

## **Appendix 4.1**

### **Environmental Mitigation Implementation Schedule (EMIS)**

**Table A4.1 – Implementation Schedule of Air Quality Mitigation Measures**

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Party Responsible for Implementation	Location / Timing	Implementation Stage	Relevant Legislation and Guidelines
<b>Construction Dust</b>							
	CD1	Watering once per hour on exposed worksites and haul road	Minimise dust impact at nearby sensitive receivers	Contractor	All construction site	Construction stage	<ul style="list-style-type: none"> <li>➤ APCO</li> <li>➤ Dust impact to meet HKAQO and EIAO-TM criteria</li> </ul>
	CD2	Requirements as given in the Air Pollution Control (Construction Dust) Regulation should be followed.	Minimise dust impact at nearby sensitive receivers	Contractor	All construction site	Construction stage	<ul style="list-style-type: none"> <li>➤ APCO</li> <li>➤ Dust impact to meet HKAQO and EIAO-TM criteria</li> </ul>
	CD3	Dust control measures as recommended as below, should be implemented. <ul style="list-style-type: none"> <li>• The works area for site clearance shall be sprayed with water throughout the operation to maintain the entire surface wet (e.g. installation of sprinklers);</li> <li>• Restricting heights from which materials are to be dropped, as far as practicable to minimise the fugitive dust arising from unloading/ loading;</li> <li>• All vehicles shall be washed to remove any dusty materials from its body and wheels before leaving a construction site;</li> <li>• All spraying of materials and surfaces should avoid excessive water usage;</li> <li>• When a vehicle leaving a construction site is carrying a load of dusty materials, the load shall be covered entirely by clean impervious sheeting;</li> </ul>	Minimise dust impact at nearby sensitive receivers	Contractor	All construction site	Construction stage	<ul style="list-style-type: none"> <li>➤ APCO</li> <li>➤ Dust impact to meet HKAQO and EIAO-TM criteria</li> </ul>

		<ul style="list-style-type: none"> <li>• Travelling speeds should be controlled to reduce traffic induced dust dispersion and re-suspension within the Site from the operating trucks;</li> <li>• Erection of hoarding of not less than 3 m high from ground level along the Site boundary;</li> <li>• 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;</li> <li>• 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;</li> <li>• Compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shortcrete or other suitable surface stabiliser shall be provided within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies; and,</li> <li>• Avoid concurrent dusty construction works near ASRs through the control of timing and locations of different construction activities.</li> </ul>					
	CD4	Regular monitoring of dust as per EM&A programme	Monitoring of dust impact	Contractor	Selected monitoring locations	Construction stage	➤ EIAO-TM

**Table A4.2 – Implementation Schedule of Noise Mitigation Measures**

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Party Responsible for Implementation	Location / Timing	Implementation Stage	Relevant Legislation and Guidelines
<b>Construction Noise</b>							
	CN1	<p><u>Adoption of Quieter Construction Method</u></p> <ul style="list-style-type: none"> <li>A quieter construction method, NonExplosive Chemical Expansion Agent (Soundless Chemical Demolition Agent), is proposed to be adopted to replace the use of breaker.</li> <li>Adoption of Quieter Construction Method (Use of Silent Piling by Press-in Method).</li> </ul> <p><u>Use of Quality PMEs</u></p> <ul style="list-style-type: none"> <li>Use of Quality Powered Mechanical Equipment (QPME) is recommended to reduce the noise impact.</li> </ul> <p><u>Use of Noise Insulation Fabric</u></p> <ul style="list-style-type: none"> <li>Noise insulating fabric can be adopted for certain PME such as piling machine</li> <li>Use of Movable Barrier with a cantilevered upper portion shall be placed as close to the PME as possible and a location intercepting the line of sight between the NSRs and PME. The barrier material shall have a surface density of not less than 10 kg/m<sup>2</sup> with 25 mm thick internal sound absorptive lining to achieve the maximum screening effect.</li> <li>The future contractor will be required through contract specifications to provide and implement sufficient direct mitigation measures with reference to the recommendations in this EIA or the future</li> </ul>	Control construction noise impacts	Contractor	All construction site	Construction stage	➤ EIAO-TM

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Party Responsible for Implementation	Location / Timing	Implementation Stage	Relevant Legislation and Guidelines
		<p>detailed design to achieve acceptable noise levels on the nearby NSRs.</p> <p><u>Use of Noise Enclosure</u></p> <ul style="list-style-type: none"> <li>• Movable noise enclosure made up of plywood is proposed to surround certain static PME. The internal wall of the enclosure should be laid with sound absorbent such as mineral wool.</li> <li>• The future contractor will also be required to prepare a construction noise management plan with reference to Section 8 and Annex 21 of the EIAO-TM as well as this EIA Report and EM&amp;A Manual. The construction management plan shall identify the inventory of noise sources and assess the effectiveness and practicality of all mitigation measures to minimize the construction noise impact and shall be submitted six months prior to commencement of construction.</li> </ul> <p><u>Good Site Management Practices</u></p> <ul style="list-style-type: none"> <li>• Only well-maintained plant should be operated on-site and plants should be serviced regularly during the construction period;</li> <li>• Mobile plant, if any, should be sited as far from NSRs as possible;</li> <li>• Plant known to emit noise strongly in one direction should, wherever possible, be properly orientated so that the noise is directed away from the nearby NSRs;</li> </ul>					

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Party Responsible for Implementation	Location / Timing	Implementation Stage	Relevant Legislation and Guidelines
		<ul style="list-style-type: none"> <li>Use of site hoarding as a noise barrier to screen noise at low level NSRs;</li> <li>Machines and plant that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum; and</li> <li>Any material stockpiles and other structures should be effectively utilized, wherever practicable, to screen the noise from on-site construction activities.</li> </ul>					
	CN2	<ul style="list-style-type: none"> <li>To further alleviate the construction noise impact during the examination period, minimum separation distances between critical construction activities and the schools (Tung Wah Group of Hospitals Ma Kam Chan Memorial Primary School and HKCKLA Buddhist Wisdom Primary School) have been recommended, separation distance details can be referred to Table 4.5.6. The contractors shall liaise with the schools to confirm their examination period when planning their work sequence.</li> </ul>	Control construction noise impacts	Contractor	Critical construction work area	Construction stage	➤ EIAO-TM
<b>Operation Noise (Road Traffic Noise)</b>							
	ON1	<ul style="list-style-type: none"> <li>At-source mitigation measure (i.e. low noise road surfacing material) has been proposed at appropriate locations along the Project road and other roads. The extents and locations of proposed direct mitigation measures are indicated in EIA report.</li> <li>Po Kin Road (200m)</li> </ul>	Control the road traffic noise impact	CEDD (Design stage & Construction Phase) & HyD (operation phase)	Refer to Figure 4.6.3b.	Prior to the operation of the Project.	➤ EIAO-TM

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Party Responsible for Implementation	Location / Timing	Implementation Stage	Relevant Legislation and Guidelines
		<ul style="list-style-type: none"> <li>Ping Kong Road (185m)</li> </ul>					
	ON2	<ul style="list-style-type: none"> <li>Further environmental reviews will be conducted at the later detailed design stage to review the proposed noise mitigation measures taking into account the latest design standard for the application of the low noise road surfacing materials.</li> </ul>	Reduce the noise from road traffic	CEDD (Design stage & Construction Phase) & HyD (operation phase)	Affected Sections of roads	Prior to the operation of the Project.	➤ EIAO-TM
	ON3	<ul style="list-style-type: none"> <li>Acoustics windows for the planned public housing development were proposed to alleviate the road traffic noise impact. The provision of acoustic windows for the planned public housing would be subject to further study by the Hong Kong Housing Authority (HKHA).</li> <li>For the proposed welfare facility, it is recommended to restrict more noise sensitive welfare uses facing Ping Kong Road.</li> </ul>	Reduce the noise from road traffic	Housing Department	Public Housing Site	Prior to the operation of the Project.	➤ EIAO-TM
	ON4	<ul style="list-style-type: none"> <li>Erection of a 3m high solid concrete boundary wall near the planned school site, the use of air conditioning and noise insulation windows were proposed under Class Assessment Approach.</li> </ul>	Reduce the noise from road traffic	Architectural Services Department	School Site	Prior to the operation of the Project.	➤ EIAO-TM
<b>Operation Noise (Fixed Noise)</b>							

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	ON5	<ul style="list-style-type: none"> <li>The recommended maximum permissible Sound Power Level (SWL) of the ventilation fans potentially to be installed at the PTI should be reviewed with the final design of the PTI during the detailed design stage. The PTI will be enclosed and designed to avoid direct line-of-sight to the NSRs.</li> </ul>	Reduce operation fixed noise	Relevant government departments/ Future Operator	Planned PTI	Design and Operation Stage	<ul style="list-style-type: none"> <li>➤ EIAO-TM</li> <li>➤ IND-TM</li> </ul>
	ON6	<p>The following good practices should be incorporated into the design of the proposed PTI during detailed design stage:</p> <ul style="list-style-type: none"> <li>Proper selection of quiet plant aiming to reduce tonality at NSRs;</li> <li>Openings of ventilation systems should be located away from NSRs as far as practicable and oriented away from the NSRs to avoid direct line-of-sight to the concerned NSRs; and</li> <li>Installation of silencer/ acoustic louvre for the exhaust of ventilation system.</li> </ul>	Reduce operation fixed noise	Relevant government departments/ Future Operator	All fixed plants where practicable	Design and Operation Stage	<ul style="list-style-type: none"> <li>➤ Noise Control Ordinance and its TM; EIAO-TM</li> </ul>



**Table A4.3 – Implementation Schedule of Water Quality Mitigation Measures**

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Party Responsible for Implementation	Location / Timing	Implementation Stage	Relevant Legislation and Guidelines
<b>Construction Phase</b>							
	CW1	<p>In accordance with the Practice Note for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN1/94), construction phase mitigation measures shall include the following:</p> <p><u>Construction Site Run-off</u>                      Proper site management measures should be implemented to control site runoff and drainage, and thereby prevent high sediment loadings from reaching downstream sections of the river/stream. A storm water pollution control plan should be prepared. The Contractor should follow the practices, and be responsible for the design, construction, operation and maintenance of all the mitigation measures. The design of the mitigation measures should be submitted by the Contractor to the Engineer for approval. These mitigation measures shall include the following practices to minimize site surface runoff and the chance of erosion, and also to retain and reduce any suspended solids prior to discharge:</p> <ul style="list-style-type: none"> <li>• Before commencing any work, all sewer and drainage connections should be sealed to prevent debris, soil, sand etc. from entering public sewers/drains.</li> <li>• Provision of perimeter channels to intercept storm-runoff from outside the site. These</li> </ul>	To minimise water quality impact from construction site runoff and general construction activities	Contractor	All construction site where applicable	Construction stage	<ul style="list-style-type: none"> <li>➤ Water Pollution Control Ordinance</li> <li>➤ ProPECC PN1/94</li> <li>➤ EIAO-TM</li> <li>➤ TM-DSS</li> </ul>

		<p>should be constructed in advance of the construction works.</p> <ul style="list-style-type: none"> <li>• Temporary ditches such as channels, earth bunds or sand bag barriers should be included to facilitate runoff discharge into the stormwater drain, via a sand/silt basin/trap.</li> <li>• Works programme should be designed to minimize works areas at any one time, thus minimizing exposed soil areas and reducing the potential for increased siltation and runoff.</li> <li>• Sand/silt removal facilities such as sand traps, silt traps and sediment basins should be provided to remove the sand/silt particles from run-off where necessary. These facilities should be properly and regularly cleaned and maintained. These facilities should be carefully planned to ensure that they would be installed at appropriate locations to capture all surface water generated on site.</li> <li>• Careful programming of the works to avoid excavation works during the rainy season.</li> <li>• Temporary access roads (if any) should be protected by crushed gravel and exposed slope surfaces shall be protected when rainstorms are likely; and</li> <li>• Open stockpiles of construction materials on-site should be covered with tarpaulin or similar fabric during rainstorms to prevent erosion.</li> </ul>					
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	CW2	<p><u>Sewage and Wastewater Discharge</u></p> <ul style="list-style-type: none"> <li>Domestic sewage/wastewater generated by workforce on-site should be collected in a suitable storage facility such as portable chemical toilets. An adequate number of portable toilets will be provided during the construction phase. These toilets should be maintained in a state that will not deter the workers from using them.</li> <li>The collected sewage/wastewater will be discharged into the foul sewer or transferred to the Government sewage treatment works by a licensed collector.</li> </ul>	To minimise water quality impact from sewage effluent	Contractor	All construction site where applicable	Construction stage	<ul style="list-style-type: none"> <li>➤ Water Pollution Control Ordinance</li> <li>➤ TM-DSS</li> </ul>
	CW3	<p><u>Storage and Handling of Oil, Other Petroleum Products and Chemicals</u></p> <p>The following mitigation measures should be implemented for the storage and handling of oil, other petroleum products and chemicals:</p> <ul style="list-style-type: none"> <li>All fuel tanks and chemical storage areas should be provided with locks and be sited on paved areas.</li> <li>The storage areas should be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled oil, fuel and chemicals from reaching the receiving waters.</li> <li>Vehicle and plant servicing areas, vehicle wash bays and lubrication bays should, as far as possible, be located within roofed areas. The drainage in these covered areas should be connected to foul sewers via a petrol interceptor.</li> </ul>	To minimise water quality impact due to chemical spillage	Contractor	All construction site where applicable	Construction stage	<ul style="list-style-type: none"> <li>➤ Water Pollution Control Ordinance</li> <li>➤ ProPECC PN1/94</li> <li>➤ Waste Disposal (Chemical Waste) (General) Regulations</li> </ul>

	<p><u>Handling of Spillage / Leakage</u>                  In the event that accidental spillage or leakages of hazardous substances / chemical wastes occur, the response procedures as listed below should be followed. It should be noted that the procedures below are not exhaustive and the contractor should propose other response procedures in the emergency contingency plan based on the particular types and quantities of chemicals or hazardous substances used, handled and stored on-site.</p> <ul style="list-style-type: none"> <li>• Oil leakage or spillage should be contained and cleaned up immediately. Waste oil should be collected and stored for recycling or disposal</li> <li>• Instruct untrained personnel to keep at a safe distance well away from the spillage area.</li> <li>• If the spillage / leakage involve highly toxic, volatile or hazardous waste, initiate emergency evacuation and call the emergency service.</li> <li>• Only trained persons equipped with suitable protective clothing and equipment should be allowed to enter and clean up the waste spillage / leakage area.</li> <li>• Where the spillage/ leakage is contained in the enclosed storage area, the waste can be transferred back into suitable containers by suitable handheld equipment, such as hand operated pumps, scoops or shovels. If the spillage / leakage quantity is small, it can be covered and mixed with suitable absorbing materials such as tissue paper, dry soft sand or vermiculite. The resultant slurry should be</li> </ul>					
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		<p>treated as chemical waste and transferred to suitable containers for disposal.</p> <ul style="list-style-type: none"> <li>For spillage / leakage in other areas, immediate action is required to contain the spillage / leakage. Suitable liquid absorbing materials such as tissue paper, dry soft sand or vermiculite should be used to cover the spill. The resultant slurry should be treated as chemical waste and transferred to suitable containers for disposal.</li> <li>Areas that have been contaminated by chemical waste spillage / leakage should be cleaned. While water is a soluble solvent for aqueous chemical wastes and water soluble organic waste, kerosene or turpentine should be used for organic chemical wastes that are not soluble in water. The waste from the cleanup operation should be treated and disposed of as chemical waste.</li> <li>In incidents where the spillage / leakage may result in significant contamination of an area or risk of pollution, the EPD should be informed immediately.</li> </ul>					
	CW4	<p><u>Groundwater from contaminated areas</u></p> <ul style="list-style-type: none"> <li>No directly discharge of groundwater from contaminated areas should be adopted.</li> <li>Prior to any excavation works within the potentially contaminated areas, the baseline groundwater quality in the areas should be reviewed based on the past relevant site investigation data and any additional groundwater quality measurements to be performed with reference to Guidance Note for Contaminated Land Assessment and Remediation and the review results should</li> </ul>	To minimise water quality impact from contaminated groundwater	Contractor	Excavation areas where contaminated ground-water is found	Construction stage	<ul style="list-style-type: none"> <li>➤ Water Pollution Control Ordinance</li> <li>➤ ProPECC PN1/94</li> <li>➤ TM-DSS</li> </ul>

		<p>be submitted to EPD for examination. If the review results indicated that the groundwater to be generated from the excavation works would be contaminated, this contaminated groundwater should be either properly treated or properly recharged into the ground in compliance with the requirements of the TMDSS.</p> <ul style="list-style-type: none"> <li>• If wastewater treatment is to be deployed for treating the contaminated groundwater, the wastewater treatment unit shall deploy suitable treatment processes to reduce the pollution level to an acceptable standard and remove any prohibited substances to an undetectable range.</li> <li>• All treated effluent from the wastewater treatment plant shall meet the requirements as stated in TM-DSS and should be either discharged into the foul sewers or tankered away for proper disposal.</li> <li>• If deployment of wastewater treatment is not feasible for handling the contaminated groundwater, groundwater recharging wells should be installed as appropriate for recharging the contaminated groundwater back into the ground. The recharging wells should be selected at places where the groundwater quality will not be affected by the recharge operation as indicated in section 2.3 of the TM-DSS. The baseline groundwater quality should be determined prior to the selection of the recharge wells, and submit a working plan to EPD for agreement. Pollution levels of groundwater to be recharged shall not be higher than pollutant levels of ambient groundwater at the recharge well. Groundwater monitoring wells should be installed near the recharge points to monitor the effectiveness of the recharge wells</li> </ul>					
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		and to ensure that no likelihood of increase of groundwater level and transfer of pollutants beyond the site boundary. Prior to recharge, free products should be removed as necessary by installing the petrol interceptor. The Contractor should apply for a discharge licence under the WPCO through the Regional Office of EPD for groundwater recharge operation or discharge of treated groundwater.					
<b>Operation Phase</b>							
	OW1	<p><u>Surface Runoff</u>                      Runoff will be controlled by best management practice. Runoff will be intercepted by properly designed and managed silt traps at appropriate spacing so allow drain into drainage system.</p> <p>A storm water pollution control plan shall be prepared. Subject to detailed design and requirement of relevant government departments, the capacities of road drainage system shall cater the runoff from 50 year-return-period rainstorm. Proper drainage systems with silt traps and oil interceptors should be installed.</p>	To reduce impact on drainage system due to road/surface runoff	DSD	Proposed drainage system and future site operators	Operation stage	➤ N/A
	OW2	<p><u>Sewage and Wastewater Effluents from Buildings</u>                      For individual municipal facilities and commercial tenants, effluent discharge license under the WPCO will be required individually for wastewater discharge. The discharge standards specified under the TM-DSS should be observed. Depending on the effluent characteristics, pre-treatment may be required to comply with the standards for discharging wastewater into public sewerage.</p>	To reduce impact from commercial tenants	Future Contractor / Operator	Planned Development Area	Operation stage	➤ Water Pollution Control Ordinance

**Table A4.4 – Implementation Schedule of Sewage & Sewerage Treatment Implications Mitigation Measures**

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Party Responsible for Implementation	Location / Timing	Implementation Stage	Relevant Legislation and Guidelines
<b>Sewage &amp; Sewerage Treatment Implications</b>							
	SS1	<p>Follow the mitigation measures proposed in the Environmental Monitoring and Audit Manual for the construction and operation phases of the project:</p> <ul style="list-style-type: none"> <li>• The sewage generated during the construction stage from the on-site workers will be collected in chemical toilets and disposed of off-site;</li> <li>• Provision of blue-green drainage infrastructure which facilitates the infiltration of rainfall and the process of natural filtering to reduce the quantity and improve the quality of runoff;</li> <li>• Adopt on-site greywater recycling to reduce discharge of sewer;</li> <li>• Sewage collected from the on-site/surrounding STW will be treated to a standard suitable for recycle for non-potable use including flushing and irrigation;</li> <li>• Upgrading the sewerage system for discharge into SWH STW or providing other sewage treatment/disposal facilities to ensure that there is sufficient capacity to cater for increased sewage effluent flows from the developments; and</li> <li>• Provision of suitable measures to minimize the risk of emergency discharges of</li> </ul>	To meet ‘no net increase in pollution loading’ in Deep Bay	Contractor and Project proponent	Construction site	Construction and operational phases	➤ Contractual requirements and water quality mitigation measures



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		untreated sewage effluent and to ensure timely repair.					
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**Table A4.5 – Implementation Schedule of Waste Management Mitigation Measures**

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Party Responsible for Implementation	Location / Timing	Implementation Stage	Relevant Legislation and Guidelines
<b>Waste Management (Construction Stage)</b>							
7.6.2	WM1	<p><b>Good Site Practices</b></p> <p>Application of good site practices are recommended throughout the construction stage, including:</p> <ul style="list-style-type: none"> <li>• Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated from the Project;</li> <li>• Training of site personnel in proper waste management and chemical handling procedures;</li> <li>• Provision of sufficient waste disposal points and regular collection for disposal;</li> <li>• Appropriate measures to minimise windblown litter and dust / odour during transportation of waste by covering trucks or in enclosed containers;</li> <li>• Stockpiles of C&amp;D materials should be sprayed with water immediately prior to any loading transfer operation to keep the dusty material wet during material handling at the stockpile areas;</li> <li>• Provision of wheel washing facilities for trucks before leaving the works area to minimise dust introduction to public road;</li> <li>• Well planned delivery programme for offsite disposal so adverse environmental impact from</li> </ul>	Minimise waste generation during construction	Contractor	All construction sites	Construction Stage	<ul style="list-style-type: none"> <li>➤ Waste Disposal Ordinance</li> <li>➤ Waste Disposal (Chemical Wastes) (General) Regulation</li> <li>➤ Technical Circular (Works) No. 19/2005 Environmental Management on Construction Site</li> </ul>

		<p>transporting inert or non-inert C&amp;D materials is not anticipated.</p> <ul style="list-style-type: none"> <li>Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; and</li> <li>General refuse should be removed as soon as possible and avoid overnight accumulation and storage of general refuse.</li> </ul>					
7.6.3	WM2	<p><b><u>Waste Reduction Measures</u></b></p> <p>Proper planning for waste reduction measures should be carried out before site operation. Waste reduction is best achieved at the planning and design stage, and by ensuring the implementation of good site practices. The following are proposed to achieve waste reduction:</p> <ul style="list-style-type: none"> <li>Prepare and submit a C&amp;DMMP to PFC for approval in order to manage and monitor the C&amp;D materials generation;</li> <li>Segregate inert C&amp;D materials from non-inert C&amp;D materials for reuse;</li> <li>Segregate any other recyclable materials (i.e., metal) from non-inert C&amp;D materials for recycling;</li> <li>Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;</li> <li>Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the workforce;</li> </ul>	Reduce generation of waste	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> <li>➤ Waste Disposal Ordinance</li> <li>➤ C&amp;DMMP – Project Administration Handbook for Civil Engineering Works (2020 Edition) WBTC No. 12/2002, Specification Facilitating the Use of Recycled Aggregates</li> <li>➤ ETWB TC(W) No. 19/2005, Environmental Management on Construction Sites</li> <li>➤ DEVB TC(W) No. 6/2010, Trip Ticket System for Disposal of Construction and Demolition Materials;</li> <li>➤ DEVB TC(W) No. 8/2010, Enhanced Specification for Site Cleanliness and Tidiness</li> <li>➤ DEVB TC(W) No. 2/2011, Encouraging the Use of Recycled and other Green Materials in Public Works Projects;</li> <li>➤ DEVB TC(W) No. 9/2011, Enhanced Control Measures for Management of Public Fill</li> </ul>

		<ul style="list-style-type: none"> <li>Any unused chemicals or those with remaining functional capacity shall be recycled, and separation of chemical wastes for special handling and appropriate treatment;</li> <li>Plan the use of construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.</li> <li>Provide training to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduce, reuse and recycling (3Rs);</li> <li>Prior to disposal of non-inert C&amp;D material, it is recommended that wood, steel and other metals to be separated for reuse and/or recycling to minimise the quantity of waste going to landfills;</li> </ul>					<ul style="list-style-type: none"> <li>CEDD TC No. 11/2019, Management of Construction and Demolition Materials</li> </ul>
7.6.4	WM3	<p><b><u>Proper framework, i.e., Waste Management Plan (WMP) to identify key waste types, set out waste reduction programmes and targets, and also outline arrangement for on-site segregation and proper waste disposal:</u></b></p> <ul style="list-style-type: none"> <li>An Environmental Management Plan (EMP) should be prepared by the Contractor with reference to the requirements in ETWB TCW No. 19/2005 and should be submitted to the Engineer for approval before construction;</li> <li>The WMP, as part of the EMP, to be submitted to the Engineer / Architecture for approval prior to the commencement of construction works;</li> <li>A recording system for amount of wastes generated, recycled and disposed of (including the disposal sites) should be updated on a monthly basis and submitted to the Engineer for approval and record keeping;</li> </ul>	Minimise waste generation during construction	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> <li>Waste Disposal Ordinance</li> <li>ETWB TCW No. 19/2005</li> </ul>

		<ul style="list-style-type: none"> <li>• A trip-ticket system should also be included as one of the contractual requirements to be implemented by the Contractor, with an aim to control the disposal of C&amp;D material at landfills and Public Fill Reception Facilities (PFRFs);</li> <li>• A well-planned programme for transportation of C&amp;D material should be implemented to lessen the off-site traffic impact; and</li> <li>• Ensure adverse noise impact from transporting of C&amp;D material to off-site is not expected.</li> </ul>					
7.6.6 to 7.6.7	WM4	<p><b><u>Storage, Collection and Transportation of Waste</u></b></p> <ul style="list-style-type: none"> <li>• Proper storage and site practices to minimise the potential for damage or contamination of materials;</li> <li>• Clean the waste storage areas routinely.</li> <li>• Soil should be stored well in secured containment facilities;</li> <li>• Storage areas should be covered and provided with a water spraying system to prevent materials being blown away;</li> <li>• Remove the wastes as soon as possible;</li> <li>• Use of enclosed containers or covered trucks for waste transportation in order to minimise the impacts during transportation;</li> <li>• Relevant permits should be obtained by the waste collector prior to waste collection; and</li> <li>• Record the amount of waste generated, recycled and disposed.</li> </ul>	Storage, Collection and Transportation of Waste	Contractor	All construction sites	Construction stage	➤ Waste Disposal Ordinance

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Party Responsible for Implementation	Location / Timing	Implementation Stage	➤ Relevant Legislation and Guidelines
7.6.18	WM5	<p><b>General Refuse</b></p> <ul style="list-style-type: none"> <li>General refuse should be stored in enclosed bins or compaction units separated from C&amp;D materials</li> <li>A waste collector should be employed by the Contractor to remove general refuse from the site separately on a daily basis.</li> <li>Effective collection and storage methods (including enclosed and covered area) of site wastes should be provided to reduce the occurrence of wind-blown light material.</li> </ul>	Minimise production of general refuse, and avoid odour, pest and litter nuisance	Contractor	All construction sites	Design and Construction Stage	➤ Waste Disposal Ordinance
7.6.8 to 7.6.10	WM6	<p><b>Construction and Demolition Materials</b></p> <p>C&amp;D materials should be sorted onsite into inert C&amp;D (that is, public fill) and non-inert C&amp;D. The surplus inert C&amp;D material would require disposal at the Public Fill Reception Facilities (PFRFs)</p> <p>Non-inert C&amp;D, such as bamboo, timber, vegetation, paper and plastic should be reused or recycled and, as a last resort, disposed of to landfill.</p> <p>In order to monitor the disposal of wastes to PFRFs and landfills, and to control fly-tipping, a trip-ticket system as promulgated under <i>DEVB TC(W) No. 6/2010</i> should be included as one of the contractual requirements and may be implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work. An Independent Environmental Checker should be responsible for auditing the results of the system.</p>	Minimise waste impacts from excavated and C&D materials	Contractor	All construction sites	Construction Stage	➤ Waste Disposal Ordinance ➤ Technical Circular (Works) No.6/2010 for Trip Ticket System for Disposal of Construction & Demolition Materials ➤ Technical Circular (Works) No. 19/2005 Environmental Management on Construction Site

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Party Responsible for Implementation	Location / Timing	Implementation Stage	➤ Relevant Legislation and Guidelines
7.6.8 to 7.6.10	WM7	<p>It is recommended that a suitable area be designated on-site to facilitate the sorting process and a temporary stockpiling area will be required for the separated materials. Within the stockpile areas, the following measures should be taken to avoid and/or control potential environmental impacts or nuisance:</p> <ul style="list-style-type: none"> <li>• Coverage and water spraying system should be provided for the stockpiled C&amp;D materials to prevent dust impact, during heavy rain and strong wind;</li> <li>• Locate stockpiles to minimise potential air quality, water quality and visual impacts;</li> <li>• Provision of cover for the stockpile material, sand bag or earth bund as barrier to prevent material from washing away and entering the drains; and</li> <li>• Minimise land intake of stockpile areas as far as possible.</li> </ul>	Minimise waste impacts from excavated and C&D materials	Contractor	All construction sites	Construction Stage	<ul style="list-style-type: none"> <li>➤ Waste Disposal Ordinance</li> <li>➤ Technical Circular (Works) No.6/2010 for Trip Ticket System for Disposal of Construction &amp; Demolition Materials</li> <li>➤ Technical Circular (Works) No. 19/2005 Environmental Management on Construction Site</li> </ul>
7.6.8 to 7.6.10	WM8	When disposing C&D material at a PFRF, it shall be noted that the material should only consist of soil, rock, concrete, brick, cement plaster/mortar, inert building debris, aggregates and asphalt. The material should be free from household refuse, plastic, metals, industrial and chemical waste, animal and vegetable matter, and other material considered to be unsuitable by the Filling Supervisor.	Minimise waste impacts from excavated and C&D materials	Contractor	All construction sites	Construction Stage	<ul style="list-style-type: none"> <li>➤ Waste Disposal Ordinance</li> <li>➤ Technical Circular (Works) No.6/2010 for Trip Ticket System for Disposal of Construction &amp; Demolition Materials</li> <li>➤ Technical Circular (Works) No. 19/2005 Environmental Management on Construction Site</li> </ul>

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Party Responsible for Implementation	Location / Timing	Implementation Stage	➤ Relevant Legislation and Guidelines
7.2.11 and 7.6.3	WM9	Project office in the planning and design of project should actively seek to minimise generation of C&D materials and to reuse inert materials generated, including rock, as far as possible. To achieve this, the project office is required to draw up a Construction & Demolition Materials Management Plan (C&DMMP) in the feasibility study or preliminary design stage for this Project. Requirements associated with the preparation, submission and implementation of C&DMMP introduced in Chapter 4 of the <i>Project Administration Handbook for Civil Engineering Works</i> should be implemented.	Minimise waste impacts from excavated and C&D materials	Contractor	All construction sites	Design & construction stage	<ul style="list-style-type: none"> <li>➤ Technical Circular (Works) No.6/2010 for Trip Ticket System for Disposal of Construction &amp; Demolition Materials</li> <li>➤ Technical Circular (Works) No. 19/2005 Environmental Management on Construction Site</li> <li>➤ Project Administration Handbook for Civil Engineering Works</li> </ul>



EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Party Responsible for Implementation	Location / Timing	Implementation Stage	➤ Relevant Legislation and Guidelines
7.6.11 to 7.6.12	WM10	<p><b><u>Chemical Waste</u></b></p> <p>For those processes which would generate chemical waste, it may be possible to find alternatives to eliminate the use of chemicals, to reduce the generation quantities or to select a chemical type that is of less impact on environment, health and safety as far as possible.</p> <p>If the chemical wastes are produced at the construction site, the Contractor should register with EPD as a Chemical Waste Producer (CWP) and to follow the guidelines stated in the <i>Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes</i>.</p> <p>Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc.</p> <p>The Contractor shall use a licensed collector to transport and dispose the chemical waste, to the licensed Chemical Waste Treatment Centre, or other licensed facilities, in accordance with the <i>Waste Disposal (Chemical Waste) (General) Regulation</i>.</p>	Control of chemical waste and to ensure proper storage, handling and disposal	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> <li>➤ Code of Practice on the Packaging Labelling and Storage of Chemical Wastes</li> <li>➤ Waste Disposal (Chemical Waste) (General) Regulation</li> </ul>

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Party Responsible for Implementation	Location / Timing	Implementation Stage	➤ Relevant Legislation and Guidelines
7.6.13 to 7.6.16	WM11	<p><b><u>Asbestos-Containing Materials (ACMs)</u></b></p> <ul style="list-style-type: none"> <li>• Adoption of protection, such as full containment, mini containment, or segregation of work area;</li> <li>• Provision of decontamination facilities for cleaning of works, equipment and bagged waste before leaving the work area;</li> <li>• Adoption of engineering control techniques to prevent fibre release from work area, such as use of negative pressure equipment with high efficiency particulate air (HEPA) filters to control air flow between the work area and the outside environment;</li> <li>• Wetting the surface of ACMs before and during disturbance, minimising the breakage and dropping of asbestos containing materials, and packing of debris and waste immediately after it is produced;</li> <li>• Cleaning of work area by wet wiping and vacuuming with HEPA filtered vacuum cleaner;</li> <li>• Coating on any surfaces previously in contact with or containing asbestos with a sealant;</li> <li>• Proper bagging, safe storage and disposal of asbestos and asbestos contaminated waste;</li> <li>• Pre-treatment of all effluent from the work area before discharging offsite; and</li> <li>• Implement air monitoring strategy to monitor the leakage and clearance of the work area during and after any asbestos work.</li> </ul>	Precautionary measures to handle, package, transport and disposal of ACM wastes	Contractor	All construction sites	Before construction stage	<ul style="list-style-type: none"> <li>➤ Code of Practice on the Packaging Labelling and Storage of Chemical Wastes</li> <li>➤ Waste Disposal (Chemical Waste) (General) Regulation</li> <li>➤ Code of Practice on Asbestos Control: Preparation Work Using Full Containment or Mini Containment Method;</li> <li>➤ Code of Practice on Asbestos Control: Asbestos Work Using Glove Bag Method;</li> <li>➤ Code of Practice on Asbestos Control: Safe Handling of Low Risk Asbestos Containing Material;</li> <li>➤ Code of Practice on the Handling, Transportation and Disposal of Asbestos Waste;</li> <li>➤ Code of Practice on Asbestos Control: Preparation of Asbestos Investigation Report, Asbestos Management Plan and Asbestos Abatement Plan;</li> <li>➤ ProPECC PN2/97 Handling of Asbestos Containing Materials in Buildings</li> <li>➤ Code of Practice on Safety and Health at Work with Asbestos</li> </ul>

		<p>A Code of Practice on <i>Safety and Health at Work with Asbestos</i> published by the Labour Department, which covers the protection of the health and safety of workers while handling asbestos or involved in the production of asbestos wastes, should also be observed. Specific requirements include:</p> <ul style="list-style-type: none"> <li>• Classification of ACMs wastes;</li> <li>• Registration requirement of the CWP;</li> <li>• License requirement of asbestos waste collector; and</li> <li>• Packaging, transportation and final disposal of the asbestos wastes.</li> </ul>					
<b>Waste Management (Operational Phase)</b>							
7.7.2 to 7.7.3	WM12	<p><b>General Refuse</b></p> <p>Recycling bins shall be placed in prominent locations to maximise the capture of recyclables from general refuse.</p> <p>General refuse from residential, commercial buildings and institutional uses should be collected with lidded bins and delivered to central collection point(s) and stored in enclosed containers to prevent windblown, vermin, water pollution and visual impact. General refuse collection should be arranged by the waste collector at least once a day.</p>	Removal of general refuse generated from the proposed development	FEHD Relevant Operators	Operating sites	Operation stage	➤ Waste Disposal Ordinance
7.7.4 to 7.7.5	WM13	<p><b>Chemical Waste</b></p> <p>All chemical wastes generated, i.e., paints, lubricants, used batteries, acids, alkalis and solvenet, should be collected and handled carefully.</p> <p>Local chemical waste storage area(s) should be established and located close to the source of waste generation for temporary storage. Drum-type containers with proper labelling should be used to</p>	Ensure proper storage, handling and disposal of chemical waste	Chemical Waste Producer	Operating facility	Operation stage	<p>➤ Code of Practice on the Packaging Labelling and Storage of Chemical Wastes</p> <p>➤ Waste Disposal (Chemical Waste) (General) Regulation</p>

		<p>collect chemical wastes for storage at the designated areas.</p> <p>Chemical wastes producer(s) should register with EPD as a Chemical Waste Producer (CWP) and engage a licensed collector to transport and dispose the chemical waste, to the licensed Chemical Waste Treatment Centre, or other licensed facilities, in accordance with the <i>Waste Disposal (Chemical Waste) (General) Regulation</i>.</p> <p>Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc., according to the <i>Code of Practice on the Packaging Labelling and Storage of Chemical Wastes</i>.</p>					
7.7.6	WM14	<p><b><u>Clinical Waste</u></b></p> <p>In accordance with the Code of Practice for the Management of Clinical Waste - Small Clinical Waste Producers (June 2010), clinical waste shall be properly separated from other waste, packed, labelled, centrally collected and stored in designated clinical waste storage rooms. Clinical waste shall be collected by licensed clinical waste collectors for disposal at the licensed disposal facility. It is the responsibility of the management of welfare facilities to find the list of licensed waste collectors (as provided on EPD's website) and implement adequate clinical waste collection at regular intervals.</p>	<p>Ensure clinical waste are separated from other waste streams, stored, stored, labelled and stored in a designated clinical waste storage rooms.</p> <p>Ensure clinical wastes are collected by licensed waste collectors (provided on EPD's website) in a regular intervals.</p>	Chemical Waste Producer	Operating facility	Operation stage	➤ Code of Practice for the Management of Clinical Waste - Small Clinical Waste Producers (June 2010)

**Table A4.6 – Implementation Schedule of Land Contamination Mitigation Measures**

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Party Responsible for Implementation	Location / Timing	Implementation Stage	Relevant Legislation and Guidelines
8.4.72	LC1	<ul style="list-style-type: none"> <li>Undertake environmental Site Investigation (SI) works outlined in EPD’s endorsed Contamination Assessment Plan (CAP);</li> <li>Where re-appraisal is required upon the land has been reverted to Government, a supplementary CAP on the whole assessment area including the proposed works area and any off-site works area shall be conducted.</li> <li>The Project Proponent’s appointed Consultant shall be required to conduct a site re-appraisal and prepare a supplementary CAP presenting the findings of the re-appraisal and strategy of the recommended SI, if required, and submit to EPD for review and agreement.</li> </ul>	<ul style="list-style-type: none"> <li>Verify the land contamination potential before the commencement of construction.</li> <li>To assess the latest site situation and identify any additional hot spots and potentially contaminating sites</li> </ul>	Project Proponent	All areas within the Project Site identified in the CAP	Prior to the commencement of any development at the Project Site	<ul style="list-style-type: none"> <li>Annex 19 of the EIAO-TM, Guidelines for Assessment of Impact on Sites of Cultural Heritage and Other Impacts (Section 3: Potential Contaminated Land Issues)</li> <li>Practice Guide of Investigation and Remediation of Contaminated Land</li> <li>Guidance Manual for Use of RiskBased Remediation Goals (RBRGs) for Contaminated Land Management</li> <li>Guidance Note for Contaminated Land Assessment &amp; Remediation</li> </ul>
8.4.74	LC2	After agreement of the supplementary CAP and upon completion of the SI works, the Project Proponent shall prepare and submit a Contamination Assessment Report (CAR) to obtain EPD’s endorsement.	Present the findings of SI and evaluate the level and extent of contamination	Project Proponent	All surveyed areas listed in the CAP	Prior to the commencement of any development at the Project Site	
8.4.75	LC3	Preparation and submission of the Remedial Action Plan (RAP) to EPD for agreement if land contamination is identified from laboratory analyses.	Recommend appropriate mitigation measures contaminated soil and/or groundwater identified in the assessment	Project Proponent	All surveyed areas listed in the CAP	Prior to the commencement of any development at the Project Site	
8.5	LC4	Set remediation goals and targets if the levels of contamination exceed the relevant RBRGs, this includes the preparation and submission of the	Demonstrate that the remediation work is adequate and is carried out in	Project Proponent	All surveyed	Prior to the commencement of any	

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		Remediation Report (RR) and submit to EPD for endorsement.	accordance with the endorsed CAR and RAP		areas listed in the CAP	development at the Project Site	
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**Table A4.7 – Implementation Schedule of Ecological Mitigation Measures**

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Party Responsible for Implementation	Location / Timing	Implementation Stage	Relevant Legislation and Guidelines
<b>Ecology</b>							
	EC1	Avoidance of recognized sites of conservation importance and important habitats	To avoid recognized sites of conservation importance and important habitats	Project Proponent	N/A	Design stage	➤ N/A
	EC2	Minimization of habitat loss and impacts to species of conservation importance	To minimize the impacts to habitats and species of conservation importance	Project Proponent	N/A	Design stage	➤ Cap. 170
	EC3	Careful planning of lighting	To further reduce light glare due to artificial lighting	Project Proponent	N/A	Design stage	➤ N/A
	EC4	Design of noise barriers following relevant guidelines	To reduce risk of bird collisions	Project Proponent	Locations of noise barriers, if any	Design stage	➤ “Guidelines on Design of Noise Barriers”, Second Issue, January 2003, issued by EPD and HyD  ➤ Practice Notes no. BSTR/TN/003 Noise Barriers with Transparent Panels by the Highways Department
	EC5	Restricted working hours for powered mechanical equipment	To minimize disturbance to nocturnal animals	Contractor	Near preserved habitats in Sub-Area 1	Construction phase	➤ Contractual requirements
	EC6	Minimization of water quality impact	To protect watercourses and wetlands	Contractor	Sub-Area 1	Construction phase	➤ Contractual requirements

							➤ Following water quality mitigation measures
	EC7	Use of noise barriers/acoustic screens	To minimise the overall impacts on the nearby sensitive habitats and associated wildlife	Contractor	Sensitive sides of works areas in Sub-Area 1 and for percussive piling works	Construction phase	➤ Contractual requirements
	EC8	Use of quality powered mechanical equipment	To further minimise the overall construction noise	Contractor	Sub-Area 1	Construction phase	➤ Contractual requirements
	EC9	Direct security lighting in works area away from retained tree groups	A precautionary approach to further minimise the potential impacts to nocturnal animals	Contractor	Retained tree groups/ woodlands in Sub-Area 1	Construction phase	➤ Contractual requirements
	EC10	Compensation woodland planting	To compensate loss of mixed woodland and woodland	Contractor	Sub-Area 2 and Sub-Area 3 of the Project Site	Construction phase	➤ Contractual requirements
	EC11	Preservation and/or transplantation of plant species of conservation importance and the following monitoring of preserved/ transplanted plant individuals	Protection of plant species of conservation importance	Contractor	Sub-Area 1 of the Project Site	Construction phase	➤ Contractual requirements
	EC12	Formulation of Management Plan	To conserve the ecologically sensitive habitats and species of conservation importance from disturbance, and manage human activities in Sub-Area 2 to Sub-Area 4	Contractor	Sub-Areas 2 to 4 of the Project Site	Before commencement of operational phase	➤ Contractual requirements



	EC13	Defining and Maintaining Construction Site Boundary	Screen construction disturbance to the nearby habitats	Contractor	Along the boundary of construction site	Before commencement of site formation	➤ Contractual requirements
	EC14	Provision of Temporary Drainage System to Protect Sensitive Habitats	Ensure that the surface runoff would not be released to nearby sensitive habitats	Contractor	Along the boundary of construction site	Before commencement of site formation	➤ Contractual requirements and follow ProPECC PN 1/94 requirements
	EC15	Other Site Practices <ul style="list-style-type: none"> <li>• Regular checking should be undertaken to ensure that the work site boundary is not exceeded and that no damage occurs to surrounding areas;</li> <li>• Implementation of mitigation measures specified in ProPECC PN 1/94 to control site runoff and drainage during construction;</li> <li>• Implementation of noise control measures to reduce impacts of construction noise to wildlife habitats adjacent works area;</li> <li>• Implementation of dust control measures at all construction sites to minimize dust nuisance to adjacent wildlife habitats during construction activities;</li> <li>• Construction debris and spoil should be covered up and/or properly disposed of as soon as possible to avoid being washed into nearby waterbodies by rain;</li> <li>• Good site practice and site precautionary measures will also be implemented to avoid the potential impact due to site runoff. Construction effluent, site runoff and sewage should be properly collected and/or treated. Wastewater from a construction site should</li> </ul>	Minimize potential impacts, including dust, noise and site runoff, on the surrounding environment	Contractor	Construction site	Construction phase	➤ Contractual requirements and follow ProPECC PN 1/94 requirements

	<p>be managed with the following approach in descending order;</p> <ul style="list-style-type: none"> <li>• Proper locations for discharge outlets of wastewater treatment facilities well away from the natural streams/rivers should be identified;</li> <li>• Effluent monitoring should be incorporated to make sure that the discharged effluent from construction site meets the effluent discharge guidelines; and</li> <li>• Supervisory staff should be assigned to station on site to closely supervise and monitor the works.</li> </ul>					
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**Table A4.8 – Implementation Schedule of Fisheries Mitigation Measures**

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Party Responsible for Implementation	Location / Timing	Implementation Stage	Relevant Legislation and Guidelines
<b>Fisheries</b>							
	F1	Follow the mitigation measures proposed in the water quality assessment for the construction and operation phases of the project	To protect the fisheries resources	Contractor	Construction site	Construction and operational phases	➤ Contractual requirements and water quality mitigation measures

**Table A4.9 – Implementation Schedule of Landscape and Visual Mitigation Measures**

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Party Responsible for Implementation	Location / Timing	Implementation Stage	Relevant Legislation and Guidelines																									
<b>Construction Phase</b>																																
	<b>LV1</b>	<p><u>Preservation of Existing Vegetation</u> – Any existing vegetations, trees and tree of particular interest (TPI) not affected by the Project and within 5m offset from the PDA Boundary shall be carefully preserved and protected in accordance with DEVB TCW No. 4/2020 and the latest Guidelines on Tree Preservation During Development by GLTMS of DEVB. If needed, they shall be transplanted to a suitable location within the PDA as far as feasible.</p> <table border="1"> <thead> <tr> <th>Proposed Treatment</th> <th>Location</th> <th>Tree Types</th> <th>No. of Tree (s)</th> <th>Sub-total</th> </tr> </thead> <tbody> <tr> <td rowspan="4"><b>Retain</b></td> <td rowspan="4"><b>Sub-area 1</b></td> <td>TPIs (mature trees with DBH&gt;=1000mm)</td> <td>11</td> <td rowspan="4"><b>267</b></td> </tr> <tr> <td>TPIs (rare/protected species with DBH&gt;=95mm)</td> <td>5</td> </tr> <tr> <td>TPIs (rare/protected species with DBH&lt;95mm)</td> <td>9</td> </tr> <tr> <td>Trees other than TPIs</td> <td>242</td> </tr> <tr> <td rowspan="3"><b>Sub-areas 2 - 4</b></td> <td rowspan="3"></td> <td>TPIs (mature trees with DBH&gt;=1000mm)</td> <td>41</td> <td rowspan="3"><b>3090</b></td> </tr> <tr> <td>TPIs (rare/protected species with DBH&gt;=95mm)</td> <td>80</td> </tr> <tr> <td>TPIs (rare/protected species with DBH&lt;95mm)</td> <td>274</td> </tr> </tbody> </table>	Proposed Treatment	Location	Tree Types	No. of Tree (s)	Sub-total	<b>Retain</b>	<b>Sub-area 1</b>	TPIs (mature trees with DBH>=1000mm)	11	<b>267</b>	TPIs (rare/protected species with DBH>=95mm)	5	TPIs (rare/protected species with DBH<95mm)	9	Trees other than TPIs	242	<b>Sub-areas 2 - 4</b>		TPIs (mature trees with DBH>=1000mm)	41	<b>3090</b>	TPIs (rare/protected species with DBH>=95mm)	80	TPIs (rare/protected species with DBH<95mm)	274	To protect and preserve Existing Trees	Contractor (CEDD)	On Site	Detailed Design and Construction Stages	➤ DEVB TCW No. 4/2020 and the latest Guidelines on Tree Preservation During Development by GLTMS of DEVB
Proposed Treatment	Location	Tree Types	No. of Tree (s)	Sub-total																												
<b>Retain</b>	<b>Sub-area 1</b>	TPIs (mature trees with DBH>=1000mm)	11	<b>267</b>																												
		TPIs (rare/protected species with DBH>=95mm)	5																													
		TPIs (rare/protected species with DBH<95mm)	9																													
		Trees other than TPIs	242																													
<b>Sub-areas 2 - 4</b>		TPIs (mature trees with DBH>=1000mm)	41	<b>3090</b>																												
		TPIs (rare/protected species with DBH>=95mm)	80																													
		TPIs (rare/protected species with DBH<95mm)	274																													

		Other trees (in tree groups)	2695						
	<b>Adjacent area</b>	TPIs (mature trees with DBH>=1000mm)	1	<b>24</b>					
		Trees other than TPIs	23						
	<b>Sub-total</b>		<b>3381</b>						
<b>Transplant</b>	<b>Sub-area 1</b>	TPIs (mature trees with DBH>=1000mm)	2	<b>34</b>					
		TPIs (rare/protected species with DBH>=95mm)	10						
		TPIs (rare/protected species with DBH<95mm)	22						
	<b>Sub-total</b>		<b>34</b>						
<b>Remove</b>	<b>Sub-area 1</b>	TPIs (mature trees with DBH>=1000mm)	11	<b>954</b>					
		TPIs (rare/protected species with DBH>95mm)	0						
		Trees other than TPIs (excluding <i>Leucaena leucocephala</i> )	880						
		<i>Leucaena leucocephala</i>	63						
	<b>Adjacent area</b>	Trees other than TPIs	35	<b>42</b>					
		<i>Leucaena leucocephala</i>	7						
<b>Sub-total</b>		<b>996</b>							
<b>Total</b>			<b>4411</b>						
<p>In addition to the above, there are 56 nos. of plants (non-tree species) with conservation value found within the PDA. In Sub-area 1, 3 nos. are proposed to be retained, 9 nos. are proposed to be transplanted. The</p>									

		<p>remaining amount of plants with conservation value found in Sub-area 2-4 is proposed to be retained.</p> <p>In Sub-area 2, a 1-storey building and the associated vehicle road may possibly be provided nearby the existing pumping station for the future use of Sub-areas 2 to 4, 2 nos. of TPIs (T33 and T61) would be affected by the proposed layout. However, this layout is indicative for demonstrating possible form of recreational facilities for preliminary assessment at this stage only. The exact layout of the proposed 1-storey building and the associated vehicle road shall be subjected to further review in detail design stage, conflict to the existing trees in Sub-areas 2-4 shall be avoided.</p>					
	<b>LV2</b>	<p><u>Control of Night-time Lighting Glare</u> - All night time lighting shall be avoided as far as possible. All lights should be directed light and no light glare shall illuminate directly outside the site boundary.</p>	Minimise Impacts of Night-time Lighting Glare	Contractor (CEDD)	On Site	Construction Stage	<ul style="list-style-type: none"> <li>➤ Charter on External Lighting, Environment Bureau;</li> <li>➤ Guideline on Industry Best Practices for External Lighting Installations, Environment Bureau.</li> </ul>
	<b>LV3</b>	<p><u>Good Site Practice</u> – Good Site Practice – Construction areas’ control, such as reducing the extent of working areas, temporary working areas, storage area and shortening construction period, shall be enforced to minimise potential landscape and visual impact arising from construction activities. The proposed site should reduce topographical / landform changes to reduce disturbance with the natural terrain. Earthworks and engineered slopes should be designed to be visually interesting and compatible with the surrounding landscape, mimic contouring and terrain. Temporary landscape treatment such as hydroseeding temporary stockpiles is recommended. Protection measures for the nearby water bodies, will be conducted in accordance with <i>ETWB TCW 5/2005</i>. Avoidance of polluted liquid or solid wastes falling into river waters will be implemented with reference to <i>ProPECC PNI/94</i>.</p>	Minimise Impacts on Existing Landscape	Contractor (CEDD)	All Construction Areas and Temporary Works Area	Construction Stage	<ul style="list-style-type: none"> <li>➤ ETWB TCW 5/2005, ProPECC PNI/94</li> </ul>

	<b>LV4</b>	<u>Erection of Decorative Screen Hoarding</u> - Site hoardings shall be painted in a colour that is compatible with the surroundings and shall screen the views to the construction works. Hoarding should be taken down at the end of the construction period.	Avoid Direct Impacts to the surrounding Landscape	Contractor (CEDD)	All Construction Areas and Temporary Works Area	Construction Stage	-
<b>Operation Phase</b>							
	<b>LV5</b>	<u>Landscape Treatment in Sub-areas 2-4</u> – Location and species selection of trees and shrub planting should be considered in the landscape design as part of the new amenity and/or ecological planting in Sub-areas 2 to 4. Existing vegetation should be retained where possible and additional planting should prioritize in existing golf greens. Native species and existing species with proven ecological value to existing habitat, should be given priority consideration. Approximate 996 nos. of compensatory trees will be planted in Sub-area 2-3, mainly in Sub-area 3 <sup>1</sup> and tree species will refer to the existing tree species (e.g. <i>Cinnamomum camphora</i> , <i>Sterculia lanceolate</i> , <i>Acronychia pedunculata</i> and <i>Machilus chekiangensis</i> )) found at Lin Tong Mei Fung Shui Wood located to the west of the Project Site.  Sub-areas 2 - 4 will be designated as “Other Specified Uses” annotated “Recreation cum Conservation”, primary intention is to conserve the existing natural landscape and ecological features, to provide space for recreational and ancillary facilities with minimal new structure/change to existing site conditions, serving the needs of the general public. No works would be carried out in Sub-area 4 (subject to further design development). For trees to be planted on slope, tree planting will be conducted in accordance to <i>GEO Publication No. 1/2011</i> .	To improve Landscape Amenity to assist in Mitigating Visual Impacts	Contractor (CEDD)	Sub-areas 2-4	Detailed Design and Construction Stage through to Maintenance in Operation Stage	➤ GEO Publication No. 1/2011.
	<b>LV6</b>	<u>Landscape Treatment within the Public Housing Development</u> – Planting should be provided on the podium and at-grade where practicable. Vertical greening and screening planting should be considered to soften the built structures. Blue-green infrastructure and sustainable landscape design, such as zero-irrigation, swales and rain gardens, should be taken into consideration.	To improve Landscape Amenity to assist in Mitigating Visual Impacts	Contractor (HD)	Sub-area 1	Detailed Design and Construction Stage through to Maintenance in Operation Stage	➤ Street Tree Selection Guide by GLTMS, DEVB

<sup>1</sup> The exact nos. and locations of compensatory tree planting shall be subjected to further review and to be provided under the compensatory tree planting plan in later design stage.

		The choice of planting species selected should take careful consideration to the <i>GMP</i> of the North District, <i>Street Tree Selection Guide</i> by GLTMS, DEVB and the surrounding environment.  The number of new trees within Public Housing Development will be confirmed by HD/ HA in due course.					
	<b>LV7</b>	<u>Sensitive Design of Building Blocks</u> – A staggered building height and form can enhance visual interest and quality. The building height should correspond with the nearby high-rise buildings and the natural landforms. Sensitive treatment and design to external finished of the built structure to ensure elements’ colour, texture and tonal quality are compatible with the existing landscape and visual context. Lighting design should avoid potential glare impacts to sensitive receivers.	Sensitive Design to improve Visual Amenity	Contractor (HD)	Sub-area 1	Detailed Design and Construction Stage	-
	<b>LV8</b>	<u>Compensatory Tree Planting</u> – Trees felled due to the Development will be compensated as far as practicable in accordance with Development Bureau <i>Technical Circular (Works) No. 4/2020</i> . The proposed compensatory trees species will refer to the existing tree species (e.g <i>Cinnamomum camphora</i> , <i>Sterculia lanceolate</i> , <i>Acronychia pedunculata</i> and <i>Machilus chekiangensis</i> ) found at Lin Tong Mei Fung Shui Wood and will be planted in Sub-area 2-3, mainly in Sub-area 3 <sup>2</sup> . Detailed investigation and survey of tree felling in the receptor site in Sub-area 3 to accommodate the planting of compensatory tree and transplanting trees shall be carried out during the investigation, detailed design and construction stage.	Compensate for the Felled Trees to the Satisfaction of Relevant Government Departments	Contractor (CEDD)	Sub-areas 2-3	Detailed Design and Construction Stage through to Maintenance in Operation Stage	➤ Development Bureau Technical Circular (Works) No. 4/2020
	<b>LV9</b>	<u>Roadside Verge Greening Zone (RVGZ) (OM5)</u> - A min. 1.5m width, will be provided along the Fan Kam Road to enhance the existing surroundings, create a pleasant microclimate and a pedestrian-friendly environment.	To improve Landscape Amenity	Contractor (CEDD)	Sub-Area 1	Detailed Design and Construction Stage through to Maintenance in Operation Stage	-

<sup>2</sup> The exact nos. and locations of compensatory tree planting shall be subjected to further review and to be provided under the compensatory tree planting plan in later design stage.



**Table A4.10 – Implementation Schedule of Cultural Heritage Mitigation Measures**

EIA Ref.	EM&A Log Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to Address	Party Responsible for Implementation	Location / Timing	Implementation Stage	Relevant Legislation and Guidelines
	<b>CH1</b>	Preservation by record through cartographic and photographic survey of clan grave (G-01) prior to relocation of grave and prior to construction phase. Survey Report is to be submitted to AMO for review and agreement.	Preservation by record of Clan Grave (G-01)	Project proponent	Clan Grave G-01/Prior to construction phase	Detailed design stage	<ul style="list-style-type: none"> <li>➤ A&amp;M Ordinance (Cap. 53)</li> <li>➤ Annexes 10 and 19 of the EIAO-TM</li> <li>➤ Guidelines for CHIA</li> <li>➤ HKPSG</li> </ul>
	<b>CH2</b>	Protective measures for Clan Graves, G-02 and G-03, including prior to construction phase condition survey by qualified building surveyor or engineer, vibration monitoring, setting up of buffer zone and ensure safe public access to graves.	Protection of grave structures and ensure appropriate use of setting and access to graves	Project proponent	Clan Grave G-02 and G-03/prior and during construction phase	Construction phase	<ul style="list-style-type: none"> <li>➤ A&amp;M Ordinance (Cap. 53)</li> <li>➤ Annexes 10 and 19 of the EIAO-TM</li> <li>➤ Guidelines for CHIA</li> <li>➤ HKPSG</li> </ul>
	<b>CH3</b>	Preservation in situ and safe public access for Clan Graves, G-04 to G-07. Measures to be determined in detailed built heritage impact assessment during design stage.	Protection of grave structures and ensure appropriate use of setting and access to graves	Project proponent	Clan Grave G-04 to G-07/prior to construction phase	Detailed design stage	<ul style="list-style-type: none"> <li>➤ A&amp;M Ordinance (Cap. 53)</li> <li>➤ Annexes 10 and 19 of the EIAO-TM</li> <li>➤ Guidelines for CHIA</li> <li>➤ HKPSG</li> </ul>
	<b>CH4</b>	Detailed archaeological impact assessment	To ensure archaeological information is recorded and preserved by record	Project proponent/Licenced archaeologist	Within PDA in Sub-Areas 1-4 and for proposed associated and/or drainage and minor road upgrade works	Investigation stage or as early as possible after the land has been reverted to Government.	<ul style="list-style-type: none"> <li>➤ A&amp;M Ordinance (Cap. 53)</li> <li>➤ Annexes 10 and 19 of the EIAO-TM</li> <li>➤ Guidelines for CHIA</li> <li>➤ Guidelines for AIA</li> <li>➤ HKPSG</li> </ul>

					/Prior to construction phase		
	<b>CH5</b>	Grading assessment of Fanling Golf Course, The Hong Kong Golf Club, a New Item (N340)	To identify heritage significance from grading and assess impacts arising from proposed development, recommend mitigation if possible	Antiquities Advisory Board (AAB)	Old Course, of Fanling Golf Course, The Hong Kong Golf Club, a New Item (N340) /Prior to construction phase	ASAP	<ul style="list-style-type: none"> <li>➤ A&amp;M Ordinance (Cap. 53)</li> <li>➤ Annexes 10 and 19 of the EIAO-TM</li> <li>➤ Guidelines for CHIA</li> <li>➤ HKPSG</li> </ul>