

Environmental Mitigation Implementation Schedule
Route 11 (Section between Yuen Long and North Lantau)

Note: Sections 1 to 2 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. Sections 3 to 12 of the EIA report present the EIA findings and mitigation measures are described below with cross-reference to the EIA report. Sections 13 to 15 describe the environmental monitoring requirements, summary of environmental outcomes and conclusion.

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Phase	Requirements and / or standards to be achieved
<i>Construction Dust Impact</i>							
S3.4.5	A1	<p><u>Construction Dust Control</u></p> <ul style="list-style-type: none"> • Any excavated or stockpile of dusty material including those on barges 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 for the excavation or unloading; • Site hoardings of not less than 2.4m high should be provided as far as practicable along the site boundary with provision for public crossing. Subject to site constraints, the Contractor may review the practicability of taller site hoarding for ASRs in close vicinity to the site boundary. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period; • Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; • Any skip hoist for material transport should be totally enclosed by impervious sheeting; • Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered 	Control dust	Contractor	All construction sites	Construction phase	<ul style="list-style-type: none"> • Air Pollution Control Ordinance (APCO) • Air Pollution Control (Construction Dust) Regulation • HKAQO • Annex 4, EIAO-TM

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		<p>entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides;</p> <ul style="list-style-type: none"> • 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; • 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 • Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabilisers within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies. These measures shall take into account the construction programme. 					
S3.4.5	A2	<p><u>Emission Control on Non-Road Mobile Machinery (NRMMs)</u></p> <ul style="list-style-type: none"> • Only approved or exempted NRMMs with a proper label are allowed to be used in specified activities and locations including construction sites; • Regulated machines shall be used and exempted NRMMs should be avoided where practicable; 	Control air emission from NRMMs	Contractor	All construction sites	Construction phase	<ul style="list-style-type: none"> • Air Pollution Control Ordinance (APCO) • Air Pollution Control (NRMMs) (Emission) Regulation

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		<ul style="list-style-type: none"> • Optimize the number of on-site machinery to minimize gaseous and PM emissions for each construction site with consideration of actual site constraints or circumstances; • Use cleaner fuel such as ultra-low sulphur diesel in diesel-operated construction plant to reduce sulphur dioxide emission; • Zero emission or clean fuels shall be considered as far as practicable for transportation activities; • Use of electric PMEs where practicable; • Connect construction plant and equipment to main electricity supply and avoid use of diesel generators and diesel-powered equipment as far as practicable; • Switch off the engine of PMEs when idling; • Implement regular and proper maintenance for plant and equipment; and • Employ plant and equipment of adequate size and power output and avoid overloading of the plant. 					<ul style="list-style-type: none"> • HKAQO • Annex 4, EIAO-TM

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S3.4.5	A3	<u>Emission Control Measures for Drill-and-Blast Activities</u> <ul style="list-style-type: none"> • Impermeable blast covers at the mucking out locations should be shut; • The blasting should only be carried out in a fully enclosed environment; • All neighbouring construction activities should be suspended during blasting; • The areas within 30m from the blasting area should be wetted with water prior to blasting and blasting shall not be carried out when the strong wind signal or tropical cyclone warning signal No. 3 or higher is hoisted; and • Where necessary, mist spraying measures should be installed at the mucking out locations. 	Control construction dust due to drill-and-blast	Contractor	Construction workfronts that involve drill-and-blast activities	Construction phase	<ul style="list-style-type: none"> • Air Pollution Control Ordinance (APCO) • Air Pollution Control (Construction Dust) Regulation • HKAQO • Annex 4, EIAO-TM
S3.4.5	A4	<u>Emission Control Measures for Open Blasting Activities</u> <ul style="list-style-type: none"> • Provision of blast cages or roof-over protective cover, which are aimed for risk control measures, but also help to reduce a large amount of dust emission since they cover the blasting region; • Water spray before blasting and on blasted material prior to transportation; • Minimise the fall and drop height from conveyors during loading and unloading; and • Cover conveyors, transfer and unloading points with dust extraction system. 	Control construction dust due to open blasting	Contractor	Construction workfronts that involve open blasting activities	Construction phase	<ul style="list-style-type: none"> • Air Pollution Control Ordinance (APCO) • Air Pollution Control (Construction Dust) Regulation • HKAQO • Annex 4, EIAO-TM

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S3.4.5	A5	<p><u>Emission Control Measures for Barging Facilities</u></p> <ul style="list-style-type: none"> • Provide vehicle washing facilities at every designated exit point of the construction worksites; • The entire area of the barging facility should be paved with concrete, bituminous materials or hardcores; • All construction vehicles will be washed at the exit before leaving the barging facilities; • Unloading points at the barging facilities shall be provided with an enclosed system with 3-side screen with top cover and provision of water spraying system; • Regular watering once per hour on all exposed stockpiles; • After unloading the spoil into barge inside the enclosed system, the trucks should be sprayed by water inside the unloading point; • If barges would need to stay overnight at the barging point, spoils on the deck of the barges shall be covered by tarpaulin to avoid dust emission; and • The engine of the barge shall be switched-off during berthing as far as practicable. Provision of on-shore power supply shall also be considered wherever possible to minimize air quality impact from the marine vessels, with consideration of actual site constraints or circumstances to be further reviewed during detail design stage. 	Control gaseous and dust emission from barging facilities	Contractor	Barging facilities	Construction phase	<ul style="list-style-type: none"> • Air Pollution Control Ordinance (APCO) • Air Pollution Control (Construction Dust) Regulation • HKAQO • Annex 4, EIAO-TM

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S3.4.5	A6	<p><u>Control Measures for Concrete Batching Plant</u></p> <ul style="list-style-type: none"> • The loading, unloading, handling, transfer or storage of cement, pulverised fuel ash (PFA) and/or other equally dusty materials shall be conducted in a totally enclosed system acceptable to EPD; • All dust-laden air or waste gas generated by the processes shall be properly extracted and vented to fabric filtering system to meet the required emission limit; • Vents of all silos shall be fitted with fabric filtering system to meet the required emission limit; • Vents of cement/PFA weighing scale shall be fitted with fabric filtering system to meet the required emission limit; • Seating of pressure relief valves of all silos shall be checked at least once a week during the process of filling dusty materials into the silos; • The loading, unloading, handling, transfer or storage of other raw materials which may generate airborne dust emissions such as crushed rock, sand, stone aggregate, shall be carried out in such a manner to prevent or minimize dust emissions; • The raw materials shall be adequately wetted before and during the loading, unloading and handling operations. Effective manual or automatic water spraying system shall be provided and used at all unloading areas, stock piles and material discharge points; 	Control construction dust due to concrete batching plants	Contractor	Concrete batching plants	Construction phase	<ul style="list-style-type: none"> • Air Pollution Control Ordinance (APCO) • Air Pollution Control (Construction Dust) Regulation • Best Practicable Means for Cement Works (Concrete Batching Plant) BPM 3/2 (16) • HKAQO • Annex 4, EIAO-TM

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		<ul style="list-style-type: none"> • All receiving hoppers for unloading materials shall be enclosed on three sides up to 3 metres above the unloading point. In no case shall these hoppers be used as the material storage devices; • Aggregates with a nominal size less than or equal to 5 millimeters should be stored in totally enclosed structures such as storage bins and should not be handled in open area. Where there is sufficient buffer area surrounding the concrete batching plant, ground stockpiling may be used. The stockpile shall be enclosed at least on top and 3 sides and with flexible curtain to cover the entrance side; • Aggregates with a nominal size greater than 5 millimeters should preferably be stored in a totally enclosed structure. Open stockpiling, if any, shall be enclosed on 3 sides with the enclosure wall sufficiently higher than the top of the stockpile; • The opening between the storage bin and weighing scale of the materials shall be fully enclosed; • The belt conveyors for handling materials shall be enclosed on top and 2 sides with a metal board at the bottom to eliminate any dust emission due to wind-whipping effect. Other type of enclosure will also be accepted by EPD if it can be demonstrated that the proposed enclosure can achieve same performance; • All conveyor transfer points shall be totally enclosed. Openings on the enclosure for the 					

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		<p>passage of conveyors shall be fitted with effective flexible seals;</p> <ul style="list-style-type: none"> • Scrapers shall be provided at the turning points of all conveyors to remove dust adhered to the belt surface; • Conveyors discharged to stockpiles of materials shall be arranged to minimize free fall as far as practicable. All free falling transfer points from conveyors to stockpiles shall be fitted with chute(s) or flexible curtain to minimize dust emission due to wind-whipping effect and shall be water sprayed; • Mixer trucks shall be loaded in such a way to minimise airborne dust emissions; • All access and route roads within the premises shall be paved and adequately wetted; • Vehicle cleaning facilities shall be provided at the site exit of the premises and used to clean leaving vehicles; • There shall be no visible run-off of sediment-laden water from the vehicle cleaning facilities to areas outside the premises; • Closure device shall be provided on mixer trucks for preventing spillage of concrete from the concrete discharge outlet of mixer trucks; and • A high standard of housekeeping shall be maintained. All spillages or deposits of materials on ground, support structures or roofs shall be cleaned up promptly by a cleaning method 					

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		acceptable to EPD. Any dumping of materials at open area shall be prohibited.					
S3.4.4	A7	Close liaison between the contractors of concurrent projects and the Project would be maintained to minimise dusty activities to be conducted concurrently as far as practicable. Adverse cumulative dust impacts from R11 and the concurrent projects are therefore not anticipated.	Minimize cumulative air quality impact with concurrent projects	HyD	Construction sites at Lam Tei, So Kwun Wat, Tai Lam Chung, Tsing Lung Tau and North Lantau	Construction phase	<ul style="list-style-type: none"> ● Air Pollution Control Ordinance (APCO) ● HKAQO ● Annex 4, EIAO-TM
<i>Vehicular Emission</i>							
S3.5.4	A8	<p><u>Design of Ventilation Buildings and Planned Air Sensitive Uses within the Operation Area of the TMB</u></p> <p>During the subsequent design stage and the operational stage, the ventilation engineer should conduct reviews on the ventilation scheme covering different periods of a day, taking into account the contemporary circumstance such as latest traffic forecast, traffic composition, update on the ambient air quality, etc, and then review and update the air quality assessment as necessary to demonstrate full compliance of the AQOs. These reviews would allow the designer and operator to optimize the operation of the ventilation system without compromising the compliance of AQOs.</p> <p>The TMB highway / tunnel operation and maintenance facilities (i.e. the northern ventilation building, satellite building and operation area in Lam Tei, as well as maintenance compound and training ground and supporting area in Pillar Point) would partially fall within the potential exceedance zone at 1.5mAG. The planned air sensitive uses within the highway / tunnel</p>	Ensure compliance of AQOs based on the latest design of ventilation buildings and planned air sensitive uses within the operation area of the TMB	HyD	Proposed ventilation buildings and planned air sensitive uses within the operation area of the TMB	Design stage	<ul style="list-style-type: none"> ● Air Pollution Control Ordinance (APCO) ● HKAQO ● Annex 4, EIAO-TM

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		operation and maintenance facilities of the TMB shall be properly designed such that any openings, openable windows, and/or fresh air intakes will be located and avoided from the predicted exceedance zone at 1.5mAG. Further review of the layout and design of operation area will be conducted in Detailed Design Stage to ensure compliance of the AQOs.					
Construction Noise							
S4.4.4	N1	<u>Good Site Management Practices</u> <ul style="list-style-type: none"> • Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme; • Machines and plant (such as trucks, cranes, etc.) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; • Plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs; • Silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works; • Locate mobile plant as far away from NSRs as possible and practicable; and • Material stockpiles, site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities. 	Control construction airborne noise	Contractor	All construction sites	Construction phase	<ul style="list-style-type: none"> • Annex 5, EIAO-TM

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S4.4.4	N2	<p><u>Use of Quality Powered Mechanical Equipment (QPME) and Quieter Construction Methods and Equipment</u></p> <ul style="list-style-type: none"> • Use of quiet plant associated with the construction works shall be made reference to the PME or the QPME/ other commonly used PME listed in EPD web pages as far as possible which includes the SWLs for specific quiet PME, and the quiet construction method and equipment listed in EPD web page; and • The use of quieter construction equipment/ methods, if necessary, will be further reviewed in the detailed design and construction stage, and in the CNMP. 	Reduce the noise levels from plant items	Contractor	All construction sites where practicable	Construction phase	<ul style="list-style-type: none"> • Annex 5, EIAO-TM • GW-TM
S4.4.4	N3	<p><u>Use of Movable Noise Barrier and Full Enclosure for Relatively Fixed Plant Source</u></p> <ul style="list-style-type: none"> • Movable temporary noise barriers that can be located close to noisy plant and be moved concurrently with the plant along a worksite for screening noise from NSRs effectively; • Typical design used locally, i.e. a wooden framed barrier with a small-cantilevered upper portion of surface mass density no less than 14kg/m² on a skid footing with 50mm thick internal sound absorptive lining; • A cantilevered top cover to achieve screening benefits at upper floors of NSRs; and 	Minimise the construction noise levels through screening	Contractor	All construction sites where practicable	Construction phase	<ul style="list-style-type: none"> • Annex 5, EIAO-TM

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		<ul style="list-style-type: none"> Temporary movable noise barrier that can be placed close to noise source locally as far as practicable. 					
S4.4.4	N4	<p><u>Install Acoustic Tunnel Door or Enclosure at the Portal Opening for Tunnelling Activities</u></p> <ul style="list-style-type: none"> Installation of acoustic tunnel door or enclosure at the tunnel portals for construction works to be conducted inside the tunnels during the restricted hours and non-restricted hours; The acoustic tunnel door or enclosure should be made of acoustic panels and the ventilation openings of the tunnel door or enclosure should also be fitted with silencers; and The Contractor should select a proper type of acoustic panel and silencer which can provide necessary noise reduction performance to achieve the full compliance with the EIAO-TM's requirements and ANLs under CNP application. 	Minimise the construction noise levels through screening for tunnelling activities during restricted hours	Contractor	Construction works area for tunnelling activities	Construction phase	<ul style="list-style-type: none"> Annex 5, EIAO-TM

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S4.4.5	N5	<p><u>Construction Noise Management Plan</u></p> <ul style="list-style-type: none"> Construction Noise Management Plan (CNMP) shall contain a quantitative construction noise impact assessment, the adopted quieter construction method and equipment, noise mitigation measures and the construction noise impact monitoring and audit programme once available and in any case before the tender invitation, and if there is any change to the construction noise mitigation measures recommended in the CNMP, an updated CNMP shall be submitted one month before the implementation of such change; CNMP shall include an implementation schedule to clearly list out the mitigation measures, the implementation party, construction noise impact monitoring and audit programme, locations and timing of implementation; and Mitigation measures recommended and requirement specified in the CNMP shall be fully implemented by the Contactor. 	Conduct quantitative construction noise impact assessment and propose noise mitigation measures based on latest information	Contractor	N/A	Construction phase	<ul style="list-style-type: none"> Annex 5, EIAO-TM GW-TM EIAO Guidance Note “Preparation of Construction Noise Impact Assessment under the Environmental Impact Assessment Ordinance” [GN 9/2010]

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<i>Operational Noise</i>							
S4.5.5	N6	<p><u>Road Traffic Noise</u></p> <ul style="list-style-type: none"> In accordance with HyD Guidance Notes on Road Surface Requirements for Expressways and High Speed Roads (RD/GN/032A), Highly Modified Friction Course (HMFC) is proposed as the standard surfacing material on the high speed road sections of new road projects with design speed of 80km/hr or above and expressway. In addition, Low Noise Road Surfacing (LNRS) have been proposed at appropriate locations along the Project Road. Extents and locations of LNRS are presented in Table 4.14 and Figure 4.5 of the EIA Report. At-source mitigation measures, including the provision of vertical barriers, cantilever barriers and semi-enclosures have been proposed at appropriate locations along the Project Road. Extents and locations of proposed direct mitigation measures are presented in Table 4.14 and Figure 4.5 of the EIA Report. 	Along the Project road/ Permanent/ Prior to first operation of the Project road	Contractor/ HyD	According to the respective construction programme	Operational Phase	<ul style="list-style-type: none"> Annex 5, EIAO-TM

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S4.6.4	N7	<p><u>Fixed Noise Sources</u></p> <ul style="list-style-type: none"> Possible mitigation measures with reference to EPD's "Good Practices on Ventilation System Noise Control" could be considered the fixed noise sources, for examples: <ul style="list-style-type: none"> Quieter equipment; Silencer; Barrier; and Enclosure, etc. The detailed design should incorporate the following good practice in order to minimize the nuisance on the neighboring NSRs. <ul style="list-style-type: none"> Louvres should be orientated away from adjacent NSRs, preferably onto main roads which are less sensitive; and The façade for these ventilation shafts should have adequate sound insulation properties to minimise the noise emanating through the building fabric. 	Control fixed noise source impact of neighboring NSRs	Contractor/ HyD	Fixed noise sources (e.g. administration buildings and ventilation buildings)	Operational Phase	<ul style="list-style-type: none"> NCO Annex 5, EIAO-TM Good Practices on Ventilation System Noise Control

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S4.6.5	N8	<p><u>Fixed Noise Sources Management Plan</u></p> <ul style="list-style-type: none"> Fixed Noise Sources Management Plan (FNMP) shall contain the quantitative fixed noise sources impact assessment, noise mitigation measures and fixed noise sources impact monitoring and audit programme, with reference to the updated and identified inventories once available and in any case before the commencement of the project; If there is any change to the specifications of the planned fixed noise sources, layout design, operation modes, mitigation measures, or any other factors that would have implications on the fixed noise sources impact as concluded in the FNMP, an updated FNMP shall be submitted to EPD no later than one month before the implementation of any such change; FNMP shall include an implementation schedule clearly listing out the mitigation measures, the implementation party, location and timing of implementation; and Mitigation measures recommended and requirement specified in the FNMP shall be fully implemented by the Contactor. 	Conduct quantitative fixed noise source impact assessment and propose noise mitigation measures based on latest information	Contractor / HyD	N/A	Operational phase	<ul style="list-style-type: none"> NCO Annex 5, EIAO-TM
Water Quality (Construction Phase)							
S5.10.1	W1	<p><u>Dredging Works</u></p> <ul style="list-style-type: none"> Deploy of a single layer silt curtain throughout the reclamation works at Tsing Lung Tau as enhancement measures. 	To minimize water quality impact from reclamation works at Tsing Lung Tau	Contractor	Reclamation site at Tsing Lung Tau	Construction phase	

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S5.10.2	W2	<u>Construction of Mud Pit</u> <ul style="list-style-type: none"> Silt curtain shall be in place during the formation of mud pit. The mud pit shall also be completely sealed to prevent any leakage of backfilled sediments to the surrounding waterbodies. 	To minimize water quality impact from the construction of mud pit at Tsing Lung Tau	Contractor	All construction sites	Construction phase	<ul style="list-style-type: none"> WPCO EIAO-TM
S5.9.1	W3	<u>Marine Works</u> <ul style="list-style-type: none"> Provision of adequate sanitary facilities such as portable chemical toilets on the marine vessels; The storage and disposal of chemical waste shall follow the guidelines stipulated in the Waste Disposal (Chemical Waste) (General) Regulations; and Good management practice such as limiting the capacity of a barge to avoid overflow of filling material can minimise the potential water quality impact. 	To minimize water quality from the construction vessels	Contractor	Construction vessels	Construction phase	<ul style="list-style-type: none"> WPCO EIAO-TM Waste Disposal (Chemical Waste) (General) Regulations
S5.11.1	W4	<u>General Construction Activities</u> <p>Best Management Practices (BMPs) should be implemented as far as practicable according to The Professional Persons Environmental Consultative Committee (ProPECC) Practice Note (PN) 1/94 "Construction Site Drainage". The details of BMPs are presented as follows:</p> <ul style="list-style-type: none"> All effluent discharged from the construction site should comply with the standards stipulated in the DSS-TM; At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented; 	To reduce water quality impact from construction site runoff and general construction activities	Contractor	All construction sites	Construction phase	<ul style="list-style-type: none"> WPCO ProPECC PN 1/94 "Construction Site Drainage" EIAO-TM DSS-TM Technical Circular No. 1/2017 Practical Notes No. 1/2017 DSD

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		<ul style="list-style-type: none"> • Drains (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction; • The dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas; • Temporary ditches should be provided to facilitate the run-off activities discharge into an appropriate watercourse, through a silt/sediment trap, which should be incorporated in the permanent drainage channels to enhance deposition rates; • The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94. The detailed design of the sand/silt traps should be undertaken by the Contractor prior to the commencement of construction; • All areas with exposed earth should be vegetated as soon as possible after earthworks have been completed; • Exposed slope surfaces shall be covered by tarpaulin or other means; • All drainage facilities, and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times, particularly following rainstorm; 					Stormwater Drainage Manual

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		<ul style="list-style-type: none"> • Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas; • For works area that is close to watercourses, excavation works shall avoid the rainy season whenever possible. Excavation works shall be proceeded section by section to reduce the amount of works are with exposed earth; • If the excavation of trenches in rainy seasons are necessary, it should be excavated and backfilled in short sections wherever practicable; • Water pumped from trenches or foundation excavations should be discharged into storm drains installed with silt removal facilities; • All open stockpiles of construction materials (i.e. aggregates, sand and fill material, etc.) should be covered with tarpaulin or similar fabric during rainstorms; • Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system; • Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed to prevent silt, construction materials or debris from being washed into the drainage system and storm run-off being directed into foul sewers; • Precautions should be taken during rainy seasons, and actions as summarised in Appendix A2 of ProPECC PN 1/94 should be taken when a rainstorm is forecasted or imminent. Particular 					

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		<p>attention should be paid to the control of silty surface run-off during storm events;</p> <ul style="list-style-type: none"> • All vehicles and plants should be cleaned before leaving construction sites to minimise the deposition of earth, mud, debris and other potentially polluting particles on roads; • An adequately designed and sited wheel washing facilities should be provided at every construction site exit where practicable; • Wash water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process; • The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient back fall towards the wheel-wash bay to prevent vehicles from tracking of soil and silty water to public roads and drains; • Oil interceptors should be provided in the drainage system downstream of any oil/fuel pollution sources. The oil interceptors should be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass should be provided for the oil interceptors to prevent flushing during heavy rain; • Construction solid waste, debris and rubbish on site should be collected, handled, and disposed of properly to minimise adverse water quality impacts; • Water used for tests to check for leakages in structures and pipes should be reused for other 					

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		<p>purposes as far as practicable. Surplus unpolluted water could be discharged into storm drains;</p> <ul style="list-style-type: none"> • Earthworks final surfaces should be compacted, and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion of earth caused by rainstorms. Appropriate drainage with intercepting channels should be provided where necessary; • Extracted groundwater from activities such as water pumped from basement or foundation construction, and groundwater seepage pumped from tunnel or cavern constructions should be discharged into storm drains after the removal of silt through silt removal facilities; • Water used in ground boring and drilling for site investigation or rock/soil anchoring should as far as practicable be recirculated after sedimentation. When there is a need for final disposal, the wastewater should be discharged into storm drains through silt removal facilities; • The temporary drainage system during the construction phase could cope with a design return period of 1 in 10 years rainfall as recommended in DSD Technical Circular No. 1/2017 “Temporary Flow Diversions and Temporary Works Affecting Capacity in Stormwater Drainage System” and DSD’s Practice Notes No. 1/2017 “Design rainfall and profile for temporary works within the Dry Season”; • For the design of temporary works and temporary flow diversion in the wet season, the design rainfall depths and profiles as stated in DSD Stormwater Drainage Manual (SDM) should be adopted. This 					

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		<p>is because rainfall intensity in the dry season is usually less than that encountered in the wet season;</p> <ul style="list-style-type: none"> • Good site practices should be adopted to remove rubbish and litter from construction sites so as to prevent the rubbish and litter from spreading from the site area. It is recommended to clean the construction sites on a regular basis; and • Requirements to be incorporated in the contract document of the Project should be established based on the water quality mitigation measures as mentioned above. 					
S5.11.2	W5	<p><u>Tunnelling and Underground Works</u></p> <p>Whilst conducting tunnelling works, the Contractor should adopt suitable water control strategies as far as practicable, including:</p> <ul style="list-style-type: none"> • Probing ahead: The Contractor should undertake rigorous probing of the ground ahead of tunnel excavation works to identify zones of potential significant water inflow. The probe drilling results should be evaluated to determine where grouting is required in line with the tunnel ahead. In zones where significant water inflow could occur due to discrete, permeable features, grouting should be applied to reduce overall inflow of groundwater; • Pre-grouting: Where water inflow quantities are excessive, pre-grouting will be required to reduce the water inflow into the tunnel, which will be achieved via a systematic and carefully specified protocol; and 	To avoid drawdown of groundwater table	Contractor	Tunnelling Works area	Construction phase	<ul style="list-style-type: none"> • WPCO • EIAO-TM

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		<ul style="list-style-type: none"> • In principle, the grout pre-treatment would be designed based on probe hole drilling ahead of the tunnel face. <p>In the event of where there is still excessive drawdown of the groundwater table, even after the implementation of water control strategies, post-grouting should be applied as far as practicable, which is described below:</p> <ul style="list-style-type: none"> • Post-grouting: Groundwater drawdown will most likely be caused by inflows of water into the tunnel that have not been sufficiently controlled by pre-grouting measures. Should there be groundwater drawdown, post-grouting should be undertaken before the lining is cast. Whilst post-grouting is unlikely required, it should still be considered as a contingency measure to further reduce the permeability of the tunnel to limit groundwater inflow to acceptable levels. 					

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S5.11.3	W6	<p><u>Ventilation Buildings and Administration Buildings</u></p> <p>For underground excavations for the proposed ventilation buildings and administration buildings which will require temporary dewatering during their construction, the following mitigation measures are recommended to minimise the potential adverse effects to the groundwater table during the works:</p> <ul style="list-style-type: none"> • Toe grouting should be applied beneath the toe level of the temporary/permanent cofferdam walls as necessary to lengthen the effective flow path of groundwater from outside and thus control the amount of water inflow to the excavation; and • Recharge wells should be installed as necessary outside the excavation areas. Water pumped from the excavation areas should be recharge back onto the ground. 	To minimize the water quality impact due to the temporary dewatering	Contractor	Ventilation buildings and administration buildings	Construction phase	<ul style="list-style-type: none"> • WPCO • EIAO-TM

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S5.11.4	W7	<p><u>Sewage due to Construction Workforce</u></p> <ul style="list-style-type: none"> No sewage discharge to the drainage system, watercourses, and marine water will be allowed; Adequate and sufficient portable chemical toilets should be provided in the works areas to handle sewage generated by the construction workforce; Should there be any on-site kitchens or canteens, a temporary storage tank should be provided to collect wastewater; A registered collector should be employed to clean and maintain the chemical toilets on a regular basis; Notices should be posted at conspicuous locations to remind the construction workforce not to discharge any sewage or wastewater into the surrounding environment; and Regular environmental audit of the construction site should be conducted to provide an effective control of any malpractices and to achieve continual improvement of environmental performances on site. 	To minimize the water quality impact due to the sewage from construction workforce	Contractor	Construction Works Area	Construction phase	<ul style="list-style-type: none"> WPCO EIAO-TM DSS-TM
S5.11.5	W8	<p><u>Construction Works in Close Proximity of Inland Water</u></p> <p>The practices outlined in ETWB TC (Works) No. 5/2005 “Protection of natural streams/rivers from adverse impacts arising from construction works” should also be adopted where applicable to minimise the water quality impacts. Relevant mitigation measures from the ETWB TC (Works) No. 5/2005 are listed below:</p>	To minimize the water quality impact for construction works in close proximity of inland water	Contractor	Construction Works Area in close proximity of inland water	Construction phase	<ul style="list-style-type: none"> ETWB TC (Works) No. 5/2005 ProPECC PN 1/94 “Construction Site Drainage” Conditions for Working within

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		<ul style="list-style-type: none"> • Construction works close to the inland waters should be carried out in dry season as far as practicable where the flow in the surface channel or stream is low; • Trenches should be dug and backfilled in short sections. Measures should be taken to minimize the ingress of rainwater into trenches; • The use of less or smaller construction plants may be specified in areas close to the water courses to reduce the disturbance to the surface water; • Temporary storage of materials (e.g. equipment, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any watercourses during carrying out of the construction works; • Stockpiling of construction materials and dusty materials should be covered and located away from any watercourses. Construction debris and spoil should be covered up and / or disposed of as soon as possible to avoid being washed into the nearby water receivers; • Proper shoring may need to be erected in order to prevent soil or mud from slipping into the watercourses; and • Comply with the Conditions for Working within Water Gathering Grounds provided in Appendix 5.11 of the EIA Report. 					Water Gathering Grounds from WSD

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S5.11.6	W9	<p><u>Removal or Diversion of Watercourses</u></p> <ul style="list-style-type: none"> • During removal or diversion of watercourses, precaution measures should be implemented to prevent adverse water quality impact to the surrounding environment and downstream areas. Removal or diversion of natural watercourses within the Tai Lam Country Park would be totally avoided. Good site practices as described in ETWB TC(Works) No. 5/2005 “Protection of natural streams/rivers from adverse impacts arising from construction works” and ProPECC PN1/94 “Construction Site Drainage” should be implemented. The following major measures include: • Cofferdams or impermeable structures should be installed as appropriate to isolate the water flow from the construction works area; • Dewatering or flow diversion shall be conducted prior to the construction works to prevent water overflow to the surrounding area; • Watercourse removal and flow diversion should be conducted in dry season as far as practicable when the water flow is low; • Water drained from the watercourse shall be diverted to new/temporary drainage for watercourse diversion; and • Any excavated land-based sediment from the diversion of watercourse shall be properly stored at bunded areas away from any watercourses and covered with tarpaulin before transporting out of the site. 	To minimize the water quality impact due to the removal or diversion of watercourses	Contractor	Construction Works Area where removal or diversion of watercourses is required	Construction phase	<ul style="list-style-type: none"> • ETWB TC(Works) No. 5/2005 • ProPECC PN 1/94 “Construction Site Drainage”

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S5.11.7	W10	<p><u>Groundwater from Contaminated Areas and Contaminated Site Run-off</u></p> <ul style="list-style-type: none"> Any excavated contaminated material and exposed contaminated surface should be properly housed and covered to avoid generation of contaminated run-off, the open stockpiling of contaminated materials should not be allowed; Any contaminated run-off generated under the construction process should be properly collected and treated as necessary before disposal; The direct discharge of groundwater from contaminated areas is not allowed; Prior to any excavation works within potentially contaminated areas, the baseline groundwater quality in these 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, the review results should be submitted to EPD for approval. If the review results indicated that the groundwater generated from the excavation works would be contaminated, the contaminated groundwater should be either properly treated or properly recharged into the ground in compliance with the requirements of the DSS-TM; If a water treatment facility is deployed on-site to treat the contaminated groundwater, it should be equipped with suitable instruments (e.g. oil interceptor, activated carbon, etc.) to reduce the pollution level to an acceptable standard and 	To minimize the water quality impact due to the contaminated areas and contaminated site run-off	Contractor	Construction Works Area where groundwater contamination is identified	Construction phase	<ul style="list-style-type: none"> WPCO EIAO-TM DSS-TM Guidance Note for Contaminated Land Assessment and Remediation

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		<p>remove to any prohibited substances (such as total petroleum hydrocarbon) to an undetectable range;</p> <ul style="list-style-type: none"> • All treated effluent from the wastewater treatment plant shall meet the requirements as stipulated in the DSS-TM and should be either discharged into the foul sewers or tankered away for proper disposal; • If the deployment of a treatment facility to treat the contaminated groundwater is not feasible, groundwater recharging wells should be installed as appropriate to recharge the contaminated groundwater back onto the ground; • The recharging wells should be selected at places where the groundwater quality will not be affected by the recharge operation as stipulated in DSS-TM; • The baseline groundwater quality should be determined before selecting the recharge wells and a working plan should be submitted to EPD for agreement. Pollution levels of the recharged groundwater 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, and to ensure that there is no increase of groundwater level and the transfer of pollutants beyond the site boundary; 					

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		<ul style="list-style-type: none"> • Prior to the recharge, oil and grease, if any, should be removed as necessary by installing an oil interceptor; • The Contractor should apply for a discharge licence under the WPCO through the Regional Office of EPD for groundwater recharge operation or the discharge of treated groundwater; • All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed; • If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other mean; • All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms; • Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas; and • For works area that is close to watercourses, excavation works shall avoid the rainy season as far as possible, and excavation works shall be proceeded section by section. 					

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S5.11.8	W11	<p><u>Operation of Barging Point</u></p> <p>To minimise the adverse water quality impacts of the surface run-off generated by the operation of the barging point, the mitigation measures recommended under W1 should be followed.</p> <p>To minimise the potential adverse water quality impact due to the transportation of spoil using the barging point, the following good site practices should be strictly followed:</p> <ul style="list-style-type: none"> • Loading of barges and hoppers should be controlled to prevent the splashing of material into the surrounding water; • Barges or hoppers should not be filled to a level that will cause the overflow of materials or polluted water during loading or transportation; and • All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to minimise that undue turbidity is not generated by turbulence from vessel movement or propeller wash. 	To minimize the water quality impact due to the transportation of spoil using the barging point	Contractor	Construction sites in reclaimed northern anchor	Construction phase	<ul style="list-style-type: none"> • WPCO • ProPECC PN 1/94 “Construction Site Drainage” • EIAO-TM
S5.11.9	W12	<p><u>Accidental Spillage of Chemicals</u></p> <ul style="list-style-type: none"> • The Contractor must be registered as a chemical waste producer if chemical wastes are produced from the construction activities; • The Waste Disposal Ordinance (Cap. 354) (WDO) and its subsidiary regulations, in particular the Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C), should be observed and complied with for the control of chemical wastes; 	To minimize the water quality impact due to the transportation of spoil using the barging point	Contractor	Construction sites in reclaimed northern anchor	Construction phase	<ul style="list-style-type: none"> • WPCO • WDO • EIAO-TM • Code of Practice on the Packaging, Labelling, and Storage of

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		<ul style="list-style-type: none"> • The Contractor is recommended to develop management procedures for the chemicals used and prepare an emergency spillage handling procedure to deal with chemical spillage in case of an accident occurs, a contingency plan for any accidental spillage and heavy rainfall event should also be devised; • Any services and maintenance facilities should be located on hard standings within a bunded area, sumps and oil interceptors should be provided; • Activities with the potential for accidental leakage and spillage of chemicals, including the maintenance of vehicles and equipment should only be undertaken within areas that are appropriately equipped to control the discharges from these potential accidents; • The service and maintenance, and any chemical storage areas should not be positioned near watercourses as a safeguard measure; • Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling, and transport; • Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents; and • Storage area should be selected at a safe location on-site and adequate space should be allocated to the storage area. 					Chemical Wastes

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S5.11.10	W13	<u>Adoption of Marine Based Construction Method</u> <ul style="list-style-type: none"> All filling works should be conducted within the completed leading seawall, so that reclamation filling materials would not be discharged into the open sea. 	To minimize the water quality impact due to reclamation works	Contractor	Marine works area	Construction phase	<ul style="list-style-type: none"> WPCO EIAO-TM
<i>Water Quality (Operational Phase)</i>							
S5.12.2	W14	<u>Surface Run-off from Paved Areas of the Project</u> <ul style="list-style-type: none"> Road drainages should be equipped with adequate silt traps and oil interceptors as necessary; Regular washing of the roads and paved areas are also recommended to prevent the accumulation of pollutants; and To maintain the equipment's efficiency, contents collected in silt traps and oil interceptors should be cleared regularly, and transferred to an appropriate disposal facility, or to be collected for reuse if possible. 	To minimize the water quality impact from stormwater surface runoff	HyD	Entire paved area under the Project (e.g. roads, ventilation buildings, administration buildings, etc.)	Operational Phase	<ul style="list-style-type: none"> WPCO

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S5.12.3	W15	<u>Drainage of Road Surface and Tunnel Runoff</u> <ul style="list-style-type: none"> Discharge of road drainage channels should pass through treatment facilities (i.e. silt traps and oil/grit interceptors) as necessary to remove oil, grease and sediment content before the run-off is discharged to the public stormwater drainage system; The treatment facilities including silt traps and oil interceptors should be cleaned and maintained regularly to ensure their continued effectiveness; and Oily contents of the oil interceptors should be transferred to an appropriate facility, or where possible, reused. 	To minimize the water quality impact from discharge of road and tunnel drainage	HyD	Whole alignment	Operational Phase	<ul style="list-style-type: none"> WPCO ProPECC PN 5/93 DSS-TM
S5.12.4	W16	<u>Sewage Effluent from the Proposed Buildings</u> <ul style="list-style-type: none"> Sewage effluent generated should be discharged to the existing sewage networks identified at the vicinity of the proposed administration buildings; Sewage system at these buildings should be connected properly whilst ensuring that the public networks have a sufficient capacity to handle the sewage load generated; and Toilets and other sanitary facilities should be cleaned and maintained on a regular basis. 	To minimize the water quality impact from sewage effluent from proposed buildings	HyD	Buildings with sewage effluent (e.g. administration buildings)	Operational Phase	<ul style="list-style-type: none"> WPCO DSS-TM

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S5.12.5	W17	<p><u>Wastewater Generated from Washing and Maintenance Operation</u></p> <ul style="list-style-type: none"> • Wastewater generated by washing and maintenance activities of ventilation systems should be collected and treated via an activated carbon filter before being discharged to public stormwater drainage system; • Wastewater generated by washing and maintenance activities associate with work vehicles should be collected and treated by petrol interceptors before being discharged; • A Licensed Chemical Contractor should be employed to collect and dispose of spent lubrication oil generated from vehicle maintenance activities in compliance with the WDO; and • No direct discharge of these wastewaters into the inland water will be allowed. Instead, wastewater should be discharged to the public sewerage system properly. 	To minimize the water quality impact from wastewater generated from washing and maintenance operation	HyD	Ventilation buildings and tunnel operational related facilities where maintenance activities would be carried out	Operational Phase	<ul style="list-style-type: none"> • WPCO • WDO

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<i>Waste Management (Construction Phase)</i>							
S6.3.8	WM1	<p><u>Good Site Practices</u></p> <p>The following good site practices are recommended to reduce waste generation during construction:</p> <ul style="list-style-type: none"> • Nomination of an approved personnel, such as a site manager, to be responsible for the implementation of good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site; • Training of site personnel in site cleanliness, appropriate waste management procedures and concepts of waste reduction, reuse and recycling; • Provision of sufficient waste disposal points and regular collection for disposal; • Appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; • Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; • Provision of wheel washing facilities at the site exit before the trucks leave the works areas; and • The Contractor should prepare a Waste Management Plan (WMP) as part of the Environmental Management Plan (EMP) in accordance with the ETWB TCW No. 19/2005. The WMP should be submitted to the Project Manager for approval. Mitigation measures proposed in the EIA Report and the EM&A Manual should be adopted. 	Ensure proper waste management system throughout the construction	Contractor	All construction sites	Construction phase	<ul style="list-style-type: none"> • WDO • ETWB TC(W) 19/2005

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S6.3.8	WM2	<p><u>Waste Reduction Measures</u></p> <p>The following recommendations are proposed to achieve reduction of waste:</p> <ul style="list-style-type: none"> • Segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and their proper disposal; • Proper storage and good site practices to minimize the potential for damage and contamination of construction materials; • Plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste; • Sort out demolition debris and excavated materials from demolition works to recover reusable/ recyclable portions (i.e. soil, broken concrete, metal, etc.); and • Provide training to workers on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling. 	Reduce waste generation	Contractor	All construction sites	Construction phase	<ul style="list-style-type: none"> • WDO
S6.3.8	WM3	<p><u>Storage, Collection and Transportation of Waste</u></p> <p>The following recommendations should be implemented to minimise the impacts from storage, collection and transportation of waste:</p> <ul style="list-style-type: none"> • Maintain and clean storage areas routinely; • Non-inert C&D materials such as top soil should be handled and stored well to ensure secure containment of the materials; 	Minimise impact to the environment due to storage, collection and transport of waste	Contractor	All construction sites	Construction phase	<ul style="list-style-type: none"> • WDO • Land (Miscellaneous Provisions) Ordinance • ETWB TCW No. 19/2005

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		<ul style="list-style-type: none"> • Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; • Different locations should be designated to stockpile each material to enhance reuse; • Conveyor belt systems should be fully enclosed and equipped with water spray to suppress dust generation; • Remove waste in timely manner; • Employ the trucks with cover or enclosed containers for waste transportation; • Obtain relevant waste disposal permits from the appropriate authorities; • Disposal of waste should be done at licensed waste disposal facilities; • All dump trucks and vessels engaged for the Project should be equipped with Global Positioning System (GPS) or equivalent automatic system for real time tracking and monitoring of their travel routings and parking locations to prohibit illegal dumping and landfilling of C&D materials or marine sediments; and • For transportation routing and frequency of truck/ vessels for waste disposal, the Contractor will be requested to use the suitable route to transport waste generated from the Project (e.g. inert and non-inert C&D materials, chemical waste and general refuse etc.) to the dedicated treatment facilities/ disposal sites (e.g. Tuen Mun Area 38, WENT Landfill and CWTC) for disposal. 					

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S6.3.9	WM4	<ul style="list-style-type: none"> • A Construction and Demolition Material Management Plan (C&DMMP) should be prepared in accordance with Section 4.1.3 “Construction and Demolition Materials” of the Project Administration Handbook for Civil Engineering Works and will be submitted together with the EIA Report to Public Fill Committee (PFC) for approval; • Carry out on-site sorting for C&D materials; • Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; • Implement a trip-ticket system for each works contract in accordance with DEVB TCW No. 06/2010; and • Apply for a designated disposal ground for incorporation into the Contract documents in accordance with DEVB TC(W) No. 6/2010 where necessary, if inert C&D materials of the Project are expected to dispose to public fill reception facilities. 	Manage the C&D materials properly	Contractor	All construction sites	Construction phase	<ul style="list-style-type: none"> • WDO • DEVB TCW No. 06/2010 • ETWB TCW No. 19/2005 • Land (Miscellaneous Provisions) Ordinance

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S6.3.9	WM5	<u>On-site Sorting of C&D Materials</u> <ul style="list-style-type: none"> • Storage areas should be provided in the site for temporary storage of inert C&D materials during construction phase. • All C&D materials shall be sorted on-site to recover the inert C&D materials, reusable and recyclable materials prior to disposal off-site as far as practicable; • Non-inert portion of C&D materials should be reused whenever possible and be disposed of at landfills as last resort; and • Contractor shall devise a system to work for on-site sorting of C&D materials and promptly remove all sorted and processed material arising from the construction activities to minimize temporary stocking on-site. 	Minimize waste impacts from C&D materials handling	Contractor	All construction sites	Construction phase	<ul style="list-style-type: none"> • WDO • ETWB TCW No. 19/2005 • Land (Miscellaneous Provisions) Ordinance
S6.3.9	WM6	<u>Reuse of C&D Materials</u> <ul style="list-style-type: none"> • Reuse suitable inert C&D materials on-site as far as practicable; • Reuse suitable excavated rock by reworking at approved quarries (e.g. crushed as aggregates); • Sorting of demolition debris and excavated materials from demolition works to recover reusable/ recyclable portions (e.g. soil, broken concrete, metal, etc.); and • Protect recyclable material to keep it in usable condition. 	Minimize waste impacts from C&D materials handling	Contractor	All construction sites	Construction phase	<ul style="list-style-type: none"> • WDO • ETWB TCW No. 19/2005 • Land (Miscellaneous Provisions) Ordinance

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EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Phase	Requirements and / or standards to be achieved
S6.3.9	WM7	<p><u>Specification of Inert C&D Materials to be Delivered Off-site</u></p> <p>In case there are surplus inert C&D materials generated in the Project and are required to delivered to the Public Fill Reception Facilities (PFRFs), the inert C&D materials should fulfil the following requirements:</p> <ul style="list-style-type: none"> • Reclaimed asphalt pavement will not be mixed with other materials when delivered to the public fill reception facilities; • Moisture content of inert C&D materials will be lowered to 25% max. when delivered to the public fill reception facilities; • Inert C&D materials delivered to the public fill reception facilities should be a size less than 250mm; and • Inert construction waste shall not be in liquid form such that it can be contained and delivered by dump truck as far as possible. Inert C&D materials in liquid form shall be solidified before delivering to the public fill reception facilities. 	Reduce waste generation	Contractor	All construction sites	Construction phase	<ul style="list-style-type: none"> • WDO • ETWB TCW No. 19/2005 • Land (Miscellaneous Provisions) Ordinance

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S6.3.9	WM8	<u>Use of Standard Formwork and Planning of Construction Materials Purchasing</u> <ul style="list-style-type: none"> • Standard formwork should also be used as far as practicable to minimise the arising of non-inert C&D materials; • Use of more durable formwork (e.g. metal hoarding) or plastic facing should be encouraged in order to enhance the possibility of recycling; and • Purchasing of construction materials should be carefully planned in order to avoid over ordering and wastage. 	Reduce waste generation	Contractor	All construction sites	Construction phase	<ul style="list-style-type: none"> • N.A.
S6.3.9	WM9	<u>Mitigation Measures for Excavated Sediments</u> <ul style="list-style-type: none"> • All construction plant and equipment shall be designed and maintained to minimise the risk of silt, sediments, contaminants or other pollutants being released into the water column or deposited in the locations other than designated location; • All vessels shall be sized such that adequate draft 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; • Adequate freeboard shall be maintained on barges to ensure that decks are not washed by wave action; • The Contractor shall monitor all vessels transporting the excavated sediment. The Contractor shall keep and produce logs and other records to demonstrate compliance and that journeys are consistent with designated locations and copies of such records shall be submitted to the Project Manager; 	Handle the contaminated / uncontaminated sediment	Contractor	All construction sites	Construction phase	<ul style="list-style-type: none"> • ETWB-TCW 34/2002 • DASO

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		<ul style="list-style-type: none"> • The Contractor shall comply with the conditions in the dumping permit issued under the Dumping at Sea Ordinance (DASO); • All bottom dumping vessels (hopper barges) shall be fitted with tight fittings seals to their bottom openings to prevent leakage of material; • The excavated sediment shall be placed into the disposal pit by bottom dumping; • Contaminated marine mud shall be transported by split barge of not less than 750m³ capacity and capable of rapid opening and discharge at the disposal site; and • Discharge shall be undertaken rapidly and the hoppers shall be closed immediately. Sediment adhering to the sides of the hopper shall not be washed out of the hopper and the hopper shall remain closed until the barge returns to the disposal site. 					

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S6.3.9	WM10	<p><u>Chemical Waste</u></p> <ul style="list-style-type: none"> Find alternatives process to eliminate the use of chemicals; Reduce the generation quantities or select a chemical type of less impact on environment, health and safety as far as possible; and If chemical wastes are produced at the construction site, the Contractors should register with EPD as chemical waste producer. Chemical wastes should be stored in appropriate containers and collected by a licensed chemical waste collector. Chemical wastes (e.g. spent lubricant oil) should be recycled at an appropriate facility as far as possible, while the chemical waste that cannot be recycled should be disposed of at either the Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation. 	Control the chemical waste and ensure proper storage, handling and disposal	Contractor	All construction sites	Construction phase	<ul style="list-style-type: none"> Waste Disposal (Chemical Waste) (General) Regulation Code of Practice on the Packaging, Labelling and Storage of Chemical Waste

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S6.3.9	WM11	<p><u>General Refuse</u></p> <ul style="list-style-type: none"> • General refuse should be stored in enclosed bins separately from construction and chemical wastes. • Recycling bins should also be placed to encourage recycling; • Preferably enclosed and covered areas should be provided for general refuse collection and routine cleaning for these areas should also be implemented to keep areas clean; • A reputable waste collector should be employed to remove general refuse on a daily basis; • Arrangements should be made with the recycling companies to collect the recycle waste as required; • The Contractor should implement an education programme for workers relating to avoiding, reducing, reusing and recycling general waste; and • Participation in a local collection scheme should be considered by the Contractor to facilitate waste reduction. 	Minimise production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction phase	<ul style="list-style-type: none"> • WDO

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S6.3.9	WM12	<u>Floating Refuse</u> <ul style="list-style-type: none"> • Proper waste management and education during construction; • Regular inspection and monitoring of floating refuse to be conducted by Contractor at biweekly interval; • For floating refuse trapped within the Project Area, waste collection and disposal to landfill by the Contractor to be arranged at biweekly interval; • Conduct on-site sorting of the recyclable component by the Contractor; and • Arrange respective recycling companies to collect these components. 	Remove floating refuse	Contractor	All construction sites	Construction phase	<ul style="list-style-type: none"> • WDO
<i>Waste Management (Operational Phase)</i>							
S6.4.5	WM13	<u>General Refuse</u> Reputable waste collector should be employed to remove general refuse and operational wastes generated from administration building and ventilation buildings on a daily basis. Recyclable refuse shall be separated from general refuse and recycled at recycling bins or licensed recycling facilities as far as possible.	Minimise production of the general refuse and avoid odour, pest and litter impacts	HyD	Tunnel operation related facilities	Operational phase	<ul style="list-style-type: none"> • WDO

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S6.4.5	WM14	<p><u>Chemical Waste</u></p> <ul style="list-style-type: none"> Storage, handling and transport of chemical waste shall follow the requirements given in the Code of Practice on the Packaging, Labelling and Storage of Chemical Waste; A trip-ticket system should be operated; Recycle chemical waste at an appropriate facility as far as possible; Chemical waste should be collected and disposed of at appropriate facility like CWTC by licensed collectors; Appropriate containers compatible with the chemical wastes should be used and incompatible chemicals should be stored separately; and Register with EPD as chemical waste producers if chemical wastes are produced at the operating sites. 	Control the chemical waste and ensure proper storage, handling and disposal	HyD	Tunnel operation related facilities	Operational phase	<ul style="list-style-type: none"> WDO DEVB TCW No. 06/2010 Code of Practice on the Packaging, Labelling and Storage of Chemical Waste
S6.4.5	WM15	<p><u>Floating Refuse</u></p> <ul style="list-style-type: none"> Regular inspection and monitoring of floating refuse to be conducted by Marine Department's (MD) appointed contractor at monthly interval in accordance with MD's agreement; and For floating refuse trapped within the Project Area, waste collection and disposal by future contractor to be arranged as required subject to agreement with MD; and Conduct on-site sorting of the recyclable component from collected floating refuse and arrange respective recycling companies to collect. 	Remove floating refuse	MD	Reclaimed land in Tsing Lung Tau	Operational phase	<ul style="list-style-type: none"> WDO

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<i>Land Contamination</i>							
S7.6.1	LC1	Undertaking environmental Site Inspection (SI) for all potentially contaminated sites as listed in the Contamination Assessment Plan (CAP).	Verify the land contamination potential before the commencement of construction	HyD / Contractor	All potentially contaminated sites as listed in the CAP	Prior to the construction stage	<ul style="list-style-type: none"> • 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); • Guidance Manual for Use of Risk Based Remediation Goals (RBRGs) for Contaminated Land Management; • Guidance Notes for Contaminated Land Assessment and Remediation; and • Practice Guide for Investigation

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							and Remediation of Contaminated Land • Recommendations in Health Risk Assessment
S7.6.1	LC2	Site re-appraisal would be required for the whole project area as there could be changes in the operation or land use within the Project Area which may cause further contamination issues. The Project Proponent's appointed consultant would conduct detailed land contamination assessment when access is available, which includes site re-appraisal, submission of supplementary CAP, SI and submission of Contamination Assessment Report (CAR) where necessary. Supplementary CAP will be submitted to EPD for endorsement before the commencement of environmental SI.	To assess the latest site situation and identify any potential additional hot spots and contaminated sites.	HyD / Contractor	The whole project area	Prior to the construction stage	Ditto
S7.6.1	LC3	Following the submission of supplementary CAP for EPD's agreement, and completion of SI and laboratory testing works, a CAR would be prepared.	Present the findings of SI and evaluate the level and extent of potential contamination	Ditto	Ditto	Ditto	Ditto
S7.6.1	LC4	Preparation and submission of Remediation Action Plan (RAP) to EPD for agreement if land contamination is confirmed.	Recommend appropriate mitigation measures for the contaminated soil and groundwater identified in the assessment if remediation is required	Ditto	Ditto	Ditto	Ditto

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S7.6.1	LC5	Preparation and submission of Remediation Report (RR) to EPD for agreement.	Demonstrate that the decontamination work is adequate and is carried out in accordance with the endorsed CAR and RAP	Ditto	Ditto	Ditto	Ditto
S7.6.3	LC6	<p><u>Mitigation Measures for Remediation Works</u></p> <ul style="list-style-type: none"> • Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety; • Excavation shall be carried out during dry season as far as possible to minimise contaminated runoff from contaminated soils; • Supply of suitable clean backfill material (or treated soil) after excavation; • Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should be fully covered by impermeable sheeting to reduce dust emission; • Vehicles containing any excavated materials should be suitably covered to limit potential dust emissions or contaminated wastewater run-off, and truck bodies and tailgates should be sealed to prevent any discharge during transport or during wet conditions; • Speed control for the trucks carrying contaminated materials should be enforced; • Vehicle wheel and body washing facilities at the site's exit points should be established and used; and 	To protect workers during remediation works	Contractor / HyD	Ditto	Ditto	Ditto

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		<ul style="list-style-type: none"> Pollution control measures for air emissions (e.g. from biopile blower and handling of cement), noise emissions (e.g. from blower or earthmoving equipment), and water discharges (e.g. runoff control from treatment facility) shall be implemented and complied with relevant regulations and guidelines. 					
<i>Hazard to Life (Construction Phase)</i>							
S8.9.5	H1	<p><u>Recommendations for Meeting the ALARP Requirements</u></p> <ul style="list-style-type: none"> The truck should be designed and improved to reduce the amount of combustibles in the cabin. The fuel carried in the fuel tank should also be minimized to reduce the duration of any fire; The accident frequency of the explosive truck should be minimized through the implementation of a defensive driving attitude and a dedicated training programme for both driver and his attendants which includes regular briefing sessions. Moreover, drivers should be selected based on good safety record and provided with regular medical checks; The required quantity of explosives should only be transported for a particular blast to avoid any unused explosives send back to the magazine; The contractor should combine the explosive deliveries for a given work area as far as practicable; A minimum headway between two consecutive truck convoys of 10 minutes should be maintained whenever practicable; and 	Minimize risk due to storage, transportation and use of explosive	Contractor	Worksites involved in transportation, storage and use of explosive	Construction Phase	<ul style="list-style-type: none"> Annex 4 of the EIAO-TM

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		<ul style="list-style-type: none"> To reduce the explosive truck fire involvement frequency, a better emergency response and training should be implemented to ensure adequate fire extinguishers are used and attempt is made to evacuate the area of the incident or securing the explosive load if possible. All explosive vehicles should also be equipped with bigger capacity AFFF-type extinguishers. 					
S8.9.6	H2	<p><u>General Recommendations</u></p> <ul style="list-style-type: none"> Each blasting activities including storage and transport of explosives should be supervised and audited by competent site staff to ensure strict compliance with the blasting permit conditions; and For the storage and transport of explosives, the recommendations listed below should also be considered: <ul style="list-style-type: none"> The security plan should address different alert security level to reduce opportunity for arson or deliberate initiation of explosives; Emergency plan like magazine operation manual should be developed to address uncontrolled fire in magazine area and during transport of explosives; and Adverse weather working guideline should be developed to clearly define procedure for transport of explosives during thunderstorm. 	Minimize risk due to storage and transportation of explosive	Contractor	Worksites involved in transportation and storage of explosive	Construction Phase	<ul style="list-style-type: none"> Annex 4 of the EIAO-TM

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S8.9.6	H3	<p><u>Good Practices to be Implemented for Use of Explosives</u></p> <ul style="list-style-type: none"> • Carry out checking of the contractor’s blasting method statement; • Check (including both document and site checks) and satisfy, for each blast, that the contractor’s blast design and precautionary measures comply with the plans and the blasting permit requirements; • Verify on site that the ground conditions and geology are as stated or assumed in the blasting assessment, and that the provisions in the method statement and the preventive, protective and precautionary measures are adequate for the conditions as encountered on site; • Ensure that the preventive measures, if required, have been properly carried out prior to commencement of the blasting works; • Prepare regular reports with records of the condition of the site, sensitive receivers, adjacent grounds, structures and services etc. after each phase of blasting operation and completion of related works; • Inspect the construction of preventive works, if required, for the sensitive receivers; • Inspect the provision and installation of all necessary protective and precautionary measures prior to each blast, in accordance with the blast design; • Monitor the site operations and working methods to ensure that they meet the safety requirements set out in the blasting permit; and • Inspect and monitor the conditions of all sensitive receivers regularly and carry out reviews of the quality of monitoring for the sensitive receivers before and after each blast. 	Minimize risk due to use of explosive	Contractor	Worksites involved in use of explosive	Construction Phase	<ul style="list-style-type: none"> • Annex 4 of the EIAO-TM • Practice Note for Authorized Persons and Registered Structural Engineers – Control of Blasting (APP-72)
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S8.9.6	H4	<u>Good Practices to be Implemented for Magazine Site</u> <ul style="list-style-type: none"> • To ensure the undertaken work activities during the operation of the magazine are properly controlled, a suitable work control system such as an operational manual including Permit-to-Work system should be introduced; • Good house-keeping should be maintained within the magazine and outside the magazines stores to ensure that combustible materials are not allow to accumulate and to ensure combustibles (including vegetation) are removed; • The magazine store should not have any open drains, traps, pits or pocket which any molten ammonium nitrate could flow and be confined in the even of a fire; • Regular checking of the magazine building should be conducted for water seepage through the roof, walls or floor; • Caked explosives shall be disposed of in an appropriate manner; • Permission to remain the secured fenced off magazine store area shall not be given to explosives delivery vehicles; and • Speed limit control should be implemented within the magazine area in order to reduce the risk of a vehicle impact or incident within the magazine area. 	Minimize risk due to operation of explosive magazines	Contractor	Explosive magazines	Construction Phase	<ul style="list-style-type: none"> • Annex 4 of the EIAO-TM • Guidance Note No. GN 8 How to Apply for a Mode A Store Licence for Storage of Blasting Explosives
S8.9.6	H5	<u>Good Practices to be Implemented for Transport of Explosives</u>	Minimize risk due to transportation of explosives	Contractor	Transport for explosives	Construction Phase	<ul style="list-style-type: none"> • Annex 4 of the EIAO-TM • Guidance Note

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		<ul style="list-style-type: none"> • Typical Removal Permit Conditions <ul style="list-style-type: none"> • A placard as specified in the section 80 of Dangerous Goods (Control) Regulation must be displayed in a conspicuous place on the vehicle carrying explosives; • No unnecessary waiting or parking of the vehicle is permitted at any place along the transportation route; • The vehicle carrying the explosives is prohibited from passing through any tunnel on a public road; • Except with the permission in writing by the Authority, the vehicle must not carry more than 200kg net explosives content of explosives at any one time. The vehicle for moving explosives shall be a licensed vehicle equipped with effective fire-extinguishers and maintained in good running conditions at all time; • The vehicle shall use the intended route of transportation specified in the application for this conveyance permit; • The vehicle with explosives on board is prohibited from refuelling at any fuel station; • Conveyance of blasting explosives or entertainment fireworks shall only be undertaken by the vehicle/s and driver/s approved by the Authority and in the presence of a Resident Explosives Supervisor and a Shot Firer or a Fireworks Master/Assistant. When carrying explosives/fireworks, the approved vehicle/s shall display the correct dangerous goods placards and warning signs; • Explosives and detonators must be conveyed on separate vehicles or in separate compartments on the vehicle. Electric 					<p>No. GN 2 Approval of an Explosives Delivery Vehicle</p> <ul style="list-style-type: none"> • Guidance Note No. GN 3 Application and Handling of a Removal Permit
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		<p>detonators must be carried in an approved and properly labelled wooden container; and</p> <ul style="list-style-type: none"> • The Permittee is required to input the actual date and time of the use of this Permit in Centralised Explosives Licensing and Management System (CELIMS) after the conveyance of the explosives as soon as reasonably practicable. If the Permit is unused before its expiry date, the Permittee is also required to provide reason(s) for not using the Permit in CELIMS. • Safer Design of the Explosives Carrying Vehicle <ul style="list-style-type: none"> • Fire screen could be installed between the cabin and the load of the vehicle to reduce the chance of fire escalating to the load and cause explosion. • Reduction of Accident Involvement Frequency <ul style="list-style-type: none"> • Different administrative measures can be implemented to reduce the accident involvement frequency and increase the situational awareness of the driver during the transportation of explosives; • Administrative measures can include “Tool-box” talk training regarding the safety precautions when transporting explosives; • Ensuring that the detonators and the cartridged emulsion are under good conditions and well-intact within their packaging before transporting; and • Recruiting experienced driver with good safety record and checking their health condition in a regular basis. • Reduction of Fire Involvement <ul style="list-style-type: none"> • Carrying fire extinguishers or other active fire protection devices with higher standard and 					
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		<p>higher capacity onboard of the explosives carrying vehicle;</p> <ul style="list-style-type: none"> • Create a contingency plan with consideration of different scenarios that may occur, such as the action that the driver should take in case of fire near the explosives carrying vehicle in the middle of traffic jam; • Regulations for the drivers should be set, such as hot work should be prohibited when handling explosives to avoid any sources of ignition; and • Working guidelines should be developed to provide clear instructions to the drivers when encountering different situations like extreme weather. 					

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S8.9.6	H6	<p><u>Continual Liaison with LTUQ</u></p> <p>Subject to the liaison of the three concurrent projects R11, TMB and LTUQ, a Hazard Management Plan would be formulated with a view to aligning the understanding of the risk of the three projects so that all the working populations at Lam Tei Quarry area, which includes the workforce induced under the construction and operational stage of three projects, could be considered as on-site populations in the QRA for all the three projects. The measures stipulated in the Hazard Management Plan may include, but not limited to, the adjustment of the blasting schedules of the three projects to minimize the potential cumulative impact, provision of common trainings and drills to the workforce of all the three projects, etc. The Hazard Management Plan, which would be agreed among the three projects, would be submitted to EPD for agreement prior to the tender invitation of construction phases of R11, TMB and LTUQ, whichever is earlier.</p>	Minimize risk due to use of explosives	Contractor / HyD	Lam Tei	Construction Phase	<ul style="list-style-type: none"> • Annex 4 of the EIAO-TM • Guidance Note No. GN 2 Approval of an Explosives Delivery Vehicle • Guidance Note No. GN 3 Application and Handling of a Removal Permit • Practice Note for Authorized Persons and Registered Structural Engineers – Control of Blasting (APP-72)

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<i>Ecology (Construction Phase)</i>							
S9.8.1	E1	<p><u>Avoidance of Direct Impact to Recognized Sites of Conservation Importance, Important Habitats and Roosting Ground</u></p> <p>Avoid direct impact on the recognized sites of conservation importance (including “Conservation Area”, Tai Lam Country Park and Siu Lang Shui Site of Special Scientific Interest), important habitats (fung shui woodlands in So Kwun Wat, Siu Lang Shui Butterfly Habitat and Ma Wan Egret, Day Roost and Night Roost), roosting grounds (e.g. Tai Lam Chung Catchwater Tunnel Nos. 1, 5, 6, 7 and 8).</p>	Avoid direct impact to recognized sites of conservation importance, important habitats and roosting ground	Contractor	Aboveground works areas	Design and Construction Phase	<ul style="list-style-type: none"> Annex 16 of the EIAO-TM
S9.8.1	E2	<p><u>Avoidance of Reclamation in North Lantau</u></p> <p>Avoid reclamation in North Lantau</p>	Avoid reclamation	Contractor	Project footprint	Design and Construction Phase	<ul style="list-style-type: none"> Annex 16 of the EIAO-TM
S9.8.2	E3	<p><u>Minimization of Habitat Loss</u></p> <ul style="list-style-type: none"> Adopt tunnel design for significant proportion including all sections with Tai Lam Country Park; Minimize loss of natural habitats, especially mixed woodland ranked with relatively higher ecological value; Refine / shift the alignment to minimize slope cutting; Maximize the haul road extent overlapping with the main alignment; and Minimization of reclamation footprint in Tsing Lung Tau 	Minimize habitat loss	Contractor	Aboveground works areas	Design and Construction Phase	<ul style="list-style-type: none"> Annex 16 of the EIAO-TM

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S9.8.2	E4	<u>Minimization of Habitat Fragmentation</u> <ul style="list-style-type: none"> • Maintain the ecological connectivity, in terms of connection of habitats of the same kind and animal movement and passage (e.g. reinstatement of temporary works areas); • Maximize the proportion and extent of the viaduct section to minimize habitat fragmentation; and • Maximize the haul road extent overlapping with the main alignment. 	Minimize habitat fragmentation	Contractor	Aboveground works areas	Design and Construction Phase	<ul style="list-style-type: none"> • Annex 16 of the EIAO-TM
S9.8.2	E5	<u>Minimization of Direct Injury/ Mortality to Species of Conservation Importance</u> <ul style="list-style-type: none"> • Overpass part of the eastern patch of Ching Uk Tsuen Fung Shui Woodland to minimize the number of <i>Ixonanthes reticulata</i> to be affected; and • Maximize the vertical separation of TLCT from TLC Catchwater Tunnel No. 6 as practicable as possible. 	Minimize direct injury / mortality to species of conservation importance	Contractor	Aboveground works areas	Design and Construction Phase	<ul style="list-style-type: none"> • Annex 16 of the EIAO-TM

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S9.8.2	E6	<u>Minimization of Risk of Potential Bird Collision with Noise Barriers</u> <ul style="list-style-type: none"> Adopt tinted materials and superimposing dark patterns or strips on noise barriers 	Minimize risk of potential bird collision with noise barriers	Contractor	Aboveground works areas	Design and Construction Phase	<ul style="list-style-type: none"> Annex 16 of the EIAO-TM Guidelines on Design of Noise Barriers (EPD & HyD 2003) and Practice Notes No. BSTR/PN/003 (Revision E) Noise Barriers with Transparent Panels (HyD 2020)
S9.8.2	E7	<u>Minimization of Shading Impact on the Eastern Patch of Ching Uk Tsuen Fung Shui Woodland</u> <ul style="list-style-type: none"> Maximize the gradient of the viaduct to minimize the number of trees (including <i>Ixonanthes reticulata</i>) to be directly impacted; and Leave a 7-metre gap between the dual 2-lane carriageway to allow sunlight to pass through the gap and reach the eastern patch of Ching Uk Tsuen Fung Shui Woodland. 	Minimization of Shading Impact on the Eastern Patch of Ching Uk Tsuen Fung Shui Woodland	Contractor	Eastern patch of Ching Uk Tsuen Fung Shui Woodland	Design and Construction Phase	<ul style="list-style-type: none"> Annex 16 of the EIAO-TM
S9.8.2	E8	<u>Minimization of Light Glare Impact</u> <ul style="list-style-type: none"> Direct the artificial lighting towards areas with necessity of lighting only Optimize the intensity of artificial lighting 	Minimize light glare impact	Contractor	Aboveground works areas	Design and Construction Phase	<ul style="list-style-type: none"> Annex 16 of the EIAO-TM

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S9.8.2	E9	Follow the mitigation measures proposed in the air quality, noise and water quality section for the construction and operational phase of the project.	Minimize indirect impact	Contractor	Aboveground works areas	Construction Phase	<ul style="list-style-type: none"> Annex 16 of the EIAO-TM
S9.8.2	E10	<u>Minimization of Groundwater Infiltration</u> <ul style="list-style-type: none"> Adopt water control strategies listed in W5; and Monitor the effectiveness of mitigation measures on groundwater infiltration 	Minimize groundwater infiltration	Contractor	Aboveground works areas	Construction Phase	<ul style="list-style-type: none"> Annex 16 of the EIAO-TM

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S9.8.2	E11	<p><u>Minimization of Disturbance to Bat Roosts</u></p> <ul style="list-style-type: none"> • Adopt integrated approach, combining the control of charge weight and continuous monitoring package covering monitoring of ground-borne vibration at Tai Lam Chung Catchwater Tunnel Nos. 1, 5, 6, 7 and 8 and surveys on bat roosts, acoustics and emergence; • Continuous adaptive review on the Alert, Action and Limit Levels of ground-borne vibration in accordance with the monitoring results for Tai Lam Chung Catchwater Tunnel Nos. 5 (if roosting bats are found therein in the surveys to be conducted during the pre-blasting and blasting phases), 6 and 8, and the latest literature available; • Mitigation measures will be implemented according to the Detailed Bat Monitoring and Remedial Plan which will be submitted to EPD and AFCD before commencement of construction; • Adjust/Optimize tunnelling methodology when the proposed ground-borne vibration is above Action Level; and • Suspend blasting in case of any significant abnormality (e.g. unaccountable fatality of bats, emergence of a significant number of bats from the concerned catchwater tunnels during daytime, etc.) observed during the construction phase, even there is no exceedance on Action Level or Limit Level of the ground-borne vibration to be measured 	Minimize disturbance to bat roosts	Contractor	Catchwater tunnels with roosting bats	Design and Construction Phase	<ul style="list-style-type: none"> • Annex 16 of the EIAO-TM

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S9.8.3	E12	<u>Compensation for Diversion of Watercourse</u> <ul style="list-style-type: none"> • Maintain flow of water downstream upon to diversion; • Provide a separate drainage system that intercepts upstream watercourse; • Maximize the ecological opportunities for aquatic flora and fauna; and • Adopt green channel design for diversion of watercourse(s) with comparatively higher ecological value (e.g. use of natural substates, reuse of excavated rock materials, etc.), where practicable. 	Minimize impact due to diversion of watercourse	Contractor	Watercourses to be diverted in So Kwun Wat and Siu Lam	Design and Construction Phase	<ul style="list-style-type: none"> • Annex 16 of the EIAO-TM
S9.8.3	E13	<u>Compensatory Woodland Planting</u> <ul style="list-style-type: none"> • Conduct off-site woodland compensatory planting at suitable site in Tuen Mun West for the potential permanent loss of mixed woodland and/or temporary loss of mixed woodland, should reinstatement of mixed woodland be confirmed not feasible in the detailed design phase. 	Compensate the loss of mixed woodland	Contractor	Off-site woodland compensation area in Tuen Mun West	Design and Construction Phase	<ul style="list-style-type: none"> • Annex 16 of the EIAO-TM

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S9.8.3	E14	<p><u>Preservation, Transplantation and/or Compensatory Planting of Plant Species of Conservation Importance</u></p> <ul style="list-style-type: none"> • Conduct detailed vegetation survey and submit a detailed preservation, transplantation and/or compensatory planting of flora species of conservation importance plan during detailed design stage; and • Adopt on-site preservation and transplantation of flora species of conservation importance, including but not limited to <i>Aquilaria sinensis</i>, <i>Diospyros vaccinioides</i>, <i>Gnetum luofuense</i>, <i>Ixonanthes reticulata</i> and/or <i>Nepenthes mirabilis</i>, where necessary, before site formation works. 	Protect, transplant, and/or compensate plant species of conservation importance	Contractor	Aboveground works areas	Pre-construction Phase	<ul style="list-style-type: none"> • Annex 16 of the EIAO-TM
S9.8.3	E15	<p><u>Translocation of Aquatic and Water-dependent Fauna Species of Conservation Importance</u></p> <ul style="list-style-type: none"> • Conduct pre-construction survey of aquatic and water-dependent species of conservation importance, including but not limited to Hong Kong Cascade Frog, in the watercourses to be directly impacted in So Kwun Wat (i.e. W4, W23 and W24) and Siu Lam (i.e. W22); • Submit translocation proposal, comprising the identification of a suitable recipient site, translocation methodology and monitoring of the aquatic and water-dependent species of conservation importance if necessary; and • Conduct translocation survey and monitoring of aquatic and water-dependent species of conservation importance as necessary 	Protect aquatic and water-dependent fauna species of conservation importance	Contractor	Aboveground works areas	Pre-construction Phase	<ul style="list-style-type: none"> • Annex 16 of the EIAO-TM

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S9.8.4	E16	<p><u>Detailed Reconnaissance Dive Survey</u></p> <ul style="list-style-type: none"> Before the start of marine construction works, including both seabed construction and reclamation works, a detailed reconnaissance dive survey was recommended to be conducted along the artificial rocky shore along the shoreline within the reclamation site of Tsing Lung Tau. The detailed reconnaissance dive survey should include items such as coral species composition to inspect if there is any presence of additional hard / soft coral species. Also, the effectiveness and feasibility of coral translocation if coral translocation is deemed necessary depending on the detailed reconnaissance dive survey result. 	Inspect if there is any presence of hard / soft coral species, and feasibility of coral translocation	Contractor	Reclamation site at Tsing Lung Tau	Pre-construction Phase	<ul style="list-style-type: none"> Annex 16 of the EIAO-TM
S9.8.5	E17	<p><u>Seawall Enhancement</u></p> <ul style="list-style-type: none"> Ecological features can be considered on vertical seawalls and artificial riprap seawall in the future, where capable of supporting various ecological enhancement features. For vertical seawalls, ecological features such as eco-tiles with complex designs and rough surfaces can be deployed to achieve better ecological performance comparing to conventional vertical seawalls. For artificial riprap seawall, ecological enhancement features such as tidal pools and hard substrate with enhanced surface should be considered, in order to provide microhabitats for marine organisms, increase the recruitment and colonization of intertidal fauna, increase the overall ecological value, integrity and complexity. 	Enhance the seawall with ecological features to increase the overall ecological value, integrity and complexity	Contractor	Seawall of the reclamation site	Design and Construction Phase	<ul style="list-style-type: none"> Annex 16 of the EIAO-TM

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S9.8.2	E18	<p><u>Site Audit and Inspection</u></p> <p>Site audit and inspection will be undertaken during the construction phase to ensure that the mitigation measures are properly implemented and all aboveground works areas do not encroach Tai Lam Country Park and all above-ground construction activities are confined within the works area boundaries.</p>	Ensure that all the above-ground works areas do not encroach Tai Lam Country Park and all above-ground construction activities are confined within the works area boundaries.	Contractor	Construction site in the vicinity of Tai Lam Country Park	Construction Phase	<ul style="list-style-type: none"> Annex 16 of the EIAO-TM
<i>Fisheries (Construction Phase)</i>							
S10.5.2	F1	Best management practices to control site runoff and drainage at all works sites. Construction effluent, site run-off and sewage should be properly collected and/or treated. Proper locations for discharge outlets of wastewater treatment facilities well away from the natural streams/rivers should be identified.	To protect the fisheries resources	Contractor	Construction sites	Construction phase	<ul style="list-style-type: none"> Annex 17 of the EIAO-TM
S10.5.2	F2	Follow the mitigation measures proposed in the water quality section for the construction and operational phase of the project.	To protect the fisheries resources	Contractor	In reclamation area	Construction phase	<ul style="list-style-type: none"> Annex 17 of the EIAO-TM

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<i>Landscape and Visual (Construction Phase)</i>							
S11.9.2	LV1	<p><u>Tree Protection and Preservation</u></p> <ul style="list-style-type: none"> Trees within the works areas which are not affected by the works shall be protected and preserved during the detailed design stage and construction phase. The tree preservation proposals shall be coordinated with the layout and design of the engineering and architectural works at the detailed design stage for further retention of individual trees; and The preservation of existing tree shall provide instant greening and screening effect for proposed works. Tree protection works to be undertaken in accordance with DEVB TC(W) 4/2020 on “Tree Preservation” and tree risk assessment in accordance with “Guidelines for Tree Risk Assessment and Management Arrangement” by DEVB. The performance of the retained trees shall be monitored throughout the construction period on a monthly basis by a qualified arborist. The Contractor shall submit monthly record photo throughout the construction period for all retained trees, to demonstrate the trees’ health condition. All monthly record photos for the retained trees shall be prepared by a tree specialist or a qualified arborist, and endorsed by a Registered Landscape Architect (RLA). 	Protect and preserve retained trees	Contractor	All construction sites	Construction Phase	<ul style="list-style-type: none"> EIAO-TM DEVB TCW No. 4/2020

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S11.9.2	LV2	<p><u>Tree Transplantation</u></p> <ul style="list-style-type: none"> Should removal of trees be unavoidable due to construction impacts, trees should be transplanted to other permanent locations, if practicable; Detailed transplanting proposal will be submitted to relevant government departments for approval, and shall be in accordance with “Guidelines on Tree Transplanting” by DEVB. Final locations of transplanted trees shall be agreed prior to commencement of the work; and The performance of the transplanted trees shall be monitored throughout the construction period by a qualified arborist. The monthly record photos shall be prepared by a qualified arborist, and are endorsed by a Registered Landscape Architect (RLA). 	Trees should be transplanted if practicable	Contractor	All construction sites	Construction Phase	<ul style="list-style-type: none"> EIAO-TM DEVB TCW No. 4/2020
S11.9.2	LV3	<p><u>Works Area and Temporary Works Areas</u></p> <ul style="list-style-type: none"> Construction area control, where possible, to ensure that the landscape and visual impacts arising from the construction activities are minimized, and all affected area will be reinstated accordingly. These include the reduction of the extent and location of working areas to avoid sensitive LRs, siting of offices or temporary structures so that they are not visually prominent, and consideration of detailed schedules to shorten the construction period; and Temporary landscape treatments are considered to be adopted such as applying hydro-seeding on temporary stockpiles and areas of earthworks to alleviate the potential impacts and minimize soil erosion. 	Landscape and visual impacts arising from the construction activities are minimized	Contractor	All construction sites	Construction Phase	<ul style="list-style-type: none"> EIAO-TM

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S11.9.2	LV4	<u>Advance Implementation of Mitigation Planting</u> <ul style="list-style-type: none"> Replanting of existing / disturbed vegetation shall be undertaken as soon as technically feasible during the construction phase; and The priority shall be areas at the periphery of the site to ensure that proposed planting fulfils its role in mitigating the predicted impacts including screening views of the proposals as early as possible during the operational phase. 	Replanting of existing / disturbed vegetation as soon as technically feasible	Contractor	All construction sites	Construction phase	<ul style="list-style-type: none"> Guidelines on Industry Best Practices for External Lighting Installations
S11.9.2	LV5	<u>Decorative Screen Hoarding</u> <ul style="list-style-type: none"> Decorative screen hoarding will be erected along areas of the construction works site boundary where the works site borders publicly accessible routes and/or is close to visually sensitive receivers (VSRs) to screen undesirable views of the works site; and It is proposed that the screening be compatible with the surrounding environment and where possible, non-reflective, recessive colours be used. 	Screen undesirable views of the works site	Contractor	All construction sites	Construction phase	
S11.9.2	LV6	<u>Control of night-time lighting</u> <ul style="list-style-type: none"> Control of night-time lighting and construction traffic (land and sea) reduced to practicable minimum. 	Minimize visual impact of night-time lighting	Contractor	All construction sites	Construction phase	

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<i>Landscape and Visual (Operational Phase)</i>							
S11.9.2	LV7	<p><u>Integrated Design Approach</u></p> <ul style="list-style-type: none"> The aboveground structures of the Project including viaducts, tunnel portals, ventilation buildings, tunnel administration buildings, etc. in the regard of layouts, forms, materials and finishes shall be sensitively designed and an integrated design approach, so as to blend in the structures to the adjacent landscape and visual context; Design concepts like matching colour schemes among the existing building façade and the new administration building shall be fully explored in the design stage in order to maintain the original sentiment. ACABAS submission upon completion of conceptual design should be in accordance with ETWB TC(W) No. 36/2004 – The Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS); and Aesthetic treatment and design of the associated structures and tunnel ventilation buildings should be vetted and advised upon by ArchSD in accordance with ETWB TC(W) No. 8/2005 – Aesthetic Design of Ancillary Buildings in Engineering Projects. 	Improve compatibility with the existing site context	Contractor/ HyD	Onsite where possible. Otherwise consider off-site locations	Detailed design and operational phase	<ul style="list-style-type: none"> EIAO-TM DEVB TCW No. 4/2020 ETWB TC(W) No. 8/2005

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S11.9.2	LV8	<p><u>Roadside Buffer Planting / Roadside Planting</u></p> <ul style="list-style-type: none"> • These planting areas will utilize largely native tree and shrub species either with high canopy and thin foliage to allow visual access in the views from the adjacent landscape to the distant roadside or rural landscape or dense foliage at selected locations to provide shaded environment for pedestrians and the creation. Greening provision in the early project planning stage and shall be in accordance with DEVB TC(W) No. 2/2012 – Allocation of Space for Quality Greening on Roads; • Native tree planting on the existing and proposed cut slopes will improve the ecological connectivity between existing woodland habitats with the advantage of creating a more coherent landscape framework; and • Vertical greening with native self-clinging climbing would be adopted as far as practicable. 	Maximize roadside planting	Contractor/ HyD	All structures as feasible, final location to be confirmed at detailed design phase	Detailed design and operational phase	<ul style="list-style-type: none"> • DEVB TC(W) No. 2/2012
S11.9.2	LV9	<p><u>Compensatory Planting Proposals</u></p> <ul style="list-style-type: none"> • In accordance with DEVB TC(W) No. 4/2020, the compensatory planting proposal should have the basic primary objective of planting compensatory trees in a ratio not less than 1:1 in terms of quantity as far as practicable; • With the implementation of the proposed compensatory planting plan, there will be no net loss of trees in terms of quantity as far as practicable; and • The number of trees to be planted will be determined following the completion of the 	Tree compensation	Contractor/ HyD	Selected sites as feasible, final location to be confirmed at detailed design phase	Detailed design and operational phase	<ul style="list-style-type: none"> • DEVB TC(W) No. 4/2020

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		detailed tree survey in Detail Design stage of the project.					
S11.9.2	LV10	<p><u>Post-Planting Monitoring</u></p> <ul style="list-style-type: none"> Post-planting monitoring of the compensatory trees shall be undertaken (namely duration of the post-planting monitoring and monitoring methodology). The monitoring will be aimed to assess the success and performance of the compensatory planting trees, monitor the growth performance of the planted seedlings and whips, and identify any need of vegetation and site maintenance work; and All monthly record photos shall be prepared by a tree specialist or a qualified arborist, and endorsed by a Registered Landscape Architect (RLA). 	Ensure the performance of the compensatory planting trees	Contractor/ HyD	Selected structures as feasible, final location to be confirmed at detailed design phase	Detailed design and operational phase	<ul style="list-style-type: none"> EIAO-TM DEVB TCW No. 4/2020
S11.9.2	LV11	<p><u>Greening Works on Slopes and Associated Structures</u></p> <ul style="list-style-type: none"> The design and implementation of the aesthetic appearance of the retaining wall and slopes will be undertaken in accordance with GEO Publication No. 1/2011 – Technical Guidelines on Landscape Treatment for Slopes (2011), and WBTC No. 17/2000 on Improvement to the Appearance of Slopes. All aesthetic treatment shall seek the committee’s view in accordance with the ETWB TC(W) No. 36/2004 – The Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS); The engineered structures will be aesthetically enhanced through the use of soft landscape works including tree and shrub planting to give these man- 	Improve visual amenity of the retaining structure	Contractor/ HyD	Selected structures as feasible	Detailed design and operational phase	<ul style="list-style-type: none"> GEO Publication No. 1/2011 WBTC No. 17/2000 ETWB TC(W) No. 36/2004

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		<p>made features a more natural appearance and blending them into the local rural landscape;</p> <ul style="list-style-type: none"> • Light standard sized tree planting will be used on the face of soil cut slopes with a gradient of less than 30 degrees, at the crest and toe of the slope, and within berm planters. These smaller, younger plants will adapt to their new growing conditions more quickly than larger sized stock and establish a naturalistic effect more rapidly; • Slopes with a gradient of greater than 30 degrees will be hydroseeded using a mixture of native trees and shrubs. Vertical greening measures shall also be considered on engineering structures. This includes the use of climbing and trailing plants both planted at the crest and toe of the features, and within pockets within the slopes; and • It is proposed that native species be used to enhance the ecological value of the road corridor and minimize potential maintenance requirements. These measures will be applied to the retaining walls and newly regraded slopes features. Vertical greening with native self-clinging climbing would be adopted as far as practicable. 					
S11.9.2	LV12	<p><u>Design of Tunnel Portals and Landscape Treatment</u></p> <ul style="list-style-type: none"> • The design of the tunnel portals shall be sensitive form, height and disposition to minimize impact on perceived bulk and views to visual resources. The “natural terrain” idea will be applied to the design of tunnel portals, and should provide: <ul style="list-style-type: none"> • Tunnel entry and exit portals and approaches with a minimal physical and visual footprint, 	Improve visual amenity of the tunnel portals	Contractor/ HyD	Tunnel Portal	Detailed design and operational phase	<ul style="list-style-type: none"> • ETWB TC(W) No. 36/2004

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		<p>retaining or reinstating as much as possible of the surrounding landform and vegetation;</p> <ul style="list-style-type: none"> • Simple, sculptural portal structures (preferably elliptical, parabolic or circular forms) against a backdrop of vegetation; and • Compatible and blend in with existing site context and background. • All aesthetic treatment shall seek the committee's view in accordance with the ETWB TC(W) No. 36/2004 – The Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS). • Vertical greening with native self-clinging climbing would be adopted as far as practicable. 					

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S11.9.2	LV13	<p><u>Design of an Elegant Bridge Structure and Approach Roads</u></p> <ul style="list-style-type: none"> The proposed Tsing Lung Bridge across the Ha Pang Fairway, from Tsing Lung Tau to Kwai Shek at North Lantau will be large and visually prominent structure; As such it is important that careful attention is given to the design of the structure, the associated approaches and the small reclamation for bridge pier on Tsing Lung Tau; and Bridge structure shall seek the committee's view in accordance with the ETWB TC(W) No. 36/2004 – The Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS). 	Improve visual amenity of bridge structure and approach roads	Contractor/ HyD	Tsing Lung Bridge	Detailed design and operational phase	<ul style="list-style-type: none"> ETWB TC(W) No. 36/2004

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S11.9.2	LV14	<p><u>Provision of Visually Pleasing Aesthetic Treatment of Noise Mitigation Measures</u></p> <ul style="list-style-type: none"> • Translucent plexiglass with aesthetic pattern will be fully considered for design of noise barrier and noise enclosure to enhance visual interest. Where opaque panels are used, colour and tone of panels will match with the existing and/or future landscape context; • To ensure the design compatibility of the proposed noise barriers and noise enclosure are integrated with the surrounding landscape setting, the design will consider architectural and aesthetical considerations in determining the overall form and articulation of the surface textures and colours; • The design will make reference to the “Guidelines on Design of Noise Barriers” jointly published by EPD and HyD, and Guidelines on Greening of Noise Barriers (4/2012), GLTM of DEVB; and • All noise mitigation measures shall seek the committee’s view in accordance with the ETWB TC(W) No. 36/2004 – The Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS). 	Improve visual amenity of noise mitigation measures	Contractor/ HyD	Proposed Noise Mitigation Measures in Lam Tei and Tsing Lung Lau	Detailed design and operational phase	<ul style="list-style-type: none"> • Guidelines on Design of Noise Barriers • Guidelines on Greening of Noise Barriers • GLTM of DEVB • ETWB TC(W) No. 36/2004
S11.9.2	LV15	<p><u>Provision of Green Roof</u></p> <ul style="list-style-type: none"> • Green Roof shall be proposed to enhance the landscape quality of the Aboveground Structures including Tunnel Administration Building and Ventilation Buildings and mitigate any potential adverse visual impact on adjacent VSRs. The extent of roof greening shall be in accordance with DEVB TC(W) No. 3/2012 – Site Coverage of Greenery for Government Building Projects. 	Improve visual amenity	Contractor/ HyD	Aboveground Structures including Tunnel Administration Building and Ventilation Buildings	Detailed design and operational phase	<ul style="list-style-type: none"> • DEVB TC(W) No. 3/2012

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<i>Cultural Heritage (Construction Phase)</i>							
S12.6.4	CH1	<u>Terrestrial Archaeology</u> <ul style="list-style-type: none"> Archaeological filed survey at Lam Tei to the north of Lam Tei Quarry to be conducted when access is available before the commencement of construction works. 	To investigate the archaeological potential within unexplored areas of archaeological interest	Qualified archaeologist engaged by Contractor/ HyD	Lam Tei	Prior construction phase to	<ul style="list-style-type: none"> Antiquities and Monuments Ordinance (Cap. 53) Guidelines for Cultural Heritage Impact Assessment EIAO-TM
S12.6.4	CH2	<u>Terrestrial Archaeology</u> <ul style="list-style-type: none"> If antiquities or supposed antiquities are identified during the construction works, the works should be suspended, and the project proponent should notify AMO immediately. 	To timely formulate and implement appropriate mitigation measures for protection of archaeological remains if needed within all construction sites	Contractor/ HyD	All construction sites	During construction phase	<ul style="list-style-type: none"> Antiquities and Monuments Ordinance (Cap. 53)

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S12.6.4	CH3	<p><u>Built Heritage</u></p> <ul style="list-style-type: none"> • A grade 3 structure (Former Perowne Barracks and Gurkha Temple) of the Project should be undertaken by qualified building surveyor or engineer and prepared the Condition Survey Report containing as follows: <ul style="list-style-type: none"> • Descriptions of the structure; • Identification of fragile elements; • An appraisal of the condition; and • Working methods. • The Condition Survey Report for the Graded Historic Building must be submitted to AMO for comment before commencement and after construction activities and the location of proposed monitoring points should be agreed with AMO prior to implementation. 	To propose monitoring and precautionary measures	Qualified building surveyor or engineer engaged by Contractor/ HyD	Former Perowne Barracks, Gurkha Temple in So Kwun Wat	During construction phase	<ul style="list-style-type: none"> • Antiquities and Monuments Ordinance (Cap. 53)

**Environmental Mitigation Implementation Schedule
Route 11 (Section between Yuen Long and North Lantau)**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Phase	Requirements and / or standards to be achieved
S12.6.4	CH4	<p><u>Built Heritage</u></p> <ul style="list-style-type: none"> The locations of proposed monitoring points in the building should avoid damaging fabric and agreed by the owner and AMO. The Contractor should implement the approved monitoring and precautionary measures; Vibration monitoring should be undertaken during the construction works to ensure that safe levels of vibration are not exceeded, with an Alert, Alarm and Action (AAA) vibration limit set at 5 / 6 / 7.5 mm/s should be adopted; Settlement monitoring should be undertaken during the construction works to ensure that safe levels of vibration are not exceeded, with an Alert, Alarm and Action (AAA) settlement limit set at 6 / 8 / 10 mm should be adopted; and Tilting monitoring should be undertaken during the construction works to ensure that safe levels of vibration are not exceeded, with an Alert, Alarm and Action (AAA) tilting limit set at “1/1200” / “1/1500” / “1/1000” should be adopted. 	To propose monitoring and precautionary measures	Contractor/ HyD	Former Perowne Barracks, Gurkha Temple in So Kwun Wat	During construction phase	<ul style="list-style-type: none"> Antiquities and Monuments Ordinance (Cap. 53)

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Route 11 (Section between Yuen Long and North Lantau)**

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S12.6.4	CH5	<p><u>Built Heritage</u></p> <ul style="list-style-type: none"> • A buffer zone of at least 5m should be provided to separate the Former Perowne Barracks, Gurkha Temple building from the construction works. The buffer zone should be clearly marked out by temporary fencing; • Special attention should be paid to avoid adverse physical impact arising from the construction of the Project. Design proposal, method of works and choice of machinery will be targeted to minimize adverse impacts to the heritage site; and • Foundation information of the historic structure shall be verified on site if needed, sufficient lateral support should be provided and de-watering (if required) should be carried out with great cautions to control ground movement and change of ground water regime at the heritage site. 	To propose precautionary measures	Contractor/ HyD	Former Perowne Barracks, Gurkha Temple in So Kwun Wat	During construction phase	<ul style="list-style-type: none"> • Antiquities and Monuments Ordinance (Cap. 53)
S12.6.4	CH6	<p><u>Terrestrial Archaeology</u></p> <p>If buildings / structures both at-grade and underground with potential heritage value that would likely be affected by the development are identified during the construction works, the works should be suspended, and the project proponent should notify AMO immediately.</p>	To timely formulate and implement appropriate mitigation measures for protection of structures/buildings both at-grade or underground with potential heritage value if needed within all construction sites	Contractor/ HyD	All construction sites	During construction phase	<ul style="list-style-type: none"> • Antiquities and Monuments Ordinance (Cap. 53)

**Environmental Mitigation Implementation Schedule
Route 11 (Section between Yuen Long and North Lantau)**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Phase	Requirements and / or standards to be achieved
S12.6.4	CH7	<p><u>Marine Archaeology</u></p> <ul style="list-style-type: none"> • A marine diver survey shall be conducted during the detailed design stage when fencing off can be implemented but prior to any reclamation works. The Contractor shall engage a qualified marine archaeologist to conduct the MAI. The “Licence to Excavate and Search for Antiquities” shall be obtained before the commencement of excavation and search for antiquities; • Should there be any marine archaeological resources identified during the MAI, proper mitigation measures including but not limited to rescue excavation shall be proposed for agreement with AMO before the commencement of reclamation works; • In addition, for marine GI, which would be required prior to the reclamation works or the diver survey, it is recommended that the marine GI contractor shall be instructed to avoid all the anomalies identified by the geophysical survey conducted, by allowing sufficient setback distance (around 50m) from the anomalies; and • Any marine GI works at the anomalies is required to be conducted after confirming their nature by MAI and seeking agreement with AMO. 	To propose precautionary measures	Qualified marine archaeologist engaged by Contractor/ HyD	Reclamation area at Tsing Lung Tau	During pre-construction, construction and detailed design phase	<ul style="list-style-type: none"> • Antiquities and Monuments Ordinance (Cap. 53)