

本署檔號
OUR REF: (58) in EP2/N6/F/164
來函檔號
YOUR REF:
電話
TEL. NO.: 2835 1102
圖文傳真
FAX NO: 2591 0558
電子郵件
E-MAIL: vicyeung@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

20 October 2015

General Manager
Profit Point Enterprises Limited

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

**Project Title: Proposed Interim Sewage Treatment Plant and Effluent Reuse Facility
at Wo Shang Wai, Yuen Long
(Application No. ESB-289/2015)**

I refer to your above application received on 10 September 2015 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-289/2015) 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. Evelyn LEUNG (Tel: 2594 6323) regarding the details in due course.

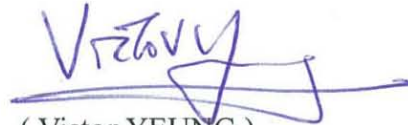
If the EIA report is selected by ACE for submission and presentation, you are expected

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 Mr. Edward LAM at 2835 1113.

Yours sincerely,



(Victor YEUNG)

Acting Principal Environmental Protection Officer
for Director of Environmental Protection

Encl.

c.c. (w/o encl.)

Secretary of ACE EIA Subcommittee (Attn : Ms. Evelyn LEUNG) Fax: 2872 0603

ENVIRONMENTAL IMPACT ASSESSMENT ORDINANCE (CAP. 499)
SECTION 5 (7)

ENVIRONMENTAL IMPACT ASSESSMENT STUDY BRIEF NO. ESB-289 /2015

**PROJECT TITLE : PROPOSED INTERIM SEWAGE TREATMENT PLANT AND
EFFLUENT REUSE FACILITY AT WO SHANG WAI, YUEN
LONG
(hereinafter known as the "Project")**

**NAME OF APPLICANT : PROFIT POINT ENTERPRISES LIMITED
(hereinafter known as the "Applicant")**

1. BACKGROUND

- 1.1 An application (No. ESB-289/2015) 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 10 September 2015 with a project profile (No. PP-528/2015) (the Project Profile).
- 1.2 The Project is to construct and operate an interim sewage treatment plant with an effluent reuse facility located within the Wo Shang Wai Development site. The effluent reuse facility will involve the reuse of treated sewage effluent from the membrane bio-reactor type interim sewage treatment plant for irrigation and toilet flushing. The proposed interim sewage treatment plant, with a handling capacity of about 1,446m³ per day, will be served as an interim measure to handle the sewage generated from the Wo Shang Wai Development before the availability of public sewerage for connection. The location of the Project is shown in Appendix A.
- 1.3 The Project is a designated project by virtue of Item F.4, Part I of Schedule 2 of the EIAO, which specifies "*an activity for the reuse of treated sewage effluent from a treatment plant*".
- 1.4 Pursuant to section 5(7)(a) of the EIAO, the Director of Environmental Protection (the Director) issues this 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 construction, operation and decommissioning of the Project and associated works that will take place concurrently. This information will contribute to decisions by the Director on :

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- (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, operation and decommissioning 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 emission sources and determine the significance of impacts on sensitive receivers and potential affected uses;
- (iv) to identify and quantify any potential losses or damage to flora, fauna and natural habitats;
- (v) to identify and evaluate any potential landscape and visual impacts and to propose measures to mitigate these impacts;
- (vi) to identify any potential human health impacts and to propose measures to mitigate these impacts;
- (vii) to propose the provision of infrastructure or mitigation measures so as to minimize pollution, environmental disturbance and nuisance during construction, operation and decommissioning of the Project;
- (viii) to investigate the feasibility, effectiveness and implications of the proposed mitigation measures;
- (ix) to identify, predict and evaluate the residual (i.e. after practicable mitigation) environmental impacts and the cumulative effects expected to arise during the

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construction, operation and decommissioning phases of the Project in relation to the sensitive receivers and potential affected uses;

- (x) to identify, assesses and specify methods, measures and standards, to be included in the detailed design, construction, operation and decommissioning of the Project which are necessary to mitigate these residual environmental impacts and cumulative effects and reduce them to acceptable levels;
- (xi) to identify the party responsible for the construction, operation and decommissioning of the Project, and to propose a mechanism to ensure proper operation;
- (xii) to design and specify the environmental monitoring and audit requirements; and
- (xiii) to identify any additional studies necessary to implement the mitigation measures or 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 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 fulfill, 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 complied with.

3.2 The Scope

- 3.2.1 The scope of this EIA study shall cover the Project and associated works mentioned in sub-section 1.2 above. 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 impact on sensitive receivers due to construction, operation and decommissioning of the Project and associated works;

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- (ii) potential noise impact on sensitive receivers due to the Project and associated works, including impact from construction equipment during construction and decommissioning, and operational noise impact;
 - (iii) potential water quality impact during construction, operation and decommissioning of the Project, including the scenario when there is emergency sewage overflow;
 - (iv) potential waste management issues and impacts during construction, operation and decommissioning of the Project;
 - (v) potential ecological impact during construction, operation and decommissioning of the Project;
 - (vi) potential landscape impact arising from the Project and potential visual impact arising from the above-ground structures of the Project;
 - (vii) potential human health impact during the effluent reuse activities;
 - (viii) potential hazard to life impact if chlorine gas containers will be stored and used in the Project; and
 - (ix) potential cumulative impacts of the Project, through interaction or in combination with other existing, committed and planned developments in the vicinity of the Project, and that those impacts may have a bearing on the environmental acceptability of the Project.

3.3 Description of the Project

3.3.1 Purpose(s) and Objectives of the Project

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

3.3.2 Details of the Project

The Applicant shall indicate the nature and status of the project decision(s) for which the EIA study is undertaken. The Applicant shall describe the design, size, construction and decommissioning methods, the nature and methods of production or other major activities involved in operation of the project, using diagrams, plans and/or maps as necessary. The estimated duration of the construction phase, operational phase and decommissioning phase of the Project together with the programme within these phases shall be given. The land taken by the Project site(s),

construction sites, and any associated access arrangements, auxiliary facilities and landscaping areas shall be shown on a scaled map. The uses of the Project shall be described and the different land use areas shall be demarcated as appropriate.

3.3.3 Background and History of the Project

The Applicant shall provide information on the site location and site history of the Project, any related projects, and the consideration of the different practicable siting and layout options of the proposed interim sewage treatment plant and effluent reuse facility at available locations. The key reasons for selecting the proposed siting and layout of the Project and the part environmental factors played in the selection shall be described. The main environmental impacts of the different practicable siting and layout options shall be compared with those of the proposed 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 Project as described in section 3.2 above. The assessment shall be based on the best and latest information available during the course of the EIA study. The EIA report shall include the construction, operational and decommissioning programme as well as approaches and methodologies for assessing environmental impacts of the Project. The EIA report shall provide the time frame, staged implementation programme, and works programmes of the Project and other concurrent projects, for assessing the cumulative environmental impacts from the Project and interacting projects as identified in the EIA study.

3.4.2 The EIA study shall include the following technical requirements on specific impacts.

3.4.3 **Air Quality Impact**

3.4.3.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing air quality impact as stated in section 1 of Annex 4 and Annex 12 of the TM.

3.4.3.2 The study area for air quality impact assessment shall be defined by a distance of 500 meters from the boundary of the Project site or other project locations as identified in the EIA, which shall be extended to include major existing, planned and committed air pollutant emission sources that may have a bearing on the environmental acceptability of the Project. The assessment shall include the existing, planned and committed sensitive receivers within the study 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.

3.4.3.3 The assessment of potential air quality impacts (including odour impacts) from the construction, operation and decommissioning of the Project shall be conducted in accordance with the technical requirements in Appendix B of this EIA Study Brief.

3.4.4 Noise Impact

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

3.4.4.2 Assessment shall include construction noise and fixed noise impact assessment of the existing, committed and planned NSRs 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, in the vicinity of the Project.

3.4.4.3 The noise impact assessment for construction, operation and decommissioning of the Project shall follow the detailed technical requirements given in Appendix C of this EIA Study Brief.

3.4.5 Water Quality Impact

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

3.4.5.2 The study area for the water quality impact assessment shall include areas within 500 metres from the site boundary of the Project and shall cover the Deep Bay Water Control Zone as designated under the Water Pollution Control Ordinance (Cap. 358) and the water sensitive receivers in the vicinity of the Project. The study area shall be extended to include other areas if they are found also being impacted during the course of the EIA study and have a bearing on the environmental acceptability of the Project.

3.4.5.3 The water quality impact assessment for construction, operation and decommissioning of the Project shall follow the detailed technical requirements given in Appendix D.

3.4.6 Waste Management Implication and Land Contamination

3.4.6.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing

waste management implication as stated in Annexes 7 and 15 of the TM.

3.4.6.2 The assessment of the waste management implication arising from construction, operation and decommissioning of the Project shall follow the detailed technical requirements given in Appendix E.

3.4.6.3 The Applicant shall follow the guidelines for evaluating and assessing potential land contamination issue as stated in Section 3.1 of Annex 19 of the TM.

3.4.6.4 The assessment of potential land contamination issue shall follow the detailed requirements given in Appendix E.

3.4.7 Ecological Impact (Terrestrial and Aquatic)

3.4.7.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing ecological impact as stated in Annexes 8 and 16 of the TM.

3.4.7.2 The assessment area for the purpose of this ecological impact assessment shall include areas within 500m distance from the boundary of the Project and any other areas likely to be impacted by the Project. For aquatic ecology, the assessment area shall be the same as the water quality impact assessment described in section 3.4.5.

3.4.7.3 The ecological impact assessment for construction, operation and decommissioning of the Project shall follow the detailed technical requirements given in Appendix F.

3.4.8 Landscape and Visual Impacts

3.4.8.1 The Applicant shall follow the criteria and guidelines as stated in Annexes 10 and 18 of the TM and the EIAO Guidance Note No.8/2010 on "Preparation of Landscape and Visual Impact Assessment under the Environmental Impact Assessment Ordinance" for evaluating and assessing the landscape and visual impacts.

3.4.8.2 The assessment area for landscape impact assessment shall include all areas within a 100m distance from the site boundary of the Project. The assessment area for the visual impact assessment shall be defined by the visual envelope of the Project.

3.4.8.3 The landscape and visual impact assessments for construction, operation and decommissioning of the Project shall follow the detailed technical requirements given in Appendix G.

3.4.9 Hazard to Life Impact

- 3.4.9.1 The Applicant shall follow the criteria for evaluating hazard to life impact as stated in Section 2 of Annex 4 of the TM.
- 3.4.9.2 The hazard to life assessment shall follow the detailed technical requirements given in Appendix H.

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, operation and decommissioning phases 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 I) containing all 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.

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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 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. REPORT 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.
- 5.2 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 J. The Applicant shall, upon request, make additional copies of EIA report/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 Applicant for this EIA study brief during the

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course of the 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-528/2015), 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:

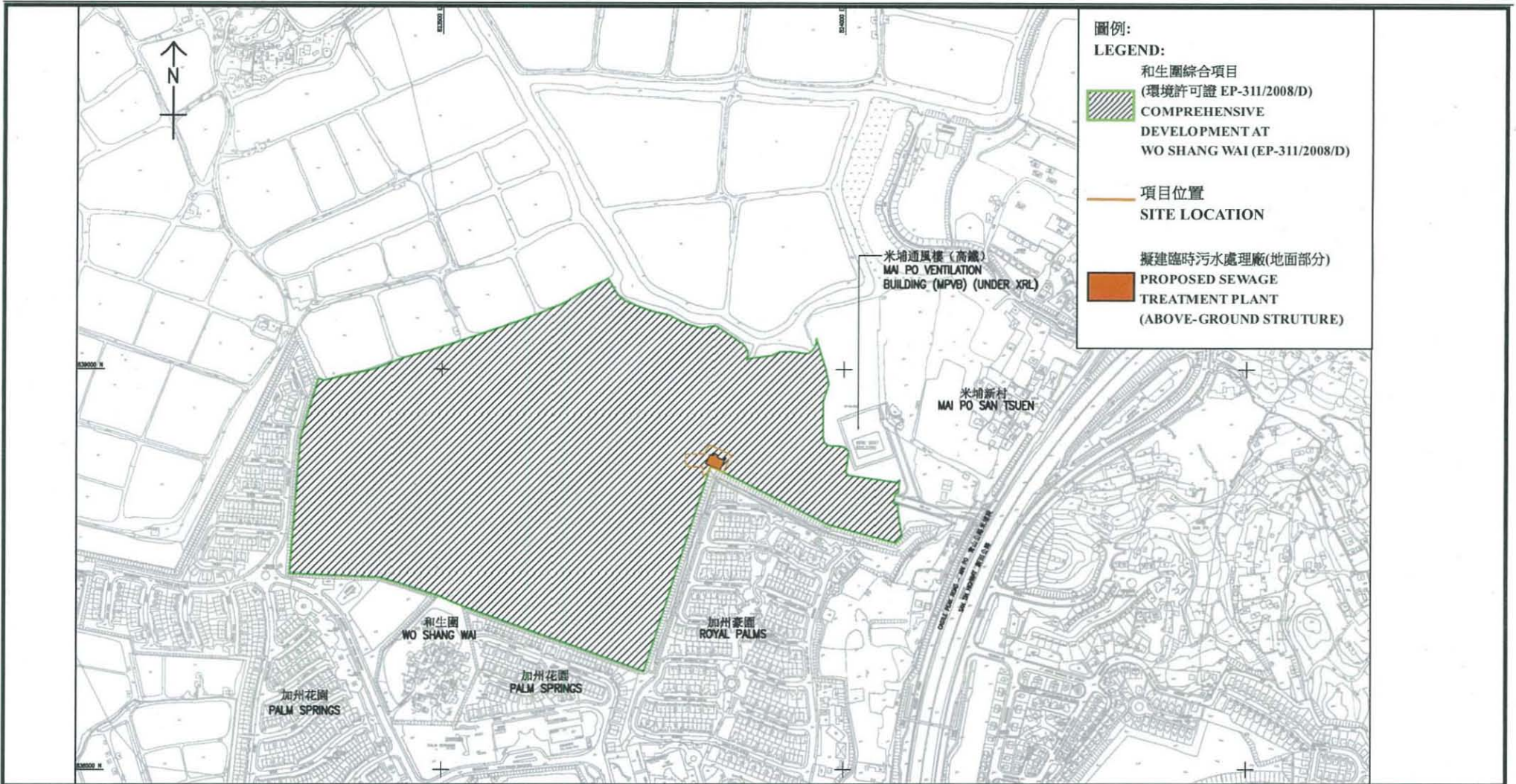
- Appendix A - Project Location Plan
- Appendix B - Requirements for Air Quality Impact Assessment
- Appendix B-1 - Air Quality Modelling Guidelines
- Appendix C - Requirements for Noise Impact Assessment
- Appendix D - Requirements for Water Quality Impact Assessment
- Appendix E - Requirements for Assessment of Waste Management Implication and Land Contamination
- Appendix F - Requirements for Ecological Impact Assessment (Terrestrial and Aquatic)
- Appendix G - Requirements for Landscape and Visual Impact Assessments
- Appendix H - Requirements for Hazard to Life Assessment
- Appendix I - Implementation Schedule of Recommended Mitigation Measures
- Appendix J - Requirements for EIA Report Documents

--- END OF EIA STUDY BRIEF ---

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Environmental Assessment Division

Environmental Protection Department



Project Title : Proposed Interim Sewage Treatment Plant and Effluent Reuse Facility at Wo Shang Wai, Yuen Long
 (This figure is prepared based on Figure 1 of Project Profile No.: PP-528/2015)
 工程項目名稱 : 元朗和生園擬建臨時污水處理廠及廢水循環再用設施
 (本圖是根據工程項目簡介 PP-528/2015 圖則編號 圖一編製)

EIA Study Brief No. : ESB-289/2015
 環評研究概要編號 :

Appendix A: Project Location Plan
 附錄 A: 工程項目位置圖



Requirements for Air Quality Impact Assessment

The air quality impact assessment shall include the following:

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 construction, operation and decommissioning stages 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 abate the air pollution impact.
- (iii) Presentation of background air quality levels in the study area for the purpose of evaluating cumulative air quality impacts during construction, operation and decommissioning stages of the Project.

2. **Identification of Air Sensitive Receivers (ASRs) and Examination of Emission/Dispersion Characteristics**

- (i) Identification and description of existing, planned and committed ASRs that would likely be affected by the Project, including those earmarked on the relevant Outline Zoning Plans, Layout Plans and 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. 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 a table providing the description such as name of buildings, their 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 pollution emission sources, including any nearby emission sources which are likely to have impact related to the Project based on the analysis of the construction, operation and decommissioning activities in section 1 above. Confirmation regarding the validity of the assumptions adopted and the magnitude of the activities (e.g. volume of construction material handled, etc.) shall be obtained from the relevant government departments/authorities and documented.

- (iii) Identification of relevant emissions from any concurrent projects which shall be taken into account as contributing towards the overall cumulative air quality impact. The impact as affecting the existing, committed and planned ASRs within the assessment area shall be assessed, based on the best/ latest information available at the time of assessment.

3. Construction Phase 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 controlled within the relevant standards as stipulated in section 1 of Annex 4 of the TM.
- (ii) If the Applicant anticipates that the Project will give rise to significant construction dust impacts likely to exceed recommended limits in the TM at the ASRs within 500m from the Project boundary despite the incorporation of the dust control measures proposed, a quantitative assessment shall be carried out to evaluate the construction dust impact at the identified ASRs. The Applicant shall follow the methodology set out in sections 5 to 7 below when carrying out the quantitative assessment.
- (iii) A monitoring and audit programme for the construction phase of the Project shall be devised to verify the effectiveness of the proposed control measures so as to ensure proper control of fugitive dust emissions.

4. Operational Phase Air Quality Impact

- (i) The Applicant shall assess the potential air quality impacts arising from the activities in the proposed Project site, including odour from the sewage treatment plant and sludge generated, based on an assumed reasonably worst-case scenario under normal operating conditions. The Applicant shall propose suitable control/mitigation measures to ensure that the potential air quality impacts (including odour impacts) at the identified ASRs are controlled within the relevant criteria stipulated in Section 1 of Annex 4 of the TM.
- (ii) If the Applicant anticipates that the Project will give rise to significant air quality impacts likely to exceed the recommended limits in the TM at the ASRs, despite incorporation of proposed control/mitigation measures, a quantitative assessment should be carried out to evaluate the operational phase air quality impacts (including odour impacts) at the identified ASRs. The Applicant shall follow the methodology set out in Sections 5 to 7 below when

carrying out the quantitative assessment.

- (iii) A monitoring and audit programme for the operational phase of the Project shall be devised to verify the effectiveness of the proposed control measures so as to ensure no adverse operational air quality (including odour) impacts.

5. Quantitative Assessment Methodology

- (i) The Applicant shall apply the general principles enunciated in the air quality modelling guidelines in Appendix B-1 while making allowance for the specific characteristic of the Project. This specific methodology must be documented in such level of details, preferably assisted with tables and diagrams, to allow the readers of the EIA report to grasp how the model has been set up to simulate the situation under study without referring to the model input files. Detailed calculations of air pollutants emission rates for input to the modelling shall be presented in the EIA report. The Applicant must ensure consistency between the text description and the model files at every stage of submissions for review. In case of doubt, prior agreement between the Applicant and the Director on the specific modelling details should be sought.
- (ii) The Applicant shall identify the key/representative air pollution parameters (types of pollutants and averaging time concentrations) to be evaluated and provide explanation for selecting such parameters for assessing the impact from the Project.
- (iii) The Applicant shall calculate the overall cumulative air quality impact at the ASRs identified under Section 2 above and compare these results against the criteria set out in Section 1 of Annex 4 in the TM. The predicted air quality impacts (both unmitigated and mitigated) shall be presented in the form of summary table(s) and pollution contours, to be evaluated against the relevant air quality standards and on any effect they may have on the land use implications. Plans of a suitable scale should be used to present pollution contours to allow buffer distance requirements to be determined properly.

6. Mitigation Measures for Non-compliance

The Applicant shall propose remedies and mitigation measures where the predicted air quality impact exceeds the criteria set in Section 1 of Annex 4 in the TM. These measures and any constraints on future land use planning shall be agreed with the relevant government departments/authorities and documented. The Applicant shall demonstrate quantitatively whether the residual impacts after incorporation of the proposed mitigation measures will comply with the criteria stipulated in Section 1 of

Annex 4 of the TM.

7. Submission of Model Files

All input and output file(s) of the model run(s) shall be submitted to the Director in electronic format together with the submission of the EIA report.

Air Quality Modelling Guidelines

[The information contained in this Appendix is meant to assist the Applicant in performing the air quality assessment. The Applicant must exercise professional judgement in applying this general information.]

The air quality modelling guidelines shall include the following guidelines as published on the website of the Environmental Protection Department (http://www.epd.gov.hk/epd/english/environmentinhk/air/guide_ref/guide_aqa_model.html):

- (i) Guidelines on Choice of Models and Model Parameters;
- (ii) Guidelines on Assessing the 'Total' Air Quality Impact (Revised);
- (iii) Guidelines on the Use of Alternative Computer Models in Air Quality Assessment (Revised);
- (iv) Guidelines on the Estimation of PM_{2.5} for Air Quality Assessment in Hong Kong; and
- (v) Guidelines on the Estimation of 10-minute Average SO₂ Concentration for Air Quality Assessment in Hong Kong.

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.
- 1.2 The Applicant shall conduct prevailing background noise surveys to determine the standards for evaluating noise impact from fixed noise source. The respective noise environment should be documented 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 paragraphs 5.3 and 5.4 of Annex 13 of the TM.
- 2.1.2 For ground-borne construction noise impact, the Applicant shall propose assessment methodology and computational model which shall be confirmed with the Director, with reference to Section 4.4.2 of the TM, prior to the commencement of the assessment. Site measurements at appropriate locations may be required in order to obtain the empirical input parameters required in the computational model.

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

- (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 boundary of the Project and the works of the Project.
- (b) The Applicant shall identify all existing NSRs in the assessment area and select assessment points to represent identified NSRs for carrying out quantitative construction noise impact assessment described below.

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- (c) The assessment points shall be confirmed with the Director prior to the commencement of the quantitative construction noise impact 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 and quantify an inventory of noise sources for representative construction equipment for the purpose of construction noise impact assessment.

2.3 Prediction and Evaluation of Construction Noise Impact

2.3.1 Phases of Construction

The Applicant shall identify representative phases of construction and decommissioning that would have noticeable varying construction noise emissions at existing NSRs at the assessment area for agreement of the Director before commencing the construction noise impact assessment.

2.3.2 Scenarios

The Applicant shall quantitatively assess the construction noise impact, with respect to criteria set in Annex 5 of the TM, of unmitigated scenario and mitigated scenario at different phases of construction and decommissioning of the Project.

2.3.3 Prediction of Noise Impact

- (a) The Applicant shall present the predicted noise levels in Leq (30 min) dB(A) at the selected assessment points at various representative floor levels (in m P.D.) on tables and plans of suitable scale.
- (b) The assessment shall cover the cumulative construction noise impact resulting from the construction and decommissioning works of the Project and other concurrent projects identified during the course of the EIA study on existing NSRs within the assessment area.
- (c) The potential construction noise impact under different phases of construction and decommissioning shall be quantified by estimating the total number of dwellings, classrooms and other noise sensitive receivers that will be exposed to noise impact exceeding the criteria set in Annex 5 in the TM.

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- (d) The Applicant shall, as far as practicable, formulate a reasonable construction and decommissioning programme so that no work will be required in restricted hours as defined under the Noise Control Ordinance (NCO). In case the Applicant needs to evaluate whether construction and decommissioning works in restricted hours as defined under the NCO are feasible or not in the context of programming construction works, reference should be made to relevant technical memoranda issued under the NCO. Regardless of the results of construction noise impact assessment for restricted hours, the Noise Control Authority will process Construction Noise Permit (CNP) application, if necessary, based on the NCO, the relevant technical memoranda issued under the NCO, and the contemporary conditions/situations. This aspect should be explicitly stated in the noise chapter and the conclusions and recommendations chapter in EIA report.

2.4 Mitigation of Construction Noise Impact

Direct Mitigation Measures

Where the predicted construction noise impact exceeds the criteria set in Table 1B of Annex 5, TM, the Applicant shall consider and evaluate direct mitigation measures including but not limited to, movable barriers, enclosures, quieter alternative methods, re-scheduling, restricting hours of operation of noisy tasks, etc. The feasibility, practicability, programming and effectiveness of the recommended mitigation measures shall be assessed. Any direct mitigation measures recommended should be well documented in the report. Specific reasons for not adopting certain direct mitigation measures to reduce the noise to a level meeting the criteria in the TM or to maximize the protection for the NSRs as far as possible should be clearly substantiated and documented in the EIA report.

2.5 Evaluation of Residual Construction Noise Impact

Upon exhaust of direct mitigation measures, if the mitigated noise impact still exceeds the relevant criteria in Annex 5 of TM, the Applicant shall identify, predict, evaluate the residual construction noise impact in accordance with Section 4.4.3 of the TM and estimate the total number of existing dwellings, classrooms and other noise sensitive elements that will be exposed to residual noise impact exceeding the criteria set in Annex 5 in the TM.

3. Operational Noise Impact Assessment

3.1 Fixed Noise Sources Impact Assessment Methodology

- 3.1.1 The Applicant shall carry out fixed noise sources impact assessment from the

Project in accordance with the methodology in paragraph 5.2 of Annex 13 of the TM.

3.2 Identification of Fixed Noise Sources Impact

3.2.1 Identification of Assessment Area and Noise Sensitive Receivers

- (a) The Applicant shall propose the assessment area for agreement of the Director before commencing the assessment. The assessment area for the fixed noise sources impact shall generally include areas within 300m from the boundary of the Project and the works of the Project.
- (b) The Applicant shall identify all existing, committed and planned NSRs in the assessment area and select assessment points to represent identified NSRs for carrying out fixed noise sources impact assessment described below.
- (c) The assessment points shall be confirmed with the Director prior to the commencement of the quantitative fixed noise sources impact 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.
- (e) For planned noise sensitive land uses without committed site layouts, the Applicant should use the relevant landuse and planning parameters and conditions to work out representative site layouts for fixed noise sources impact assessment purpose. However, such parameters and conditions together with any constraints identified shall be confirmed with the relevant responsible parties including Planning Department and Lands Department.

3.2.2 Inventory of Noise Sources

- (a) The Applicant shall identify and quantify an inventory of noise sources for fixed noise sources impact assessment. The inventory of noise sources shall include, but not limited to, noise associated with any industrial noise sources such as ventilation system(s) and sewage pumps, etc.
- (b) The Applicant shall provide document or certificate, accepted by recognized national/international organization, for the sound power level of each type of fixed noise sources.
- (c) Validity of the inventory shall be confirmed with the relevant government

departments/authorities and documented in the EIA report.

3.3 Prediction and Evaluation of Fixed Noise Sources Impact

3.3.1 Scenarios

- (a) The Applicant shall quantitatively assess the fixed noise sources impact of the Project, with respect to criteria set in Annex 5 of the TM, of unmitigated scenario and mitigated scenario at assessment year of various operation modes including, but not limited to,
- i. the worst operation mode which represents the maximum noise emission in connection of identified noise sources of the Project; and
 - ii. any other operation modes as confirmed with the Director.
- (b) Validity of the above operation modes shall be confirmed with relevant departments/authorities and documented in the EIA report.

3.3.2 Prediction of Noise Impact

- (a) The Applicant shall present the predicted noise levels in Leq (30 min) dB(A) at the selected assessment points at various representative floor levels (in m P.D.) on tables and plans of suitable scale.
- (b) The assessment shall cover the cumulative fixed noise sources impact associated with the operation of the proposed project on existing, committed and planned NSRs within the assessment area.
- (c) The potential fixed noise sources impact under different scenarios shall be quantified by estimating the total number of dwellings, classrooms and other noise sensitive receivers that will be exposed to noise impact exceeding the criteria set in Annex 5 in the TM.

3.4 Mitigation of Fixed Noise Sources Impact

Direct Mitigation Measures

Where the predicted fixed noise sources impact exceeds the criteria set in Table 1A of Annex 5, TM, the Applicant shall consider and evaluate direct mitigation measures including but not limited to noise barrier/enclosure screening by noise tolerant buildings, etc. The feasibility, practicability, programming and effectiveness of the recommended mitigation measures shall be assessed. Any direct mitigation measures recommended should be well documented in the report. Specific reasons for not adopting certain direct mitigation measures to reduce the noise to a level meeting the criteria in the TM or to maximize the protection for the NSRs as far as possible should be clearly quantified and documented in the EIA report.

3.5 Evaluation of Residual Fixed Noise Sources Impact

Upon exhaust of direct measures, if the mitigated noise impact still exceeds the relevant criteria in Annex 5 of TM, the Applicant shall identify, predict and evaluate the residual fixed noise sources impact in accordance with Section 4.4.3 of the TM and estimate the total number of existing dwellings, classrooms and other noise sensitive elements that will be exposed to residual noise impact exceeding the criteria set in Annex 5 in the TM.

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, operation and decommissioning of the Project.
2. The Applicant shall predict, and assess any water quality impacts arising from the construction, operation and decommissioning of the Project.
3. The assessment shall include, but not be limited to the following:
 - (i) the water quality impacts of the site run-off generated during construction and decommissioning phases such as the effluents generated from excavation, dewatering associated with piling activities, grouting and concrete washing and those specified in the ProPECC Practice Note 1/94;
 - (ii) the assessment on operation phase shall have regard to the frequency, duration, volume and flow rate of the discharge and its pollutant;
 - (iii) the water quality impacts of temporary, accidental, and emergency discharges at the sewage treatment plant during construction, operation and decommissioning phases of the Project;
 - (iv) the water quality impacts of chemical spillage during construction, operation and decommissioning phases; and
 - (v) recommendation of appropriate mitigation measures, including a contingency plan, to minimize the duration and impact of emergency overflow discharge during operation phase.
4. The Applicant shall address water quality impacts due to construction, operation and decommissioning of the Project. Essentially, the assessment shall address the following:
 - (i) collect and review background information on affected existing and planned water systems, their respective catchments and sensitive receivers which might be affected by the Project;

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- (ii) characterize water quality of the water systems and sensitive receivers, which might be affected by the Project based on existing best available information or through appropriate site survey and tests;
 - (iii) identify and analyse relevant existing and planned future activities, beneficial uses and water sensitive receivers 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 landuse plans;
 - (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) & (iii) above;
 - (v) review the specific construction and decommissioning methods and configurations, and operation of the Project to identify and predict the likely water quality impacts arising from the Project;
 - (vi) identify any alternation of any water courses, natural streams, ponds, wetlands, change of water holding/flow regimes of water bodies, change of catchment types or areas, erosion or sedimentation due to the Project;
 - (vii) identify and quantify existing and likely future water pollution sources, including point discharges and non-point sources to surface water runoff, sewage from workforce and polluted discharge generated from the Project;
 - (viii) provide an emission inventory on the quantities and characteristics of those existing and future pollution sources in the study area. Field investigation and laboratory test, shall be conducted as appropriate to fill relevant information gaps;
 - (ix) predict and quantify the impacts on the water system(s) and its/their sensitive receivers due to those alternations and changes identified in (vi) above, and the pollution sources identified in (vii) above. The prediction shall take into account and include possible different construction, decommissioning and operation stages of the Project;
 - (x) assess the cumulative impacts due to other related concurrent and planned projects, activities or pollution sources within the study area that may have a bearing on the environmental acceptability of the Project;

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- (xi) analyze the provision and adequacy of existing and planned future facilities to reduce pollution arising from the point and non-point sources identified in (vii) above;
 - (xii) develop effective infrastructure upgrading or provision, contingency plan, water pollution prevention and mitigation measures to be implemented during construction, decommissioning and operation stages, including emergency sewage discharge in the case of sewage treatment works and sewage pumping stations, so as to reduce the water quality impacts to within standards. Effluent generated from the Project shall require appropriate collection, treatment and disposal to ensure that there is no net increase in pollution load to Deep Bay. Requirements to be incorporated in the Project contract document shall also be proposed;
 - (xiii) investigate and develop best management practices to reduce storm water and non-point source pollution as appropriate; and
 - (xiv) 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.

Requirements for Assessment of Waste Management Implication and Land Contamination

The assessment of waste management implication and land contamination shall cover the following:

1. Analysis of Activities and Waste Generation

- (i) The Applicant shall identify the quantity, quality and timing of the wastes arising as a result of the construction, operation and decommissioning activities of the Project based on the sequence, duration, method and process of these activities, e.g. any dredged/excavated sediment/mud, construction and demolition materials, floating refuse, sewage sludge, screening, grits, chemical waste and other wastes which will be generated during construction, operation and decommissioning stages.
- (ii) The Applicant shall adopt appropriate design, general layout, construction methods and programme to minimize the generation of public fill/inert construction and demolition (C&D) materials and maximize 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 that can be taken in the planning and design stages e.g. by modifying the design approach and in the construction stage for maximizing waste reduction shall be separately considered;
- (ii) After considering the opportunities for reducing waste generation and maximizing 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. The disposal methods/options recommended for each type of wastes shall take into account the result of the assessment in Section 2 (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 wastes identified; and

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(iv) The impact caused by handling (including stockpiling, labelling, packaging & storage), collection, transportation and re-use/disposal of wastes shall be addressed and appropriate mitigation measures shall be proposed. This assessment shall cover the following areas:

- potential hazard;
- air and odour emissions;
- noise;
- wastewater discharge;
- ecology; and
- public transport.
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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 characterize the sediment/mud concerned shall be conducted. The ranges of parameters to be analyzed; 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 feasibility. The Applicant shall provide supporting document, such as agreement by the relevant facilities management authorities, to demonstrate the viability of treatment/disposal plan.

(ii) The Applicant shall identify and evaluate the practical dredging/excavation methods to minimize 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.

4. Land Contamination

If any contaminated land uses as stated in Sections 3.1 and 3.2 of Annex 19 in the TM is identified, the Applicant shall carry out the land contamination assessment as detailed from sub-section (i) to (vi) below and propose measures to avoid disposal:

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- (i) The Applicant shall follow the guidelines for evaluating and assessing potential land contamination issues as stated in Sections 3.1 and 3.2 of Annex 19 of the TM.
 - (ii) The Applicant shall identify the potential land contamination site(s) within the boundary of the Project site (Appendix A refers) and, if any, within the boundaries of all associated areas (e.g. work areas) of the Project.
 - (iii) The Applicant shall provide a clear and detailed account of the present land use (including description of the activities, chemicals and hazardous substances handled, with clear indication of their storage and location, by reference to a site layout plan) and a complete past land uses history, in chronological order, in relation to possible land contamination (including accident records and change of land use(s) and the like).
 - (iv) During the course of the EIA study, the Applicant shall submit a Contamination Assessment Plan (CAP) to the Director for endorsement prior to conducting an actual contamination impact assessment of the land or site(s). The CAP shall include proposal with details on representative sampling and analysis required to determine the nature and the extent of the contamination of the land or site(s). Alternatively, the Applicant may refer to other previously agreed and still relevant and valid CAP(s) for the concerned site(s).
 - (v) Based on the endorsed CAP, the Applicant shall conduct a land contamination impact assessment and submit a Contamination Assessment Report (CAR) to the Director for endorsement. If land contamination is confirmed, a Remedial Action Plan (RAP) to formulate viable remedial measures with supporting documents, such as agreement by the relevant facilities management authorities, shall be submitted to the Director for approval. The Applicant shall then clean up the contaminated land or site(s) according to the approved RAP, and a Remediation Report (RR) to demonstrate adequate clean-up should be prepared and submitted to the Director for endorsement prior to the commencement of any development or redevelopment works within the Study Area. The CAP, CAR and RAP shall be documented in the EIA report.
 - (vi) If there are potential contaminated sites which are inaccessible for conducting sampling and analysis during the course of the EIA study, e.g. due to site access problem, the Applicant's CAP shall include:
 - (a) a review of the available and relevant information;
 - (b) an initial contamination evaluation of these sites and possible remediation methods;

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- (c) a confirmation of whether the contamination problem at these sites would be surmountable;
- (d) a sampling and analysis proposal which shall aim at determining the nature and the extent of the contamination of these sites; and
- (e) where appropriate, a schedule of submission of revised or supplementary CAP, CAR, RAP and RR as soon as these sites become accessible.

Requirements for Ecological Impact Assessment (Terrestrial and Aquatic)

1. In the ecological impact assessment, 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 such as the Inner Deep Bay Site of Special Scientific Interest (SSSI), Mai Po Marshes Restricted Area, Mai Po Inner Deep Bay Ramsar Site, Wetland Conservation Area (WCA) and Wetland Buffer Area (WBA) as defined in Town Planning Board Guideline 12C. The assessment shall identify and quantify as far as possible the potential ecological impacts arising from the Project including its construction, operation and decommissioning phases
2. The assessment shall include the followings:
 - (i) Review of the findings of relevant studies/surveys and collection of the available information regarding the ecological characters of the assessment area;
 - (ii) Evaluation of information collected and identification of any information gap relating to the assessment of potential ecological impact, and determine the ecological field surveys and investigations that are needed for an impact assessment as required in the following sections;
 - (iii) Carrying out necessary field surveys and investigations to verify the information collected in (i) above, to fill the information gaps identified and to fulfill the objectives of the EIA study;
 - (iv) Establishment of the general ecological profile of the assessment area based on data of relevant previous studies/surveys and results of the ecological field surveys, if any, and description of the characteristics of each habitat found. Major information to be provided shall include :
 - (a) description of the physical environment, including all recognized sites of conservation importance and other ecologically sensitive areas, and assessment of whether these sites/areas will be affected by the Project or not;
 - (b) habitat maps of suitable scale (1:1000 to 1:5000) showing the types and locations of habitats/species in the assessment area;

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- (c) ecological characteristics of each habitat type such as size, type, species present, dominant species found, species diversity and abundance, community structure, seasonal pattern, ecological value and inter-dependence of the habitats and species, and presence of any features of ecological importance;
 - (d) representative colour photos 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) Investigation and description of the existing wildlife uses of the various habitats with special attention to those wildlife groups and habitats with conservation interests, including:
- (a) Natural and man-made wetland habitats in Inner Deep Bay area including but not limited to mudflat, mangrove, fishpond and watercourse;
 - (b) Wetland Restoration Area (WRA); and
 - (c) any other habitats or species identified as having special conservation interests by this study.
- (vi) Using suitable methodology and considering also other projects in the vicinity of the Project area reasonably likely to occur at the same time, identification and quantification as far as possible of any direct, indirect, on-site, off-site, primary, secondary and cumulative ecological impacts, reduction of species abundance/diversity, loss of feeding grounds, reduction of ecological carrying capacity, and in particular the followings :
- (a) indirect ecological impacts due to changes in the water quality, sedimentation and hydrology in the WRA, Mai Po tributary and its downstream wetland habitats in the assessment area during construction, operation and decommissioning phases.
- (vii) Evaluation of 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 construction, operation and decommissioning phases of the Project

- (viii) Recommendations for practicable mitigation measures to avoid, minimize and/or compensate for the adverse ecological impacts identified during construction, operation and decommissioning of the Project;
- (ix) Evaluation of the feasibility and effectiveness of the recommended mitigation measures and definition of the scope, type, location, implementation arrangement, resources requirement, subsequent management and maintenance of such measures;
- (x) Determination and quantification as far as possible of the residual ecological impacts after implementation of the proposed mitigation measures;
- (xi) Evaluation of the significance and acceptability of the residual ecological impacts by making reference to the criteria in Annex 8 of the TM; and
- (xii) Review of the need for and recommendation on any ecological monitoring programme required.

Requirements for Landscape and Visual Impact Assessments

1. The Applicant shall review relevant plan(s) and/or studies which may identify areas of high landscape value. Any guidelines on landscape and urban design strategies and frameworks that may affect the appreciation of the Project shall also be reviewed. The aim is to gain an insight to the future outlook of the area affected so as to assess whether the Project can fit into the surrounding setting. Any conflict with the statutory town plan(s) and any published land use plans shall be highlighted and appropriate follow-up action shall be recommended.
2. The Applicant shall describe, appraise, analyse and evaluate the existing and planned landscape resources and character of the assessment area. A system shall be derived for judging landscape and visual impact significance. Annotated oblique aerial photographs and plans of suitable scale showing the baseline landscape character areas and landscape resources 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 and visual point of view. The sensitivity of the landscape framework and its ability to accommodate change shall be particularly focused on. The Applicant shall identify the degree of compatibility of the Project with the existing and planned landscape setting, recreation and tourism related uses, and scenic spot. The landscape impact assessment shall quantify the potential landscape impact as far as possible so as to illustrate the significance of such impacts arising from the proposed development. Clear mapping of the landscape impact is required. A Broad Brush Tree Survey shall be carried out and the impacts on existing trees shall be addressed. Cumulative landscape and visual impacts of the Project with other committed and planned developments shall be assessed.
3. The Applicant shall assess the visual impacts of the Project. Clear illustration including mapping of visual impact is required. The assessment shall include the following:
 - (i) identification and plotting of visual envelope of the Project;
 - (ii) identification of the key groups of existing and planned sensitive receivers within the visual envelope with regard to views from ground level and elevated vantage points;
 - (iii) description of the visual compatibility of the Project with the surrounding and the planned setting, and its obstruction and interference with the key views of the study areas; and

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- (iv) identification of the severity of visual impacts in terms of distance, nature and number of sensitive receivers. The visual impacts of the Project with and without mitigation measures shall be included so as to demonstrate the effectiveness of the proposed mitigation measures.
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, design, built-form and construction method that will avoid or reduce the identified landscape and visual impacts shall be evaluated for comparison before adopting other mitigation or compensatory measures to alleviate the impacts. The mitigation measures proposed shall not only be concerned with damage reduction but shall also include consideration of potential enhancement of existing landscape and visual quality. The Applicant shall recommend mitigation measures to minimize adverse effects identified above, including provision of a master landscape plan.
5. The mitigation measures shall also include the preservation of vegetation, transplanting trees in good condition and value, provision of screen planting, re-vegetation of disturbed lands, compensatory planting, design of structure, provision of finishes to structure, colour scheme and texture of material used and any measures to mitigate the impact on the existing and planned land use and visually sensitive receivers. Parties shall be identified for the on going management and maintenance of the proposed mitigation works to ensure their effectiveness throughout the construction phase, operation phase and decommissioning phase of the Project, associated works, supporting facilities and essential infrastructures. A practical programme and funding proposal for the implementation of the recommendation measures shall be provided.
6. Annotated illustration materials such as colour perspective drawings, plans and section/elevation diagrams, annotated oblique aerial photographs, photographs taken at vantage points, and computer-generated photomontage shall be adopted to fully illustrate the landscape and visual impacts of the proposal. In particular, the landscape and visual impacts of the Project with and without mitigation measures from representative viewpoints, particularly from views of the most severely affected visually sensitive receivers (i.e. worst case scenario), shall be properly illustrated in existing and planned setting at four stages (existing condition, Day 1 with no mitigation measures, Day 1 with mitigation measures and Year 10 with mitigation measures) by computer-generated photomontage so as to demonstrate the effectiveness of the proposed mitigation measures. Computer graphics shall be compatible with Microstation DGN file format. The Applicant shall record the technical details in preparing the illustration, which may need to be submitted for verification of the accuracy of the illustration.

Requirements for Hazard to Life Assessment

1. The Applicant shall investigate methods to avoid and/or minimize risks from chlorine gas. If chlorine gas containers will be stored and used in the Project, the Applicant shall carry out hazard assessment to evaluate potential hazard to life due to chlorine gas. The hazard assessment shall include the following:
 - (i) Identify hazardous scenarios associated with the transport, storage and use of chlorine gas containers at the Project site and then 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 methodology to be used in the hazard assessment shall be agreed with the Director.

Implementation Schedule

EIA* Ref.	EM&A Ref.	Environmental Protection Measures*	Location/Duration of measures/Timing of completion of measures	Implementation Agent	Implementation Stage **				Relevant Legislation & Guidelines
					Des	C	O	Dec	

* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.

** Des=Design; C=Construction; O=Operation; Dec=Decommissioning

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 Format (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 the 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 Internet Explorer 8, Firefox 23, Chrome and Safari 8 or later versions 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.

**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**