

Appendix 2.2
Implementation Schedule of
the Proposed Mitigation Measures for
CWB within CRI and CRIII

Appendix 2.2 IMPLEMENTATION SCHEDULE OF THE PROPOSED MITIGATION MEASURES FOR CWB WITHIN CRI AND CRIII
 (Extracted from Approved EIA Register No.: AEIAR-041/2001)

Table 1 Implementation Schedule for Air Quality Control

EIA Ref [#]	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S3.8.1	Strictly limit the truck speed on site to below 10 km per hour.	Haul road / during construction	All contractors		✓			EIAO-TM, APCO, Air Pollution Control (Construction Dust) Regulation
S3.8.1	Water spraying to keep the haul roads in wet condition.	Haul road / during construction	All contractors		✓			
S3.8.1	Twice daily watering of the work site with active operations when the weather and the work site are dry.	Work Site / during construction	All contractors		✓			
S3.8.1	Watering during excavation and material handling.	Work Site / during construction	All contractors		✓			
S3.8.1	Provision of vehicle wheel and body washing facilities at the exit points of the site, combined with cleaning of public roads where necessary.	Haul road / during construction	All contractors		✓			
S3.8.1	Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.	Haul road / during construction	All contractors		✓			

EIA Ref#	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*			Relevant Legislation and Guidelines
				Des	C	O	
Tunnel Section							
S3.2.3	Air monitoring for the tunnel air quality shall be required to ensure the acceptability of the tunnel air quality criteria.	Tunnel section of the CWB	The Tunnel Operator			✓	Practice Note on Control of Air Pollution in Vehicle Tunnel

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

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Table 2 Implementation Schedule for Noise Control

EIA Ref [#]	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S4.7	Use of quiet equipment for demolition of Rumsey Street Flyover eastbound downramp and CWB tunnel work at Central Interchange section	Work site close to NSRs at Central Interchange Section	Contractor	✓				EIAO-TM, NCO
S4.8.2	Well maintained plant should be operated on-site and plant should be serviced regularly during the construction programme	Work site / during construction	Contractor	✓				-
S4.8.2	Silencers or mufflers on construction equipment should be utilised and should be properly maintained during the construction programme	Work site / during construction	Contractor	✓				-
S4.8.2	Mobile plant, if any, should be sited as far away from NSRs as possible	Work site / during construction	Contractor	✓				-
S4.8.2	Machines and plant (such as trucks) that may be in intermittent use shall be shut down between work periods or shall be throttled down to a minimum.	Work site / during construction	Contractor	✓				-
S4.8.2	Plant known to emit noise strongly in one direction should, where possible, be orientated so that the noise is directed away from nearby NSRs	Work site / during construction	Contractor	✓				-

EIA Ref [#]	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*			Relevant Legislation and Guidelines
				Des	C	O	
S4.7.12	Material stockpiles and other structures should be effectively utilised, where practicable, in screening noise from on-site construction activities.	Work site / during construction	Contractor		✓		-
S4.5.21	Silencers shall be provided at all exhaust fans installed in Western Ventilation Building	Western Ventilation Building	HyD	✓	✓	✓	EIAO-TM

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Table 3 Implementation Schedule for Water Quality Control

EIA Ref [#]	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S5.8.2, S5.8.3	<ul style="list-style-type: none"> • Temporary ditches shall be provided to facilitate runoff discharge into the appropriate watercourses, via sedimentation traps / silt retention ponds. • Permanent drainage channels shall also incorporate sediment basins or traps, and baffles to enhance deposition rates. • Sand / silt removal facilities such as sand traps, silt traps and sediment basins shall be provided to remove sand / silt particles from run-off. These facilities shall be regularly cleaned and maintained by the contractor. • Collection of spent bentonite / other grouts in a separate slurry collection system for either cleaning and reuse / disposal to landfill shall be implemented. • Maintenance and plant areas shall be bunded and constructed on a hard standing with the provision of sediment traps and petrol interceptors. • All drainage facilities must be adequate for the controlled release of storm flows. 	Work site / During the construction period	Contractor	✓				ProPECC PN 1/94

EIA Ref [#]	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*			Relevant Legislation and Guidelines
				Des	C	O	
	<ul style="list-style-type: none"> Careful programming of the works to minimise surface excavation works during the rainy season. Exposed soil areas shall be minimised to reduce the potential for increased siltation and contamination of runoff. All fuel tanks and storage areas shall be contained (bunded) such that spills are not allowed to gain access to water bodies. Open drainage channels and culverts adjacent to the site shall be kept safe and free from any debris and excavated materials arising from the works. Open stockpiles of construction materials (for examples, aggregates, sand and fill material) of more than 50 m³ shall be covered with tarpaulin or similar fabric during rainstorms. Any effluent discharged from the site shall be diverted away from any areas of embayed water. 						

EIA Ref [#]	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S5.8.4 - S5.8.6	<ul style="list-style-type: none"> All fuel tanks and store areas shall be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity. Temporary sanitary facilities, such as portable chemical toilets, shall be provided on-site by a licensed contractor. A licensed contractor would be responsible for appropriate disposal and maintenance of these facilities. Contractors shall be required, under conditions of contract, to ensure that site management is optimised and that disposal of any solid materials, litter or wastes to marine waters does not occur. Where necessary, entrapment boom shall be provided to avoid loss of floating refuse from the construction site. 	Work site / During the construction period	Contractor	✓				ProPECC PN 1/94
S5.8.7	<ul style="list-style-type: none"> The drainage from the tunnel shall be directed through petrol interceptors to remove oil and grease before being discharged to the nearby foul water manholes. Petrol interceptors shall be regularly cleaned and maintained in good working condition. 	Tunnel drainage system / During operational period	The Tunnel Operator	✓		✓		ProPECC PN 5/93

EIA Ref #	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*			Relevant Legislation and Guidelines
				Des	C	O	
	<ul style="list-style-type: none"> • Oily contents of the petrol interceptors shall be properly handled and disposed of, in compliance with the requirements of the Waste Disposal Ordinance. • Sewage arising from ancillary facilities of CWB (for examples, car park, control room, ventilation and administration buildings and tunnel portals) shall be connected to public sewerage system. Sufficient capacity in public sewerage shall be made available to the proposed facilities. • Road drainage should also be provided with adequately designed silt trap to minimise discharge of silty runoff. 						

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Table 4 Implementation Schedule for Construction Waste Management

EIA Ref [#]	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S6.7.2	<p>In order to ensure that all waste is disposed of in an appropriate manner, waste shall be separated by category on-site by the Contractor. It is recommended that waste shall be segregated into the following defined categories and shall then be disposed of as follows:</p> <ul style="list-style-type: none"> • <i>inert portion of C&D material</i>, that is, <i>public fill</i>, deemed suitable for reclamation or land formation shall be re-used on site as far as possible and the surplus material disposed of at reclamation or public filling areas; • <i>non-inert portion of C&D material</i>, that is, <i>C&D waste</i>, deemed unsuitable for reclamation or land formation shall be disposed of at landfill; • <i>chemical waste</i> as defined by Schedule 1 of the Waste Regulations (Chemical) 1992, shall be stored in accordance with approved methods defined in the Regulations and the chemical waste disposed of at the Chemical Waste Treatment Centre located at Tsing Yi; 	Work site / During the construction period	Contractor		✓			-

EIA Ref [#]	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*			Relevant Legislation and Guidelines
				Des	C	O Dec	
	<ul style="list-style-type: none"> excavated sediment shall be disposed of at the East Sha Chau contaminated mud pits in accordance with WBTC No. 3/2000; and general refuse shall be disposed of at landfill. 						
S6.7.3, S6.7.4, S6.7.5	<ul style="list-style-type: none"> C&D materials should be recycled or reused wherever possible. Demolition material arising from the site clearance of Rumsey Street Flyover downramp should be broken down to 250 mm in size in order to facilitate reuse and recycling. Steel reinforcement should be removed from the demolition material prior to disposal and reused or recycled. The waste management strategy to be employed shall be waste minimisation at source. Where waste generation is unavoidable then the potential for recycling or reuse shall be explored and opportunities taken. If wastes cannot be recycled, then the recommended disposal routes shall be followed. Waste reduction measures shall be introduced at the design stage and carried through the construction activities, wherever possible, by careful purchasing control, reuse of formwork and good site management. 	Work site / During the construction period	Contractor	✓			-

EIA Ref [#]	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	<ul style="list-style-type: none"> Training and instruction of construction staff shall be given at the site to increase awareness and draw attention to waste management issues and the need to minimise waste generation. The training requirements shall be included in the site Waste Management Plan. 							
S6.9.1	The Waste Management Plan prepared by the Contractor shall be submitted to the Engineer for approval on the advice of the EPD.	Work site / During the construction period	Contractor		✓			Waste Disposal Ordinance
S6.7.6	Reputable waste hauliers shall be used to collect and transport the wastes to the appropriate disposal points. The necessary measures to minimise adverse impacts such as windblown litter and dust from the transportation of these wastes, and impacts on water quality during the storage, handling and transportation of these wastes shall also be instigated.	Work site / During the construction period	Contractor		✓			-

EIA Ref [#]	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*			Relevant Legislation and Guidelines
				Des	C	O Dec	
S6.7.7	<p>It is recommended that:</p> <ul style="list-style-type: none"> wastes shall be handled and stored in a manner that ensures that they are held securely without loss or leakage thereby minimising the potential for pollution. Release of these potential pollutants into marine waters during storage and handling shall not be permitted as introduction of polluted waters is likely to have detrimental effects on water quality and water sensitive receivers; only reputable waste hauliers authorised to collect the specific category of waste concerned should be employed; removal of demolition material shall coincide with the demolition work; prior to disposal of C&D waste, it is recommended that wood, steel and other metals shall be separated for re-use and / or recycling to minimise the quantity of waste to be disposed of to landfill; 	Work site / During the construction period	Contractor	✓			<p>Waste Disposal Ordinance (Cap. 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354) and Land Ordinance</p>

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				Des	C	O	Dec	
	<ul style="list-style-type: none"> • appropriate measures shall be employed to minimise windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed containers; • the necessary waste disposal permits shall be obtained from the appropriate authorities, if they are required, in accordance with the Waste Disposal Ordinance (Cap. 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354) and the Land Ordinance; • collection of general refuse shall be carried out frequently, preferably daily; • waste shall only be disposed of at licensed sites and the site staff and Contractor shall develop procedures to ensure that illegal disposal of wastes does not occur; • waste storage areas should be well maintained and cleaned regularly; • a recording system for the amount of wastes generated, recycled and disposed of off-site during the implementation of the project. 							

EIA Ref [#]	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S6.7.7	In order to monitor the disposal of public fill and C&D waste at public filling areas and landfills, and to control fly-tipping, a trip-ticket system shall be included as one of the contractual requirements and implemented by the Environmental Team. An Independent Checker (Environment) should be responsible for auditing the results of the system.	Work site / During the construction period	Contractor and an Independent Environmental Checker	✓				
S6.6.11	To determine the disposal requirements of the excavated sediments, sediment sampling and testing are required to be carried out at the design phase of the Project. In accordance with WBTC No. 3/2000, the contaminated excavated sediment must be effectively isolated from the environment upon final disposal and shall be disposed of at the East Sha Chau Contaminated Mud Pits that is designated for the disposal of contaminated mud in Hong Kong.	Work site / During the construction period	Contractor	✓				WBTC No. 3/2000

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S6.7.9	<p>During transportation and disposal of the excavated marine sediments, the following measures should be taken to minimise potential impacts on water quality.</p> <ul style="list-style-type: none"> • Bottom opening of barges shall be fitted with tight fitting seals to prevent leakage of material. Excess material shall be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved. • Monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the DEP. 							

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Table 5 Implementation Schedule for Landscape and Visual Impact Mitigation

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S7.6	Site hoarding to be installed, where appropriate, with surface treatment suitable to the urban context.	Entire works area during entire construction period.	Contractor		✓			-
S7.6	Control of night time lighting.	Entire works area during entire construction period.	Contractor		✓			-
S7.6	Approved new soil-mix for new planting areas.	New planting areas.	Contractor		✓			WBTC 18/94 and LCSD's Annex I
S7.6	Soil mounding to be implemented at expansive amenity areas. Mounding to be profiled to ensure ease of maintenance.	Work sites within CRI & CRIII as shown in Figures 7.6.1 to 7.6.3 Mitigation Measures of the approved EIA Report**.	HyD's Landscape consultant & contractor	✓	✓	✓		WBTC 18/94

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S7.6	Reinstatement of road side and amenity planting and roadside mass screening. (Approximately 37,000m ²)	Work sites within CRI & CRIII as shown in Figures 7.6.1 to 7.6.3 Mitigation Measures of the approved EIA Report**	HyD's Landscape consultant & contractor	✓	✓	✓		WBTC 18/94 and LCSD's Annex I
S7.6	Soft landscape treatment under elevated structures and on columns (where practical) by use of suitably shade tolerant plant material.	At areas where optimum light levels allow. Subject to detailed design.	HyD's Landscape consultant & contractor	✓	✓	✓		WBTC 18/94 and LCSD's Annex I

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S7.6	Landscape design within boundary of ancillary service buildings. Inclusive of soft landscape treatment.	Work sites within CRI & CRIII as shown in Figures 7.2.1 to 7.2.2 Works Layout Plans of the approved EIA Report**	HyD's Landscape consultant	✓	✓	✓		WBTC 18/94
S7.6	Retention and protection of existing trees where feasible and transplanting of trees that are in conflict with the road works (where practical). All in accordance with Tree Survey Report/Felling Application. Advanced planning and programming to be initiated.	As shown with Tree Survey Report as mentioned in the approved EIA Report**.	HyD's Landscape consultant & contractor	✓	✓	✓		WBTC 24/94

EIA Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S7.6.3	Quality and integrated design of Ancillary Buildings, tunnel portals, wing walls abutments, noise barrier systems and landscape screen wall panel.	Work sites within CRI & CRIII as shown in Figures 7.2.1 to 7.2.2 and Figures 7.6.1 to 7.6.3 Mitigation Measures of the approved EIA Report**.	HyD's Architectural and Landscape consultant	✓	✓	✓		ACABAS
Table 7.3	Advance planning and programme of transplanting of existing trees and reinstatement of roadside planting to early completion areas or unaffected areas.	At roadside amenity areas.	HyD's Landscape consultant & contractor	✓	✓			WBTC 24/94

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LCSD's Annex I: General Requirements of Soft Landscaping Design for Areas Under LCSD's Maintenance Responsibilities.

** Central - Wan Chai Bypass and Island Eastern Corridor Link Environmental Impact Assessment Report (Register No.: AEIAR-041/2001)

Table.6 Implementation Schedule for Other EIA Requirements

EIA Ref [#]	Environmental Protection Measures/Mitigation Measures	Location/ Timing	Implementation Agent	Implementation Stages*			Relevant Legislation and Guidelines
				Des	C	O Dec	
-	<p>Site Environmental Audit</p> <ul style="list-style-type: none"> Site inspections shall be carried out regularly by the Environmental Team to inspect construction activities to ensure that the recommended environmental protection and pollution control mitigation measures are properly implemented. Details of the requirements and procedures in conducting site inspections are given in Section 6 of the EM&A Manual. On the receipt of any complaints, the Environmental Team Leader (including co-operation as required from other parties) shall promptly undertake investigation work and the necessary actions carried out as based on the results of the investigation. Details of the recommended complaints handling procedures and actions are given in Section 6 of the EM&A Manual. 	Works site / During construction period	Contractor and Environmental Team		✓		-

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