

APPENDIX - 14-1

Environmental Mitigation Implementation Schedule

Environmental Mitigation Implementation Schedule Kowloon Southern Link

Note: Chapters 1 to 3 of the EIA report present the background information of the Project, identified concurrent projects, objectives and scope for various environmental aspects, and selection of the preferred alignment. Chapters 15, 16 and 17 describe the environmental outcomes, conclusion and reference of the EIA study. There are no mitigation measures recommended in these chapters.

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
Construction Methodologies							
S4.3.3		<p>1) The conveyor belt system lifting the spoil from the bottom of the launching shaft to the at-grade level near Area A7 should have the following features as standard good practices:</p> <ul style="list-style-type: none"> • Conveyor system will be fully enclosed to suppress dust emission. • Conveyor transfer points and hopper discharge areas will be enclosed to control dust emission. • At the fixed transfer point, a three-sided roofed enclosure with a flexible curtain the entry should be provided. Exhaust fans shall be provided for this enclosure and vented to a suitable fabric filter system. 	To protect the sensitive receivers in the vicinity of the launching shaft from dust and noise nuisance due to the operation of conveyor belt system	Contractor	Conveyor belt inside launching shaft near WKN	Construction stage	<ul style="list-style-type: none"> • Air Pollution Control (Construction Dust) • To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1-hr and 24hr TSP levels are 500 $\mu\text{g m}^{-3}$ and 260$\mu\text{g m}^{-3}$, respectively) • Noise Control Ordinance & its TMs
S4.3.3		2) To apply separate application of Construction Noise Permit (CNP) for bored tunneling works during restricted hours.	To protect the sensitive receivers in the vicinity of the launching shaft from noise impacts due to its overnight operation	Contractor	CNP for overnight operation of launching shaft near WKN	Construction stage	<ul style="list-style-type: none"> • Noise Control Ordinance & its TMs
Construction Dust							
S5.6		<p>1) The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation</p> <ul style="list-style-type: none"> • Proper watering of exposed spoil should be undertaken throughout the construction phase: <ul style="list-style-type: none"> - at least four times a day for WKN during excavation; - at least twice a day for other sections; • Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; • Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads or streets; 	<p>Good construction site practices to control the dust impact at the nearby sensitive receivers to within the relevant criteria.</p> <p>Specifically, watering at least four times a day is required for WKN in order to mitigate the dust impact at Man King Building, Lai Chack School, Canton Rd Government School, etc during the excavation for WKN</p>	Contractor	<p>All construction sites</p> <p>See Figure A14-1 for watering frequency</p>	Construction stage	<ul style="list-style-type: none"> • To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1-hr and 24hr TSP levels are 500 $\mu\text{g m}^{-3}$ and 260$\mu\text{g m}^{-3}$, respectively)

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		<ul style="list-style-type: none"> • A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones; • The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle; • Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; • When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary with provision for public crossing; • All main haul roads should be paved with concrete, bituminous materials, hardcores or metal plates, and kept clear of dusty materials; or sprayed with water or a dust suppression chemical so as to maintain the entire road surface wet; • The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials; • Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously; • Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet; • Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; • Any skip hoist for material transport should be totally enclosed by impervious sheeting; 					

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		<ul style="list-style-type: none"> • Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides; • 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; • Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies; • The areas within 30m from the blasting area should be wetted with water prior to blasting; • No blasting should be carried out when strong wind signal or tropical cyclone warning signal no. 3 or higher is hoisted. 					
S4.4.2, S5.3 & S5.6		<p>2) Design the barging facility in a way similar to the one being used in the East Rail Extension Project in Hung Hom Bay with the following features:</p> <ul style="list-style-type: none"> • All road surfaces within the barging facility will be paved. • Dust enclosures will be provided along the loading ramps to avoid dust dispersion. • Vehicles will be required to pass through designated wheel washing facilities before leaving the barging facility. <p>All exposed areas within barging point should be wetted with water twice a day.</p>	Control construction dust at barging facility and avoid dust dispersion during the transportation and loading/unloading of the C&D materials within the barging facility.	Contractor	Barging point	Construction stage	<ul style="list-style-type: none"> • Air Pollution Control (Construction Dust) Regulation • Ref. TM-EIA criteria for 1-hr and 24hr TSP levels are $500\mu\text{ gm}^{-3}$ and $260\mu\text{ gm}^{-3}$, respectively.
S5.6		<p>3) Scheme Designers to incorporate the controlled measures into the Particular Specification (PS) for the civil work. The PS should also draw the contractor's attention to the relevant latest Practice Notes issued by EPD.</p>	Control construction dust	Scheme Designers	All construction sites	Design Stage	<ul style="list-style-type: none"> • Air Pollution Control (Construction Dust) Regulation

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S5.6		4) Implement regular dust monitoring under EM&A programme during the construction stage.	Monitor the 24 hr and 1hr TSP levels at the representative dust monitoring stations to ensure compliance with relevant criteria throughout the construction period.	Contractor	Selected representative dust monitoring station (i.e. Hong Kong Cultural Centre, No.4-8 Canton Road, Lai Chack Middle School, Man King Building, Charming Garden, and Olympic City Phase 3, see Fig 5.1.1-5.1.3 of EM&A)	Construction stage	<ul style="list-style-type: none"> • Air Pollution Control (Construction Dust) Regulation • To control the dust impact to within the HKAQO and TM-EIA criteria (Ref. 1-hr and 24hr TSP levels are 500 $\mu\text{g m}^{-3}$ and 260$\mu\text{g m}^{-3}$, respectively)
Construction Noise (Air borne)							
S6.1.2.7		1) Implement the following measures for the operation of launching shaft near WKN: <ul style="list-style-type: none"> • Ventilation fan shall be installed with an sound attenuator to reduce noise impacts by 15dB(A). • Enclosures with 10dB(A) reduction shall be installed for conveyor belt and water pump. • Motor of the gantry shall be screened to provide a noise reduction of 5dB(A). • Use of quieter plant to alleviate the noise impacts at the launching shaft. • Noise insulating cover (with 22dB(A) noise reduction) for launching shaft shall be closed during night time. 	Control construction airborne noise caused by the operation of launching shaft	Contractor	Launching shaft & the associated conveyor belt system	Construction stage	<ul style="list-style-type: none"> • Noise Control Ordinance & its TMs • Annex 5 of TM-EIA • 75dB(A) for residential premises and 70dB(A) for schools during daytime • 50dB(A) for Area Sensitivity Rating B for night time work
S6.1.4		2) Use of good site practices to limit noise emissions by considering the following: <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) 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; 	Control construction airborne noise by means of good site practices	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> • Noise Control Ordinance

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		<ul style="list-style-type: none"> • silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works; • mobile plant should be sited as far away from NSRs as possible and practicable; • material stockpiles, mobile container site officer and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities. 					
S6.1.4		3) Install temporary hoarding of 2.4m high located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the construction period.	Reduce the construction noise levels at low-level zone of NSRs through partial screening.	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> • Noise Control Ordinance • Annex 5, TM-EIA • Hoarding should have no openings and a superficial surface density of at least 14kg/m².
S6.1.4		4) Install movable noise barriers (typically density @14kg/m ²), acoustic mat or full enclosure close to noisy plants including air compressor, generators, handheld breakers, circular saw, crawler drill, grout pump, drill hole machine, grout mixers, water pump, bentonite filtering and mixing plant, pipe pile rigs, down the hole rig, oscillator rig, reverse circulation drill, chisel and auger.	Screen the noisy plant items to be used at all construction sites	Contractor	For plant items listed in Appendix 6-4 of the EIA report at all construction sites	Construction stage	<ul style="list-style-type: none"> • Noise Control Ordinance • Annex 5, TM-EIA • 75dB(A) for residential premises and 70dB(A) for schools during daytime • The movable barrier should achieve at least 5dB(A) and the full enclosure should be designed to achieve 10dB(A)

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S6.1.4		5) Liaise with the school representative(s) including, but not limited to Lai Chak Middle, Canton Road Government, Yau Ma Tei Catholic Primary, HKMA David Li Kwok Po College, and the planned schools that would receive student intake during the construction of the KSL (e.g. secondary school at junction of Hoi Wang Road and post secondary college at junction of Hoi Ting Road and Hoi Wang Road), to obtain the examination schedule and avoid noisy construction activities during school examination period.	Schedule the construction works outside school examination periods to less intrusive periods	Contractor	Construction sites near the schools such as Lai Chak Middle School, Canton Road Government School, Yau Ma Tei Catholic Primary School, HKMA David Li Kwok Po College, and the planned schools	Construction stage	<ul style="list-style-type: none"> • Noise Control Ordinance • Annex 5, TM-EIA • To comply with the daytime construction noise criterion of 65dB(A) at school during the examination periods,
S6.1.4		6) Select "Quiet plants" which comply with the BS 5228 Part 1 or TM standards.	Reduce the noise levels of plant items	Contractor	For plant items listed in Appendix 6-5 of the EIA report at all construction sites	Construction stage	<ul style="list-style-type: none"> • Noise Control Ordinance & its TM • Annex 5, TM-EIA
S6.1.4		7) Sequencing operation of construction plants where practicable.	Operate sequentially within the same work site to reduce the construction airborne noise	Contractor	All construction sites where practicable	Construction stage	<ul style="list-style-type: none"> • Noise Control Ordinance • Annex 5, TM-EIA
S6.1.6		8) Install temporary noise barriers for specific plant items including dump truck/lorries, concrete lorry mixers, concrete pump trucks, etc. (see Figure A14-2).	Screen the noisy plant items to be used at specific locations where noise exceedance is found	Contractor	Near to Man King Building and Olympian City Phase 3. (see Figure A14-2)	Construction stage	<ul style="list-style-type: none"> • Noise Control Ordinance • Annex 5, TM-EIA
S6.1.6		9) Review the need of ground treatment for the section along Canton Road, taking into account any specific construction methodology for the bored tunneling.	Revisit and reduce the construction airborne noise impacts identified at the Canton Road Government School and Lai Chack Middle School	Contractor	Bored tunneling section along Canton Road outside the two schools	Construction stage	<ul style="list-style-type: none"> • Noise Control Ordinance • Annex 5, TM-EIA
S6.1.6		10) Consult with the school representatives to confirm the practicability of scheduling the ground treatment work along Canton Road to tie in with long school vacations and the arrangement of summer courses during this period.	Schedule the noisy construction activities to tie in with long school vacation to avoid noise exceedance	Contractor	Bored tunneling section along Canton Road outside the two schools	Construction stage	<ul style="list-style-type: none"> • Noise Control Ordinance • Annex 5, TM-EIA
S6.1.6		11) Schedule the tunnel section (about 100m) to be constructed in 2 shorter sections (about 50m) sequentially.	Reduce the total amount of plant items to be operated within the work sites immediately in front of Man King Buildings and hence the construction noise impacts	Contractor	Near to Man King Building (see Figure A14-2)	Construction stage	<ul style="list-style-type: none"> • Noise Control Ordinance • Annex 5, TM-EIA

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S6.1.2.7 & S6.1.9		12) Install a noise insulating cover for the launching shaft. This cover should be shut during night time. The insulating cover should achieve an overall noise reduction of 22dB(A). Typical configuration of acoustic panels that can achieve the insulation requirement is 1.5mm GS outer skin, 100mm acoustic infill with 80kg/m ³ , and an inner perforated sheet.	Control construction airborne noise caused by the operation of launching shaft during the restricted hours	Contractor	Launching shaft	Construction stage	<ul style="list-style-type: none"> • Noise Control Ordinance • Annex 5, TM-EIA
S6.1.10		13) Implement a real-time continuous noise monitoring under EM&A programme.	Continuously monitor the construction noise levels at the selected representative locations	Contractor	Lai Chack Middle School & Man King Building	Construction stage	<ul style="list-style-type: none"> • Noise Control Ordinance • Annex 5, TM-EIA • 75dB(A) for residential premises and 70dB(A) for schools during daytime • 50dB(A) for Sensitivity Rating B for night time work
S6.1.10		14) Obtain a valid Blasting Permit from the Mines Division before carrying out any blasting. Develop a method statement including manner of working and protective measures to protect adjacent land and property when blasting is carried out at different parts of the site and at different stages of blasting. The number of blast shall be limited to 2 times per day. The blasting shall also be conducted by a qualified blasting specialist processing a valid Blasting Certificate issued by the authority.	Minimise the risk of loss in human life and damage to properties.	Contractor	Near the mined tunnel underneath FMPHQ	Construction stage	<ul style="list-style-type: none"> • Dangerous Goods Ordinances

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S6.1.10		15) Implement the following mitigation measures during the blasting: <ul style="list-style-type: none"> • establish a communication channel with HKCC and HKSM to liaise on the blasting schedule. • inform the HKCC and HKSM any scheduled blasting in advance. • allow sufficient time for alerting all the potential sensitive receivers including HKSM, HKCC, etc through established channel of communication prior to each and every blasting activity. • re-schedule the blasting to suit the programme in case the HKCC and HKSM have any special rehearsals / events that would not allow short impulsive noise even for a certain period in a day. • proper procedures to alert and minimise any startling effect on the vehicle drivers and pedestrians. • conduct trial tests to evaluate the optimal amount of charge to be used for each blasting. 	Minimise the nuisance of the short duration of the blasting noise	Contractor	Near the mined tunnel underneath FMPHQ	Construction stage	<ul style="list-style-type: none"> • Dangerous Goods Ordinances •
Operational Noise (Air Borne)							
S6.2.6		1) The maximum allowable Sound Power Level (SWLs) for the ventilation shaft openings and other ECS plant shall be compiled with during the selection of ventilation fans and mitigation measures.	Ensure the compliance of operational noise at the sensitive receivers	Designers	Station, ventilation buildings, shafts & E&M plant items	Design stage	<ul style="list-style-type: none"> • NCO and its TM • TM-EIA • 60dB(A) for daytime & evening and 50dB(A) for nighttime for sensitive receivers along Canton Road and in West Kowloon • 65dB(A) for daytime & evening and 55dB(A) for nighttime for sensitive receivers along Canton Road and in West Kowloon
S6.2.7		2) The openings of the ventilation shafts and other ECS plant shall be orientated to face away from neighbouring sensitive receivers.	Control operational noise from ventilation shafts and ECS plant	Designers	Station, ventilation buildings, shafts & E&M plant items	Design stage	<ul style="list-style-type: none"> • HKPSG

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S6.2.7		3) Adequate direct noise mitigation measures including silencers, acoustic louvers, acoustic enclosures should be allowed for in the design.	Control operational noise from ventilation shafts and ECS plant	Designers	Station, ventilation buildings, shafts & E&M plant items	Design stage	• HKPSG
S6.2.7		4) Facades for ECS plant areas / ventilation shafts should have adequate sound insulation properties to minimise the noise emanating through the building fabric.	Control operational noise from ventilation shafts and ECS plant	Designers	Station, ventilation buildings, shafts & E&M plant items	Design stage	• HKPSG
S6.2.7		5) The Scheme Designer shall incorporate the requirements for noise commissioning of fixed plant noise sources in the Particular Specification.	Ensure compliance with relevant requirements	Designers	Station, ventilation buildings, shafts & E&M plant items	Design stage	<ul style="list-style-type: none"> • NCO and its TM • TM-EIA • 60dB(A) for daytime & evening and 50dB(A) for nighttime for sensitive receivers along Canton Road and in West Kowloon • 65dB(A) for daytime & evening and 55dB(A) for nighttime for sensitive receivers along Canton Road and in West Kowloon
Construction Groundborne Noise							
S7.2.6		1) The Contractor shall maintain a hotline communication with the HKCC and HKSM operator during the construction period.	Control groundborne noise	Contractor	HKCC and HKSM	Construction stage	•
		2) Groundborne noise monitoring at HKCC and HKSM for rock breaking activities introduced at the worksite in front of the HKCC and HKSM	Assurance checking on groundborne noise	Contractor	HKCC & HKSM	Tunnelling in front of Salisbury Road	<ul style="list-style-type: none"> • 60dB(A) for daytime (except General Holidays & Sunday); • 55dB(A) for Daytime during general holidays and Sundays and all days during Evening

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Operational Groundborne Noise							
S7.2.7		1) Special trackforms shall be provided to the selected track sections to control groundborne noise.	Control groundborne rail noise	Contractor	Entire alignment	Design stage	• TM-EIA
		2) Commissioning testing shall be conducted to ensure compliance of the operational groundborne noise criteria.	Control groundborne rail noise	Contractor	Selected representative receivers (i.e. Hong Kong Cultural Centre, Hong Kong Space Museum, Hong Kong Hotel and Park Avenue)	Commission Stage	<ul style="list-style-type: none"> • NCO and its TM • TM-EIA • Lmax 25dB for HKCC & HKSM • 55 dB(A) daytime & evening for schools; • 55 dB(A) daytime & evening for hotels and domestic premises • 45 dB(A) nighttime for hotels and domestic premises
Construction Water							
S8.4.2		1) Follow the site practices outlined in ProPECC PN 1/94 as far as practicable in order to minimise surface runoff and the chance of erosion, and to reduce any suspended solids prior to discharge.	Good site practice to control construction water quality	Contractor	All construction sites	Construction stage	• Requirements laid down in ProPECC PN 1/94

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S8.4.2		<p><u>Construction Runoff and Site Drainage</u></p> <ul style="list-style-type: none"> At the start of site establishment (including the barging facility), 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. Channels (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 dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas. Temporary ditches should be provided to facilitate the runoff discharge into an appropriate watercourse, through a site/sediment trap. The sediment/silt traps 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, which states that the retention time for silt/sand traps should be 5 minutes under maximum flow conditions. Construction works should be programmed to minimize surface excavation works during the rainy seasons (April to September). All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. 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 means. The overall slope of the site should be kept to a minimum to reduce the erosive potential of surface water flows, and all trafficked areas and access roads protected by coarse stone ballast. An additional advantage accruing from the use of crushed stone is the positive traction gained during prolonged periods of inclement weather and the reduction of surface sheet flows. 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. 	Control construction runoff and erosion from site surface, drainage channel, stockpiles, barging facility, wheel washing facilities, etc to minimize water quality during construction stage	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> ProPECC PN 1/94 Water Pollution Control Ordinance

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		<ul style="list-style-type: none"> • Measures should be taken to minimise the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities. • Open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50 m3 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 so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers. • Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes. • All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing bay should be provided at every construction site exit. 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 backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and drains. • Oil interceptors should be provided in the site 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. 					

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		<ul style="list-style-type: none"> Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts. Requirements for solid waste management are detailed in Section 9 of this Report. All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby. 					
S8.4.2		<p><u>Tunnelling Works</u></p> <ul style="list-style-type: none"> The cut and cover tunnelling work should be conducted incrementally to limit the amount of construction runoff generated from exposed areas during the wet season (April to September). Pumped discharge, including groundwater seepage pumped out of tunnels, should pass through settlement tanks prior to off-site discharge. The wastewater from tunnelling work will also contain a high concentration of SS and hence would require treatment (incl settlement in tanks with sufficient retention time) before discharge. Oil interceptors would also be required to remove the oil, lubricants and grease from the wastewater. Direct discharge of the Bentonite slurry is not allowed. It should be reconditioned and reused wherever practicable. Temporary storage locations (typically a properly closed warehouse) should be provided on site for any unused bentonite that needs to be transported away after all the related construction activities are completed. The requirements in ProPECC PN 1/94 should be adhered to in the handling and disposal of bentonite slurries. For the drill-&-blast tunnelling technique, sections of rock tunnel will be constructed and wastewater laden with suspended solids, grouting derivatives, lubricants and oils will be generated. Sufficient space should be provided for treatment of wastewater, including settlement of suspended solids and grease removal, prior discharge. 	Control surface runoff and groundwater seepage pumped out from the tunnel during the tunneling works.	Contractor	All construction sites for tunnel	Construction stage	<ul style="list-style-type: none"> ProPECC PN 1/94 Water Pollution Control Ordinance

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S8.4.2		<p><u>Sewage Effluent</u></p> <p>1) Portable chemical toilets and sewage holding tanks are recommended for handling the construction sewage generated by the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.</p>	Control sewage effluent arising from the sanitary facilities provided for the on-site construction workforce	Contractor	On-site sanitary facilities	Construction stage	<ul style="list-style-type: none"> • ProPECC PN 1/94 • Water Pollution Control Ordinance • Waste Disposal Ordinance
S8.4.2		<p><u>Groundwater from Contaminated Areas</u></p> <ul style="list-style-type: none"> • Contaminated groundwater from dewatering process should be recharged back into the ground at the discharge wells • Before excavation, the Contractor shall update the extent of potential groundwater contamination by collecting more groundwater samples along the alignment. • Free products shall be removed by installing the petrol interceptor prior to recharge • Ambient measurements on the groundwater quality at the WKN and the cut-&-cover tunnel to the north of WKN shall be performed with reference to ProPECC PN3/94 "Contaminated Land Assessment and Remediation", prior to the selection of the recharge wells; and submit a working plan to EPD for agreement. • The groundwater recharging wells should be selected at those places where groundwater quality will not be affected by the recharge operation. The ambient groundwater quality shall be measured which will serve as the baseline and the pollutant levels of the groundwater to be recharged shall be measured and not be higher than the baseline measurement. • Groundwater monitoring wells shall be installed to monitor the effectiveness of the recharge wells. • During the recharge period, the groundwater level at the monitoring well shall be monitored to ensure that there is no likelihood of locally risen groundwater level and transfer of pollutants beyond the site boundary. 	Avoid direct discharge of the contaminated groundwater from tunnels and minimize the release of contaminants	Contractor	WKN + northern Tunnel, see Figure A14-3	Construction stage	<ul style="list-style-type: none"> • TM-Water • Water Pollution Control Ordinance • The reporting limit mentioned in Table 8-3 of the EIA report

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		<ul style="list-style-type: none"> The groundwater shall be treated to the baseline level or lower if the pollutants of the recharging groundwater (after petrol interceptor) exceed the baseline limit. Appropriate treatment would include chemical precipitation and activated carbon adsorption. The extent of potential groundwater contamination shall be updated by collecting more groundwater samples along the alignment. The reporting limits as stated in the EIA report shall be used for the testing. A discharge license shall be applied under the WPCO through the Local Control Office of EPD for groundwater recharge operation. 					
S8.4.2		Scheme Designers to incorporate the controlled measures into the Particular Specification (PS) for the civil work. The PS should also draw the contractor's attention to the relevant latest Practice Notes issued by EPD.	Ensure the compliance of water quality	Scheme designers	All construction sites	Design stage	<ul style="list-style-type: none"> ProPECC PN 1/94 TM-Water Water Pollution Control Ordinance
Operational Water Quality							
S8.5.2		Scheme Designers to provide detailed design of the oil interceptors/sub-soil drainage system, and to incorporate the controlled measures into the Particular Specification (PS). The PS should also draw the contractor's attention to the relevant latest TM and Practice Notes issued by EPD.	Control water quality	Scheme designers	Tracks & Stations	Design stage	<ul style="list-style-type: none"> TM-water Water Pollution Control Ordinance
S8.5.1 & S8.5.2		<p><u>Runoff from Rail Track</u></p> <ul style="list-style-type: none"> The tunnel wall will be equipped with water-tight liner and design for no seepage. Standard designed silt trap and oil interceptor will be provided to remove the oil, lubricants, grease, silt, grit and debris from the wastewater before discharging into stormwater drainage. The silt traps and oil interceptors should be cleaned and maintained regularly. The efficiency and performance of these facilities are highly dependent on regular cleaning and maintenance. Oily contents of the oil interceptors should be transferred to an appropriate disposal facility, or to be collected for reuse, if possible. 	Control runoff from rail track	Scheme designers and/or Operator	All rail tracks	Design and/or operational stage	<ul style="list-style-type: none"> Water Pollution Control Ordinance TM-water

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S8.5.2		<p><u>Sewage From Station</u></p> <ul style="list-style-type: none"> • Sewage generated by station staff and passengers should be connected to sewer system 	Control sewage from stations	Contractor	WKH	Operational stage	<ul style="list-style-type: none"> • Water Pollution Control Ordinance • TM-water
Waste Management (Construction Waste)							
S9.2.10		1) The requirements as recommended in ETWB TC 15/2003 Waste Management on Construction Sites and its latest version, and other relevant guidelines, should be included in the Particular Specification as appropriate.	Develop waste management strategies and minimize construction waste disposal	Scheme Designer	All construction sites	Design stage	<ul style="list-style-type: none"> • Waste Disposal Ordinance • ETWB TC 15/2003
S9.2.10		2) Prior to the commencement of construction work, the Contractor should prepare a WMP to provide an overall framework for waste management and reduction.	Develop waste management and reduction strategies	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> • Waste Disposal Ordinance • ETWB TC 15/2003 • Waste Disposal (Chemical Waste) (General) Regulation • ETWBTC 34/2002
S9.2.10		<p>2) The following waste management hierarchy should be considered in general:</p> <ul style="list-style-type: none"> • Avoidance and minimisation (not generating waste through changing or improving practices and design); • Reuse of materials, thus avoiding disposal (generally with only limited reprocessing); • Recovery and recycling, thus avoiding disposal (although reprocessing may be required); and • Treatment and disposal, according to relevant regulations, guidelines and good practice. 	Minimize construction waste disposal by means of waste management hierarchy	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> • Waste Disposal Ordinance • ETWB TC 15/2003

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S9.2.10		<p>3) Storage, Collection and Transportation</p> <ul style="list-style-type: none"> • Handle and store wastes in a manner which ensures that they are held securely without loss or leakage, thereby minimising the potential for pollution; • Use waste collectors authorised or licensed to collect the specific category of waste; • Remove wastes in a timely manner; • Maintain and clean waste storage areas regularly; • Minimise windblown litter and dust during transportation by either covering trucks or transporting wastes in an enclosed container; • Obtain the necessary waste disposal permits from the appropriate authorities, if they are required, in accordance with the Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap 354) and the Land (Miscellaneous Provisions) Ordinance (Cap 28); • Dispose of waste at licensed sites; • Develop procedures such as a ticketing system to facilities, tracking of loads, particularly for chemical waste, and to ensure that illegal disposal of waste does not occur; and • Maintain records of the quantities of wastes generated, recycled and disposed. 	Minimize construction waste disposal by proper handling of the wastes	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> • Waste Disposal Ordinance • Wste Disposal (Chemical Waste) (General) Regulation • Land (Miscellaneous Provisions) Ordinance • ETWB TC 15/2003

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S9.2.10 & S9.2.3.4		<p><u>Contaminated Soil and Marine Deposit</u></p> <ul style="list-style-type: none"> • Contaminated soil shall be disposed in landfill site. • Uncontaminated marine deposits should require open sea disposal. • Non-contaminated alluvial and marine deposits will be transported by leach proof trucks to ensure that any water will not be leaked during the transportation to the barging facility for open sea disposal. The trucks should also be covered with impervious sheeting to prevent any dust emissions. • Contaminated marine deposit shall be disposed in confined mud pits. Possible mitigation measures to handle the contaminated / uncontaminated alluvial / marine sediment are summarized as follows: <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. - Before moving the vessels which are used for transporting dredged material, excess material shall be cleaned from the decks and exposed fittings of vessels and the excess materials shall never be dumped into the sea except at the approved locations. - Adequate freeboard shall be maintained on barges to ensure that decks are not washed by wave action. - The Contractors shall monitor all vessels transporting material to ensure that no dumping outside the approved location takes place. 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 Engineers. 	Proper handling of contaminated soil and contaminated / uncontaminated alluvial / marine sediment	Contractor	All worksites	Construction stage	ETWBTC 34/2002

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		<ul style="list-style-type: none"> - The Contractors shall comply with the conditions in the dumping licence. - All bottom dumping vessels (hopper barges) shall be fitted with tight fittings seals to their bottom openings to prevent leakage of material. - The material 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. - Discharge shall be undertaken rapidly and the hoppers shall be closed immediately. Material 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. 					
S9.2.10		<p><u>Construction and Demolition Material</u></p> <ul style="list-style-type: none"> • Opportunity for re-using of fill material for back filling should be optimized. • Excavated materials that cannot be recycled should be transported to public filling areas. • Careful design, planning and good site management can minimise over-ordering and waste materials such as concrete, mortars and cement grouts. The design of formwork should maximise the use of standard wooden panels so that high reuse levels can be achieved. Alternatives such as steel formwork or plastic fencing should be considered to increase the potential for reuse. • The contractor should recycle as much as possible of the construction waste on-site. Proper segregation of wastes on site will increase the feasibility of recycling certain components of the waste stream by recycling contractors. Concrete and masonry can be used as general fill and steel reinforcement bars can be used by scrap steel mills. Different areas should be designated for such segregation and storage wherever site conditions permit. • Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement. 	Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> • Land (Miscellaneous Provisions) Ordinance • Waste Disposal Ordinance • ETWB TC 15/2003

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		<ul style="list-style-type: none"> • For cut-&-cover tunnel section, stockpile excavated C&D material adjacent to its source for immediate backfill once the tunnel section is completed. • Surplus artificial hard materials should be delivered to Tuen Mun Area 38 recycling plant or its successor for recycling into subsequent useful products. • Existing bituminous pavement should be used for paving construction access and temporary holding / parking areas. • On-site sorting and segregation facility of all type of wastes is considered as one of the best practice in waste management and hence, should be implemented in all projects generating construction waste. The sorted public fill and construction & demolition (C&D) waste should be disposed to public filling areas and landfills, respectively. • Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate. • Adopt 'Selective Demolition' technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible. • Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified. • Implement an enhanced Waste Management Plan similar to ETWB TC(W) No. 15/2003 – "Waste Management on Construction Sites" to encourage on-sitting sorting of C&D materials and to minimize their generation during the course of construction. • Disposal of C&D materials onto any sensitive locations such as agricultural lands, etc. shall be avoided. The Contractor shall propose the final disposal sites to KCRC and get its approval before implementation. 					

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S9.2.10		<p><u>Chemical Waste</u></p> <ul style="list-style-type: none"> • Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. • Containers used for the storage of chemical wastes should be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; have a capacity of less than 450 liters unless the specification has been approved by the EPD; and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation. • The storage area for chemical wastes should be clearly labelled and used solely for the storage of chemical waste; enclosed on at least 3 sides; have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20 % of the total volume of waste stored in that area, whichever is the greatest; have adequate ventilation; covered to prevent rainfall entering; and arranged so that incompatible materials are adequately separated. • Disposal of chemical waste should be via a licensed waste collector; be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Centre which also offers a chemical waste collection service and can supply the necessary storage containers; or be to a reuser of the waste, under approval from the EPD. 	Control the chemical waste and ensure proper storage, handling and disposal.	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> • Waste Disposal (Chemical Waste) (General) Regulation • Code of Practice on the Packaging, Labelling and Storage of Chemical Waste
S9.2.10		<p><u>Sewage</u></p> <ul style="list-style-type: none"> • Adequate numbers of portable toilets should be provided for the workers. The portable toilets should be maintained in a state, which will not deter the workers from utilizing these portable toilets. Night soil should be collected by licensed collectors regularly. 	Proper handling of sewage from worker to avoid odour, pest and litter impacts	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> • Waste Disposal Ordinance

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S9.2.10		<p><u>General Refuse</u></p> <ul style="list-style-type: none"> • General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes. • A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimize odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by law. • Aluminium cans are often recovered from the waste stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit should be provided if feasible. • Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered by the Contractor. In addition, waste separation facilities for paper, aluminium cans, plastic bottles etc., should be provided. • Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedure, including reduction, reuse and recycling of wastes. 	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> • Waste Disposal Ordinance
Waste Management (Operational Waste)							
S9.3		<p><u>General Refuse and Industrial Waste</u></p> <ul style="list-style-type: none"> • General refuse will be mainly generated from the daily activities of stations. The small quantity of industrial waste generated can be collected together with general refuse. 	Storage and handing of waste	Operator	Tracks and Stations	Operational stage	<ul style="list-style-type: none"> • Waste Disposal Ordinance
S9.3		<p><u>Chemical Waste</u></p> <ul style="list-style-type: none"> • Chemical waste is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, and should be handled and disposed of in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Waste. For mitigation measures, the guidelines covered under the construction phase mitigation of chemical wastes should be referred. 	Storage and handing of the chemical waste to avoid environmental and health hazard	Operator	Tracks and Stations	Operational stage	<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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Land Contamination							
S10.10		<p>1) Implement "Excavation and Landfill Disposal" remediation method by Contractor.</p> <p>2) Excavated contaminated soils should not be stockpiled on site, but should immediately be loaded onto trucks and taken to the chosen landfill site.</p> <p>3) All trucks carrying contaminated material should be adequately sheet covered to prevent dispersion of contamination on the way to the landfill site.</p> <p>4) The Contractor should pose a valid WPCO discharge license from EPD where applicable.</p> <p>5) The remediation programme should be supervised by the on-site Geotechnical Engineer ((to be appointed by the Contractor) with at least 7 years experience in contamination assessment or decontamination. All relevant method statements prepared by the Contractor should be reviewed and approved by the Geotechnical Engineer before proceeding with the works.</p> <p>6) Should the event of the soil contamination following excavation be more extensive than envisaged by the CAP, CAR, RAP, a confirmatory testing will be carried out as follows:</p> <ul style="list-style-type: none"> • A confirmatory testing will be carried out following excavation at each location, in order to confirm that all contaminated material has been removed. • The confirmatory testing will consist of five samples in each location, situated immediately to the north, south, east and west of each location, and at the base of the excavation. • If the results of analysis are less than the Dutch B Levels, no further excavation will be required. 	Proper disposal of contaminated soils to ensure environmental and health safety	Contractor	Near drillhole KSD/DH063 See Figure A14-4 for location of contaminated soil	Construction stage	<ul style="list-style-type: none"> • ProPECC PN 3/94 • Guidance Notes for investigation & Remediation of Contaminated Sites of Petrol Filling Stations, Boatyards & Car Repair/ Dismantling Workshops

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		<ul style="list-style-type: none"> If the concentrations exceed the Dutch B Level, the area of excavation should be extended, and further confirmatory testing should be carried out following this excavation. In this event, the area of excavation should be extended by a further 5m radius in the quadrant where the contaminated sample is encountered, or by a further 0.5m depth if the contaminated sample is from the base of the excavation. This procedure should be followed until no further contamination is encountered. 					
Landscape & Visual (Construction Phase)							
S11.5.4 & S11.6.2 & S11.8.1		1) Ref. CM1 - The construction area and contractor's temporary works areas shall be minimised to avoid impacts on adjacent landscape. Existing trees within contractor's temporary works areas should be retained and protected where practical (see also CM5 and CM6).	Minimize landscape and visual impacts during construction phase	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> EIAO TM ETWBC 14/2002 LAOI D12
S11.5.4 & S11.6.2 & S11.8.1		2) Ref. CM2 - Regular checks shall be carried out to ensure that the work site boundaries are not transgressed, hoardings are properly maintained and that no damage is being caused to the surrounding landscape areas.	Minimize landscape and visual impacts during construction phase	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> EIAO TM
S11.5.4 & S11.8.1		3) Ref. CM3 - Topsoil, where identified, shall be stripped and stored for re-use in the construction of the soft landscape works, where practical. The Contract Specifications shall include for identification, storage and reuse of topsoil as appropriate. Under the Specification, the Contractor shall be required to identify at the commencement of the contract any existing topsoil for preservation, storage and re-use, for comment and approval by the Engineer.	Minimize landscape and visual impacts during construction phase	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> EIAO TM
S11.5.4 & S11.6.2 & S11.7.1		4) Ref. CM4 - The potential for soil erosion shall be reduced by minimising the extent of vegetation disturbance on site and by providing a protective cover (e.g. plastic sheeting or a grass cover established by hydroseeding) over newly exposed soil.	Minimize landscape and visual impacts during construction phase	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> EIAO TM

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S11.5.4 & S11.7.1		5) Ref. CM5 - All works shall be carefully designed to minimise impacts on existing trees. All retained trees shall be recorded photographically at the commencement of the contract, and carefully protected during construction by fencing them off from the rest of the works. A detailed Tree Protection Specification shall be provided in the Contract Specifications. Under this specification, the Contractor shall be required to submit, for approval, a detailed Working Method Statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in contractor's works areas. The project proponent shall review the site works in order to maximize the preservation of the trees of high amenity value in situ. A total of no more than 1200 trees shall be affected (i.e. felled or transplanted) by the works, of which no more than 105 shall be of high amenity value.	Minimize landscape and visual impacts during construction phase	Designer to prepare Contract Specification. Contractor to implement.	All construction sites	Construction stage	<ul style="list-style-type: none"> • EIAO TM • ETWBC 14/2002 • LAOI D12
S11.5.4 & S11.7.1		<p>6) Ref. CM6 - The project proponent shall maximize the transplantation of trees of high amenity value if preservation in situ is not feasible. A detailed Tree Transplanting Specification shall be provided in the Contract Specifications, if applicable. Sufficient time for necessary tree root and crown preparation periods prior to moving the trees shall be allowed in the project programme. Precise numbers of trees to be retained, transplanted and felled shall be determined and agreed separately with Government during the Tree Felling Application process under ETWBTC 14/2002. (See also OM2 and OM3). However, a minimum of 80% of the affected trees of high amenity value shall be transplanted.</p> <p>Destination locations for the transplants and arrangement for transplantation shall be resolved and agreed with relevant department in advance. Potential destination locations include:</p> <ul style="list-style-type: none"> • Roadside landscape areas in West Kowloon; • Vacant lots in West Kowloon zoned for development as public open space; and • Existing public open spaces. <p>If potential destination locations cannot be found by the time the trees are removed from site, they will be located to a holding nursery until destination locations are found. If no locations outside the project area can be found, they will be stored in the holding nursery for the duration of the contract and transplanted back into the project area at the end of the project.</p>	Minimize landscape and visual impacts during construction phase	Designer to prepare Contract Specification. Contractor to implement.	All construction sites	Construction stage	<ul style="list-style-type: none"> • EIAO TM • ETWBC 14/2002 • LAOI D12

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S11.5.4 & S11.6.2 & S11.7.1		7) Ref CM7 - Large temporary stockpiles of excavated material shall be covered with visually unobtrusive sheeting (in subdued 'camouflage' colour tone) to prevent dust and dirt spreading to adjacent landscape areas and vegetation, and to create a neat and tidy visual appearance.	Minimize landscape and visual impacts during construction phase	Contractor	Stockpiles of Excavated material	Construction stage	• EIAO TM
S11.6.2 & S11.7.1		8) Ref. CM8 - Control night lighting and prevent glare to surrounding VSRs by directing all security lighting downward into works sites and works areas.	Minimize landscape and visual impacts during construction phase	Contractor	All construction sites	Construction stage	• EIAO TM
S11.6.2 & S11.7.1		9) Ref. CM9 – Clean & tidy hoardings shall be provided. Good site practice will be adopted by the contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period.	Minimize landscape and visual impacts during construction phase	Contractor	All construction sites	Construction stage	• EIAO TM
S11.6.2 & S11.7.1		10) Ref CM10 - Temporary noise barriers shall be designed to minimise adverse visual impacts on adjacent VSRs	Minimize landscape and visual impacts during construction phase	Contractor	All construction sites	Construction stage	• EIAO TM
Landscapes & Visual (Operational Phase) [note 1]							
S11.5.4 & S11.6.2 & S11.7.1		1) Ref. OM2 - Compensatory tree planting should be incorporated along all roadside amenity areas affected by the construction works. Required numbers and locations, as well as the maintenance responsibility of compensatory trees shall be determined and agreed with Government during the Tree Felling Application process under ETWBTC14/2002.	Minimize landscape and visual impacts during operational phase	Contractor	Roadside amenity areas and streetscape	Design stage and Construction Stage	• EIAO TM • ETWBTC 7/2002 • ETWBTC 14/2002 • ETWBTC 25/92
S11.5.4 & S11.6.2 & S11.7.1		2) Ref. OM3 - Compensatory tree planting shall be incorporated into any public open spaces affected by the construction works. Required numbers and locations, as well as the maintenance responsibility of compensatory trees shall be determined and agreed with Government during the Tree Felling Application process under ETWBTC 14/2002.	Minimize landscape and visual impacts during operational phase	Contractor	Public Open Spaces	Design stage and Construction Stage	• EIAO TM • ETWBTC 7/2002 • ETWBTC 14/2002 • ETWBTC 25/92

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S11.5.4 & S11.6.2 & S11.7.1		3) Ref. OM4 -The total number of compensatory trees planted in the project area, for OM2 and OM3 combined, shall be not less than 130% of the number of affected trees. (Compensatory trees may be either new trees, or existing trees that are transplanted to a holding nursery and then back to the project area). Compensatory trees shall be at least heavy standard size, unless planting is on a slope, in which case tree size will be the largest practical size given technical restrictions due to slope angle. Semi-mature size trees shall be used where appropriate at sensitive and prominent locations (e.g. Salisbury Garden).	Minimize landscape and visual impacts during operational phase	Designer / Contractor	Public Open Spaces, roadside amenity areas and streetscape	Design stage and Construction Stage	<ul style="list-style-type: none"> • EIAO TM • ETWBTC 7/2002 • ETWBTC 14/2002 • ETWBTC 25/92
S11.5.4 & S11.6.2 & S11.7.1		4) Ref. OM5 - Sensitive design and reprovision of the affected areas of Nam Cheong Park incorporating replacement facilities for those provided at present, using materials of a quality suitable for long term use and acceptable to relevant Government departments, plus provision of a new toilet block	Minimize landscape and visual impacts during operational phase	Designer / Contractor	Nam Cheong Park	Design stage and Construction Stage	<ul style="list-style-type: none"> • EIAO TM • ETWBTC 7/2002 • ETWBTC 14/2002 • ETWBTC 25/92 • HKPSG
S11.5.4 & S11.6.2 & S11.7.1		5) Ref. OM6 - Reinstatement of levels at planned open spaces allowing adequate structural loading for future flexibility in open space design, particularly for landform, earth mounding, typical park structures (pergolas, pavilions, store rooms, toilet blocks etc.) and tree planting works (requiring a minimum soil depth of 1.5m).	Minimize landscape and visual impacts during operational phase	Designer / Contractor	Planned Public open spaces	Design stage and Construction Stage	<ul style="list-style-type: none"> • EIAO TM • ETWBTC 7/2002 • ETWBTC 14/2002 • ETWBTC 25/92 • HKPSG
S11.5.4 & S11.6.2 & S11.7.1		6) Ref. OM7 - Reinstatement of works areas to former condition, subject to applicable Government standards.	Minimize landscape and visual impacts during operational phase	Designer / Contractor	Temporary works sites and works areas	Design stage and Construction Stage	<ul style="list-style-type: none"> • EIAO TM • WBTC 7/2002 • WBTC 14/2002
S11.5.4 & S11.6.2 & S11.7.1		7) Ref. OM8 - Attractive streetscape design shall be incorporated at all station entrances areas and above ground structures including the provision of tree planting where space permits. All streetscape areas and hard and soft landscape areas disturbed during construction shall be reinstated to equal or better quality, to the satisfaction of the relevant Government departments.	Minimize landscape and visual impacts during operational phase	Designer / Contractor	All permanent above ground structures	Design stage and Construction Stage	<ul style="list-style-type: none"> • EIAO TM • ETWBTC 7/2002 • ETWBTC 14/2002 • ETWBTC 25/92 • ETWBTC 17/2003
S11.5.4 & S11.6.2 & S11.7.1		8) Ref. OM9 - All above ground structures, including Station Entrances, Vent Shafts, Emergency and Firemen's' Accesses etc shall be sensitively designed in a manner that responds to the existing and planned urban context, which may include soft landscape measures, to minimise the potential adverse landscape and visual impacts.	Minimize landscape and visual impacts during operational phase	Designer / Contractor	All permanent above ground structures	Design stage and Construction Stage	<ul style="list-style-type: none"> • EIAO TM • ETWBTC 7/2002 • ETWBTC 14/2002 • ETWBTC 17/2003 • ETWBTC 25/92

**Environmental Mitigation Implementation Schedule
Kowloon Southern Link**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
S11.6.2 & S11.7.1		9) Ref. OM10 - The Footbridge Link between WKN Station and existing footbridge FB14 shall be designed to the satisfaction of ACABAS.	Minimize landscape and visual impacts during operational phase	Designer / Contractor	Footbridge Link	Design stage and Construction Stage	<ul style="list-style-type: none"> • EIAO TM • ACABAS
S11.6.2 & S11.7.1		10) Ref, OM11 - Temporary planting shall be implemented along east side of WKN station structure to provide partial screening and to create a more pleasant pedestrian environment prior to any future property development on the sites	Minimize landscape and visual impacts during operational phase	Designer / Contractor	WKN Station	Design stage and Construction Stage	<ul style="list-style-type: none"> • EIAO TM
S11.6.2 & S11.7.1		11) Ref, OM12 - Tall shrubs and climbing plants shall be planted against the face of the Canton Road Plant Building so as to soften building façade. Trees shall also be planted in locations around the building where traffic sightlines permit..	Minimize landscape and visual impacts during operational phase	Designer / Contractor	Canton Road Plant Building	Design stage and Construction Stage	<ul style="list-style-type: none"> • EIAO TM
S11.6.2 & S11.7.1		12) Ref, OM13 - Creation of attractive public streetscape area in front of West Kowloon Station (at least 400sq.m.), with shade trees in paving and adequate seating facilities, as partial mitigation for the permanent alienation of public open space at corner of Canton Road and Kowloon Park Drive	Minimize landscape and visual impacts during operational phase	Designer / Contractor	West Kowloon Station	Design stage and Construction Stage	<ul style="list-style-type: none"> • EIAO TM • ETWBTC 7/2002 • ETWBTC 14/2002 • ETWBTC 25/92 • ETWBTC 17/2003
Cultural Heritage							
S12.6.1		1) Before the commencement of the construction work, the Contractor shall consult AMO on any other mitigation measures that would be required administratively or under the Antiquities and Monuments Ordinance. The Contractor shall implement these requirements during the construction period.	Ensure there is no potential archaeology within all the construction sites.	Design stage and Construction stage	All construction sites	Construction stage	<ul style="list-style-type: none"> • Requirements from AMO

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S12.6.3		<p>1) A blasting assessment should be conducted by the Contractor before commencement of the construction works to demonstrate that the proposed blasting work will not adversely affect the structural integrity of the FMPHQ compound in accordance with the requirements from Mines Division of CEDD.</p> <p>2) Precautions should be taken during the mined tunnelling to prevent any damage to the historic buildings. Structural monitoring system should be designed and supervised by a Registered Structural Engineer from the Contractor during the period for mined tunnelling to ensure compliance with the Buildings Ordinance.</p> <p>3) Conduct structural monitoring on the FMPHQ and the OFSB. Liaison with the FMPHQ developer has indicated that they are prepared to conduct the condition and impact monitoring during the construction period that overlaps with the KSL construction.</p>	Ensure the construction activities will not adversely affect FMPHQ, tunnel and OFSB	Contractor	FMPHQ & OFSB, tunnel	Construction stage	<ul style="list-style-type: none"> • Requirements from Mines Division of CEDD • Buildings Ordinance • Comply with the requirements under Section 6 of the Antiquities and Monument Ordinance.
S12.6.3		<p>4) Details of the monitoring system, including the coordination with the FMPHQ developer, shall be submitted to AMO for approval before the mined tunnelling commences.</p> <p>5) Any proposed site works (including ground investigation and tunnelling work) and structural monitoring measures within the boundary of the declared monument would need to comply with the requirements under Section 6 of the Antiquities and Monument Ordinance.</p>	Ensure the construction activities will not adversely affect FMPHQ, tunnel and OFSB	Contractor	FMPHQ & OFSB, tunnel	Construction stage	<ul style="list-style-type: none"> • Requirements from Mines Division of CEDD • Buildings Ordinance • Comply with the requirements under Section 6 of the Antiquities and Monument Ordinance.
Hazard							
S13		No mitigation measures required					
EM&A							
S14.2 & S14.7		<p>1) An Independent Environmental Checker needs to be employed as per the EM&A Manual.</p> <p>2) Establish a Community Liaison Office with a telephone action line which enables the public to raise any matters of concern regarding the project such as complaints, comments, suggestions or requests for information.</p>	Control EM&A Performance	Project Proponent	All construction sites	Construction stage	<ul style="list-style-type: none"> • EIAO Guidance Note No.4/2002 • TM-EIAO

**Environmental Mitigation Implementation Schedule
Kowloon Southern Link**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to implement the measures?	What requirements or standards for the measures to achieve?
S14.4		1) An Environmental Team needs to be employed as per the EM&A Manual. 2) Prepare a systematic Environmental Management Plan to ensure effective implementation of the mitigation measures. 3) An environmental impact monitoring needs to be implementing by the Environmental Team to ensure all the requirements given in the EM&A Manual are fully complied with.	Perform environmental monitoring & auditing	Contractor	All construction sites	Construction stage	<ul style="list-style-type: none"> • EIAO Guidance Note No.4/2002 • TM-EIAO

Note [1]
 Management and Maintenance Agencies identified as per ETWBTC 2/2004 shall be referred to the Final EIA Report. Agreement and approval, including precise delineation of boundaries, etc., of the implementation, management and maintenance agencies of the project will be sought from all relevant authorities during the detail design stages of the project.