

3 RELEVANT ENVIRONMENTAL LEGISLATION

3.1 Introduction

3.1.1 This section presents a summary of current and relevant environmental legislation which relates to the assessment of potential environmental impacts from the proposed development.

3.2 Environmental Impact Assessment Ordinance

3.2.1 Preparation of the EIA itself has been undertaken in accordance with the Environmental Impact Assessment Ordinance (EIAO) and associated Technical Memorandum on Environmental Impact Assessment (EIA-TM) (Environmental Impact Assessment Ordinance, Cap. 499, S.16).

3.3 Air

3.3.1 The Air Pollution Control Ordinance (APCO) provides the statutory authority for controlling air pollutants from a variety of stationary and mobile sources, including fugitive dust emissions from construction sites. It encompasses a number of Air Quality Objectives (AQOs) which stipulate concentrations for a range of pollutants including Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO₂), Respirable Suspended Particulates (RSP) and Total Suspended Particulates (TSP).

3.3.2 In addition, the AQOs, Annex 4 of EIA-TM also outlines criteria for evaluating the construction dust and odour impacts.

3.3.3 The Air Pollution Control (Restriction on Open Burning) Regulations may also be relevant during the construction phase of the development.

3.3.4 The non-statutory Practice Note for Professional Persons, ProPECC PN 1/98, '*Control of Air Pollution in semi-confined Public Transport Interchanges (PTI)*', issued by the Environmental Protection Department in March 1998, details the recommended control methods required to prevent air pollution in semi-confined Public Transport Interchanges (PTI). This practice note will form the basis for designing the PTI.

3.4 Noise

3.4.1 The control of construction noise during restricted periods (anytime for percussive piling) is carried out under the Noise Control Ordinance (NCO) and three subsidiary *Technical Memoranda (TMs)* covering *Noise from Percussive Piling (PP-TM)*, *Noise from Construction Work Other Than Percussive Piling (GW-TM)* and *Noise from Construction Work in Designated Areas (DA-TM)*. The TMs establish the permitted noise levels for construction work depending upon working hours and the existing noise climate. Nothing in this report will bind the Noise Control Authority in the assessment of an application for a Construction Noise Permit pursuant to the NCO, instead, the Authority will consider each application based on the contemporary conditions/situations.

- 3.4.2 The NCO criteria for the control of noise from Power Mechanical Equipment (PME) is dependent upon the Area Sensitivity Rating (ASR), which is a "letter" system describing the background noise conditions with respect to the type of area the Noise Sensitive Receivers (NSRs) are located, rather than the measured background noise levels. Table 3.1 shows the ASR selection criteria as stated in GW-TM.
- 3.4.3 An additional TM, *the Technical Memorandum on Noise from Construction Work in Designated Areas (DA-TM)*, deals with the control of noise generated by the use of Specific Powered Mechanical Equipment as well as the carrying out of Prescribe Construction Work (includes scaffolding, loading and unloading of materials and hammering activities) in the identified designated areas during the restricted hours. The proposed TBD development falls into the Designated Areas as detailed in DA-TM, therefore, the more stringent criteria imposed in the DA-TM is also applied when carrying out the controlled activities.
- 3.4.4 Construction activities during restricted hours are controlled by the NCO. Works requiring the use of Power Mechanical Equipment during restricted hours and particularly at night should also be carried out under the provision of a Construction Noise Permit (CNP) and planned to achieve the required Basic Noise Level (BNL). These are shown in Table 3.2 below.

Table 3.1 Area Sensitivity Rating Criteria

Type of area containing the NSR	Degree to which NSR is affected by IF ⁽⁴⁾		
	Not Affected ⁽¹⁾	Indirectly Affected ⁽²⁾	Directly Affected ⁽³⁾
(i) Rural area, including country parks or village type developments	A	B	B
(ii) Low density residential area consisting of low rise or isolated high-rise developments	A	B	C
(iii) Urban area	B	C	C
(iv) Area other than those above	B	B	C

- (1) Not Affected means that the NSR is at such a location that the noise generated by the influencing factors⁽⁴⁾ (IFs) is not noticeable at the NSR.
- (2) Indirectly Affected means that the NSR is at such a location that the noise generated by the IF, whilst noticeable at the NSR, is not a dominant feature of the noise climate of the NSR.
- (3) Directly Affected means that the NSR is in such a location that the noise generated by the IF is readily noticeable at the NSR and is a dominant feature of the noise climate of the NSR.
- (4) IFs are defined as industrial areas, major roads or the area within the boundary of Hong Kong International Airport.

Table 3.2 Basic Noise Levels in $L_{eq(30 min)}$ dB(A)

Time Period	Area Sensitivity Rating		
	A	B	C
All days during the evening (1900-2300) and general holidays (including Sundays) during the day and evening (0700-2300)	60	65	70
All days during the night-time (2300-0700)	45	50	55

- 3.4.5 The BNL is corrected using the TM Methodology to produce the Acceptable Noise Level (ANL) which will be used in the CNP approval process.

- 3.4.6 Reference to Table 1B of the *Technical Memorandum on Environmental Impact Assessment Process* (EIA-TM) regarding noise standards for daytime construction activities, a limit of $L_{eq(30 \text{ min})}$ 75 dB(A) has been proposed for all domestic premises including temporary housing accommodation, hotels and hostels. For schools, a daytime noise level of $L_{eq(30 \text{ min})}$ 70 dB(A), lowered to 65 dB(A) during examination periods is recommended.
- 3.4.7 Subsidiary regulations of the NCO include *the Noise Control (Hand Held Percussive Breakers)* and *Noise Control (Air Compressors) Regulations*, which require compliance with relevant noise emission standards and the fixing of noise emission labels to hand-held percussive breaker and air compressor respectively. While these requirements are not directly relevant to the construction noise impact assessment, contractors must meet them during the construction phase of a project.
- 3.4.8 A Construction Noise Permit (CNP) is required by the regulations of the NCO for the use of all PME during restricted hours. The procedures set out in GW-TM, PP-TM, DA-TM are used by EPD to determine whether or not a CNP should be issued. CNPs will not automatically be granted and will be assessed on a case by case basis by the Authority.
- 3.4.9 Percussive piling is only permitted where a CNP has been granted by the Noise Control Authority. PP-TM sets out the permitted hours of operation of percussive piling and Acceptable Noise Level (ANL) requirements, which are dependent on the architectural characteristics of the NSR. The ANL criteria for percussive piling are reproduced in Table 3.3. ANLs for hospitals, schools, clinics, courts of law and other particularly sensitive receivers are 10 dB(A) below the figures quoted in Table 3.3.

Table 3.3 Acceptable Noise Levels for Percussive Piling

Architectural Characteristics of NSR	ANL, dB(A)
No windows or other openings	100
With central air conditioning system	95
With windows or other openings but without central air conditioning system	85

- 3.4.10 In Hong Kong, noise emissions from fixed sources is controlled by by NCO while the Environmental Impact Assessment Ordinance (EIAO) provides guidelines for assessment during the planning stage. In accordance with Table 1A in Annex 5 of the EIA-TM, the noise levels from these sources should be;
- i) 5 dB(A) lower than the Acceptable Noise Levels (ANLs) defined in the *Technical Memorandum for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites* (IND-TM); or
 - ii) below the prevailing background noise levels for quiet areas with ambient noise levels 5 dB(A) below the Acceptable Noise Levels (ANLs).

- 3.4.11 The ANLs shown in Table 3 of IND-TM are presented in Table 3.4.

Table 3.4 Acceptable Noise Levels (ANL) in $L_{eq(30 \text{ min})}$ dB(A)

Time Period	Area Sensitivity Rating		
	A	B	C
Day (0700 to 1900 hours)	60	65	70
Evening (1900 to 2300 hours)	60	65	70
Night (2300 to 0700 hours)	50	55	60

- 3.4.12 The noise standards stipulated in Table 1A of Annex 5 of the EIA-TM applies to road traffic noise assessment. The criteria for road traffic noise is $L_{10(1hr)}$ 70 dB(A) for all domestic premises, hotels and offices and $L_{10(1hr)}$ 65 dB(A) for educational institutions, places of public worships and courts of law. It is noted that the standards outlined above apply to uses which rely on opened windows for ventilation.

3.5 Water

- 3.5.1 The principal legislation governing marine water quality in Hong Kong is the Water Pollution Control Ordinance (Cap 358), 1980 (WPCO). Under an amendment to the original Ordinance of 1980, the Territorial Waters of Hong Kong waters have been subdivided into ten Water Control Zones (WCZs) with each WCZ being assigned a designated set of statutory Water Quality Objectives (WQOs). These WQOs relate to the Beneficial Uses (BU) and assimilative capacity of the particular water body or part thereof. The WCZ relevant to this study is the Western Buffer Water Control Zone.
- 3.5.2 Effluents generated during the construction and operational phases requiring disposal must comply with the discharge standards stipulated within the *Technical Memorandum on Standards for Effluents (TMSE) into Drainage and Sewerage Systems, Inland and Coastal Waters* prior to entering the receiving water. Nothing in this Report will bind the Authority in the assessment of an application for a licence pursuant to the Water Pollution Control Ordinance (Cap 358) such as, but not limited to the sewage treatment plant, the Authority will consider each application based on the contemporary conditions/situations.

3.6 Waste

- 3.6.1 The Waste Disposal Ordinance (WDO) (Cap 354) was enacted in 1980 and the formulation of a strategic Waste Disposal Plan for Hong Kong was founded upon this legislation. The relevant waste management legislation which will require compliance during the construction phase include :
- the Waste Disposal Ordinance (Cap. 354);
 - the Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354); and
 - the Dumping at Sea Ordinance.
- 3.6.2 Under the WDO construction waste is classified as a trade waste and the site contractor is responsible for its disposal. Under the Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354) chemical waste includes scrap material and unwanted substances specified under Schedule 1 of the Waste Disposal Regulation. Such materials are considered to have the potential to cause serious environmental, health and safety hazards if they are not stored and disposed of in an appropriate manner. If chemical wastes are to be generated, requiring handling, storage and subsequent disposal, the contractor must register with EPD as a chemical waste generator.
- 3.6.3. Guideline values issued within the EPD Technical Circular No 1-1-92 are used to determine suitability of dredges materials for marine disposal (classification based upon metals only).

3.7 Ecology

3.7.1 In addition to Annex 8 and 16 of the Technical Memorandum of Environmental Impact Assessment Process (EIA Ordinance, Cap 499, S16) ("Technical Memorandum") the Ecological Impact Assessment will need to consider the following Hong Kong regulatory and legislation requirements and international conventions.

- *Wild Animals Protection Ordinance (Cap 170)* that contains provisions to protected wild animals enlisted, including most of the mammals, all birds, some reptiles and one species of butterfly
- *Forests and Countryside Ordinance (Cap 96)* that includes general provisions to protect forest and plantation on Government land. It prohibits damage to forest and plantations, by lighting fire, cutting grass, removing earth, damaging parts of plants, felling and cutting of trees, etc.
- *Forestry Regulations (Cap 96 Subsidiary Legislation)* that contain a list of protected plants, preventing the selling, offering for sale, or possession of them. These include all species of wild orchids, camellias, rhododendrons, tree ferns and some other species. It provides the major instrument for protection of specific plant species in the countryside and basically all public land.
- *Country Parks Ordinance (Cap 208)* together with its subsidiary legislation, that outlines the protection mechanism for the vast area of Country Parks and special areas in the Territory. The Country Park Authority has the power to eradicate any use of land within the Country Park, which would "substantially reduce the enjoyment and amenities of the country park". The Ordinance and the subsidiary Country Parks and Special Areas Regulations cover a wide range of management mechanisms, to exert control over activities, prohibit and restrict entry, prohibit hunting or disturbance of wildlife; as well as removal or destruction or vegetation or interference with the soil, prohibit and restrict lighting of fires, and restricts other recreational uses.
- *Animals and Plants (Protection of Endangered Species) Ordinance (Cap 187)* that aimed at restricting the import, export and possession of certain endangered animals and plant species, with special relevance to the trafficking of globally endangered flora and fauna. Not particularly relevant to protection of local species.
- *Hong Kong Planning Standards and Guidelines* that is a non-statutory Government manual to guide the preparation of land use plans, and the planning of major development projects. Chapter 10 of the HKPSG addresses the principles of conservation in land use planning. Measures for the conservation of natural landscapes and habitats are briefly discussed in the guidelines. In terms of planning consideration areas designated for conservation, such as Country Parks, Conservation Area, SSSI, etc., should be prevented from development whereas possible.
- *Bonn's Convention* requires member states to provide strict protection for species listed in Appendix of the Convention, and management of Appendix II species. The Convention applies to Hong Kong which became a party in 1985.
- *Rio Convention of Biodiversity* is a treaty for the conservation of biological diversity and the sustainable use of its components. Contracting parties should identify, monitor and safeguard their biological and genetic resource, while developing national strategies

for the conservation and sustainable use of biological diversity. EIAs of projects that may possibly cause adverse effect on biological diversity should be required. Hong Kong is currently not a signatory but the policy is that the Government will abide to the obligations of the Convention, the key notions being sustainable development and conservation of biodiversity.

3.8 Landscape and Visual Impact Assessment

- 3.8.1 The methodology will be in general accordance with the project brief and Annex 18 of the EIA-TM. The evaluation of landscape and visual impact will be classified into five levels of significance, beneficial, acceptable, acceptable with mitigation measures, unacceptable and undetermined in accordance with Annex 10 of the EIA-TM.