3. ENVIRONMENTAL LEGISLATION, POLICIES, STANDARDS & CRITERIA

3.1 Environmental Impact Assessment Ordinance

3.1.1 The Environmental Impact Assessment Ordinance (EIAO) requires all designated projects to be subject to the EIA process. This particular road improvement project is a designated project under Schedule 2, Part I (A.1) of the EIA Ordinance.

3.1.2 A Technical Memorandum on EIA Process issued under section 16 of the EIA Ordinance (EIAO-TM) sets out the principles, procedures, guidelines and requirements and criteria for preparing and reviewing an EIA report.

3.2 Construction Noise Standards and Regulations

3.2.1 Under the EIAO-TM, Table 1B of Annex 5 specifies the daytime construction noise standards of 75 dB(A) at the facades of all domestic premises and 70 dB(A) for schools (65 dB(A) during examination period) between 0700 to 1900 on normal weekdays. A Construction Noise Permit (CNP) shall be required for the carrying out of the construction work during 1900 to 0700 hours or any time on Sundays or general holiday.

3.3 Construction Dust Standards and Guidelines

3.3.1 The main air quality issue during the construction of the Project is dust emissions from the construction site. Air pollutants come under the control of the Air Pollution Control Ordinance, which calls for compliance with a set of health-related air quality objectives (AQO) for seven pollutants, of which TSP is of prime concern in this project. Compliance with the concentration levels shown below in Table 3.1 is required.

3.3.2 The AQO contains no hourly criteria for concentrations of TSP and RSP. However, the EIAO-TM requires that the maximum acceptable concentration of TSP during construction works should be 500$\mu g/m^3$ (hourly average), and this is used in the present assessment.

Table 3.1 Air Quality Objectives

Parameter	Maximum Permitted Average Concentration ($\mu g/m^3$)		
	1 hour	24 hours	Yearly
TSP	500	260	80

Notes:
1. All criteria are Hong Kong Air Quality Objectives except hourly TSP concentration, which is an EIAO-TM requirement.
2. 24-hour criteria not to be exceeded more than once per year.
3. Expressed at the reference condition of 298K and 101.325 KPa.

3.3.3 Road construction work is specifically governed under the Control Requirements for Notifiable Works in the *Air Pollution Control (Construction Dust) Regulation: Chapter 311 Subsidiary Legislation.*

3.4 Road Traffic Noise Standards and Regulations

3.4.1 The Annex 5 of EIAO-TM stipulates that the maximum road traffic noise level at sensitive facades shall not exceed 70 dB(A) L10 (1-hr) for domestic premises and 65 dB(A) L10 (1-hr) for schools.

3.4.2 In case where no practical direct technical remedies can be applied, reference has been made to the Exco' directive *Equitable Redress for Persons Exposed to Increased Noise Resulting from the Use of New Roads*. The eligibility criteria to be tested for consideration of providing existing NSRs with indirect technical remedies in the form of acoustic insulation and air conditioning are :

(i) the predicted overall noise level from the new road together with other traffic noise in the vicinity must be above the specified noise level, i.e. L_{10}(1-hr.) 70 dB(A) and 65 dB(A) for residential dwellings and education institutions respectively.

(ii) the predicted overall noise level is at least 1.0 dB(A) more than the prevailing traffic noise level, i.e. the total traffic noise level existing before the works to construct the road are commenced; and

(iii) the contribution to the increase in the predicted overall noise level from the new road must be at least 1.0 dB(A).

3.5 Operation Air Quality Standards

3.5.1 The main air quality issue in the operation phase of the improvement works is vehicle emissions from the operation of the improved road. Air pollutants come under the control of the Air Pollution Control Ordinance, which calls for compliance with a set of health-related air quality objectives (AQO) for seven pollutants. Petrol vehicles contribute more carbon monoxide, while diesel-powered vehicles emit more nitrogen oxides and particulate. Under the current emission controls, emissions from petrol vehicles will be reduced as a result of more vehicles being fitted with catalytic converters that convert carbon monoxide to carbon dioxide. In view of the lower emission rates and the high statutory limit for carbon monoxide, the key air quality issue is considered to be Nitrogen Dioxide (NO_2) and Respirable Suspended Particulate (RSP). Compliance with the concentration levels shown below in Table 3.2 is required.

Table 3.2 Air Quality Objectives

Parameter	Maximum Permitted Average Concentration ($\mu g/m^3$)		
	1 hour	24 hours	Yearly
RSP	--	180	55
NO_2	300	150	80

Notes:
1. All criteria are Hong Kong Air Quality Objectives.
2. Hourly criterion for NO_2 not to be exceeded more than three times per year.
3. 24-hour criteria not to be exceeded more than once per year.
4. Expressed at the reference condition of 298K and 101.325 KPa.

3.6 Landscape and Visual Guidelines

3.6.1 The landscape and visual impact assessment has been carried out in accordance with the study process identified in the Environmental Impact Assessment Ordinance - Technical Memorandum Annex 18: Guidelines for Landscape and Visual Impact Assessment and Annex 10: Criteria for Evaluating Visual and Landscape Impact, and Impact on Sites of Cultural heritage.