

Improvements to San Tin Interchange
Environmental Monitoring and Audit - Mitigation Measures Checklist

December 2006

EIA Ref.	Environmental Aspect	Mitigation Measures	Timing	Compliance Status: √ = compliant; x = non-compliant; N/A = not applicable	
				Status	Remarks
3.43 – 3.46	Noise Control	Use of quiet powered mechanical equipment (PME). Quiet plant is defined as a PME having actual sound power level lower than the value specified in the Technical Memorandum on Noise from Construction Work other than Percussive Piling. (Examples of quiet PME taken from the BS5228: Part1: 1997 are given in Table 3.7 of the EIA Report).	During Construction	√	
3.47 – 3.49	Noise Control	Adoption of movable noise barrier of 3 to 5 m high (depending on the size of the plant that requires to be screened). The length of the barriers should be at least five times greater than its height. The barrier shall be located within 10 metres of the stationary plant or mobile plant such that the line of sight to the NSR is blocked by the barrier.	During Construction	N/A	
3.53	Noise Control	<u>For Existing NSRs</u> A 1.5m high reflective plain barrier of about 121m long erected along the western edge of Slip Road A (refer to Figure 3.6 of the EIA Report).	During Operation	N/A	
3.53	Noise Control	<u>For Future/Planned NSRs</u> A 2m high reflective plain barrier of about 303m be erected along Slip Road F (refer to Figure 3.6 of the EIA Report) (implementation of the barrier is only required before occupation of the planned residential premises).	During Operation	N/A	
4.41	Air Quality Control	Dust mitigation measures stipulated in the Air Pollution Control (Construction Dust) Regulation shall be incorporated to control dust emission. Notice shall be given to the authority prior to commencement of works.	During Construction	√	
5.1	Water Quality Control	Under the proposed design, there shall not be supports for the slip roads and Bridge A located within the San Tin River nor the San Tin Eastern Main Drainage Channel.	During Design Stage	√	
5.25	Water Quality Control	A Drainage Management Plan (DMP) shall be prepared by the Contractor and submitted to EPD within two weeks of the award of contract and before the commencement of any site formation works or earthworks on-site. The DMP shall detail the procedures for control of construction site runoff. The DMP shall at least cover the construction works areas for slip roads E and F and for Bridge A, and the local widening of the existing Castle Peak Road. No site run-off nor drainage discharge shall enter fishponds. The DMP shall follow the site practices given in ProPECC PN 1/94 Construction Site Drainage with regard to the handling and disposal of construction site discharges.	During Construction	√	
5.31	Water Quality Control	A water quality EM&A programme is recommended during the site clearance and formation of the at-grade road sections for slip roads E and F and for Bridge A, and the local widening of the existing Castle Peak Road.	During Construction	√	
6.21 - 6.23	Waste Management Implication	<u>Waste Management Plan</u> The Contractor should incorporate the recommendations in the EIA Report into a comprehensive on-site Waste Management Plan (WMP) for the construction of the Project. The WMP shall be prepared in accordance with ETWB TC No. 15/2003 and submitted to the Engineer for approval. All mitigation measures arising from the approved WMP shall be fully implemented by the Contractor. In order to monitor the disposal of C&D materials at public filling facilities and to control fly tipping, the Trip-ticket System in accordance with ETWB TC No. 21/2002 shall be included as one of the contractual requirements. Disposal of C&D material shall only be permitted at the public filling facility designated by CED.	During Construction	√	
6.25	Waste Management Implication	<u>General Refuse</u> General refuse shall be stored in enclosed bins or compaction units separate from C&D material. A reputable waste collector shall be employed by the contractor to remove general refuse from the site, separately from C&D material. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material.	During Construction	√	
6.28	Waste Management Implication	<u>Chemical Waste</u> If chemical wastes are produced at the construction site, the Contractor shall register with the EPD as a Chemical Waste Producer and follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes shall be used, and incompatible chemicals shall be stored separately. Appropriate labels shall be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosives, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes generated at the Chemical Waste Treatment Centre at Tsing Yi, or other licenced facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	During Construction	√	Contractor registered as chemical waste producer.

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7.91	Ecological Requirement	Where the slip road runs adjacent to the San Tin EMDC wetlands, a roadside barrier wall (2m high) shall be constructed to minimize operation phase noise disturbance to the wetlands. Furthermore, a 2m buffer strip shall be planted with trees and other dense vegetation to provide a visual screen between the slip road and the wetlands (refer to Figure 7.3 of the EIA Report).	Decommissioning and operation	N/A	
7.93	Ecological Requirement	Landscaping works should maximize use of native plant species of high conservation value to birds and other wildlife. Examples of species of known conservation value are given in Table 7.5 of the EIA Report.	Decommissioning and operation	N/A	
10.78	Landscape & Visual Impact	Advance tree transplanting of existing road side trees affected by the proposed improvement works	During Construction	√	
10.78	Landscape & Visual Impact	Advance boundary planting, new compensatory planting on area not affected by the proposed improvement works	During Construction	N/A	The Landscaping Plan is being finalised.
10.78	Landscape & Visual Impact	Advance screen planting, new compensatory planting on area not affected by the proposed improvement works	During Construction	N/A	The Landscaping Plan is being finalised.
10.78	Landscape & Visual Impact	Soil conservation – conservation of existing and imported soil resources. Existing soil resources on site will be conserved in stockpiles with a maximum height of 2m. All material stockpiles should be covered with an impermeable material and sandbagging diversions should also be placed around exposed soil. Material stockpiled should be in area with the least obstruction to residential, pedestrian.	During Construction	√	
10.78	Landscape & Visual Impact	Selection of fast growing native tree and shrub mixes in compensation for the removal/disturbance area. Compensatory planting should be at a minimum 1 to 3 basis. An approximate of 700 nos. of compensatory planting will be planted along the edges to soften and screen the built elements and mitigate the landscape and visual impact. The combination of natives tree and shrub mixes will provide a more diverse edge effect and break up the overall visual dominance (refer to Figure 10.22 of the EIA Report).	During Construction	N/A	The Landscaping Plan is being finalised.
10.78	Landscape & Visual Impact	Foundation planting below and adjacent to viaduct as well as noise barrier with new compensatory planting	During Construction	N/A	Not yet commenced. The Landscaping Plan is being finalised.
LMM7	Landscape & Visual Impact	Sensitive design with chromatic treatment for the viaduct structure will improve the visual quality of the proposed improvement works	During Construction	√	Design of viaduct section has been approved by ACABAS.
LMM8	Landscape & Visual Impact	Sensitive design with semi-transparent treatment of noise barrier for through view	During Construction	√	Drawings for ACABAS approval have been submitted.
11.32	Land Contamination	<u>Land Contamination Assessment</u> (i) Proposition and review of Contamination Assessment Plan (CAP), which should be submitted to EPD for endorsement, prior to site investigation works; (ii) Commencement of land contamination assessment works based upon the endorsed CAP; (iii) Submission of Contamination Assessment Report (CAR) for EPD's approval; (iv) If contamination is identified in the CAR, a Remediation Action Plan (RAP) should be submitted to EPD for approval; (v) Commencement of site cleanup works based upon the approved RAP.	During Construction	√	CAR and RAP of Site A & E has been approved by EPD. Contaminated arsenic-containing soil excavated from Site A is stockpiled separately within Site A. The stockpile of excavated soil is generally covered with tarpaulin sheet and lined at the bottom. Verification sampling recommended in CAR has been conducted. Sampling result will be provided in January 2007 before site cleanup works.

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11.33	Land Contamination	<p><u>Mitigation Measures for Workers' Health and Safety</u></p> <p>Site workers should wear appropriate personal protective equipment (i.e. gloves, mask) when exposed to potential contaminated soil and groundwater. Eating, drinking and smoking should be prohibited in contaminated areas to avoid advertent ingestion of contaminants. Stockpiling of contaminated soil should be avoided as far as possible. If this cannot be avoided, the stockpile of contaminated material should be segregated from the uncontaminated ones. Moreover, the contaminated materials should be properly covered with appropriate material (e.g. tarpaulin) to avoid leaching of contaminants, especially during heavy rainstorm. Bulk earth moving equipment should be utilized as much as possible to minimize handling and contact of contaminated materials of the workers. Adequate washing facilities should be provided on site. If disposal of excavated contaminated soil is needed, the Contractor should dispose the contaminated soil according to the requirements agreed by EPD.</p>	During Construction	√	The excavated soil from Site A has been covered with tarpaulin sheet and lined at the bottom. The Contractor has posted warning signs at the stockpiling area and provided sandbags surrounding the stockpile.