mitigation or compensatory measures to alleviate the impacts. The applicant shall recommend mitigation measures which shall not only focus on damage reduction but also potential enhancement of existing landscape and visual quality of the area. The recommendations shall also be illustrated in landscape design and landscape/visual impact mitigation measure plan.
5. The mitigation measures shall include preservation of vegetation and natural landscape resources (e.g. transplanting of trees in good condition and value), provision of buffer planting, re-vegetation of disturbed area, woodland restoration, compensatory planting, erection of decorative screen hoarding compatible with surrounding setting, provisioning/re-provisioning of amenity areas and open spaces, design and layout of structures, façade treatment, creation of interesting landscape or

visual features and any measures to mitigate the impact on existing and planned land uses and viewers. Parties shall be identified for the ongoing management and maintenance of the proposed mitigation works to ensure their effectiveness throughout the implementation of the Project. Agreement from relevant authorities responsible for funding, implementation, management and maintenance of proposed mitigation measures have to be obtained before including into the LVIA. A practical programme for the implementation of the recommended measures shall be provided. If any noise barriers/enclosures are proposed, the choice of their colours, design and materials should be compatible with the surrounding buildings and development context and their aesthetic designs should be considered.

6. Annotated illustration materials such as coloured perspective drawings, plans and section/elevation diagrams, oblique aerial photographs, photographs taken at key public viewing points, and computer-generated photomontage shall be adopted to fully illustrate the landscape and visual impacts of the Project. In order to illustrate the landscape and visual impacts and to demonstrate the effectiveness of the proposed landscape and visual mitigation measures, photomontages at selected representative public viewing points shall be prepared to illustrate existing conditions and proposed development with and without mitigation measures at the post-construction stage, unless otherwise agreed by the Director. Computer graphics shall be in a common format compatible with desktop computers. The Applicant shall record the technical details in preparing the illustrations, which may need to be submitted for verification of the accuracy of the illustrations.

Appendix I**Requirements for Cultural Heritage Impact Assessment**1. Archaeological Impact Assessment (AIA)

The Applicant shall engage archaeologist(s) to conduct an archaeological impact assessment (AIA), taking the results of previous studies and other background of the site into account, to evaluate the archaeological impact imposed by the Project and its associated works. The scope of the AIA shall be submitted to the AMO and the Director prior to the commencement of the assessment for consideration. In case the existing information is inadequate or where the assessment area has not been adequately studied before, the archaeologist(s) shall conduct archaeological investigations to assemble data. The archaeologist(s) shall obtain licence(s) from the Antiquities Authority under the Antiquities and Monuments Ordinance (Cap. 53) prior to the commencement of archaeological investigation(s). Based on existing and collected data, the Applicant shall evaluate whether the proposed developments and works associated with the Project are acceptable from archaeological preservation point of view. In case adverse impact on archaeological heritage cannot be avoided, appropriate mitigation measures should be designed and recommended in the EIA report in agreement with AMO.

If archaeological investigation is required, it shall follow detailed technical requirement to be given by AMO and the Director on archaeological survey, archaeological report and handling of archaeological finds and archives. The Applicant shall draw necessary reference to relevant sections of the “Guidelines for Cultural Heritage Impact Assessment” issued by the AMO for detailed requirement.

2. Marine Archaeological Investigation (MAI)

- (i) The Applicant shall engage a marine archaeologist to conduct a marine archaeological review based on the best available information to identify whether there is any potential existence of sites or objects of cultural heritage within the seabed that will be affected by the marine works of the Project, whether the identified issues can be mitigated. The review can take into account the scope and nature of proposed marine works, the results of previous marine archaeological investigations, the dredging history and other diving records, etc. The assessment area shall include areas to be affected by the marine works of the Project.
- (ii) A MAI shall be carried out to ascertain the archaeological value of the affected seabed area. The Applicant shall propose a programme of investigation, including the scope of works, methodology and time schedule, etc. for agreement with the

Director. The MAI shall be carried out by a marine archaeologist who shall obtain a licence from the Antiquities Authority under the provision of the Antiquities and Monuments Ordinance (Cap. 53) for the marine archaeological work. If significant archaeological remains are identified, and if they would be affected, strong justifications should be provided, and mitigation measures shall be designed and agreed by the AMO before implementation and implemented to the satisfaction of AMO.

3. The Applicant shall draw necessary reference to relevant sections of the “Guidelines for Marine Archaeological Investigation (MAI) (as at 4 May 2020)” issued by AMO in **Appendix I-1**, including those on archaeological survey, archaeological report, and handling of archaeological finds and archives, if found necessary in desk-top research results.

Appendix I-1**Guidelines for Marine Archaeological Investigation (MAI)****(As at 4 May 2020)**

The standard practice for MAI should consist of four separate tasks, i.e. (1) Baseline Review, (2) Geophysical Survey, (3) Establishing Archaeological Potential and (4) Remote Operated Vehicle (ROV)/Visual Diver Survey/Watching Brief. Marine archaeologists should make reference to the standard and guidance of Chartered Institute for Archaeologists and Historic England to carry out MAI.

1. Baseline Review

- 1.1 A baseline review should be conducted to collate the existing information in order to identify the potential for archaeological resources and, if identified, their likely character, extent, quality and value.
- 1.2 The baseline review will focus on known sources of archive data. It will include:
 - (a) Geotechnical Engineering Office (GEO) – the office holds extensive seabed survey data collected from previous geological research.
 - (b) Marine Department, Hydrographic Office - the office holds a substantial archive of hydrographic data and charts.
 - (c) UK Hydrographic Department - the Department maintains an archive of all survey data collected by naval hydrographers.
 - (d) Relevant government departments should be consulted in order to obtain the information of dredging history (if any) on the proposed project area. Area for sand dredging, mud disposal and allocated marine borrow area within Hong Kong should also be considered during the review.
- 1.3 The above data sources will provide historical records and more detailed geological analysis of submarine features which may have been subsequently masked by more recent sediment deposits and accumulated debris.

2. Geophysical Survey

- 2.1 Extensive geophysical survey of the study area should deploy high resolution boomer, side scan sonar, an echo sounder and high resolution multi beam sonar. The multi beam data must be presented as processed digital terrain models to facilitate the archaeological analysis. The data received from the survey would be analysed in detail to provide:
 - (a) Exact definition of the areas of greatest archaeological potential.
 - (b) Assessment of the depth and nature of the seabed sediments to define which areas consist of suitable material to bury and preserve archaeological material.
 - (c) Detailed examination of the boomer and side scan sonar records to map anomalies in and on the seabed which may be archaeological material.

- (d) Detailed examination of the multi beam sonar data to assess the archaeological potential of the sonar contacts.

3. **Establishing Archaeological Potential**

- 3.1 The data examined during Task 1 and 2 will be analysed to provide an indication of the likely character and extent of archaeological resources within the study area. This would facilitate formulation of a strategy for investigation.
- 3.2 The results would be presented as a written report and charts. If there is no indication of archaeological material there would be no need for further work.
- 3.3 Charts should be presented at the most appropriate scale and show each survey contact. Its dimensions and exact location should also be shown.

4. **Remote Operated Vehicle (ROV)/Visual Diver Survey/Watching Brief**

- 4.1 Subject to the outcome of Task 1, 2 and 3, accepted marine archaeological practice would be to plan a field evaluation programme to acquire more detailed data on areas identified as having archaeological potential. The areas of archaeological interest can be inspected by ROV or divers. ROV or a team of divers with both still and video cameras would be used to record seabed features of archaeological interest.
- 4.2 Owing to the heavy marine traffic in Hong Kong, the ROV/visual diver survey may not be feasible to achieve the target. If that is the case, an archaeological watching brief is the most appropriate way to monitor the dredging operations in areas of identified high potential to obtain physical archaeological information.
- 4.3 A sampling strategy for an archaeological watching brief would be prepared based on the results of Task 1, 2 and 3 to focus work on the areas of greatest archaeological potential. Careful monitoring of the dredging operations would enable immediate identification and salvage of archaeological material. If archaeological material is found, the AMO should be contacted immediately to seek guidance on its significance and appropriate mitigation measures would be prepared.
- 4.4 If Task 4 is undertaken, the results would be presented in a written report with charts.

5. **Report**

- 5.1 Five copies of the final report should be submitted to the AMO. The copyright of the report should be clearly identified. To facilitate future research, please specify that the report can be made available to the public in the Reference Library of the Heritage Discovery Centre.

Appendix J**Requirements for Hazard to Life Assessment****Towngas Submarine Pipelines**

1. The Applicant shall investigate methods to avoid and/or minimise risks from the Towngas submarine pipelines. The Applicant shall seek the Director's agreement whether a quantitative hazard assessment is required to evaluate potential hazard to life due to the Towngas submarine pipelines during the construction stage of the Project, taking into account of any development with significant increase in population in the vicinity of the Towngas submarine pipelines. In the event of a hazard assessment for the Towngas submarine pipelines is required for the Project, the hazard assessment shall include the following:
 - (i) Identify hazardous scenarios associated with the operation of the Towngas submarine pipelines and determine a set of relevant scenarios to be included in a Quantitative Risk Assessment (QRA);
 - (ii) Execute a QRA of the set of hazardous scenarios determined in (i), expressing population risks in both individual and societal terms;
 - (iii) Compare individual and societal risks with the criteria for evaluating hazard to life stipulated in Annex 4 of the TM; and
 - (iv) Identify and assess practicable and cost-effective risk mitigation measures.
2. The hazard assessment shall also include a cumulative risk assessment of the Project, through interaction or in combination with other existing, committed and planned developments.
3. The methodology to be used in the hazard assessment should be consistent with previous studies having similar issues.

Appendix K

Implementation Schedule of Recommended Mitigation Measures

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Measure & Main Concerns to Address	Who to Implement the Measure?	Location of the Measure	When to Implement the Measure?	What Standards or Requirements for the Measure to Achieve?

Appendix L**Requirements for EIA Report Documents**

1. The Applicant shall supply the Director with the following number of copies of the EIA report and the executive summary:
 - (i) 30 copies of the EIA report and 30 copies of the executive summary (each bilingual in both English and Chinese) as required under Section 6(2) of the EIAO to be supplied at the time of application for approval of the EIA report.
 - (ii) When necessary, addendum to the EIA report and the executive summary submitted in item (i) above as required under Section 7(1) of the EIAO, to be supplied upon advice by the Director for public inspection.
 - (iii) 20 copies of the EIA report and 50 copies of the executive summary (each bilingual in both English and Chinese) with or without Addendum as required under Section 7(5) of the EIAO, to be supplied upon advice by the Director for consultation with the Advisory Council on the Environment.
2. In addition, to facilitate public inspection of EIA report via EIAO Internet Website, the Applicant shall provide electronic copies of both the EIA report and executive summary prepared in Hyper Text Markup Language (HTML) and in Portable Document Formats (PDF), unless otherwise agreed by the Director. For both of the HTML and PDF versions, a content page capable of providing hyperlink to each section and sub-section of the EIA report and executive summary shall be included in the beginning of the document. Hyperlinks to figures, drawings and tables in the EIA report and executive summary shall be provided in the main text from where respective references are made. The EIA report, including drawings, tables, figures and appendices shall be viewable by common web-browsers including the latest version of Microsoft Edge, Mozilla Firefox, Safari, Google Chrome or any web browsers as agreed by the Director, and support languages including Traditional Chinese, Simplified Chinese and English.
3. The electronic copies of the EIA report and the executive summary shall be submitted to the Director at the time of application for approval of the EIA report.

4. When the EIA report and the executive summary are made available for public inspection under Section 7(1) of the EIAO, the content of the electronic copies of the EIA report and the executive summary must be the same as the hard copies and the Director shall be provided with the most updated electronic copies.

5. To promote environmentally friendly and efficient dissemination of information, both hardcopies and electronic copies of future EM&A reports recommended by the EIA study shall be required and their format shall be agreed by the Director.