

## Environmental Mitigation Implementation Schedule – HKBCF & HKLR

**Note:** Chapters 1 to 4 of the EIA report present the background information of the Project, identified concurrent projects, objectives and scope for various environmental aspects, and description on alternative options and construction description. Chapters 5 to 14 of the EIA report present the EIA findings and mitigation measures are described below with cross-reference to the EIA Report. Chapters 15 & 16 describe the environmental monitoring requirements and conclusion.

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
<b>Air Quality</b>							
S5.5.6.1	A1	1) The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation	Good construction site practices to control the dust impact at the nearby sensitive receivers to within the relevant criteria.	Contractor	All construction sites	Construction stage	To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1-hr and 24hr TSP levels are $500 \mu\text{g m}^{-3}$ and $260 \mu\text{g m}^{-3}$ , respectively)
S5.5.6.2	A2	2) Proper watering of exposed spoil should be undertaken throughout the construction phase: <ul style="list-style-type: none"> <li>• Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading;</li> <li>• Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads;</li> <li>• A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones.</li> <li>• The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle;</li> <li>• Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores;</li> </ul>	Good construction site practices to control the dust impact at the nearby sensitive receivers to within the relevant criteria.	Contractor	All construction sites	Construction stage	To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1-hr and 24hr TSP levels are $500 \mu\text{g m}^{-3}$ and $260 \mu\text{g m}^{-3}$ , respectively)

**Environmental Mitigation Implementation Schedule – HKBCF & HKLR**

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S5.5.6.2	A2	<ul style="list-style-type: none"> <li>• When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period;</li>   <li>• The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials;</li>   <li>• Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously;</li>   <li>• Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet;</li>   <li>• Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding;</li>   <li>• Any skip hoist for material transport should be totally enclosed by impervious sheeting;</li>   <li>• Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides;</li> </ul>					

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S5.5.6.2	A2	<ul style="list-style-type: none"> <li>• Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed;</li> <li>• Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and</li> <li>• Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies.</li> </ul>					
S5.5.6.3	A3	3) The Contractor should undertake proper watering on all exposed spoil (with at least 8 times per day) throughout the construction phase.	Control construction dust	Contractor	All construction sites	Construction stage	• To control the dust impact
S5.5.6.4	A4	4) Engineer to incorporate the controlled measures into the Particular Specification (PS) for the civil work. The PS should also draw the contractor's attention to the relevant latest Practice Notes issued by EPD.	Control construction dust	Engineer	All construction sites	Design Stage	• Air Pollution Control (Construction Dust) Regulation
S5.5.6.4	A5	5) Implement regular dust monitoring under EM&A programme during the construction stage.	Monitor the 24 hr and 1hr TSP levels at the representative dust monitoring stations to ensure compliance with relevant criteria throughout the construction period.	Contractor	Selected representative dust monitoring station	Construction stage	<ul style="list-style-type: none"> <li>• Air Pollution Control (Construction Dust) Regulation</li> <li>• To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1-hr and 24hr TSP levels are 500 <math>\mu\text{g m}^{-3}</math> and 260 <math>\mu\text{g m}^{-3}</math>, respectively)</li> </ul>

### Environmental Mitigation Implementation Schedule – HKBCF & HKLR

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S5.5.7.1	A6	<p>The following mitigation measures should be adopted to prevent fugitive dust emissions for concrete batching plant:</p> <ul style="list-style-type: none"> <li>• Loading, unloading, handling, transfer or storage of any dusty materials should be carried out in totally enclosed system;</li> <li>• All dust-laden air or waste gas generated by the process operations should be properly extracted and vented to fabric filtering system to meet the emission limits for TSP;</li> <li>• Vents for all silos and cement/pulverised fuel ash (PFA) weighing scale should be fitted with fabric filtering system;</li> <li>• The materials which may generate airborne dusty emissions should be wetted by water spray system;</li> <li>• All receiving hoppers should be enclosed on three sides up to 3m above unloading point;</li> <li>• All conveyor transfer points should be totally enclosed;</li> <li>• All access and route roads within the premises should be paved and wetted; and</li> <li>• Vehicle cleaning facilities should be provided and used by all concrete trucks before leaving the premises to wash off any dust on the wheels and/or body.</li> </ul>	Monitor the 24 hr and 1hr TSP levels at the representative dust monitoring stations to ensure compliance with relevant criteria throughout the construction period.	Contractor	Selected representative dust monitoring station	Construction stage	<ul style="list-style-type: none"> <li>• Air Pollution Control (Construction Dust) Regulation</li> <li>• To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1-hr and 24hr TSP levels are 500 <math>\mu\text{g m}^{-3}</math> and 260 <math>\mu\text{g m}^{-3}</math>, respectively)</li> </ul>
S5.5.2.7	A7	<p>The following mitigation measures should be adopted to prevent fugitive dust emissions at barging point:</p> <ul style="list-style-type: none"> <li>• All road surface within the barging facilities will be paved;</li> <li>• Dust enclosures will be provided for the loading ramp;</li> <li>• Vehicles will be required to pass through designated wheels wash facilities; and</li> <li>• Continuous water spray at the loading points.</li> </ul>	Control construction dust	Contractor	All construction sites	Construction stage	Air Pollution Control (Construction Dust) Regulation

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<b>Construction Noise (Air borne)</b>							
S6.4.10	N1	1) Use of good site practices to limit noise emissions by considering the following: <ul style="list-style-type: none"> <li>• only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme;</li> <li>• machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;</li> <li>• plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs;</li> <li>• silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works;</li> <li>• mobile plant should be sited as far away from NSRs as possible and practicable;</li> <li>• material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.</li> </ul>	Control construction airborne noise by means of good site practices	Contractor	All construction sites	Construction stage	Noise Control Ordinance
S6.4.11	N2	2) Install temporary hoarding located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the construction period.	Reduce the construction noise levels at low-level zone of NSRs through partial screening.	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> <li>• Noise Control Ordinance</li> <li>• Annex 5, TM-EIA</li> </ul>
S6.4.12	N3	3) Install movable noise barriers (typically density @14kg/m <sup>2</sup> ), acoustic mat or full enclosure close to noisy plants including air compressor, generators, saw.	Screen the noisy plant items to be used at all construction sites	Contractor	For plant items listed in Appendix 6D of the EIA report at all construction sites	Construction stage	<ul style="list-style-type: none"> <li>• Noise Control Ordinance</li> <li>• Annex 5, TM-EIA</li> <li>• 75dB(A) for residential premises</li> <li>• The movable barrier should achieve at least 5dB(A) and the full enclosure should be designed to achieve 10dB(A)</li> </ul>

**Environmental Mitigation Implementation Schedule – HKBCF & HKLR**

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S6.4.13	N4	4) Select "Quiet plants" which comply with the BS 5228 Part 1 or TM standards.	Reduce the noise levels of plant items	Contractor	For plant items listed in Appendix 6D of the EIA report at all construction sites	Construction stage	<ul style="list-style-type: none"> <li>• Noise Control Ordinance &amp; its TM</li> <li>• Annex 5, TM-EIA</li> </ul>
S6.4.14	N5	5) Sequencing operation of construction plants where practicable.	Operate sequentially within the same work site to reduce the construction airborne noise	Contractor	All construction sites where practicable	Construction stage	<ul style="list-style-type: none"> <li>• Noise Control Ordinance</li> <li>• Annex 5, TM-EIA</li> </ul>
	N6	6) Implement a noise monitoring under EM&A programme.	Monitor the construction noise levels at the selected representative locations	Contractor	Selected representative noise monitoring station	Construction stage	<ul style="list-style-type: none"> <li>• Noise Control Ordinance</li> <li>• Annex 5, TM-EIA</li> <li>• 75dB(A) for residential premises</li> </ul>
<b>Operational Noise</b>							
S6.8.4	N7	1) The maximum allowable Sound Power Level (SWLs) for the following shall be complied with during the selection of facility equipment. <ul style="list-style-type: none"> <li>• Sewage Treatment Plant;</li> <li>• Electric Substation;</li> <li>• Seawater Intake; and</li> <li>• Ventilation Building for the Scenic Hill Tunnel.</li> </ul>	Ensure the compliance of operational noise at the sensitive receivers	Engineer	Fixed noise sources	Design stage	<ul style="list-style-type: none"> <li>• NCO and its TM</li> <li>• TM-EIA</li> </ul>
	N8	2) The Engineer shall incorporate the requirements for noise commissioning of fixed plant noise sources in the Particular Specification.	Ensure compliance with relevant requirements	Engineer	Fixed noise sources	Design stage	<ul style="list-style-type: none"> <li>• NCO and its TM</li> <li>• TM-EIA</li> </ul>
<b>Sediment</b>							
S7.3	S1	1) The requirements as recommended in ETWB TC 34/2002 Management of Dredged/Excavated Sediment shall be included in the Particular Specification as appropriate.	Develop sediment disposal arrangement	Engineer	All construction sites	Design stage	<ul style="list-style-type: none"> <li>• Waste Disposal Ordinance</li> <li>• ETWB TC 34/2002</li> </ul>

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<b>Waste Management (Construction Waste)</b>							
S8.3.8	WM1	<p><u>Construction and Demolition Material</u></p> <p>The following mitigation measures should be implemented in handling the waste:</p> <ul style="list-style-type: none"> <li>• Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement;</li> <li>• Carry out on-site sorting;</li> <li>• Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate;</li> <li>• Adopt 'Selective Demolition' technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible;</li> <li>• Implement a trip-ticket system for each works contract to ensure that the disposal of C&amp;D materials are properly documented and verified; and</li> <li>• Implement an enhanced Waste Management Plan similar to ETWBTC (Works) No. 19/2005 – “Environmental Management on Construction Sites” to encourage on-site sorting of C&amp;D materials and to minimize their generation during the course of construction.</li> <li>• In addition, disposal of the C&amp;D materials onto any sensitive locations such as agricultural lands, etc. should be avoided. The Contractor shall propose the final disposal sites to the Project Proponent and get its approval before implementation</li> </ul>	Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> <li>• Land (Miscellaneous Provisions) Ordinance</li> <li>• Waste Disposal Ordinance</li> <li>• ETWB TC 19/2005</li> </ul>

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S8.3.9 - S8.3.11	WM2	<p><u>C&amp;D Waste</u></p> <ul style="list-style-type: none"> <li>Standard formwork or pre-fabrication should be used as far as practicable in order to minimise the arising of C&amp;D materials. The use of more durable formwork or plastic facing for the construction works should be considered. Use of wooden hoardings should not be used, as in other projects. Metal hoarding should be used to enhance the possibility of recycling. The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage.</li> <li>The Contractor should recycle as much of the C&amp;D materials as possible on-site. Public fill and C&amp;D waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Where practicable, concrete and masonry can be crushed and used as fill. Steel reinforcement bar can be used by scrap steel mills. Different areas of the sites should be considered for such segregation and storage.</li> </ul>	Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> <li>Land (Miscellaneous Provisions) Ordinance</li> <li>Waste Disposal Ordinance</li> <li>ETWB TC 19/2005</li> </ul>
S8.2.12 - S8.3.15	WM3	<p><u>Chemical Waste</u></p> <ul style="list-style-type: none"> <li>Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.</li> <li>Containers used for the storage of chemical wastes should be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; have a capacity of less than 450 liters unless the specification has been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation.</li> <li>The storage area for chemical wastes should be clearly labelled and used solely for the storage of chemical waste; enclosed on at least 3 sides; have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20 % of the total volume of waste stored in that area, whichever is the greatest; have adequate ventilation; covered to prevent rainfall entering; and arranged so that incompatible materials are adequately separated.</li> </ul>	Control the chemical waste and ensure proper storage, handling and disposal.	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> <li>Waste Disposal (Chemical Waste) (General) Regulation</li> <li>Code of Practice on the Packaging, Labelling and Storage of Chemical Waste</li> </ul>



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S8.2.12 - S8.3.15	WM3	<ul style="list-style-type: none"> <li>Disposal of chemical waste should be via a licensed waste collector; be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Centre which also offers a chemical waste collection service and can supply the necessary storage containers; or be to a reuser of the waste, under approval from the EPD.</li> </ul>					
S8.3.16	WM4	<p><u>Sewage</u></p> <ul style="list-style-type: none"> <li>Adequate numbers of portable toilets should be provided for the workers. The portable toilets should be maintained in a state, which will not deter the workers from utilizing these portable toilets. Night soil should be collected by licensed collectors regularly.</li> </ul>	Proper handling of sewage from worker to avoid odour, pest and litter impacts	Contractor	All construction sites	Construction stage	Waste Disposal Ordinance
S8.3.17	WM5	<p><u>General Refuse</u></p> <ul style="list-style-type: none"> <li>General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes.</li> <li>A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimize odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by law.</li> <li>Aluminium cans are often recovered from the waste stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit should be provided if feasible.</li> <li>Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered by the Contractor. In addition, waste separation facilities for paper, aluminum cans, plastic bottles etc., should be provided.</li> <li>Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including reduction, reuse and recycling of wastes.</li> </ul>	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction stage	Waste Disposal Ordinance

## Environmental Mitigation Implementation Schedule – HKBCF & HKLR

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<b>Waste Management (Operational Waste)</b>							
S8.4.3	WM6	<p><u>Chemical Waste</u></p> <p>The requirements given in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes should be followed in handling of these chemical wastes. A trip-ticket system should be operated in accordance with the Waste Disposal (Chemical Waste) (General) Regulation to monitor all movements of chemical wastes which will be collected by a licensed collector to a licensed facility for final treatment and disposal.</p>	Minimize production of the waste	Operator	All logistic lots	Operational stage	Waste Disposal Ordinance
<b>Water Quality (Construction Phase)</b>							
S9.11.1 – S9.11.1.2	W1	<ul style="list-style-type: none"> <li>• Mitigation during the marine works to reduce impacts to within acceptable levels have been recommended and will comprise a series of measures that restrict the method and sequencing of dredging/backfilling, as well as protection measures. Details of the measures are provided below and summarised in the Environmental Mitigation Implementation Schedule in EM&amp;A Manual.</li> <li>• Construction of seawalls to be advanced by at least 100-200m before the main reclamation dredging and filling can commence. It should be noted that the protection by advanced seawall is a dynamic process depending on the progress of the construction activities and the stage when such protection could be realised is illustrated in Figure 9.2 and detailed in Appendix 9D6 of the EIA Report. The part of the works where such measures can be undertaken for the majority of the time includes the following locations: <ul style="list-style-type: none"> <li>- TMCLKL northern reclamation;</li> <li>- TMCLKL southern reclamation (after formation of the nips);</li> <li>- Reclamation dredging and filling for Portion B of HKBCF;</li> <li>- Reclamation filling for Portion C of HKBCF;- Reclamation filling for Portion D of HKBCF; Reclamation filling for FSD berth of HKBCF; and</li> <li>- Reclamation dredging and filling for Portion 1 of HKLR;</li> </ul> </li> </ul>	To control construction water quality	Contractor	During seawall dredging and filling	Construction stage	TM-EIAO

**Environmental Mitigation Implementation Schedule – HKBCF & HKLR**

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S9.11.1 – S9.11.1.2	W1	<ul style="list-style-type: none"> <li>• Export for dredged spoils from NWWCZ avoiding exerting high demand on the disposal facilities in the NWWCZ and, hence, minimise potential cumulative impacts;</li> <li>• For the marine viaducts of HKLR, the bored piling will be undertaken within a metal casing;</li> <li>• A maximum of 30% public fill shall be used for all backfilling below -2.5mPD for the southern reclamation of TMCLKL, HKBCF and HKLR projects;</li> <li>• where public fill is proposed for filling below -2.5mPD, the fine content in the public fill will be controlled to 25%;</li> <li>• silt curtains (cage type) will be applied round all grab dredgers during the HKBCF, HKLR and TMCLKL southern reclamation works;</li> <li>• single layer silt curtains will be applied around all works;</li> <li>• when constructing Portion D of the HKBCF, one side of the seawall crossing the channel should be constructed first and prior to the other works. This would reduce the maximum flow speed across the channel and enhance the effectiveness of other mitigation measures such as silt curtain system;</li> <li>• during the first two months of dredging work for HKBCF and HKLR, the silt-removal efficiency of the silt-curtains shall be verified by examining the results of water quality monitoring points. The water quality monitoring points to be selected for the above shall be those close to the locations of the initial period of dredging work. Details in this regard shall be determined by the ENPO to be established, taking account of the Contractor's proposed actual locations of his initial period of dredging work.</li> <li>• a sheet piled wall shall be constructed north of the HKBCF island ,in order to allow the use of silt curtains during Phase 2 works; and</li> <li>• silt curtain shall be fully maintained throughout the works.</li> </ul>	To control construction water quality	Contractor	During seawall dredging and filling	Construction stage	TM-EIAO

**Environmental Mitigation Implementation Schedule – HKBCF & HKLR**

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S9.11.1.3	W2	<p>In addition, dredging operations should be undertaken in such a manner as to minimise resuspension of sediments. Standard good dredging practice measures should, therefore, be implemented including the following requirements which should be written into the dredging contract.</p> <ul style="list-style-type: none"> <li>• trailer suction hopper dredgers shall not allow mud to overflow;</li> <li>• use of Lean Material Overboard (LMOB) systems shall be prohibited;</li> <li>• mechanical grabs shall be designed and maintained to avoid spillage and should seal tightly while being lifted;</li> <li>• barges and hopper dredgers shall have tight fitting seals to their bottom openings to prevent leakage of material;</li> <li>• any pipe leakages shall be repaired quickly. Plant should not be operated with leaking pipes;</li> <li>• loading of barges and hoppers shall be controlled to prevent splashing of dredged material to the surrounding water. Barges or hoppers shall not be filled to a level which will cause overflow of materials or pollution of water during loading or transportation;</li> <li>• excess material shall be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved;</li> <li>• adequate freeboard shall be maintained on barges to reduce the likelihood of decks being washed by wave action;</li> <li>• all vessels shall be sized such that adequate clearance is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash; and</li> <li>• the works shall not cause foam, oil, grease, litter or other objectionable matter to be present in the water within and adjacent to the works site.</li> </ul>	To control construction water quality	Contractor	During seawall dredging and filling	Construction stage	TM-EIAO

**Environmental Mitigation Implementation Schedule – HKBCF & HKLR**

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S9.11.1.3	W2	<p><u>Land Works</u></p> <p>General construction activities on land should also be governed by standard good working practice. Specific measures to be written into the works contracts should include:</p> <ul style="list-style-type: none"> <li>• wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters;</li> <li>• sewage effluent and discharges from on-site kitchen facilities shall be directed to Government sewer in accordance with the requirements of the WPCO or collected for disposal offsite. The use of soakaways shall be avoided;</li> <li>• 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;</li> <li>• 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;</li> <li>• temporary access roads should be surfaced with crushed stone or gravel;</li> <li>• rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities;</li> <li>• measures should be taken to prevent the washout of construction materials, soil, silt or debris into any drainage system;</li> <li>• open stockpiles of construction materials (e.g. aggregates and sand) on site should be covered with tarpaulin or similar fabric during rainstorms;</li> <li>• manholes (including any newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers;</li> <li>• discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system;</li> </ul>	To control construction water quality	Contractor	During seawall dredging and filling	Construction stage	TM-EIAO
24037-REP-	126-01		Page B - 13			Ove Arup & Partners	Hong Kong Ltd July 2009

**Environmental Mitigation Implementation Schedule – HKBCF & HKLR**

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S9.11.1.3	W2	<ul style="list-style-type: none"> <li>• all 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;</li> <li>• wheel wash overflow shall be directed to silt removal facilities before being discharged to the storm drain;</li> <li>• the section of construction road between the wheel washing bay and the public road should be surfaced with crushed stone or coarse gravel;</li> <li>• wastewater generated from concreting, plastering, internal decoration, cleaning work and other similar activities, shall be screened to remove large objects;</li> <li>• vehicle and plant servicing areas, vehicle wash bays and lubrication facilities shall be located under roofed areas. The drainage in these covered areas shall be connected to foul sewers via a petrol interceptor in accordance with the requirements of the WPCO or collected for off site disposal;</li> <li>• the contractors shall prepare an oil / chemical cleanup plan and ensure that leakages or spillages are contained and cleaned up immediately;</li> <li>• waste oil should be collected and stored for recycling or disposal, in accordance with the Waste Disposal Ordinance;</li> <li>• all fuel tanks and chemical storage areas should be provided with locks and be sited on sealed areas. The storage areas should be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank; and</li> <li>• surface run-off from bunded areas should pass through oil/grease traps prior to discharge to the stormwater system.</li> </ul>	To control construction water quality	Contractor	During seawall dredging and filling	Construction stage	TM-EIAO
S9.14	W3	Implement a water quality monitoring programme	Control water quality	Contractor	At identified monitoring location	During construction period	<ul style="list-style-type: none"> <li>• TM-water</li> <li>• Water Pollution Control Ordinance</li> </ul>

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<i>Water Quality (Operation Phase)</i>							
S9.8.3.15	W4	Upon completion of the development, stormwater drainage systems would be completed to collect stormwater generated from the whole area including new roads. Sewage generated from the development would be collected by the sewerage systems for delivery to sewage treatment plant at HKBCF. Additional mitigation measures would not be required.	Control water quality	Scheme designers	Stormwater infrastructure	Operational Stage	<ul style="list-style-type: none"> <li>• TM-water</li> <li>• Water Pollution Control Ordinance</li> </ul>
<i>Ecology (Construction Phase)</i>							
S10.7	E1	<ul style="list-style-type: none"> <li>• Good site practices to avoid runoff entering woodland habitats in Scenic Hill</li> <li>• Reinstate works areas in Scenic Hill</li> <li>• Avoid stream modification in Scenic Hill</li> </ul>	Avoid potential disturbance on habitat of Romer's Tree Frog in Scenic Hill	Designer; Contractor	Scenic Hill	During construction	<ul style="list-style-type: none"> <li>• TM-water</li> <li>• Water Pollution Control Ordinance</li> </ul>
S10.7	E2	<ul style="list-style-type: none"> <li>• Use closed grab in dredging works.</li> <li>• Install silt curtain during the construction.</li> <li>• Limit dredging and works fronts.</li> <li>• Construct seawall prior to reclamation filling where practicable.</li> <li>• Good site practices</li> <li>• Strict enforcement of no marine dumping.</li> <li>• Site runoff control</li> <li>• Spill response plan</li> </ul>	Minimise marine water quality impacts	Contractor	Seawall, reclamation area	During construction	TM-Water
S10.7	E3	<ul style="list-style-type: none"> <li>• Re-provision of replacement Artificial Reefs (of the same volume as the existing ARs inside Marine Exclusion Zone)</li> </ul>	Mitigate water quality impacts on the existing ARs	Project proponent	To be determined	Construction phase or operation phase	
S10.7	E4	<ul style="list-style-type: none"> <li>• Watering to reduce dust generation; prevention of siltation of freshwater habitats; Site runoff should be desilted, to reduce the potential for suspended sediments, organics and other contaminants to enter streams and standing freshwater</li> </ul>	Prevent Sedimentation from Land-based works areas	Contractor	Land-based works areas	During construction	TM-Water
S10.7	E5	<ul style="list-style-type: none"> <li>• Good site practices, including strictly following the permitted works hours, using quieter machines where practicable, and avoiding excessive lightings during night time</li> </ul>	Prevent disturbance to terrestrial fauna and habitats	Contractor	Land-based works areas	During construction	

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S10.7	E6	<ul style="list-style-type: none"> <li>● Dolphin Exclusion Zone;</li> <li>● Dolphin watching plan</li> </ul>	Minimize temporary marine habitat loss impact to dolphins	Contractor	Marine works	During marine works	TM-EIAO
S10.7	E7	<ul style="list-style-type: none"> <li>● Decouple compressors and other equipment on working vessels</li> <li>● Avoidance of percussive piling</li> <li>● Marine underwater noise monitoring</li> <li>● Temporal suspension of drilling bored pile casing in rock during peak dolphin calving season in May and June;</li> <li>● Handling with care for the installation of sheet piling for reclamation site</li> </ul>	Minimise marine noise impacts on dolphins	Contractor	Marine works	During marine works	<ul style="list-style-type: none"> <li>● TM-EIAO</li> <li>● Marine Park Regulations</li> </ul>
S10.7	E8	<ul style="list-style-type: none"> <li>● Control vessel speed</li> <li>● Skipper training.</li> <li>● Predefined and regular routes for working vessels; avoid Brothers Islands.</li> </ul>	Minimise marine traffic disturbance on dolphins	Contractor	Marine traffic	During marine works	<ul style="list-style-type: none"> <li>● Marine Park Regulations</li> <li>● Code of Conduct for dolphin watching activity</li> </ul>
S10.10	E9	<ul style="list-style-type: none"> <li>● Dolphin vessel monitoring</li> <li>● Mudflat ecological monitoring</li> </ul>	Minimise marine traffic disturbance on dolphins	Contractor	North Lantau and West Lantau	Prior to construction, during construction, and 1 year after operation	
<b>Ecology (Operation Phase)</b>							
S10.7	E10	<ul style="list-style-type: none"> <li>● Preconstruction dive survey for corals</li> </ul>	Minimise impacts on marine ecology	Contractor	The marine pier sites nearest to intertidal zone and along the shore of the HKLR reclamation site	Prior to marine construction works in these locations	
S10.7	E11	<ul style="list-style-type: none"> <li>● Additional Artificial Reefs</li> </ul>	Mitigate marine habitat loss	Project proponent	To be determined	Construction phase or operation phase	



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S10.7	E12	<ul style="list-style-type: none"> <li>● Fish fry release in Artificial Reefs</li> </ul>	Mitigate marine habitat loss	Project proponent	To be determined	After deployment of the ARs	
S10.7	E13	<ul style="list-style-type: none"> <li>● Install silt-grease trap in the drainage system collecting surface runoff</li> </ul>	Minimise impacts on marine ecology	Designer	Reclamation area	During construction	TM-Water
S10.7	E14	<ul style="list-style-type: none"> <li>● Maritime Oil Spill Response Plan (MOSRP);</li> <li>● Contingency plan.</li> </ul>	Minimise impacts on marine ecology	Management	HKLR and HKBCF	During operation	
<b>Fisheries</b>							
S11.7	F1	<ul style="list-style-type: none"> <li>● Re-provision of replacement Artificial Reefs (of the same volume as the existing ARs inside Marine Exclusion Zone)</li> </ul>	Mitigate water quality impacts on the existing ARs	Project proponent	To be determined	Construction phase or operation phase	
S11.7	F2	<ul style="list-style-type: none"> <li>● Reduce re-suspension of sediments</li> <li>● Limit dredging and works fronts.</li> <li>● Good site practices</li> <li>● Strict enforcement of no marine dumping.</li> <li>● Spill response plan</li> </ul>	Minimise marine water quality impacts	Contractor	Seawall, reclamation area	During construction	TM-Water
S11.7	F3	<ul style="list-style-type: none"> <li>● Install silt-grease trap in the drainage system collecting surface runoff</li> </ul>	Minimise impacts on marine water quality impacts	Designer	Reclamation area	During construction	TM-Water
S11.7	F4	<ul style="list-style-type: none"> <li>● Maritime Oil Spill Response Plan (MOSRP);</li> <li>● Contingency plan.</li> </ul>	Minimise impacts on marine water quality impacts	Management	HKLR and HKBCF	During operation	

**Environmental Mitigation Implementation Schedule – HKBCF & HKLR**

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<b>Cultural Heritage</b>							
S12.6.74.1	C1	For HKLR, conduct inspection to the Sha Lo Wan (West) Archaeological Site every three months to ensure the avoidance of impacts arising from the construction works. Submit to AMO the inspection record with photos showing the condition of the overall archaeological site.	Monitor the Sha Lo Wan (West) Archaeological Site during construction of HKLR	Contractor	Sha Lo Wan (West) Archaeological Site	Construction stage	Requirements from AMO
<b>Hazard to Life</b>							
S13	H1	For HKLR, an emergency plan needs to be implemented for an accident on the tank farm.	Minimise the hazard to life	Engineer	Tank Farm	Design Stage	TM-EIAO
<b>Landscape &amp; Visual (Detailed Design Phase)</b>							
S14.3.3.1	LV1	<p>General design measures include:</p> <ul style="list-style-type: none"> <li>• Roadside planting and planting along the edge of the reclamation is proposed;</li> <li>• Transplanting of mature trees in good health and amenity value where appropriate and reinstatement of areas disturbed during construction by compensatory hydro-seeding and planting;</li> <li>• Protection measures for the trees to be retained during construction activities;</li> <li>• Optimizing the sizes and spacing of the bridge columns;</li> <li>• Fine-tuning the location of the bridge columns to avoid visually-sensitive locations;</li> <li>• Aesthetic design of the bridge form and its structural elements for HKLR, e.g. parapet, soffit, columns, lightings and so on;</li> <li>• Considering the decorative urban design elements for HKLR, e.g. decorative road lightings;</li> <li>• Maximizing new tree, shrub and other vegetation planting to compensate tree felled and vegetation removed;</li> <li>• Providing planting area around peripheral of HKLR and HKBCF for tree planting screening effect;</li> <li>• Providing salt-tolerant native trees along the planter strip at affected seawall and newly reclaimed coastline.</li> </ul>	Minimise visual & landscape impact	Detailed designer	HKLR and HKBCF	Design Stage	

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S14.3.3.1	LV1	<ul style="list-style-type: none"> <li>• For HKBCF, providing aesthetic architectural design on the related buildings (e.g. similar materials for PCB building facade to Airport buildings, roof planting and subtle materials for other facilities buildings and so on), and the related infrastructure (e.g. parapet planting and transparent cover for elevated footbridges) to provide harmonic atmosphere of the HKBCF.</li> <li>• Fine-tuning the sizes of the structural members to minimize the bulkiness of buildings and adjustment of building arrangement to minimise disturbance to surrounding vegetation in the HKBCF.</li> <li>• For HKLR, providing aesthetic design on the viaduct, tunnel portals, at-grade roads and reclamation (e.g. subtle colour tone and slim form for viaduct to minimize the bulkiness of the structure and to blend the viaduct better with the background environment, featured form of tunnel portals, roadside planting along at-grade roads and landscape berm on &amp; planting along edge of reclamation area) to beautify the HKLR alignment (refer to Figure 14.4.3).</li> </ul>	Minimise visual & landscape impact	Detailed designer	HKLR and HKBCF	Design Stage	

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<b>Landscape &amp; Visual (Construction Phase)</b>							
S14.3.3.3	LV2	<p>Mitigate both Landscape and Visual Impacts</p> <p>G1. Grass-hydroseed bare soil surface and stock pile areas.</p> <p>G2. Add planting strip and automatic irrigation system if appropriate at some portions of bridge or footbridge to screen bridge and traffic.</p> <p>G3. For HKLR, providing aesthetic design on the viaduct, tunnel portals, at-grade roads and reclamation (e.g. subtle colour tone and slim form for viaduct, featured form of tunnel portals, roadside planting along at-grade roads and landscape berm on &amp; planting along edge of reclamation area) to beautify the HKLR alignment.</p> <p>G4. For HKBCF, providing aesthetic architectural design on the related buildings (e.g. similar materials for PCB building facade to Airport buildings, roof planting and subtle materials for other facilities buildings and so on), and the related infrastructure (e.g. parapet planting and transparent cover for elevated footbridges) to provide harmonic atmosphere of the HKBCF (see Figure 14.3.1 for example).</p> <p>G5. Vegetation reinstatement and upgrading to disturbed areas.</p> <p>G6. Maximize new tree, shrub and other vegetation planting to compensate tree felled and vegetation removed.</p> <p>G7. Provide planting area around peripheral of and within HKBCF and HKLR for tree screening buffer effect.</p> <p>G8. Plant salt tolerant native tree and shrubs etc along the planter strip at affected seawall.</p> <p>G9. Reserve of loose natural granite rocks for re-use. Provide new coastline to adopt “natural-look” by means of using armour rocks in the form of natural rock materials and planting strip area accommodating screen buffer to enhance “natural-look” of the new coastline (see Figure 14.4.2 for example).</p>	Minimise visual & landscape impact	Contractor	HKLR and HKBCF	Construction stage	
S14.3.3.3	LV3	<p><u>Mitigate Visual Impacts</u></p> <p>V1.Minimize time for construction activities during construction period.</p> <p>V2.Provide screen hoarding at the portion of the project site / works areas / storage areas near VSRs who have close low-level views to the Project during HKLR &amp; HKBCF construction.</p>					

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<b><i>Landscape &amp; Visual (Operation Phase)</i></b>							
S14.3.3.3	LV4	<u>Mitigate both Landscape and Visual Impacts</u> G10. Provide proper planting maintenance on the new planting areas to enhance the aesthetic degree.	Minimise visual & landscape impact	Project Proponent	HKLR and HKBCF	Operation stage	
		<u>Mitigate Visual Impacts</u> V3. Lighting design to minimize glare at night. Decorative road lighting to be considered during detailed design stage.					
<b><i>EM&amp;A</i></b>							
S15.2.2	EM1	An Independent Environmental Checker needs to be employed as per the EM&A Manual.	Control EM&A Performance	Project Proponent	All construction sites	Construction stage	<ul style="list-style-type: none"> <li>• EIAO Guidance Note No.4/2002</li> <li>• TM-EIAO</li> </ul>
S15.5 - S15.6	EM2	1) An Environmental Team needs to be employed as per the EM&A Manual.  2) Prepare a systematic Environmental Management Plan to ensure effective implementation of the mitigation measures.  3) An environmental impact monitoring needs to be implementing by the Environmental Team to ensure all the requirements given in the EM&A Manual are fully complied with.	Perform environmental monitoring & auditing	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> <li>• EIAO Guidance Note No.4/2002</li> <li>• TM-EIAO</li> </ul>