

IMPLEMENTATION SCHEDULE OF RECOMMENDED MITIGATION MEASURES

1. Implementation Schedule for Air Quality Control

EIA Ref.	Recommended Environmental Protection Measures / Mitigation Measures	Timing of implementation of Measures	Who to implement the measures?	Location	What requirements or standards for the measures to achieve?
Construction Phase					
S.3.14	<p>As a best practice measure to ensure compliance with the Air Pollution Control (Construction Dust) Regulation it is suggested that the following control measures be incorporated into contract documentation:</p> <ul style="list-style-type: none"> • Works area for site clearance shall be sprayed with water before, during and after the operation so as to maintain the entire surface wet; • All dusty materials shall be sprayed with water immediately prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet; • Hoarding of not less than 2.4 m above ground shall be provide, as far as practicable, along the site boundary which is next to the public areas; • Restricting heights not higher than 1.5m above ground from which materials are to be dropped, as far as practicable to minimise the fugitive dust arising from unloading/ loading; • Any stockpile of dusty materials shall be covered entirely by impervious sheeting; and/ or placed in an area sheltered on the top and 4 sides; • Immediately before leaving a construction site, all vehicles shall be washed to remove any dusty materials from its body and wheels; and • Where a vehicle leaving a construction site is carrying a load of dusty materials, the load shall be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle. 	During construction / Operation Time (07:00 – 19:00 form Monday to Saturday except public holiday)	Contractor	Within the boundaries of all construction sites	APCO (Cap. 311); Air Pollution Control (Construction Dust) Regulation; EIA-TM (Annex 4)
Operational Phase					
Nil					

2. Implementation Schedule for Noise Control

EIA Ref.	Recommended Environmental Protection Measures / Mitigation Measures	Timing of implementation of Measures	Who to implement the measures?	Location	What requirements or standards for the measures to achieve?
Construction Phase					
S.4.35	<p>The recommended good site practices are as follows:</p> <ul style="list-style-type: none"> • PMEs should be kept to a minimum and the parallel use of them should be avoided; • Intermittent use of PME which can be shut down between work periods or throttled down to a minimum; • Mobile PME should be sited as far from NSRs as possible; • PME known to emit noise strongly in one direction should be orientated to direct away from the nearby NSRs; • Only well-maintained plant should be operated on-site and PME should be serviced regularly during the construction programme; and • Material stockpiles and other structures (e.g. site hoarding) should be effectively utilised, wherever practicable, in screening noise from on-site construction activities. 	During construction / Operation Time (07:00 – 19:00 form Monday to Saturday except public holiday)	Contractor	Within the boundaries of all construction sites	EIA-TM; NCO; Noise from Construction Work Other Than Percussive Piling (GW-TM)
S.4.36	Using the quieter PME is considered as a practical measure to reduce the noise impacts. Quieter PME are defined as having SWLs less than those listed in the GW-TM.	During construction / Operation Time (07:00 – 19:00 form Monday to Saturday except public holiday)	Contractor	Within the boundaries of all construction sites	EIA-TM; NCO; Noise from Construction Work Other Than Percussive Piling (GW-TM)
S.4.38	Restriction on road works and geotechnical works should be avoided to be undertaken concurrently near NSR N53.	During construction / Operation Time (07:00 – 19:00 form Monday to Saturday except public holiday)	Contractor	Within work boundary near NSR N53	EIA-TM; NCO; Noise from Construction Work Other Than Percussive Piling (GW-TM)
S.4.39 to 4.40	Adoption of the temporary noise barriers will be provided at NSRs N27. The height of the noise barriers shall be such that the active PME cannot be directly viewed from the affected NSRs and with a length to height ratio at least 5:1 and a superficial material surface density > 10 kgm ⁻² .	During construction / Operation Time (07:00 – 19:00 form Monday to Saturday except public holiday)	Contractor	Within work boundary near NSR N27	EIA-TM; NCO; Noise from Construction Work Other Than Percussive Piling (GW-TM)
S.4.41	Enclosing the hand-held breaker in an acoustic enclosure with suitable ventilation. The enclosure shall be built with a material density of > 7 kgm ⁻² with sound absorption lining of at least 25mm thick, 80kg/m ³ mineral wool to reduce the noise reverberation and noise being reflected out through openings and enclosed the hand-held breaker as much as possible.	During construction / Operation Time (07:00 – 19:00 form Monday to Saturday except public holiday)	Contractor	Within the boundaries of all construction sites	EIA-TM; NCO; Noise from Construction Work Other Than Percussive Piling (GW-TM)

EIA Ref.	Recommended Environmental Protection Measures / Mitigation Measures	Timing of implementation of Measures	Who to implement the measures?	Location	What requirements or standards for the measures to achieve?
S.4.42	For the soldier pile wall construction, an acoustic screen shall be installed at the crawler rig with minimum 50mm thick sound absorbing lining (e.g. 96 kgm ⁻³ mineral wool) and 6mm thick steel backing.	During construction / Operation Time (07:00 – 19:00 form Monday to Saturday except public holiday)	Contractor	Within the work boundaries for the soldier pile wall construction	EIA-TM; NCO; Noise from Construction Work Other Than Percussive Piling (GW-TM)
Operational Phase					
Nil					

3. Implementation Schedule for Water Quality Control

EIA Ref.	Recommended Environmental Protection Measures / Mitigation Measures	Timing of implementation of Measures	Who to implement the measures?	Location	What requirements or standards for the measures to achieve?
Construction Phase					
S.5.14	Domestic sewage generated by the construction workforce shall be appropriately managed to avoid the potential adverse impacts of uncontrolled sewage discharge into nearby water courses. Portable chemical toilets shall be appropriately located on site in proximity to all key works areas where they shall remain and be maintained in good working order for the convenience of the workforce for the duration of the works.	During construction / Operation Time (07:00 – 19:00 form Monday to Saturday except public holiday)	Contractor	Within the boundaries of all construction sites	EIA-TM; WPCO (Cap. 358); ProPECC Note PN1/94
S.5.17	<p>The following control measures should be implemented within water gathering ground:</p> <ul style="list-style-type: none"> • The provision of temporary toilet facilities within the Water Gathering Ground, if any, is subject to approval of the Director of Water Supplies. As a minimum requirement temporary toilet facilities must be located more than 30m from any watercourse. • The contractor should be measures taken to minimise rainfall into the working areas and the perimeter of the work sites will be bounded to prevent ingress of rainfall during storm events; and to prevent off site migration of materials. • Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment. 	During construction / Operation Time (07:00 – 19:00 form Monday to Saturday except public holiday)	Contractor	Within the boundaries of all construction sites fall into water gather ground	EIA-TM; WPCO (Cap. 358); ProPECC Note PN1/94; WSD's guidelines on protection of Water Gathering Ground
Appendix E1	<p>Conditions of Working within Water Gathering Ground:</p> <p>(a) Adequate measures shall be taken to ensure that no pollution or siltation occurs to the catchwater and catchments.</p> <p>(b) No earth, building materials, fuel oil or toxic materials and other materials which may cause contamination to the water gathering grounds are allowed to be stocked or stored on site.</p> <p>(c) All surplus spoil shall be removed from water gathering ground as soon as possible.</p> <p>(d) Temporary drains with silt traps shall be constructed at the boundary of the site prior to the commencement of any earthwork.</p> <p>(e) Regular cleaning of the silt traps shall be carried out to ensure that they function properly at all time.</p> <p>(f) All excavated or filled surfaces which have the risk of erosion shall be protected from erosion at all time.</p> <p>(g) Facilities for washing the wheels of vehicles before leaving the site shall be provided.</p> <p>(h) Any construction plant which causes pollution to catchwater or catchment due to leakage of oil or fuel shall be removed off site immediately.</p> <p>(i) Any soil contamination with fuel leaked from plant shall be removed off site and the voids arising from removal of contaminated soil shall be replaced by suitable material to the approval of the Director of Water Supplies.</p> <p>(j) Provision of temporary toilet facilities is to be subject to the approval of the Director of Water</p>	During construction / Operation Time (07:00 – 19:00 form Monday to Saturday except public holiday)	Contractor	Within the boundaries of all construction sites fall into water gather ground	WSD's guidelines on protection of Water Gathering Ground

EIA Ref.	Recommended Environmental Protection Measures / Mitigation Measures	Timing of implementation of Measures	Who to implement the measures?	Location	What requirements or standards for the measures to achieve?
	<p>Supplies.</p> <p>(k) All waterworks access roads must be maintained unobstructed at all time.</p> <p>(l) Site formation plans shall be submitted to W.S.D. for approval prior to commencement of work.</p> <p>(m) No structure or temporary works shall be erected in the catchwaters without prior approval of W.S.D.</p> <p>(n) The Contractor shall be responsible for cleaning frequently any waterworks roads and associated drainage works of mud and debris.</p> <p>(o) The Contractor shall limit the gross weight of the vehicles imposed on the waterworks access along catchwaters to 5 tonnes and the axle load to 3 tonnes. He shall apply to W.S.D. with details of his vehicles for using the access.</p> <p>(p) The approval for using the access may be withdrawn on written notice to the Contractor by W.S.D. at their absolute discretion.</p> <p>(q) The Contractor shall recover immediately his vehicle which fill into the catchwater or stream bed or pay to Government on demand the cost of recovery that may be necessary through the occurrence of any incident cause by the Contractor.</p> <p>(r) The Contractor shall carry out repair or reinstatement works to the satisfaction of W.S.D. or pay to Government on demand the cost of repair and reinstatement to any waterworks installations that shall or may be necessary at any time as a result of damage caused by the Contractor or others under his charge.</p> <p>(s) No chemicals including fertilizers shall be used without the prior approval form W.S.D.</p> <p>(t) Use of pesticides is not allowed within the water gathering grounds. The storage and discharge of pesticide or toxicant, flammable or toxic solvents, petroleum oil or tar and other toxic substances are strictly prohibited within the water gathering ground.</p>				
S.5.19	<p>Details of the best practice measures are provided below:</p> <ul style="list-style-type: none"> • Wastewater from temporary site facilities should be controlled to prevent direct discharge to surface waters; • Storm drainage shall be directed to storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks; • Silt removal facilities, channels and manholes shall be maintained and any deposited silt and grit shall be removed regularly, including specifically at the onset of and after each rainstorm; • Rainwater pumped out from trenches or surface excavations should be discharged into storm drains via silt removal facilities; • Open stockpiles (e.g. aggregates, sand and fill material) should be covered with a tarpaulin to avoid erosion during rainstorms; • Exposed soil surface should be paved as soon as possible; • Measures should be taken to prevent the washout of construction materials, soil, silt or debris 	During construction / Operation Time (07:00 – 19:00 form Monday to Saturday except public holiday)	Contractor	Within the boundaries of all construction sites	EIA-TM; WPCO (Cap. 358); ProPECC Note PN1/94

EIA Ref.	Recommended Environmental Protection Measures / Mitigation Measures	Timing of implementation of Measures	Who to implement the measures?	Location	What requirements or standards for the measures to achieve?
	<p>into any drainage system; Discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system;</p> <ul style="list-style-type: none"> • Vehicles and plant should be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them on roads. A wheel washing bay should be provided at every site exit, as far as practicable; • Wheel-wash overflow shall be directed to silt removal facilities before being discharged to the storm drain; • Regular inspections of stilling basins and/or silt traps to ensure that sediment is not conveyed into the existing drainage system; • Surface excavation should be carefully programmed to avoid wet-season operation. If it is unavoidable, any exposed top soils should be covered with a tarpaulin or other means; • The contractor shall prepare an oil / chemical cleanup plan and ensure that leakages or spillages are contained and cleaned up immediately; • Any fuels should be stored in bunded areas such that spillage can be easily collected. Waste oil should be collected and stored for recycling or disposal, in accordance with the Waste Disposal Ordinance. • Sewage effluent should be handled by portable chemical toilets or sewage holding tanks. A licensed contractor is responsible for the sewage facilities maintenance, and regular sewage collection and disposal. 				
Operational Phase					
Nil					

4. Implementation Schedule for Waste Control

EIA Ref.	Recommended Environmental Protection Measures / Mitigation Measures	Timing of implementation of Measures	Who to implement the measures?	Location	What requirements or standards for the measures to achieve?
Construction Phase					
S.6.12	<p><i>Construction and Demolition (C&D) Material</i></p> <ul style="list-style-type: none"> All C&D materials generated shall be sorted on site into inert portion "inert C&D materials" including soil, building debris, broken rock, concrete, etc., and the non-inert portion is the "C&D wastes" comprising timber, paper, plastics, general refuse etc. The inert C&D materials, the reusable and/or recyclable materials shall be recovered before disposal of the waste portion off site as a last resort. The waste portion of the inert C&D materials may be disposed of at the public fill reception facility at Tuen Mun Area 38, and the C&D wastes at North East New Territories (NENT) Landfill in Ta Kwu Ling. 	Prior to and during construction activities	Contractor	Within the boundaries of all construction sites as well as transportation routes to designated areas for off-site disposal of materials	Annex 7 of EIA-TM
S.6.20 & S.6.21	<p><i>Chemical Wastes</i></p> <ul style="list-style-type: none"> Materials classified as chemical wastes will require special handling and storage arrangements before removal for appropriate treatment at the Chemical Waste Treatment Facility (CWTF) or other licensed facilities. Wherever possible opportunities should be taken to reuse and recycle materials. Storage, handling, transport and disposal of chemical waste should be arranged in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Waste published by the EPD. Provided that this occurs, and the chemical waste is disposed of at a licensed chemical waste treatment and disposal facility, the potential environmental impacts arising from the storage, handling and disposal of a small amount of chemical waste generated from the construction activities will be negligible. 	Prior to and during construction activities	Contractor	Within the boundaries of all construction sites as well as transportation routes to designated areas for off-site disposal of materials	Waste Disposal (Chemical Waste) (General) Regulation Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes
S.6.22	<p><i>General Refuse</i></p> <ul style="list-style-type: none"> General refuse will be properly collected on-site and transfer to the nearby refuse collection point. Disposal of refuse at sites other than approved waste transfer or disposal facilities will be prohibited. Effective collection of site wastes will prevent waste materials being blown around by wind, or creating an odour nuisance or pest and vermin problem. Waste storage areas will be well maintained and cleaned regularly. 	Prior to and during construction activities	Contractor	Within the boundaries of all construction sites as well as transportation routes to designated areas for off-site disposal of materials	Public Health and Municipal Services Ordinance (Cap. 132)

EIA Ref.	Recommended Environmental Protection Measures / Mitigation Measures	Timing of implementation of Measures	Who to implement the measures?	Location	What requirements or standards for the measures to achieve?
S.6.26	An on-site environmental co-ordinator should be identified at the outset of the works. The co-ordinator shall prepare an Environmental Management Plan (EMP) incorporating waste management in accordance with the requirements set out in the ETWB TCW No. 19/2005, Environmental Management on Construction Sites. The EMP shall include monthly and yearly Waste Flow Tables (WFT) that indicate the amounts of waste generated, recycled and disposed of (including final disposal site), and which should be regularly updated;	Prior to and during construction activities	Contractors	Within the boundaries of all construction sites as well as transportation routes to designated areas for off-site disposal of materials	ETWB Technical Circular (ETWBTC) No. 15/2003
S.6.26	Spoil generated from the piling activities will need to be properly handled to minimise contamination to surface waters and any exposed ground areas due to leakage or improper storage (i.e. onto bare ground instead of into tanks);	Prior to and during construction activities	Contractors	Within the boundaries of all construction sites as well as transportation routes to designated areas for off-site disposal of materials	ETWB Technical Circular (Works) (ETWBTCW) No. 34/2002
S.6.26	The reuse/ recycling of all materials on site shall be investigated prior to treatment/ disposal off- site;	Prior to and during construction activities	Contractors	Within the boundaries of all construction sites as well as transportation routes to designated areas for off-site disposal of materials	ETWBTCW No. 33/2002, ETWBTC No. 15/2003
S.6.26	Good site practices shall be adopted from the commencement of works to avoid the generation of waste, reduce cross contamination of waste and to promote waste minimisation;	Prior to and during construction activities	Contractors	Within the boundaries of all construction sites as well as transportation routes to designated areas for off-site disposal of materials	ETWBTCW No. 33/2002

EIA Ref.	Recommended Environmental Protection Measures / Mitigation Measures	Timing of implementation of Measures	Who to implement the measures?	Location	What requirements or standards for the measures to achieve?
S.6.26	All waste materials shall be sorted on-site into inert and non-inert C&D materials, and where the materials can be recycled or reused, they shall be further segregated. Inert material, or public fill will comprise stone, rock, masonry, brick, concrete and soil which is suitable for land reclamation and site formation whilst non-inert materials include all other wastes generated from the construction process such as plastic packaging and vegetation (from site clearance);	Prior to and during construction activities	Contractor	Within the boundaries of all construction sites as well as transportation routes to designated areas for off-site disposal of materials	ETWBTCW No. 33/2002, ETWBTCW No. 34/2002
S.6.26	The Contractor shall be responsible for identifying what materials can be recycled/ reused, whether on-site or off-site. In the event of the latter, the Contractor shall make arrangements for the collection of the recyclable materials. Any remaining non-inert waste shall be collected and disposed of to the Public Filling Areas whilst any inert C&D materials shall be re-used on site as far as possible. Alternatively, if no use of the inert material can be found on-site, the materials can be delivered to a Public Fill Area or Public Fill Bank after obtaining the appropriate licence;	Prior to and during construction activities	Contractor	Within the boundaries of all construction sites as well as transportation routes to designated areas for off-site disposal of materials	ETWBTCW No. 33/2002, ETWBTCW No. 34/2002
S.6.26	With reference to ETWBTC (W) No.31/2004, Trip-ticket System for Disposal of Construction and Demolition Material, a trip ticket system should be established at the outset of the construction of the NLH/ helipad to monitor the disposal of C&D and solid wastes from the site to public filling facilities and landfills;	Prior to and during construction activities	Contractor	Within the boundaries of all construction sites as well as transportation routes to designated areas for off-site disposal of materials	ETWB TC(W) 31/2004
S.6.26	Under the Waste Disposal (Chemical Waste) (General) Regulation, the Contractor shall register as a Chemical Waste Producer if chemical wastes such as spent lubricants and paints are generated on site. Only licensed chemical waste collectors shall be employed to collect any chemical waste generated at site. The handling, storage, transportation and disposal of chemical wastes shall be conducted in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes and A Guide to the Chemical Waste Control Scheme both published by EPD;	Prior to and during construction activities	Contractor	Within the boundaries of all construction sites as well as transportation routes to designated areas for off-site disposal of materials	Waste Disposal (Chemical Waste) (General) Regulation, Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes, Guide to the Chemical Waste Control Scheme

EIA Ref.	Recommended Environmental Protection Measures / Mitigation Measures	Timing of implementation of Measures	Who to implement the measures?	Location	What requirements or standards for the measures to achieve?
S.6.26	A sufficient number of covered bins shall be provided on site for the containment of general refuse to prevent visual impacts and nuisance to the sensitive surroundings. These bins shall be cleared daily and the collected waste disposed of to the refuse transfer station. Further to the issue of ETWB TCW No. 6/2002A, Enhanced Specification for Site Cleanliness and Tidiness, the Contractor is required to maintain a clean and hygienic site throughout the Project works;	Prior to and during construction activities	Contractor	Within the boundaries of all construction sites as well as transportation routes to designated areas for off-site disposal of materials	ETWBTCW No. 6/2002A, ETWBTC No. 15/2003
S.6.26	All chemical toilets, if any, shall be regularly cleaned and the night-soil collected and transported by a licensed contractor to a Government Sewage Treatment Works facility for disposal;	Prior to and during construction activities	Contractor	Within the boundaries of all construction sites as well as transportation routes to designated areas for off-site disposal of materials	ETWBTCW No. 6/2002A, ETWBTC No. 15/2003
S.6.26	Tool-box talks should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling;	Prior to and during construction activities	Contractor	Within the boundaries of all construction sites as well as transportation routes to designated areas for off-site disposal of materials	ETWBTCW No. 15/2003
S.6.26	The Contractor shall comply with all relevant statutory requirements and guidelines and their updated versions that may be issued during the course of Project construction.	Prior to and during construction activities	Contractor	Within the boundaries of all construction sites as well as transportation routes to designated areas for off-site disposal of materials	EIA-TM

EIA Ref.	Recommended Environmental Protection Measures / Mitigation Measures	Timing of implementation of Measures	Who to implement the measures?	Location	What requirements or standards for the measures to achieve?
S.6.67 to 6.69	<p>The area of car repairing workshops of Site 1, Site 3 and Site 4 encroached upon the project boundary have been proposed for further investigation. The Project Proponent shall engage a competent and experienced professional to prepare a detailed CAP for EPD's approval prior to the investigation. Upon approval of the CAP, the Project Contractor shall carry out site investigation and sampling works in accordance with the approved CAP. If contamination was identified, CAR and RAP shall also be prepared and submitted to EPD for approval. Remediation measures as recommended in the RAP shall be fully implemented by the Project Contractor prior to commencement of construction works. With regard to the above, all the land contamination assessments, including site investigations, supervision during the sampling works, preparation of the CAP, CAR and RAP shall be conducted by the competent and experienced professional who shall have adequate experience in land contamination assessment, investigation and remediation.</p>	Prior to and during construction activities	Contractor	Within the work boundaries near the car repairing workshops (i.e., Site 1, Site 3 and Site 4)	EIA-TM
S.6.70	<p>As a general measures, the following environmental and safety precautionary measures should be implemented during construction works, in order to minimize the potential impact on health and contamination exposure to the site workers:</p> <ul style="list-style-type: none"> ◆ Exposure to any contaminated materials can be minimised by the wearing of appropriate clothing and personal protective equipment; ◆ Adequate training and instructions of the potential hazards associated with the contaminated materials shall be provided to site staff and workers; ◆ Measures shall be implemented to prevent non-workers from approaching the identified potential contamination areas in order to avoid exposure to contaminants; ◆ Where appropriate, the use of bulk handling equipment should be maximised to reduce the potential contacts between excavated contaminated materials and associated workers; ◆ All temporary stockpiles of the materials shall be completely covered with waterproof material to avoid leaching of contaminants, especially during rainy season; and <p>Surface water shall be diverted around any contaminated areas or stockpiles to minimise potential runoff into excavations.</p>	During construction activities	Contractor	Within the boundaries of all construction sites	EIA-TM
Operational Phase					
Nil					

5. Implementation Schedule for Ecology

EIA Ref.	Recommended Environmental Protection Measures / Mitigation Measures	Timing of implementation of Measures	Who to implement the measures?	Location	What requirements or standards for the measures to achieve?
Construction Phase					
S.7.99	Impacts from direct habitat loss / vegetation clearance due to construction of the Project should be mitigated through implementation of compensatory planting and re-vegetation of the upgraded Kam Tin Road and Lam Kam Road, and the slopes subject to necessary geotechnical works, as provided in Section 8.	During construction	Contractor	At all construction work sites	ETWB TC No. 3/2006; EIA-TM
S.7.100	The best practice guidelines for control of construction site run-off and for managing construction waste as given in Section 5 and Section 6 respectively shall be implemented as far as practicable, in order to avoid any indirect / induced construction impacts upon wildlife.	During construction	Contractor	At all construction work sites	As mentioned in Table 10.3 and Table 10.4
S.7.101	<p>The following precautionary measures as referred in ETWB TC No. 5/2005 to avoid any possible impacts on natural stream courses and/ or nearby vegetation during construction phase shall be implemented:</p> <ul style="list-style-type: none"> ■ The proposed works shall preferably be carried out during the dry season where flow in the stream is low. ■ To minimize disturbance caused to the substrates of the stream and riparian vegetation, temporary access to the site shall be carefully planned and located. Any temporary access tracks on streambed shall be kept to the minimum width and length, and the crossings shall be supported by stilts above the streambed. ■ Temporary storage of construction materials shall be properly covered and located away from any stream courses. ■ Construction debris and spoil shall be covered properly and disposed of as soon as possible to avoid being washed into nearby stream courses. 	During construction	Contractor	At all construction work sites	ETWB TC No.5/2005

EIA Ref.	Recommended Environmental Protection Measures / Mitigation Measures	Timing of implementation of Measures	Who to implement the measures?	Location	What requirements or standards for the measures to achieve?
7.102	<p>Protection measures shall be implemented to avoid any possible construction impacts upon the fruit bat roost on the Chinese Fan-palm <i>Livistona chinensis</i> on Lam Kam Road. These measures shall include but not limited to the following:</p> <ul style="list-style-type: none"> ■ Establishment of a Tree Protection Zone in accordance with Environment, Transport and Works Bureau Technical Circular (Works) No. 29/2004, clause 17. No construction activities or construction storage shall be intruded into the designated Tree Protection Zone. ■ Provision of a tree identification label to notify the site workers to protect the tree from construction damage throughout the construction period. 	During construction	Contractor	The Chinese Fan-palm <i>Livistona chinensis</i> at Lam Kam Road	Nil.

6. Implementation Schedule for Landscape and Visual

EIA Ref.	Mit. Code	Recommended Mitigation Measures	Location	Funding	Implementation / Maintenance Agent	Relevant Standard or Requirement	Implementation Stages			Timing of Implementation	Objectives of the Recommended Measure and Main Concern to address
							D	C	O		
Construction Phase											
Table 9.16	CP1	Preservation of Existing Vegetation									
	CP1.1	To retain trees that have high amenity or ecology value and contribute most to the landscape and visual amenity of the site and its immediate environs.	Site	Project Proponent	Project Landscape Architect / HyD's Contractor	TM-EIA Annex 18, ETWB TCW No. 2/2004 & WBTC No. 3/2006	✓			Throughout design phase	To minimise the disturbance to the existing landscape resources.
	CP1.2	Creation of precautionary area around trees to be retained equal to half of the trees canopy diameter. Precautionary area to be fenced.	Site	Project Proponent	HyD's Contractor / HyD's Contractor	TM-EIA Annex 18, ETWB TCW No. 2/2004 & WBTC No. 3/2006		✓		Before construction phase commence	To ensure the success of the tree preservation proposals.
	CP1.3	Prohibition of the storage of materials including fuel, the movement of construction vehicles, and the refuelling and washing of equipment including concrete mixers within the precautionary area.	Site	Project Proponent	HyD's Contractor / HyD's Contractor	TM-EIA Annex 18, ETWB TCW No. 2/2004 & WBTC No. 3/2006		✓		Throughout construction phase	To ensure the success of the tree preservation proposals.
	CP1.4	Phased segmental root pruning for trees to be transplanted over a suitable period	Site	Project Proponent	HyD's Contractor / HyD's Contractor	TM-EIA Annex 18, ETWB TCW No. 2/2004 & WBTC		✓		Throughout construction phase	To ensure the success of the tree preservation proposals.

EIA Ref.	Mit. Code	Recommended Mitigation Measures	Location	Funding	Implementation / Maintenance Agent	Relevant Standard or Requirement	Implementation Stages			Timing of Implementation	Objectives of the Recommended Measure and Main Concern to address
							D	C	O		
		(determined by species and size) prior to lifting or site formation works which affect the existing rootball of trees identified for retention. The extent of the pruning will be based on the size and the species of the tree in each case.				<u>No. 3/2006</u>					
	CP1.5	Pruning of the branches of existing trees identified for transplantation and retention to be based on the principle of crown thinning maintaining their form and amenity value.	Site	Project Proponent	HyD's Contractor / HyD's Contractor	TM-EIA Annex 18, ETWB TCW No. 2/2004 & WBTC <u>No. 3/2006</u>		✓		Throughout construction phase	To ensure the success of the tree preservation proposals.
	CP1.6	The watering of existing vegetation particularly during periods of excavation when the water table beneath the existing vegetation is lowered.	Site	Project Proponent	HyD's Contractor / HyD's Contractor	TM-EIA Annex 18, ETWB TCW No. 2/2004 & WBTC <u>No. 3/2006</u>		✓		Throughout construction phase	To ensure the success of the tree preservation proposals.
	CP1.7	The rectification and repair of damaged vegetation following the construction phase to it's original condition prior to	Site	Project Proponent	HyD's Contractor / HyD's Contractor	TM-EIA Annex 18, ETWB TCW No. 2/2004 & WBTC <u>No. 3/2006</u>		✓		Throughout construction phase	To ensure the success of the tree preservation proposals.

EIA Ref.	Mit. Code	Recommended Mitigation Measures	Location	Funding	Implementation / Maintenance Agent	Relevant Standard or Requirement	Implementation Stages			Timing of Implementation	Objectives of the Recommended Measure and Main Concern to address
							D	C	O		
		the commencement of the works or replacement using specimens of the same species, size and form where appropriate to the design intention of the area affected									
	CP1.8	All works affecting the trees identified for retention and transplantation will be carefully monitored. This includes the key stages in the preparation of the trees, the implementation of protection measures and health monitoring through out the construction period	Site	Project Proponent	HyD's Contractor / HyD's Contractor	TM-EIA Annex 18, ETWB TCW No. 2/2004 & WBTC No. 3/2006		✓		Throughout construction phase	To ensure the success of the tree preservation proposals.
	CP1.9	Detailed landscape and tree preservation proposals will be submitted to the relevant government departments for approval in accordance with ETWB TCW No. 2/2004 and WBTC No. 3/2006.	Site	Project Proponent	Project Landscape Architect / NA	TM-EIA Annex 18, ETWB TCW No. 2/2004 & WBTC No. 3/2006	✓			Throughout design phase	To ensure the tree preservation and planting proposals are integrated with the existing landscape context and that the landscape resources are preserved where appropriate.
	CP1.10	The tree preservation works should be implemented by approved Landscape	Site	Project Proponent	Project Proponent / NA	TM-EIA Annex 18, ETWB TCW No. 2/2004 & WBTC	✓	✓		Throughout design and construction phases	To ensure the tree preservation and planting proposals are integrated with the existing landscape context and that the landscape

EIA Ref.	Mit. Code	Recommended Mitigation Measures	Location	Funding	Implementation / Maintenance Agent	Relevant Standard or Requirement	Implementation Stages			Timing of Implementation	Objectives of the Recommended Measure and Main Concern to address
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		Contractors and inspected and approved on site by a qualified Landscape Architect. A tree protection specification would be included within the contract documents.				No. 3/2006					resources are preserved where appropriate.
Table 9.16	CP2	Preservation of Existing Topsoil									
	CP2.1	Topsoil disturbed during the construction phase should be tested using a standard soil testing methodology and where it is found to be worthy of retention stored for re-use.	Site	Project Proponent	HyD's Contractor / HyD's Contractor	TM-EIA Annex 18		✓		Throughout construction phase	To provide a viable growing medium suited to the existing conditions and reduce the need for the importation of top soil.
	CP2.2	The soil will be stockpiled to a maximum height of 2m and will be either temporarily vegetated with hydroseeded grass during construction or covered with a waterproof covering to prevent erosion.	Site	Project Proponent	HyD's Contractor / HyD's Contractor	TM-EIA Annex 18		✓		Throughout construction phase	To provide a viable growing medium suited to the existing conditions and reduce the need for the importation of top soil.
	CP2.3	The stockpile should be turned over on a regular basis to avoid acidification and the degradation of the organic material,	Site	Project Proponent	HyD's Contractor / HyD's Contractor	TM-EIA Annex 18		✓		Throughout construction phase	To provide a viable growing medium suited to the existing conditions and reduce the need for the importation of top soil.

EIA Ref.	Mit. Code	Recommended Mitigation Measures	Location	Funding	Implementation / Maintenance Agent	Relevant Standard or Requirement	Implementation Stages			Timing of Implementation	Objectives of the Recommended Measure and Main Concern to address
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		and reused after completion. Alternatively, if this is not practicable, it should be considered for use elsewhere, including other projects.									
Table 9.16	CP3	Permanent and Temporary Works Areas									
	CP3.1	Where appropriate to the final design the landscape of these works areas should be restored following the completion of the construction phase.	Site	Project Proponent	HyD's Contractor / HyD's Contractor	TM-EIA Annex 18		✓		Through out construction phase	To minimise the disturbance to existing landscape resources and change of visual amenity.
	CP3.2	Construction site controls should be enforced including the storage of materials, the location and appearance of site accommodation and the careful design of site lighting to prevent light spillage.	Site	Project Proponent	HyD's Contractor / HyD's Contractor	TM-EIA Annex 18		✓		Through out construction phase	To minimise the disturbance to existing landscape resources and change of visual amenity.
	CP3.3	Screen the construction works throughout the construction phase through the use of screen hoarding along the periphery of the temporary works area.	Site	Project Proponent	HyD's Contractor / HyD's Contractor	TM-EIA Annex 18		✓		Through out construction phase	To minimise the disturbance to existing landscape resources and change of visual amenity.

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Table 9.16	CP4	Programme for Mitigation Planting									
	CP4.1	Replanting of disturbed vegetation should be undertaken at the earliest possible stage of the construction phase	Site	Project Proponent	HyD's Contractor / HyD's Contractor	TM-EIA Annex 18, ETWB TCW No. 2/2004 & WBTC No. 3/2006		✓		After the site formation and on completion of planting area.	To minimise the disturbance to existing landscape resources and minimize the impacts on the visual amenity of the area.
Table 9.16	CP5	Transplantation of Existing Trees									
	CP5.1	The tree transplanting works should be implemented by approved Landscape Contractors and inspected and approved on site by a qualified Landscape Architect. A tree protection / transplanting specification would be included within the contract documents.	Site	Project Proponent	Project Proponent / NA	TM-EIA Annex 18, ETWB TCW No. 2/2004 & WBTC No. 3/2006	✓	✓		Throughout design and construction phases	To ensure the tree preservation and planting proposals are integrated with the existing landscape context and that valuable landscape resources are preserved where appropriate to the final design.
Operational Phase											
Table 9.17	OP1	Design of the road widening proposals									

EIA Ref.	Mit. Code	Recommended Mitigation Measures	Location	Funding	Implementation / Maintenance Agent	Relevant Standard or Requirement	Implementation Stages			Timing of Implementation	Objectives of the Recommended Measure and Main Concern to address
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	OP1.1	The alignment and structures associated with the widened road should be integrated, as far as technically feasible, with existing roadside structures and the landscape context to reduce the potential cumulative impact of the proposed works. The location and orientation of the associated structures should where possible avoid landscape and visually sensitive areas such as woodland, shrubland and agricultural fields.	Site	Project Proponent	Project Architects for design / HyD's contractor for implementation / HyD	TM-EIA Annex 18 and BD	✓		✓	Throughout design phase	Responsive design to integrate the proposals into their landscape and visual context.
	OP1.2	The architectural design should seek to reduce the apparent visual mass of the engineering structures through the use of textured finishes and colour blocking. Earth tones are preferred as these match the existing landscape and visual context.	Site	Project Proponent	Project Engineers / NA	TM-EIA Annex 18, HKPSG and BD	✓		✓	Throughout design phase	Responsive design to integrate the proposals into their landscape and visual context.
	OP1.3	The design of all engineered structures (retaining walls and new cut slopes) to be reviewed to	Site	Project Proponent	HyD	TM-EIA Annex 18	✓		✓	Throughout operation phase	Responsive design to integrate the proposals into their landscape and visual context.

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		incorporate greening measures such as tree, shrub and ground cover planting. This includes the creation of soft solutions where possible and the incorporation of planters within the engineering structures to soften their visual form.									
Table 9.17	OP2	Roadside Planting									
	<u>OP2.1</u>	Create a landscape buffer area extending where space allows alongside the widened carriageway and reinstate an avenue effect originally created through the planting of a <i>Melaleuca quinquenervia</i> , along the edge of the carriageway.	Site	Project Proponent	HyD's Contractor / LCSD	TM-EIA Annex 18, HKPSG and BD	✓		✓	Throughout design phase	Planting will serve to visually integrate the proposals within the existing landscape framework.
	<u>OP2.2</u>	Utilise native tree species in the planting mix for the landscape buffer area and <i>Melaleuca quinquenervia</i> for avenue effect.	Site	Project Proponent	HyD's Contractor / LCSD	TM-EIA Annex 18, HKPSG and BD	✓		✓	Throughout design phase	Provide a linkage with the existing wooded areas creating a more coherent landscape framework whilst also improving the ecological connectivity between existing and proposed woodland habitats.
Table	OP3	Compensatory Planting Proposals									

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9.17											
	OP3.1	<p>Native tree planting on the existing and proposed cut slopes include the planting of approximately 3,031m² of mass woodland planting utilising light standard sized stock. The species selection shall include <i>Bischofia trifoliata</i>, <i>Bridelia tomentosa</i>, <i>Castanopsis fissa</i>, <i>Celtis sinensis</i>, <i>Cinnamomum camphora</i>, <i>Cratoxylum cochinchinense</i>, <i>Cyclobalanopsis myrsinifolia</i>, <i>Ficus hispida</i>, <i>Gordonia axillaris</i>, <i>Litsea glutinosa</i>, <i>Macaranga tanarius</i>, <i>Mallotus paniculatus</i>, <i>Microcos paniculatus</i>, <i>Sapium discolor</i>, <i>Sapium sebiferum</i> and <i>Schima superba</i>.</p> <p>Approximately 559 number large specimens of <i>Melaleuca quinquenervia</i> using standard sized trees will be utilised within the immediate roadside areas and within the new central</p>	Site	Project Proponent	Project Landscape Architect / HyD's Contractor / LCSD	TM-EIA Annex 18, HKPSG and BD	✓		✓	Throughout design phase	The planting proposal seeks to compensate for the predicted tree loss resulting from the construction of the development, visually integrate the proposals within its existing landscape framework and provide an improved visual amenity.

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		median.									
	OP3.2	A qualified or Registered Landscape Architect will be involved in the design, construction supervision and monitoring, and maintenance period to oversee the implementation of the recommended landscape and visual mitigation measures including the tree preservation and landscape works on site.	Site	Project Proponent	Project Proponent / NA	TM-EIA Annex 18, HKPSG and BD	✓	✓		<u>Throughout design and construction phase</u>	The planting proposal seeks to compensate for the predicted tree loss resulting from the construction of the development, visually integrate the proposals within its existing landscape framework.
Table 9.17	OP4	Treatment of Retaining Wall and Slopes									
	OP4.1	The design and implantation of the aesthetic appearance of the proposed retaining walls and slopes will be undertaken in accordance with GEO Publication No. 1/2000 "Technical Guidelines on Landscape Treatment and Bio-engineering for Man-made Slopes and Retaining Walls". The engineering structures will be aesthetically	Site	Project Proponent	HyD	TM-EIA Annex 18	✓		✓	Throughout operation phase	Responsive design to integrate the proposals into their landscape and visual context.

EIA Ref.	Mit. Code	Recommended Mitigation Measures	Location	Funding	Implementation / Maintenance Agent	Relevant Standard or Requirement	Implementation Stages			Timing of Implementation	Objectives of the Recommended Measure and Main Concern to address
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		enhanced through the use of soft landscape works including tree and shrub planting to give man-made slopes a more natural appearance.									
	OP4.2	Light standard sized tree planting will be used on the face of soil cut slopes with a gradient of less than 30 degrees, at the crest and toe of the slope, and within berm planters. Slopes with a gradient of greater than 30 degrees will be hydroseeded using a mixture of native trees and shrubs (6,173m ²).	Site	Project Proponent	HyD	TM-EIA Annex 18	✓		✓	Throughout operation phase	Responsive design to integrate the proposals into their landscape and visual context.
	OP4.3	Vertical greening measures shall also be considered on engineering structures including use of climbing and trailing plants both planted at the crest and toe of the features, and within pockets within the slopes.	Site	Project Proponent	HyD	TM-EIA Annex 18	✓		✓	Throughout operation phase	Responsive design to integrate the proposals into their landscape and visual context.