

Appendix C. Implementation Schedule for Environmental Mitigation Measures for WKCD Schedule 3 EIA

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
Air Quality Impact (Construction)									
3.5.1.3	2.1	<p>General Dust Control Measures</p> <p>Frequent water spraying for active construction areas (12 times a day or once every one hour), including Heavy construction activities such as construction of buildings or roads, drilling, ground excavation, cut and fill operations (i.e., earth moving)</p>	Within WKCD site / Duration of the construction phase / Prior to commencement of operation	Contractor appointed by WKCD		✓			EIA Recommendation and Air Pollution Control (Construction Dust) Regulation
3.7.1.2	2.1	<p>Best Practice For Dust Control</p> <p>The relevant best practices for dust control as stipulated in the Air Pollution Control (construction Dust) Regulation should be adopted to further reduce the construction dust impacts from the Project. These best practices include:</p> <p><i>Good Site Management</i></p> <ul style="list-style-type: none"> Good site management is important to help reducing potential air quality impact down to an acceptable level. As a general guide, the Contractor should maintain high standard of housekeeping to prevent emission of fugitive dust. Loading, unloading, handling and storage of raw materials, wastes or by-products should be carried out in a manner so as to minimise the release of visible dust emission. Any piles of materials accumulated on or around the work areas should be cleaned up regularly. Cleaning, repair and maintenance of all plant facilities within the work areas should be carried out in a manner minimising generation of fugitive dust emissions. The material should be handled properly to prevent fugitive dust emission before cleaning. <p><i>Disturbed Parts of the Roads</i></p> <ul style="list-style-type: none"> Each and every main temporary access should be paved with concrete, bituminous hardcore materials or metal plates 	Within WKCD site / Duration of the construction phase / Prior to commencement of operation	Contractor appointed by WKCD		✓			EIA Recommendation and Air Pollution Control (Construction Dust) Regulation

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
		<p>and kept clear of dusty materials; or</p> <ul style="list-style-type: none"> Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road surface wet. <p><i>Exposed Earth</i></p> <ul style="list-style-type: none"> Exposed earth should be properly treated by compaction, hydroseeding, vegetation planting or seeding with latex, vinyl, bitumen within six months after the last construction activity on the site or part of the site where the exposed earth lies. <p><i>Loading, Unloading or Transfer of Dusty Materials</i></p> <ul style="list-style-type: none"> All dusty materials should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet. <p><i>Debris Handling</i></p> <ul style="list-style-type: none"> Any debris should be covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides. Before debris is dumped into a chute, water should be sprayed so that it remains wet when it is dumped. <p><i>Transport of Dusty Materials</i></p> <ul style="list-style-type: none"> Vehicle used for transporting dusty materials/spoils should be covered with tarpaulin or similar material. The cover should extend over the edges of the sides and tailboards. <p><i>Wheel washing</i></p> <ul style="list-style-type: none"> Vehicle wheel washing facilities should be provided at each construction site exit. Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels. <p><i>Use of vehicles</i></p> <ul style="list-style-type: none"> The speed of the trucks within the site should be controlled 							

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
		<p>to about 10km/hour in order to reduce adverse dust impacts and secure the safe movement around the site.</p> <ul style="list-style-type: none"> Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels. Where a vehicle leaving the construction site is carrying a load of dusty materials, the load should be covered entirely by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle. <p><i>Site hoarding</i></p> <ul style="list-style-type: none"> Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit. 							
3.7.1.3	2.1	<p>Best Practicable Means for Cement Works (Concrete Batching Plant)</p> <p>The relevant best practices for dust control as stipulated in the Guidance Note on the Best Practicable Means for Cement Works (Concrete Batching Plant) BPM 3/2(93) should be followed and implemented to further reduce the construction dust impacts of the Project. These best practices include:</p> <p>Exhaust from Dust Arrestment Plant</p> <ul style="list-style-type: none"> Wherever possible the final discharge point from particulate matter arrestment plant, where is not necessary to achieve dispersion from residual pollutants, should be at low level to minimise the effect on the local community in the case of abnormal emissions and to facilitate maintenance and inspection 	<p>Within WKCD site / Duration of the construction phase / Prior to commencement of operation</p>	<p>Contractor appointed by WKCDA</p>		✓			<p>EIA recommendation; Guidance Note on the Best Practicable Means for Cement Works (Concrete Batching Plant) BPM 3/2(93)</p>

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
		<p>Emission Limits</p> <ul style="list-style-type: none"> All emissions to air, other than steam or water vapour, shall be colourless and free from persistent mist or smoke <p>Engineering Design/Technical Requirements</p> <ul style="list-style-type: none"> As a general guidance, the loading, unloading, handling and storage of fuel, raw materials, products, wastes or by-products should be carried out in a manner so as to prevent the release of visible dust and/or other noxious or offensive emissions 							
Air Quality Impact (Operation)									
3.7.2	2.2	<p>Vehicular and Marine Emissions</p> <p>No mitigation measure is required.</p>							
3.7.3.1	2.2	<p>Improvement works for New Yau Ma Tei Typhoon Shelter (NYMTTS) for Odour Mitigation</p> <ul style="list-style-type: none"> Implementation of the DSD's project to install new Dry Weather Flow Interceptor (DWFI) for Cherry Street Box Culvert as a high priority. Improvement of three existing DWFI's upstream of Cherry Street Box Culvert and/or two existing DWFI's upstream of Jordan Road Box Culvert as part of the project titled "Upgrading of West Kowloon and Tsuen Wan Sewerage" as a high priority. 	<p>New Yau Ma Tei Typhoon Shelter / Early 2014 to 2nd half of 2018 (subject to successful bid for funding)</p> <p>New Yau Ma Tei Typhoon Shelter / 2016 to end 2023 (subject to successful bid for funding)</p>	<p>DSD</p> <p>DSD</p>		<p>✓</p> <p>✓</p>		<p>EIA recommendation</p> <p>EIA recommendation</p>	
3.7.3.2	2.2	<p>Optional Waste facilities</p> <p>This facility will be located at basement levels. In addition, the odour containment and control measures to be implemented</p>	<p>Within WKCD site / Duration and timing to be determined</p>	<p>WKCDA</p>		<p>✓</p>		<p>EIA recommendation</p>	

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
		<p>include:</p> <ul style="list-style-type: none"> ▪ The waste facilities will be totally enclosed. Negative pressure ventilation will be provided within the enclosures to avoid any fugitive odorous emission from the facilities. In addition, any waste storage tanks will be connected to deodorisation facilities directly to eliminate the odour problem. ▪ Air inside the enclosures will be collected by air handling equipment for containing and directing odorous gases to deodorisation facilities. ▪ Deodorisation facilities by chemical, biological or physical methods (e.g. adsorption by activated carbon) with a minimum odour removal efficiency of 95% will be provided to treat potential odorous emissions from the facilities so as to minimise any potential odour impact to the nearby ASRs. 							
Noise Impact (Construction)									
4.7.1	3.1	<p>Good Site Practice Good site practice and noise management can significantly reduce the impact of construction site activities on nearby NSRs. The following package of measures should be followed during each phase of construction:</p> <ul style="list-style-type: none"> ▪ only well-maintained plant to be operated on-site and plant should be serviced regularly during the construction works; ▪ machines and plant that may be in intermittent use to be shut down between work periods or should be throttled down to a minimum; ▪ plant known to emit noise strongly in one direction, should, where possible, be orientated to direct noise away from the NSRs; ▪ mobile plant should be sited as far away from NSRs as possible; and 	Within WKCD site / During construction phase / Prior to commencement of operation	Contractor appointed by WKCDA		✓			EIAO and Noise Control Ordinance

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
		<ul style="list-style-type: none"> material stockpiles and other structures to be effectively utilised, where practicable, to screen noise from on-site construction activities. 							
4.7.1	3.1	<p>Adoption of Quieter PME</p> <p>The recommended quieter PME adopted in the assessment were taken from the EPD's QPME Inventory and "Sound Power Levels of Other Commonly Used PME" are presented in Table 4.26 in the EIA report. It should be noted that the silenced PME selected for assessment can be found in Hong Kong.</p>	Within WKCD site / During construction phase / Prior to commencement of operation	Contractor appointed by WKCDA		✓			EIAO and Noise Control Ordinance
4.7.1	3.1	<p>Use of Movable Noise Barriers</p> <p>Movable noise barriers can be very effective in screening noise from particular items of plant when constructing the Project. Noise barriers located along the active works area close to the noise generating component of a PME could produce at least 10 dB(A) screening for stationary plant and 5 dB(A) for mobile plant provided the direct line of sight between the PME and the NSRs is blocked.</p>	Within WKCD site / During construction phase / Prior to commencement of operation	Contractor appointed by WKCDA		✓			EIAO and Noise Control Ordinance
4.7.1	3.1	<p>Use of Noise Enclosure/ Acoustic Shed</p> <p>The use of noise enclosure or acoustic shed is to cover stationary PME such as air compressor and concrete pump. With the adoption of the noise enclosure, the PME could be completely screened, and noise reduction of 15 dB(A) can be achieved according to the EIAO Guidance Note No.9/2010.</p>	Within WKCD site / During construction phase / Prior to commencement of operation	Contractor appointed by WKCDA		✓			EIAO and Noise Control Ordinance
4.7.1	3.1	<p>Use of Noise Insulating Fabric</p> <p>Noise insulating fabric can also be adopted for certain PME (e.g. drill rig, piling machine etc). The fabric should be lapped such that there are no openings or gaps on the joints. According to the approved Tsim Sha Tsui Station Northern Subway EIA report (AEIAR-127/2008), a noise reduction of 10 dB(A) can be achieved for the PME lapped with the noise insulating fabric.</p>	Within WKCD site / During construction phase / Prior to commencement of operation	Contractor appointed by WKCDA		✓			EIAO and Noise Control Ordinance
4.7.1	3.1	<p>Scheduling of Construction Works outside School Examination Periods</p> <p>During construction phase, the contractor should liaise with the</p>	Within WKCD site / During construction phase / Prior to	Contractor appointed by		✓			EIAO and Noise Control Ordinance

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
		educational institutions (including NSRs LCS and CRGPS) to obtain the examination schedule and avoid the noisy construction activities during school examination periods.	commencement of operation	WKCD					
Noise Impact (Operation)									
4.7.2	3.2	Road Traffic Noise At-receiver mitigation measures should be considered in terms of self-protecting building design such as shielding by balcony. The balcony shall be designed with depth more than 1m with solid parapet of about 1.5m high and ceiling lined with absorptive material to face the noise source at Parcels 3, 5, 9, 24, 27, 28 & 29.	Along parts of Austin Road West and Canton Road / During operation phase / Throughout operation phase	Design Architect / Contractor appointed by WKCD	✓		✓		EIAO
4.7.2	3.2	Road Traffic Noise Sound-absorbing materials should be installed on inner walls and ceilings of the underpass at the portals at the junction of Lin Cheung Road and Austin Road West, interim access of Austin Road West and permanent access at Canton Road. The sound-absorbing materials would be extended at least 30m into the underpass at the portals.	Portal at the junction of Lin Cheung Road and Austin Road West, Interim Access at Austin Road West and Permanent access at Canton Road / Before commencement of operation of road project	Contractor appointed by WKCD / Highways Department	✓	✓	✓		EIAO
4.7.3	3.2	Fixed Plant Noise Specification of the maximum allowable sound power levels of the proposed fixed plants during daytime and night-time should be followed. The following noise reduction measures should be considered as far as practicable during operation: <ul style="list-style-type: none"> ▪ Choose quieter plant such as those which have been effectively silenced; ▪ Include noise levels specification when ordering new plant (including chillier and E/M equipment); 	Within WKCD site / During operation phase / Throughout operation phase	Design Architect / Contractor appointed by WKCD	✓		✓		EIAO and Noise Control Ordinance

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
		<ul style="list-style-type: none"> ▪ Locate fixed plant/louvre away from any NSRs as far as practicable; ▪ Locate fixed plant in walled plant rooms or in specially designed enclosures; ▪ Locate noisy machines in a basement or a completely separate building; ▪ Install direct noise mitigation measures including silencers, acoustic louvres and acoustic enclosure where necessary; and ▪ Develop and implement a regularly scheduled plant maintenance programme so that equipment is properly operated and serviced in order to maintain a controlled level of noise. 							
4.7.5	3.2	<p>Ground-borne Noise</p> <p>Given stringent acoustic performance requirement for the world-class venues, at-receiver end noise and vibration control measures such as building isolation and or box-in-box installation would be required by the acoustic and theatre designers of the venues including CCP, Xiqu Centre, Museum M+ (Phases 1 & 2) and Lyric Centre. The exact measures to be adopted are subject to the later detailed structural and foundation designs of the art performance venues.</p>	Within WKCD site / During operation phase / Prior to commencement of operation	Design Architect / Contractor appointed by WKCDA	✓		✓		EIAO
4.7.7	3.2	<p>Marine Traffic Noise</p> <p>At-receiver mitigation measures by designing the buildings so as to avoid any sensitive façades with openable window facing the noise source at Parcels 2, 3, 10, 11, 13, 21, 26 and 32 are proposed.</p>	Within WKCD site / During operation phase / Throughout operation phase	Design Architect / Contractor appointed by WKCDA	✓		✓		EIAO

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
Water Quality Impact (Construction)									
5.7.1.1	4.1	<p>Construction site runoff and drainage</p> <p>The site practices outlined in ProPECC Note PN 1/94 should be followed as far as practicable in order to minimise surface runoff and the chance of erosion. The following measures are recommended to protect water quality and sensitive uses of the coastal area, and when properly implemented should be sufficient to adequately control site discharges so as to avoid water quality impacts:</p> <ul style="list-style-type: none"> ▪ 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. Channels, earth bunds or sand bag barriers should be provided on site to direct storm water to silt removal facilities. The design of the temporary on-site drainage system should be undertaken by the WKCDA's Contractor prior to the commencement of construction; ▪ Sand/silt removal facilities such as sand/silt traps and sediment basins should be provided to remove sand/silt particles from runoff to meet the requirements of the TM standards under the WPCO. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC Note PN 1/94. Sizes may vary depending upon the flow rate. The detailed design of the sand/silt traps should be undertaken by the WKCDA's Contractor prior to the commencement of construction. ▪ 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 during rainstorms. Deposited silt and grit should be regularly removed, at the onset of and after each 	Within WKCD site / Duration of the construction phase / Prior to commencement of operation	Contractor appointed by WKCDA		✓			ProPECC Note PN 1/94

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
		<p>rainstorm to ensure that these facilities are functioning properly at all times.</p> <ul style="list-style-type: none"> ▪ Measures should be taken to minimize the ingress of site drainage into excavations. If excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from foundation excavations should be discharged into storm drains via silt removal facilities. ▪ 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 facility should be provided at construction site exit where practicable. Wash-water should have sand and silt settled out and removed regularly 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. ▪ Open stockpiles of construction materials or construction wastes on-site 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 be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and stormwater runoff being directed into foul sewers. ▪ Precautions should be taken at any time of the year when rainstorms are likely. Actions should be taken when a rainstorm is imminent or forecasted and actions to be taken 							

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
		<p>during or after rainstorms are summarized in Appendix A2 of ProPECC Note 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.</p> <ul style="list-style-type: none"> Bentonite slurries used in piling or slurry walling should be reconditioned and reused wherever practicable. Temporary enclosed storage locations 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 Note PN 1/94 should be adhered to in the handling and disposal of bentonite slurries. 							
5.7.1.2	4.1	<p>Construction of cooling water discharge/outfalls, landing steps and optional piers/floating “art” pontoon</p> <p>To minimise any adverse water quality impact during modification of seawalls for construction of cooling water discharges/outfalls and landing steps and installation of marine piles for construction of the optional piers, silt curtains should be deployed to completely enclose the modification of seawalls and marine pile installation works. The Contractor should be responsible for the design, installation and maintenance of the silt curtains to minimize the impacts on water quality. The design and specification of the silt curtains should be submitted by the Contractor to the Engineer for approval.</p>	Within WKCD site / During construction phase / Prior to commencement of operation	Contractor appointed by WKCDA		✓			WPCO
5.7.1.3	4.1	<p>Barging facilities and activities</p> <p>Recommendations for good site practices during operation of the proposed barging point include:</p> <ul style="list-style-type: none"> All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash; Loading of barges and hoppers should be controlled to 	Within WKCD site / During construction phase / Prior to commencement of operation	Contractor appointed by WKCDA		✓			WPCO

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
		<p>prevent 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;</p> <ul style="list-style-type: none"> ▪ All hopper barges should be fitted with tight fitting seals to their bottom openings to prevent leakage of material; and ▪ Construction activities should not cause foam, oil, grease, scum, litter or other objectionable matter to be present on the water within the site. 							
5.7.1.4	4.1	<p>Sewage effluent from construction workforce</p> <p>Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.</p>	Within WKCD site / During construction phase / Prior to commencement of operation	Contractor appointed by WKCDA		✓			ProPECC Note PN 1/94
5.7.1.5	4.1	<p>General construction activities</p> <p>Construction solid waste, debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering any nearby storm water drain. Stockpiles of cement and other construction materials should be kept covered when not being used.</p> <p>Oils and fuels should only be stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to any nearby storm water drain, all fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event.</p>	Within WKCD site / During construction phase / Prior to commencement of operation	Contractor appointed by WKCDA		✓			ProPECC Note PN 1/94
Water Quality Impact (Operation)									
5.7.2.1	4.2	Road and surface runoff	Within WKCD site / During operation phase /	HyD (for exclusive			✓		ProPECC Note

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
		For operation of the proposed WKCD development and associated local road network, a surface water drainage system would be provided to collect road and surface runoff. It is recommended that the road drainage should be provided with adequately designed silt trap and oil interceptors, as necessary. The design of the operation stage mitigation measures for the proposed WKCD development and associated local road network should take into account the guidelines published in the <i>Practice Note for Professional Persons on Drainage Plans Subject to Comment by the Environmental Protection Department</i> (ProPECC Note PN 5/93).	Throughout operation phase	road drains)					PN 5/93
5.7.2.2	4.2	<p>Sewage and wastewater effluents from the proposed WKCD development</p> <p>Domestic sewage generated during operation phase of the proposed WKCD development should be diverted to the foul sewer. Sewage and sewerage impact assessment had identified that the proposed WKCD development would not cause adverse impact to the local sewerage network which should have sufficient capacity to cater for the sewage flow generated from the proposed WKCD development. No mitigation measures and upgrading works to the existing local sewer are necessary for the proposed WKCD development. Recommendations for the design, operation and maintenance for the sewerage system are detailed below in the same table.</p>	Within WKCD site / During operation phase / Throughout operation phase	WKCD			✓		WPCO
5.7.2.4	4.2	<p>Emergency effluent bypass from optional sewage pumping station</p> <p>The following mitigation measures are proposed to be incorporated in the design of the optional sewage pumping station:</p> <ul style="list-style-type: none"> A two hour emergency storage capacity should be provided within the optional sewage pump sump accordingly to EPD Environmental Guidance Note for Sewage Pumping Stations 	Within WKCD site / During design and operation phases / Throughout operation phase	WKCD	✓		✓		DSD's Sewerage Manual; EPD Environmental Guidance Note for Sewage Pumping Stations

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
		<p>(NOT a designated project);</p> <ul style="list-style-type: none"> Dual power supply or emergency generator with sufficient capacity (100%) should be provided to the optional sewage pump sump to secure electrical power supply; Standby pumps with sufficient capacity (100%) should be provided to the optional sewage pump sump to ensure smooth operation of the optional sewage pumping station during maintenance of the duty pumps; An alarm should be installed to signal emergency high water level in the wet well of the optional sewage pumping station; and Should the optional sewage pumping station is unmanned, a remote monitor system connecting the optional sewage pumping station with the control station through telemetry system should be provided to ensure swift actions to be taken in case of malfunction of the optional sewage pumping station. 							
5.7.2.5	4.2	<p>Improvement works for New Yau Ma Tei Typhoon Shelter (NYMTTS) for Odour Mitigation</p> <ul style="list-style-type: none"> Implementation of the DSD's project to install new Dry Weather Flow Interceptor (DWFI) for Cherry Street Box Culvert; and Improvement of three existing DWFI's upstream of Cherry Street Box Culvert and/or two existing DWFI's upstream of Jordan Road Box Culvert as part of the project titled "Upgrading of West Kowloon and Tsuen Wan Sewerage". 	<p>New Yau Ma Tei Typhoon Shelter / Early 2014 to 2nd half of 2018 (subject to successful bid for funding)</p> <p>New Yau Ma Tei Typhoon Shelter / 2016 to end 2023 (subject to successful bid for funding)</p>	<p>DSD</p> <p>DSD</p>			<p>✓</p> <p>✓</p>	<p>EIA recommendation</p> <p>EIA recommendation</p>	

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
5.7.2.6	4.2	<p>Water reuse facilities</p> <p>Regarding collection and treatment of rainwater, individual venue operators should follow Architectural Services Department (ASD) Design Guideline for Rainwater Recycling Installation with typical schematic design of a rainwater recycling installation and recommended recycled rainwater standard with reference to the international standards, such as EPA of USA etc. as detailed in Table 5.12 in the EIA Report during design and operation of the facilities. Chemical treatment and monitoring should be considered for reuse of condensate from air conditioning systems at the detailed design stage. As the demand for reclaimed water is significant, discharge of surplus reclaimed water is not anticipated.</p>	Within WKCD site / During design and operation phases / Throughout operation phase	Individual venue operators; Detailed Design Consultant appointed by WKCD	✓		✓		ASD Design Guideline for Rainwater Recycling Installation; USEPA Guidelines for water reuse
5.7.2.7		<p>Thermal / Cooled Water Discharge from District Cooling System</p> <ul style="list-style-type: none"> Monitoring for the spent cooling water discharge from DCWS during operation should follow the requirements as specified in the discharge license to be issued under the WPCO. Details of the water quality monitoring and audit programme and the Event and Action Plan are provided in the stand-alone EM&A Manual. 	Within WKCD site / During design and operation phases / Throughout operation phase	Individual venue operators; Detailed Design Consultant appointed by WKCD	✓		✓		WPCO
Sewerage and Sewage Treatment Implications (Design)									
6.7.1.1	5.1	<p>General Requirements</p> <p>The detailed design of the proposed sewerage system should be circulated to DSD, EPD and other relevant parties for comment during planning and detailed design stage to ensure acceptance by relevant parties. Access for plant, equipment and personnel for maintenance of the works should be adequately provided. A</p>	Within WKCD site / During detailed design stage / Prior to commencement of construction	Detailed Design Consultant appointed by WKCD	✓				DSD's Stormwater Drainage Manual; DSD's Sewerage Manual Part 1 & Part 2; DSD Standard

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
		plan showing the maintenance access to the proposed sewers has been provided in Figure 6.5.							Drawings; and HyD's Structures Design Manual for Highways and Railways
6.7.1.2	5.1	<p>Gravity Sewers</p> <p>The design of gravity sewers should be according to the guidelines stipulated in Sewerage Manual Part 1. The general requirements are summarized below:</p> <ul style="list-style-type: none"> ▪ Pipe size: The minimum pipe size of gravity sewer is 225mm in diameter. ▪ Capacity: The gravity sewer should be designed to avoid under surcharge condition. 1m freeboard should be provided if surcharge condition cannot be avoided. ▪ Flow velocity: The flow velocity should be not less than 1m/s under full bore flow for self-cleansing purpose. The maximum velocity should be limited to 3m/s. ▪ Alignment: The alignment of the proposed sewer should be reviewed to avoid conflicting with existing utilities and affecting traffic flow as far as possible. ▪ Hydraulic Design: The detailed hydraulic design should follow the guidelines provided under Section 5.2 of Sewerage Manual Part 1. ▪ Pipe Material: Selection of pipe material shall be based on its suitability for the proposed application. The selection process includes an evaluation of the possible conditions to which the pipes may be exposed in order to specify the appropriate material and installation requirements for the specific application. ▪ Pipe Joints: In order to accommodate differential settlement that may occur between sewers and adjacent 	Within WKCD site / During detailed design stage / Prior to commencement of construction	Detailed Design Consultant appointed by WKCD	✓				DSD's Sewerage Manual Part 1

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines								
					Des	Con	Op	Dec									
		<p>structures (including manholes), two flexible joints shall be provided in accordance with the latest amendment of General Specification for Civil Engineering Works 2006 Edition Volume 1 Clause 5.71 – Connections to structures in providing the flexible joints to structures.</p> <ul style="list-style-type: none"> ▪ Pipeline Structural Design: The structural checking and bedding design should in accordance with Section 6 of Sewerage Manual Part 1. 															
6.7.1.3	5.1	<p>Manholes Design</p> <p>The design of manholes should be in accordance with Section 7 of Sewerage Manual Part 1.</p> <ul style="list-style-type: none"> ▪ Location: Manholes should be provided at all changes in direction, at intersections and to suit property connections. The maximum spacing between manholes should be as follows: <table border="1" data-bbox="488 869 1019 1013"> <thead> <tr> <th>Diameter of Pipe (mm)</th> <th>Maximum Intervals (m)</th> </tr> </thead> <tbody> <tr> <td>Smaller than 600</td> <td>40</td> </tr> <tr> <td>Between 600 – 1050</td> <td>80</td> </tr> <tr> <td>Larger than 1050</td> <td>120</td> </tr> </tbody> </table> ▪ Access Openings/Shafts: Desilting opening should not be smaller than 750mm by 900mm and should be placed in the line of the sewer. The man access opening with minimum size of 675mm x 750mm should be provided at manholes. Man access openings should be placed off the line of the sewer for deep manhole and along the line of the sewer for manholes shallower than 1.2m. ▪ Working Chambers: Working Chambers should be provided to manholes deeper than 1.2m. ▪ Intermediate Platforms: When the invert of a manhole is more than 4.25m from the cover level, intermediate 	Diameter of Pipe (mm)	Maximum Intervals (m)	Smaller than 600	40	Between 600 – 1050	80	Larger than 1050	120	Within WKCD site / During detailed design stage / Prior to commencement of construction	Detailed Design Consultant appointed by WKCDA	✓				DSD's Sewerage Manual Part 1
Diameter of Pipe (mm)	Maximum Intervals (m)																
Smaller than 600	40																
Between 600 – 1050	80																
Larger than 1050	120																

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
		<p>platforms should be provided at regular intervals. The headroom between platforms should not be less than 2m nor greater than 4m. Hand railing and safety chains should be provided at the edge of platform to protect persons from falling down. The minimum size of platform should be 800mm by 1350mm.</p> <ul style="list-style-type: none"> ▪ Covers: The manhole cover should be designed strong enough to take the design loading and should not rock when initially placed in position or develop a rock with wear. The design of manhole covers should make reference to DSD standard drawings. ▪ Backdrop Manhole: When the level difference between the inlet pipe and the invert level of manhole is greater than 600mm, backdrop manhole should be used. The design of backdrop manhole should follow guidelines under Section 7.1.9 in Sewerage Manual Part 1. ▪ Step-irons/Cat Ladder: Step-irons should be securely fixed in position and should be equally spaced and staggered about a vertical line at 300mm centres. Cat ladders should be used in manholes deeper than 4.25m or where manholes are frequently entered. Set-irons and ladders should be start at not more than 600mm below the cover level and continue to the platform or benching. Corrosion resistance materials should be used if step-irons and ladders are constantly in a damp atmosphere and prone to corrosion. 							
6.7.1.4	5.1	<p>Sump Pumps Design</p> <p>The design of sewage sump pumps should follow the requirements stipulated in the Sewerage Manual Part 2.</p> <ul style="list-style-type: none"> ▪ The number of pumps to be installed depends on the sump capacity. Standby pumps should be provided to ensure the operation can still be maintained during maintenance or 	Within WKCD site / During detailed design stage / Prior to commencement of construction	Detailed Design Consultant appointed by WKCDA	✓			DSD's Sewerage Manual Part 2	

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
		<p>mechanical failure.</p> <ul style="list-style-type: none"> ▪ The selected electrical equipment shall be suitable to operate under high humidity, high temperature and presence of corrosive gases. ▪ Appropriate mitigation measures to control noise and odour problems should be designed under detailed design stage. The typical methods for noise and odour control could refer to the Sewerage Manual Part 2. ▪ In order to control the septicity of sewage due to operation of sewage pumping facilities, the retention time of sewage should be minimized. Pumps with different small rate should be considered for reducing the time of retention of sewage. Direct injection of oxygen could also be used to control septicity. The mitigation methods should be considered under detailed design stage. ▪ Fresh water should be provided for the operation and maintenance staff for hygienic reasons. 							
6.7.1.5	5.1	<p>Rising Mains Design</p> <p>The design of rising main should follow the requirement stipulated in the Sewerage Manual Part 2.</p> <p>Twin rising mains should be provided as far as possible because of the following reasons:</p> <ul style="list-style-type: none"> ▪ To accommodate a wide range of flow conditions such that the velocity in the mains can be kept within acceptable limits; ▪ To provide continued operation when one of the mains is damaged; and ▪ To facilities future inspection and maintenance while the normal sewage flow can be maintained. <p>The maximum velocity at peak flow should not exceed 3m/s. The</p>	Within WKCD site / During detailed design stage / Prior to commencement of construction	Detailed Design Consultant appointed by WKCDA	✓				DSD's Sewerage Manual Part 2

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
		<p>desirable range of velocity should be 1m/s to 2m/s with due consideration given to the various combinations of number of duty pumps in operation.</p> <p>Air relief valves, check valves, isolating valves and discharge sumps shall be provided in accordance to the Sewerage Manual Part 2.</p> <p>Septicity control methods for rising mains, such as oxygen injection and reducing retention time of sewage, should be designed under detailed design stage.</p>							
6.7.1.6	5.1	<p>Thrust Blocks for Rising Mains</p> <p>Thrust blocks should be provided to rising mains to prevent pipes from being moved by forces exerted within the pipe by the flow of water hitting bends, tapers, and closed or partially closed valves. The size of a thrust block is dependent upon the deflection of the flow and the head of water inside the pipe. Design of thrust block should refer to DSD Sewerage Manual Part 2.</p>	Within WKCD site / During detailed design stage / Prior to commencement of construction	Detailed Design Consultant appointed by WKCD	✓			DSD's Sewerage Manual Part 2	
Sewerage and Sewage Treatment Implications (Operation)									
6.7.1.7	5.2	<p>Inspection and General Maintenance Operations</p> <p>All gravity sewers and rising mains shall be tested in accordance with relevant General Specification sections as appropriate in the presence and to the satisfaction of the staff of DSD upon completion of the installation.</p> <p>Records of satisfactory testing on the completed works shall be submitted to DSD after the testing. CCTV survey records, as-built drawings and hydraulic and structural design calculations should be submitted to DSD for records.</p>	Within WKCD site / From several days to several weeks / Upon completion of installation	WKCD		✓		CEDD's General Specification for Civil Engineering Works	
Waste Management Implications (Construction)									
7.5.1.1	6.1	<p>Good Site Practices</p> <p>Recommendations for good site practices during the</p>	WKCD construction site / Throughout construction	Contractor appointed by		✓		Waste Disposal Ordinance; Waste	

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
		<p>construction activities include:</p> <ul style="list-style-type: none"> ▪ Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site ▪ Training of site personnel in proper waste management and chemical handling procedures ▪ Provision of sufficient waste disposal points and regular collection of waste ▪ Appropriate measures to minimise windblown litter and dust/odour during transportation of waste by either covering trucks or by transporting wastes in enclosed containers ▪ Provision of wheel washing facilities before the trucks leaving the works area so as to minimise dust introduction to public roads ▪ Well planned delivery programme for offsite disposal such that adverse environmental impact from transporting the inert or non-inert C&D materials is not anticipated 	stage / Until completion of all construction activities	WKCDA					Disposal (Chemical Wastes) (General) Regulation; and Technical Circular (Works) No. 19/2005 Environmental Management on Construction Site
7.5.1.2	6.1	<p>Waste Reduction Measures</p> <p>Recommendations to achieve waste reduction include:</p> <ul style="list-style-type: none"> ▪ Sort inert C&D material to recover any recyclable portions such as metals ▪ Segregation and storage of different types of waste in different containers or skips to enhance reuse or recycling of materials and their proper disposal ▪ Encourage collection of recyclable waste such as waste paper and aluminium cans by providing separate labelled bins to enable such waste to be segregated from other general refuse generated by the work force ▪ Proper site practices to minimise the potential for damage or 	WKCD construction site / Throughout construction stage / Until completion of all construction activities	Contractor appointed by WKCDA		✓			Waste Disposal Ordinance

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
		<p>contamination of inert C&D materials</p> <ul style="list-style-type: none"> Plan the use of construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste 							
7.5.1.3	6.1	<p>Inert and Non-inert C&D Materials</p> <p>In order to minimise impacts resulting from collection and transportation of inert C&D material for off-site disposal, the excavated materials should be reused on-site as fill material as far as practicable. In addition, inert C&D material generated from excavation works could be reused as fill materials in local projects that require public fill for reclamation.</p> <ul style="list-style-type: none"> The surplus inert C&D material will be disposed of at the Government's PFRFs for beneficial use by other projects in Hong Kong. Liaison with the CEDD Public Fill Committee (PFC) on the allocation of space for disposal of the inert C&D materials at PFRF is underway. No construction work is allowed to proceed until all issues on management of inert C&D materials have been resolved and all relevant arrangements have been endorsed by the relevant authorities including PFC and EPD. The C&D materials generated from general site clearance should be sorted on site to segregate any inert materials for reuse or disposal of at PFRFs whereas the non-inert materials will be disposed of at the designated landfill site. In order to monitor the disposal of inert and non-inert C&D materials at respectively PFRFs and the designated landfill site, and to control fly-tipping, it is recommended that the Contractor should follow the Technical Circular (Works) No.6/2010 for Trip Ticket System for Disposal of Construction & Demolition Materials issued by Development Bureau. In addition, it is also recommended that the 	<p>WKCD construction site / Throughout construction stage / Until completion of all construction activities</p>	<p>Contractor appointed by WKCDA</p>		✓			<p>Waste Disposal Ordinance ; Technical Circular (Works) No.6/2010 for Trip Ticket System for Disposal of Construction & Demolition Materials; and Technical Circular (Works) No. 19/2005 Environmental Management on Construction Site</p>

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
		Contractor should prepare and implement a Waste Management Plan detailing their various waste arising and waste management practices in accordance with the relevant requirements of the Technical Circular (Works) No. 19/2005 Environmental Management on Construction Site.							
7.5.1.4	6.1	<p>Chemical Waste</p> <p>If chemical wastes are produced at the construction site, the Contractor will be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the "Code of Practice on the Packaging Labelling and Storage of Chemical Wastes". Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor should use a licensed collector to transport and dispose of the chemical wastes at the approved Chemical Waste Treatment Centre or other licensed recycling facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.</p> <p>Potential environmental impacts arising from the handling activities (including storage, collection, transportation and disposal of chemical waste) are expected to be minimal with the implementation of appropriate mitigation measures as recommended.</p>	WKCD construction site / Throughout construction stage / Until completion of all construction activities	Contractor appointed by WKCDA		✓			Code of Practice on the Packaging Labelling and Storage of Chemical Wastes; Waste Disposal (Chemical Waste) (General) Regulation
7.5.1.5	6.1	<p>General Refuse</p> <p>General refuse should be stored in enclosed bins or compaction units separated from inert C&D materials. A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from inert C&D materials. Preferably an enclosed and covered area should be</p>	WKCD construction site / Throughout construction stage / Until completion of all construction activities	Contractor appointed by WKCDA		✓			Waste Disposal Ordinance and Public Health and Municipal Services Ordinance - Public Cleansing and

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
		provided to reduce the occurrence of 'wind blown' light material.							Prevention of Nuisances Regulation
Waste Management Implications (Operation)									
7.5.2.1	6.2	<p>General Refuse</p> <p>General refuse should be collected on daily basis and delivered to the refuse collection point accordingly. A reputable waste collector should be employed to remove general refuse regularly to avoid odour nuisance or pest/vermin problem. Sufficient recycling containers are recommended to be provided at suitable locations of the WKCD site to encourage recycling of such waste as aluminium cans, plastics and waste paper.</p>	WKCD site / On a regular basis / Throughout operation stage	Private Developer (for land sale lots); Relevant Government Departments e.g. FEHD / LCSD (for Government / public facilities) WKCDA (for WKCDA facilities)			✓		Waste Disposal Ordinance and Public Health and Municipal Services Ordinance - Public Cleansing and Prevention of Nuisances Regulation
7.5.2.2	6.2	<p>Chemical Waste</p> <p>If chemical wastes are expected to be produced during the operation phase, the Project Proponent should register with the EPD as a chemical waste producer and follow the guidelines stated in the "Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes". Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. Licensed collector should be deployed to transport and dispose of the chemical wastes at the approved Chemical Waste Treatment Centre or other licensed recycling facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.</p>	WKCD site / On a regular basis / Throughout operation stage	Private Developer (for land sale lots); Relevant Government Departments e.g. FEHD / LCSD (for Government / public facilities) WKCDA (for WKCDA facilities)			✓		Code of Practice on the Packaging Labelling and Storage of Chemical Wastes; Waste Disposal (Chemical Waste) (General) Regulation

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
Land Contamination (Construction)									
8.6	7.1	<p>The potential for land contamination issues at the TST Fire Station due to its future relocation will be confirmed by site investigation after land acquisition. Where necessary, mitigation measures for minimising potential exposure to contaminated materials (if any) or remediation measures will be identified. If contaminated land is identified (e.g., during decommissioning of fuel oil storage tanks) after the commencement of works, mitigation measures are proposed in order to minimise the potentially adverse effects on the health and safety of construction workers and impacts arising from the disposal of potentially contaminated materials.</p> <p>The following measures are proposed for excavation and transportation of contaminated material:</p> <ul style="list-style-type: none"> ▪ To minimize the chance for construction workers to come into contact with any contaminated materials, bulk earth-moving excavation equipment should be employed; ▪ Contact with contaminated materials can be minimised by wearing appropriate clothing and personal protective equipment such as gloves and masks (especially when interacting directly with contaminated material), provision of washing facilities and prohibition of smoking and eating on site; ▪ Stockpiling of contaminated excavated materials on site should be avoided as far as possible; ▪ The use of contaminated soil for landscaping purpose should be avoided unless pre-treatment was carried out; ▪ Vehicles containing any contaminated excavated materials should be suitably covered to reduce dust emissions and/or release of contaminated wastewater; ▪ Truck bodies and tailgates should be sealed to stop any 	Site of the existing Tsim Sha Tsui Fire Station / During excavation activities / Prior to construction of WKCD facilities	Contractor appointed by WKCD		✓			Waste Disposal Ordinance; and Waste Disposal (Chemical Waste) (General) Regulation

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
		discharge; <ul style="list-style-type: none"> ▪ Only licensed waste haulers should be used to collect and transport contaminated material to treatment/disposal site and should be equipped with tracking system to avoid fly tipping; ▪ Speed control for trucks carrying contaminated materials should be exercised; ▪ Observe all relevant regulations in relation to waste handling, such as Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap 354) and obtain all necessary permits where required; and ▪ Maintain records of waste generation and disposal quantities and disposal arrangements. 							
Land Contamination (Operation)									
No mitigation measure is required.									
Ecological Impact (Construction)									
No mitigation measure is required.									
Ecological Impact (Operation)									
No mitigation measure is required.									
Landscape and Visual Impact (Construction)									
Table 10.18 (CM1)	Table 9.1 (CM1)	Trees should be retained in situ on site as far as possible. Should tree removal be unavoidable due to construction impacts, trees will be transplanted or felled with reference to the stated criteria in the Tree Removal Applications to be submitted to relevant government departments for approval in accordance to ETWB TCW No. 29/2004 and 3/2006.	WKCD construction site / Throughout construction stage / Until completion of all construction activities	Contractor appointed by WKCDA	✓	✓			ETWB TCW No. 29/2004 and 3/2006
Table 10.18	Table 9.1	Compensatory tree planting shall be incorporated to the proposed project and maximize the new tree, shrubs and other vegetation planting to compensate tree felled and vegetation	WKCD Park and public areas / After completion of site formation / Prior to	Contractor appointed by	✓	✓			ETWB TCW No. 3/2006

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
(CM2)	(CM2)	removed. Also, implementation of compensatory planting should be of a ratio not less than 1:1 in terms of quality and quantity within the site.	operation stage	WKCD					
Table 10.18 (CM3)	Table 9.1 (CM3)	Buffer trees for screening purposes to soften the hard architectural and engineering structures and facilities.	Alongside superstructures within WKCD / After completion of superstructure construction / Prior to operation stage	Contractor appointed by WKCD	✓	✓			EIAO-TM
Table 10.18 (CM4)	Table 9.1 (CM4)	Softscape treatments such as vertical green wall panel /planting of climbing and/or weeping plants, etc, to maximize the green coverage and soften the hard architectural and engineering structures and facilities.	Alongside superstructures within WKCD / After completion of road and street construction / Prior to operation stage	Detailed Design Consultant / Contractor appointed by WKCD	✓	✓			EIAO-TM
Table 10.18 (CM5)	Table 9.1 (CM5)	Roof greening by means of intensive and extensive green roof to maximize the green coverage and improve aesthetic appeal and visual quality of the building/structure.	WKCD structures / After completion of superstructure construction / Prior to operation stage	Detailed Design Consultant / Contractor appointed by WKCD	✓	✓			EIAO-TM
Table 10.18 (CM6)	Table 9.1 (CM6)	Sensitive streetscape design should be incorporated along all new roads and streets.	Alongside roads and streets within WKCD / After completion of structure construction / Prior to operation stage	Detailed Design Consultant / Contractor appointed by WKCD	✓	✓			EIAO-TM
Table 10.18 (CM7)	Table 9.1 (CM7)	Structure, ornamental planting shall be provided along amenity strips to enhance the landscape quality.	Alongside superstructures within WKCD/ After completion of superstructure construction / Prior to operation stage	Contractor appointed by WKCD	✓	✓			EIAO-TM

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
Table 10.18 (CM8)	Table 9.1 (CM8)	Landscape design shall be incorporated to architectural and engineering structures in order to provide aesthetically pleasing designs.	WKCD structures / After completion of structure construction / Prior to operation stage	Detailed Design Consultant / Contractor appointed by WKCD	✓	✓			EIAO-TM
Table 10.18 (CM9)	Table 9.1 (CM9)	Minimize the structure of marine facilities to built on the seabed and foreshore in order to minimize the affected extent to the waterbody	WKCD construction site / Throughout construction stage / Until completion of all construction activities	Detailed Design Consultant / Contractor appointed by WKCD	✓	✓			EIAO-TM
Table 10.22 (MCP1)	Table 9.2 (MCP1)	Use of decorative screen hoarding/boards	WKCD construction sites / Throughout construction stage / Prior to operation stage	Contractor appointed by WKCD		✓			ETWB TCW No. 3/2006
Table 10.22 (MCP2)	Table 9.2 (MCP2)	Early introduction of landscape treatments	WKCD construction sites / Towards the end of construction stage / Prior to operation stage	Contractor appointed by WKCD		✓			EIAO-TM
Table 10.22 (MCP3)	Table 9.2 (MCP3)	Adoption of light colour for the temporary ventilation shafts for the basement during the transition period.	WKCD basement construction sites / After completion of ventilation shaft superstructure / Prior to operation stage	Design Architect / Contractor appointed by WKCD	✓	✓			EIAO-TM
Table 10.22 (MCP4)	Table 9.2 (MCP4)	Control of night time lighting	WKCD construction sites / During night time / Throughout construction stage	Contractor appointed by WKCD		✓			EIAO-TM
Table 10.22 (MCP5)	Table 9.2 (MCP5)	Use of greenery such as grass cover for the temporary open areas will help achieve the visual balance and soften the hard edges of the structures.	WKCD temporary open areas / Throughout construction stage / Prior to operation stage	Contractor appointed by WKCD		✓			EIAO-TM

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
Landscape and Visual Impact (Operation)									
Table 10.19 (OM1)	Table 9.3 (OM1)	Provide proper planting maintenance on the new planting areas to enhance the aesthetic design degree	WKCD open areas / Throughout operation phase / As-needed basis	Private Developer (for land sale lots); LCSD (for roadside planting) WKCDA (for all other WKCD areas)			✓		EIAO-TM
Table 10.19 (OM2)	Table 9.3 (OM2)	Provision of open space in various forms and at different levels on or above ground, including park, waterfront promenade, piazzas and terrace garden and associated green connections for public enjoyment.	WKCD open areas / Throughout operation phase / As-needed basis	Private Developer (for land sale lots); LCSD (for roadside planting) WKCDA (for all other WKCD areas)	✓		✓		EIAO-TM
Table 10.23 (GDF1)	Table 9.4 (GDF1)	Control of Development Heights and Massing and Distinctive Architectural Design With well designed low to medium-rise buildings, the proposed WKCD development is anticipated to be highly compatible with the surroundings.	WKCD buildings / During design stage / Throughout operation phase	Design Architect / Contractor appointed by WKCDA	✓		✓		EIAO-TM
Table 10.23 (GDF2)	Table 9.4 (GDF2)	Creation of View Corridor The buildings on the WKCD are designed to allow visual permeability from the WKT to Victoria Harbour, which is achieved by alignment of the buildings on the WKCD site.	WKCD buildings / During design stage / Throughout operation phase	Design Architect appointed by WKCDA	✓		✓		EIAO-TM
Table 10.23 (GDF3)	Table 9.4 (GDF3)	Preservation of Open Vista from the Heritage Sites An open vista and green corridor from the heritage sites consisting of the declared monuments of St. Andrew's Church, former Kowloon British School (now Antiques and Monuments Office) and Hong Kong Observatory through Kowloon Park, and along the WKCD waterfront promenade towards the Victoria	WKCD open areas / During design stage / Throughout operation phase	Design Consultant appointed by WKCDA / WKCDA	✓		✓		EIAO-TM

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
		Harbour is preserved.							
Table 10.23 (GDF4)	Table 9.4 (GDF4)	Provision of Open Space The open space will be provided in various forms at grade in the WKCD, including piazzas, a landscaped waterfront promenade and various green spaces.	WKCD open areas / During design stage / Throughout operation phase	Design Architect / Contractor appointed by WKCDA	✓		✓		EIAO-TM
Table 10.23 (GDF5)	Table 9.4 (GDF5)	Provision of Terrace Gardens The unique designed terrace gardens are considered as a good design feature to lessen the visual impacts and provide new visual resources when viewed from the VSRs at higher levels.	WKCD open areas / During design stage / Throughout operation phase	Private Developer (for land sale lots); WKCDA (for WKCD facilities)	✓		✓		EIAO-TM
Table 10.23 (MOP1)	Table 9.4 (MOP1)	Undulating berms and the trees planted in the surroundings of the existing WHC and MTR ventilation buildings.	Around existing ventilation buildings within WKCD / During construction of WKCD Park / Throughout operation phase	Contractor appointed by WKCDA			✓		EIAO-TM
Table 10.23 (MOP2)	Table 9.4 (MOP2)	Clusters of shade planting and appropriate landscaping are designed to provide a relaxing waterfront environment, soften the water edge and helps mitigate the visual impacts associated with the existing WHC and MTR ventilation buildings.	WKCD waterfront / During design stage / Throughout operation phase	Landscape Architect / Contractor appointed by WKCDA	✓		✓		EIAO-TM
Table 10.23 (MOP3)	Table 9.4 (MOP3)	The unique designed roof top gardens and green roof are considered as mitigation measures to lessen the visual impacts and provide new visual resources when viewed from the VSRs at higher levels.	WKCD open areas / During design stage / Throughout operation phase	Private Developer (for land sale lots); WKCDA (for WKCD facilities)	✓		✓		EIAO-TM
Table 10.23 (MOP4)	Table 9.4 (MOP4)	Buffer trees for screening purposes or other softscape treatments such as vertical green wall / climbers / green roof / vertical greening shall be incorporated to soften the hard architectural and engineering structures and facilities.	Alongside superstructures within WKCD / After completion of superstructure construction / Throughout operation	Private Developer (for land sale lots); WKCDA (for WKCD facilities)			✓		EIAO-TM

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage ¹				Relevant Legislation & Guidelines
					Des	Con	Op	Dec	
Table 10.23 (MOP5)	Table 9.4 (MOP5)	Use of natural colour tones (e.g. green colour) for wind turbines located along the waterfront, to make them visually more compatible with the surroundings.	WKCD waterfront / During design stage / Throughout operation phase	Design Architect / Contractor appointed by WKCDA	✓		✓		EIAO-TM
Table 10.23 (MOP 6)	Table 9.4 (MOP 6)	Appropriate positioning and angling of the solar panels to avoid significant visual impacts on the VSRs located at upper levels in close proximity.	WKCD building rooftops / During daytime / Throughout operation stage	Private Developer (for land sale lots); WKCDA (for WKCD facilities)	✓		✓		EIAO-TM
Table 10.23 (MOP 7)	Table 9.4 (MOP 7)	Aesthetic design of roads and streetscapes	Along WKCD roads and streets / During design stage / Throughout operation phase	Design Architect / Contractor appointed by WKCDA	✓		✓		EIAO-TM
Table 10.23 (MOP 8)	Table 9.4 (MOP 8)	Human scale design for the WKT Plaza and the Intersection of Canton Road and Austin Road West	WKT Plaza intersection with WKCD / During design stage / Throughout operation phase	Design Architect / Contractor appointed by WKCDA / MTRC	✓		✓		EIAO-TM
Table 10.23 (MOP 9)	Table 9.4 (MOP 9)	Night time lighting control measures such as the use of sensors and timers could help reduce usage after hours.	WKCD building exterior and open areas / During night time / Throughout operation stage	Private Developer (for land sale lots); WKCDA (for WKCD facilities)			✓		EIAO-TM