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APPENDIX C IMPLEMENTATION SCHEDULE OF RECOMMENDED MITIGATION MEASURES 1

Implementation Schedule of Recommended Mitigation Measures 1

Table 1 Implementation Schedule of Recommended Mitigation Measures

APPENDIX C IMPLEMENTATION SCHEDULE OF RECOMMENDED MITIGATION MEASURES

Implementation Schedule of Recommended Mitigation Measures

This section presents the implementation schedule of mitigation measures for the Project. **Table 1** summarises the details of the recommended mitigation measures for all works areas. For each recommended mitigation measures, both the location and timing for the measure have clearly been identified as well as the parties responsible for implementing the measure and for maintenance (where applicable).

Table 1 Implementation Schedule of Recommended Mitigation Measures

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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Air Quality Impact								
Construction Phase								
3.8.1.1	All DPs and Non-DPs	Dust suppression measures stipulated in *Air Pollution Control (Construction Dust) Regulation* and good site practices listed below should be carried out to further minimize construction dust impact. • Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather. • Use of frequent watering for particularly dusty construction areas and areas close to ASRs. • Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines. • For the work sites close to the ASRs with a separation distance less than 10 m, provide hoardings of not less than 3 m high from ground level along the site boundary; for the other work sites in general, provide hoarding not less than 2.4m high from ground level along site boundary except for site entrance or exit.	Construction Sites / Construction Phase	Contractor		√		• Air Pollution Control Ordinance (APCO) • Air Quality Objectives (AQO) • Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM)

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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		• Avoid position of material stockpiling areas, major haul roads and dusty works within the construction site close to concerned ASRs. • Avoid unnecessary exposed earth. • Locate all the dusty activities away from any nearby ASRs as far as practicable. • Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs. • Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations. • Establishment and use of vehicle wheel and body washing facilities at the exit points of the site. • Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs. • Imposition of speed controls for vehicles on site haul roads. • Instigation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise.						
3.8.1.2	All DPs and Non-DPs	Guidelines stipulated in EPD's Recommended Pollution Control Clauses for Construction Contracts should be incorporated in the contract document to abate dust impacts. These clauses include: • The Contractor shall observe and comply with APCO and its subsidiary regulation, particularly the Air Pollution Control (Construction Dust) Regulation.	Construction Sites / Construction Phase	Contractor		√		• APCO • Air Pollution Control (Construction Dust) Regulation • AQO • EIAO-TM

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		• The Contractor shall undertake at all times to prevent dust nuisance as a result of the construction activities. • The Contractor shall ensure that there will be adequate water supply /storage for dust suppression. • The Contractor shall devise and arrange methods of working and carrying out the works in such a manner so as to minimize dust impact on the surrounding environment, and shall provide experienced personnel with suitable training to ensure that these methods are implemented properly. • Before the commencement of any work, the Contractor may be required to submit the methods of working, plant, equipment and air pollution control system to be used on the site for the Engineer inspection and approval.						
3.8.1.3	All DPs and Non-DPs	In order to help reduce carbon emission and pollution, timely application of temporary electricity and water supply would be made and electric vehicles would be adopted in accordance with DEVB TC(W) No. 13/2020 – Timely Application of Temporary Electricity and Water Supply for Public Works Contracts and Wider Use of Electric Vehicles in Public Works Contracts in the Project.	Construction Sites / Construction Phase	Contractor		√		• DEVB TC(W) No. 13/2020
3.8.1.4	All DPs and Non-DPs	To minimise the exhaust emission from non-road mobile machinery (NRMMs) during the construction phase, the following measures should be applied as far as practicable: • Connect construction plant and equipment to main electricity supply and avoid use of diesel generators and diesel-powered equipment; • Avoid exempted NRMMs as far as practicable; and • Deploy electrified NRMMS as far as practicable.	Construction Sites / Construction Phase	Contractor		√		• Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation
Operation Phase								

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3.5.3.1	DP2	The generated biogas will undergo treatment in sulphur absorption vessels to remove H_2S by the filter before passing to the CHP generator,. In addition, the Anammox process will also be adopted for sewage treatment so as to convert ammonia (NH_3) in the sewage to nitrogen gas to reduce the overall NH_3 emission from the plant.	EPP / Operation Phase	DSD	√		√	• EIAO-TM
3.7.3.2 & 3.7.3.3	Non-DP	Design of central air-conditionings for the buildings at Site G.5.8, G.5.9, G.5.19, G.5.10, G.5.11, G.5.12 and OU(I&T)3.1.8 and the fresh air intake of these buildings being positioned 20mAG or above.	Site G.5.8, G.5.9, G.5.19, G.5.10, G.5.11, G.5.12 and OU(I&T)3.1.8 / Operation Phase	Site Developers / Operators	√		√	• EIAO-TM
3.8.3.2	DP2	Proposed Effluent Polishing Plant (EPP) to be equipped with 2-stage deodourisation system with overall 95% odour removal efficiencies	EPP / Operation Phase	DSD	√		√	• EIAO-TM
3.8.3.2	Non-DP	Proposed Food Waste Pre-Treatment Facilities (FWPF) to be equipped with activated carbon filter	FWPF / Operation Phase	EPD	√		√	• EIAO-TM
3.8.3.2	Non-DP	The three proposed SPSs to be equipped with odour removal system with odour removal efficiency of at least 95%	Three proposed SPSs / Operation Phase	DSD	√		√	• EIAO-TM
Noise Impact								
Construction Phase								
4.8.1.1 – 4.8.1.2	All DPs and Non-DPs	Adopting Quality Powered Mechanical Equipment (QPME) is recommended. The use of QPME associated with the construction works is prescribed in EPD's QPME database, which contains the sound power levels (SWLs) for quality/quiet PME of various types, brands and models.	Construction sites	Contractor		√		• EIAO-TM
4.8.1.3	All DPs and Non-DPs	Movable noise barriers have been proposed for excavator, mobile crane, loader, backhoe, dump truck, dump truck with	Construction sites	Contractor		√		• EIAO-TM

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		grab, piling (large diameter bored, RCD), piling (large diameter bored, oscillator), crawler crane (mobile, diesel), roller (vibratory), paint line marker, cherry picker, crane lorry, crane, welding set, lorry, breaker (hand-held, mass >10kg and <20kg), poker (vibratory, hand-held), concrete lorry mixer, concrete mixer, bar bender and cutter (electric), saw (circular, wood), water pump (submersible, electric), breaker (hand-held, mass <= 10kg), piling (vibrating hammer), chisel, drill rig (rotary type (diesel)), asphalt paver, cutter (circular, steel), drilling rig, etc. Movable temporary noise barriers that can be located close to noisy plant and be moved iteratively with the plant along a worksite can be very effective for screening noise from noise sensitive receivers (NSRs). A cantilevered top cover would be required to achieve screening benefits at upper floors of noise sensitive receivers (NSRs).						
4.8.1.4	All DPs and Non-DPs	Use of full enclosure for generator (silenced), Generator for HAC, and generator for DCM.	Construction sites	Contractor		√		• EIAO-TM
4.8.1.5	All DPs and Non-DPs	Use of non-percussive equipment and method, such as silent piling by "Press-in" Method, to carry out sheet piling works	Construction sites	Contractor		√		• EIAO-TM
4.8.1.6	All DPs and Non-DPs	Use of non-percussive equipment and method, such as hydraulic crusher, chemical expansion agent, quieter type blade saw and bursting system to carry out demolition/concrete breaking/removal activities as far as practicable	Construction sites	Contractor		√		• EIAO-TM
4.8.1.7	All DPs and Non-DPs	For Ground Treatment – High Arsenic Containing Soil, the construction equipment i.e. roller and excavator should not be used simultaneously with backhoe and bulldozer.	Construction sites of A.2.1-1-1, A.2.1-2-1 and A.5.3-0-1	Contractor		√		• EIAO-TM
4.8.1.11	All DPs and Non-DPs	Construction Noise Management Plan would be prepared before tender stage and before commencement of construction works to verify the inventory of noise sources, and to assess the effectiveness and practicality of all identified	Construction sites	CEDD/ Contractor		√		• EIAO-TM

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		measures for mitigating the construction noise impact of the project.						
Operation Phase								
4.8.2.2	DP1 and Non-DPs	Provide low noise road surfacing on the Project Road	Roads D1, D2, D4, D5, P1, L1, L3, L4, L5, L6, L7, L8, L9, L10, L13, L14, L19& L20 Prior to road opening.	CEDD (construction phase) /HyD (operation phase)	√	√	√	• EIAO-TM
4.8.2.2	Non-DPs	Provide acoustics windows / balcony at private / public housing site	RSc.2.1, RSc.2.2, RSc.3.2, R.1.2.1, R.1.2.2, R.1.2.3.2, R.1.3.2, OU(MU)1.2.1, OU(MU)2.1.1, G.3.1 Prior to population intake of the residential sites.	Housing Department/ Private Developers	√	√	√	• EIAO-TM
4.8.2.4	Non-DPs	A traffic noise management plan, which to review and confirm the direct mitigation measure (i.e., Noise barrier) for the operation phase traffic noise impacts arising from the Project, would be prepared for EPD's approval before road opening.	Design and Operation Phases	CEDD	√	√	√	• EIAO-TM
4.8.2.5	Non-DPs	Noise Impact Assessment for the planned private residential developments shall be conducted by private developers and Environmental Assessment Study (EAS) for the planned public housings shall be conducted by Housing Department in the detailed design stage to comply with relevant noise criteria stipulated in EIAO-TM and HKPSG.	Design and Operation Phases	Housing Department/ Private Developers	√	√	√	• EIAO-TM • Ch.9 of the HKPSG

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4.8.2.2	Non-DPs	Provide vertical noise barrier and cantilevered noise barrier	Roads L6, L7, L8, L9, L13, L14, San Tin Highway and near the existing San Tin Tsuen Road Prior to road opening for existing NSRs or population intake of planned NSRs	CEDD	√	√	√	• EIAO-TM • Guidelines on Design of Noise Barriers
4.7.2.7 and 4.7.2.9	Non-DPs	All maximum allowable Sound Power Levels presented in this EIA Report should be included in the tender specification. The relevant government department/future operator shall also take into account the latest available information at the time of detailed design to review and update the maximum allowable SWL as appropriate.	Design and Operation Phases	Relevant government departments/ future operators	√	√	√	• EIAO-TM • NCO
4.7.2.9	Non-DPs	Noise commissioning test for fixed noise sources will be carried out by relevant government departments/ future operators before operation of fixed noise sources and incorporate the requirement in the implementation schedule.	Design and Operation Phases	Relevant government departments/ future operators	√	√	√	• EIAO-TM • NCO • Technical Memorandum on Noise from Places other than Domestic Premises, Public Places or Construction Sites (IND-TM)

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Water Quality Impact								
Construction Phase								
5.7.1.3	All DPs and Non-DPs	Surface run-off from construction site should be discharged into storm drains via adequately designed sand / silt removal facilities such as sand traps, silt traps and sedimentation basins. Channels, earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Perimeter channels at site boundaries should be provided as necessary to intercept storm run-off from outside the site so that it will not wash across the site. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks.	Construction Sites / Construction Phase	Contractor		√		• Water Pollution Control Ordinance (WPCO) • EIAO-TM • Professional Persons Environmental Consultative Committee Practice Notes (ProPECC PN) 2/23
5.7.1.4	All DPs and Non-DPs	Silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly (as well as at the onset of and after each rainstorm) to prevent overflows and localised flooding. Before disposal at the public fill reception facilities, the deposited silt and grit should be solicited in such a way that it can be contained and delivered by dump truck instead of tanker truck. Any practical options for the diversion and realignment of drainage should comply with both engineering and environmental requirements in order to provide adequate hydraulic capacity of all drains.	Construction Sites / Construction Phase	Contractor		√		• WPCO • EIAO-TM • ProPECC PN 2/23
5.7.1.5	All DPs and Non-DPs	Construction works should be programmed to minimise soil excavation in the wet season (i.e. April to September). If soil excavation cannot be avoided in these months or at any time of year when rainstorms are likely, temporarily exposed slope surfaces should be covered e.g. by tarpaulin, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels should be	Construction Sites / Construction Phase	Contractor		√		• WPCO • EIAO-TM • ProPECC PN 2/23

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		provided (e.g. along the crest / edge of excavation) to prevent storm run-off from washing across exposed soil surfaces. Arrangements should always be in place in such a way that adequate surface protection measures can be safely carried out well before the arrival of rainstorm.						
5.7.1.6	All DPs and Non-DPs	Earthworks final surfaces should be well compacted and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary.	Construction Sites / Construction Phase	Contractor		√		• WPCO • EIAO-TM • ProPECC PN 2/23
5.7.1.7	All DPs and Non-DPs	Measures should be taken to minimise the ingress of rainwater into trenches. If excavation of trenches in the wet season is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.	Construction Sites / Construction Phase	Contractor		√		• WPCO • EIAO-TM • ProPECC PN 2/23
5.7.1.8	All DPs and Non-DPs	Open stockpiles of construction materials (e.g. aggregates, sand and fill material) on sites 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.	Construction Sites / Construction Phase	Contractor		√		• WPCO • EIAO-TM • ProPECC PN 2/23
5.7.1.9	All DPs and Non-DPs	Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers. Discharge of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.	Construction Sites / Construction Phase	Contractor		√		• WPCO • EIAO-TM • ProPECC PN 2/23

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5.7.1.10	All DPs and Non-DPs	Water used in ground boring and drilling for site investigation or rock / soil anchoring should as far as practicable be re-circulated after sedimentation. When there is a need for final disposal, the wastewater should be discharged into storm drains via silt removal facilities.	Construction Sites / Construction Phase	Contractor		√		• WPCO • EIAO-TM • ProPECC PN 2/23
5.7.1.11	All DPs and Non-DPs	All vehicles and plants should be cleaned before they leave a construction site to minimise the deposition of earth, mud and debris on roads. A wheel washing bay should be provided at every site exit if practicable and washwater should have sand and silt settled out or removed before discharging into storm drains. The section of construction road between the wheel washing bay and the public road should be paved to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	Construction Sites / Construction Phase	Contractor		√		• EIAO-TM • WPCO • Waste Disposal Ordinance (WDO) • ProPECC PN 2/23
5.7.1.12	All DPs and Non-DPs	Acidic wastewater generated from acid cleaning, etching, pickling and similar activities should be neutralised to within the pH range of 6 to 10 before discharging into foul sewers. If there is no public foul sewer in the vicinity, the neutralised wastewater should be tankered off site for disposal into foul sewers or treated to a standard acceptable to storm drains and the receiving waters.	Construction Sites / Construction Phase	Contractor		√		• WPCO • EIAO-TM • ProPECC PN 2/23 • Technical Memorandum on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters (TM-DSS)
5.7.1.13	All DPs and Non-DPs	Good site practices should be adopted to remove rubbish and litter from construction site so as to prevent the rubbish and litter from spreading from the site area. It is recommended to clean the construction site on a regular basis.	Construction Sites / Construction Phase	Contractor		√		• WPCO • EIAO-TM • WDO • ProPECC PN 2/23

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5.7.1.14	All DPs and Non-DPs	There is a need to apply to EPD for a discharge licence for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge licence. All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. The beneficial uses of the treated effluent for other on-site activities such as dust suppression, wheel washing and general cleaning etc., can minimise water consumption and reduce the effluent discharge volume. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the relevant WPCO licence.	Construction Sites / Construction Phase	Contractor		√		• WPCO • EIAO-TM • ProPECC PN 2/23 • TM-DSS
5.7.1.15 – 5.7.1.16	All DPs and Non-DPs	The practices outlined in Environment, Transport and Works Bureau (ETWB) TC (Works) No. 5/2005 "*Protection of natural streams/rivers from adverse impacts arising from construction works*" should also be adopted where applicable to minimise the water quality impacts upon any natural streams or surface water systems.	Construction Sites / Construction Phase	Contractor		√		• WPCO • EIAO-TM • ProPECC PN 2/23 • ETWB TC (Works) No. 5/2005
5.7.1.17	All DPs and Non-DPs	The construction works for removal and diversion of watercourses should be undertaken within a dry zone. Cofferdams or similar impermeable sheet pile walls should be used as necessary to isolate the works areas from the neighbouring waters.	Construction Sites / Construction Phase	Contractor		√		• WPCO • EIAO-TM • ProPECC PN 2/23
5.7.1.18	All DPs and Non-DPs	Construction works at watercourse should be undertaken only after flow diversion or dewatering operation is fully completed to avoid water flow in the works area. Dewatering of watercourse should be performed by diverting the water flow to new or temporary drainage. Where necessary, cofferdams or similar impermeable sheet pile walls should be used to isolate the works areas from neighbouring waters. The permanent or temporary drainage for carrying the diverted flow	Construction Sites / Construction Phase	Contractor		√		• WPCO • EIAO-TM • ProPECC PN 2/23 • TM-DSS

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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		from existing watercourse to be removed should be constructed and completed before dewatering of that existing watercourse. Construction of all the proposed permanent and temporary drainage should be undertaken in a dry zone prior to receiving any water flow.						
5.7.1.19	All DPs and Non-DPs	The Contractor should provide a dry zone for all the construction works to be undertaken in watercourses and stormwater drainage following the tentative works sequence as described above or using other approved methods as appropriate to suit the works condition. The flow diversion works should be conducted in dry season, where possible, when the flow in the watercourse is low. The wastewater and ingress water from the site should be properly treated to comply with the WPCO and the TM-DSS before discharge.	Construction Sites / Construction Phase	Contractor		√		• WPCO • EIAO-TM • ProPECC PN 2/23 • TM-DSS
5.7.1.20	All DPs and Non-DPs	The site practices outlined in the ProPECC PN 2/23 "*Construction Site Drainage*" and ETWB TC (Works) No. 5/2005 "*Protection of natural streams/rivers from adverse impacts arising from construction works*" should be adopted for the proposed demolition or diversion of watercourses where applicable.	Construction Sites / Construction Phase	Contractor		√		• WPCO • EIAO-TM • ProPECC PN 2/23 • ETWB TC (Works) No. 5/2005
5.7.1.21	DP1, DP6, DP7, Non-DPs	Construction works at the existing ponds / wet areas should be conducted only after dewatering of these ponds / wet areas is fully completed. The drained water generated from the dewatering of these ponds / wet areas to be removed should be temporarily stored in appropriate storage tanks or containers for reuse on-site as far as possible. Any surplus drained water should be tankered away for disposal at the sewage treatment works (STW) in a controlled manner. No direct discharge of drained water to the stormwater drainage system or marine water should be allowed.	Construction Sites / Construction Phase	Contractor		√		• WPCO • EIAO-TM • ProPECC PN 2/23

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5.7.1.22	All DPs and Non-DPs	All excavated materials generated from construction of the proposed river revitalisation works, removal and diversion of watercourses, removal and construction works in ponds and wet areas should be collected and handled in compliance with the WDO. Excavated sediment, if any, generated from the excavation activities in the channels should be tested and classified in accordance with the ETWB TCW No. 34/2002 for determining the disposal arrangement for the sediment. The disposal of excavated sediments should be minimised according to the relevant requirements in the Waste Management Implications in **Section 7**. No direct disposal of the construction wastes or excavated materials into the stormwater drainage system and marine water would be allowed.	Construction Sites / Construction Phase	Contractor		√		• WDO • ProPECC PN 2/23 • ETWB TCW No. 34/2002
5.7.1.23	All DPs and Non-DPs	Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The WDO (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation, should be observed and complied with for control of chemical wastes. The Contractor is also recommended to develop management procedures for chemicals used and prepare an emergency spillage handling procedure to deal with chemical spillage in case of accident occurs.	Construction Sites / Construction Phase	Contractor		√		• WPCO • WDO • ProPECC PN 2/23 • Waste Disposal (Chemical Waste) (General) Regulation • EIAO-TM
5.7.1.24	All DPs and Non-DPs	Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.	Construction Sites / Construction Phase	Contractor		√		• WPCO • WDO • ProPECC PN 2/23 • Waste Disposal (Chemical Waste) (General) Regulation • EIAO-TM

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5.7.1.25	All DPs and Non-DPs	Disposal of chemical wastes should be carried out in compliance with the WDO. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the WDO should be followed to avoid leakage or spillage of chemicals. General requirements are given as follows: • Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport; • Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents; and • Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.	Construction Sites / Construction Phase	Contractor		√		• WPCO • WDO • ProPECC PN 2/23 • Waste Disposal (Chemical Waste) (General) Regulation • EIAO-TM
5.7.1.26	All DPs and Non-DPs	No discharge of sewage to the stormwater drains or inland water will be allowed. Adequate and sufficient portable chemical toilets should be provided in the works areas to handle sewage from construction workforce. A licensed collector should be employed to clean and maintain the chemical toilets on a regular basis.	Construction Sites / Construction Phase	Contractor		√		• WPCO • EIAO-TM • ProPECC PN 2/23 • TM-DSS
5.7.1.27	All DPs and Non-DPs	Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the surrounding environment. Regular environmental audit of the construction site should be conducted to provide an effective control of any malpractices and achieve continual improvement of environmental performance on site.	Construction Sites / Construction Phase	Contractor		√		• WPCO • EIAO-TM • ProPECC PN 2/23
5.7.1.28	All DPs and Non-DPs	Remediation of contaminated land should be properly conducted following the recommendations of Land Contamination Assessment in **Section 8**. Any excavated contaminated material and exposed contaminated surface	Construction Sites / Construction Phase	Contractor		√		• WPCO • EIAO-TM • ProPECC PN 2/23

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		should be properly housed and covered to avoid generation of contaminated runoff. Open stockpiling of contaminated materials should not be allowed. Any contaminated runoff or wastewater generated from the land decontamination processes should be properly collected and diverted to wastewater treatment facilities (WTF) as necessary. The WTF shall deploy suitable treatment processes (e.g. oil interceptor / activated carbon) to reduce the pollution level to an acceptable standard and remove any prohibited substances (such as total petroleum hydrocarbon) to an undetectable range. All treated effluent from the wastewater treatment system shall meet the requirements as stated in TM-DSS and should be either discharged into the foul sewers or tankered away for proper disposal.						• TM-DSS
5.7.1.29	All DPs and Non-DPs	No direct discharge of groundwater from contaminated areas should be adopted. Prior to any excavation works within the potentially contaminated areas, the baseline groundwater quality in these areas should be reviewed based on the past relevant site investigation data and any additional groundwater quality measurements to be performed with reference to "*Guidance Note for Contaminated Land Assessment and Remediation*" and the review results should be submitted to EPD for examination. If the review results indicated that the groundwater to be generated from the excavation works would be contaminated, this contaminated groundwater should be either properly treated or properly recharged into the ground in compliance with the requirements of the TM-DSS. If wastewater treatment is to be deployed for treating the contaminated groundwater, the wastewater treatment unit shall deploy suitable treatment processes (e.g. oil interceptor / activated carbon) to reduce the pollution level to an acceptable standard and remove any prohibited substances (such as total petroleum hydrocarbon) to an undetectable range. All treated effluent from the wastewater treatment plant	Construction Sites / Construction Phase	Contractor		√		• WPCO • TM-DSS • ProPECC PN 2/23 • Guidance Note for Contaminated Land Assessment and Remediation

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		shall meet the requirements as stated in the TM-DSS and should be either discharged into the foul sewers or tankered away for proper disposal.						
5.7.1.30	All DPs and Non-DPs	If deployment of wastewater treatment is not feasible for handling the contaminated groundwater, groundwater recharging wells should be installed as appropriate for recharging the contaminated groundwater back into the ground. The recharging wells should be selected at places where the groundwater quality will not be affected by the recharge operation as indicated in Section 2.3 of TM-DSS. The baseline groundwater quality should be determined prior to the selection of the recharge wells, and submit a working plan to EPD for agreement. Pollution levels of groundwater to be recharged shall not be higher than pollutant levels of ambient groundwater at the recharge well. Groundwater monitoring wells should be installed near the recharge points to monitor the effectiveness of the recharge wells and to ensure that no likelihood of increase of groundwater level and transfer of pollutants beyond the site boundary. Prior to recharge, free products should be removed as necessary by installing the petrol interceptor. The Contractor should apply for a discharge licence under the WPCO through the Regional Office of EPD for groundwater recharge operation or discharge of treated groundwater.	Construction Sites / Construction Phase	Contractor		√		• WPCO • EIAO-TM • ProPECC PN 2/23 • TM-DSS
5.7.1.31	All DPs and Non-DPs	The following measures should be implemented by the Contractors to minimise the chance of emergency construction site discharge (due to failure of treatment facilities such as sand traps, silt traps, sedimentation basins, oil interceptors etc.): • Provide spare or standby treatment facilities of suitable capacities for emergency replacement in case damage or defect or malfunctioning of the duty treatment facilities is observed;	Construction Sites / Construction Phase	Contractor		√		• WPCO • EIAO-TM • ProPECC PN 2/23 • TM-DSS

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		• Conduct daily integrity checking of the construction site drainage and treatment facilities to inspect malfunctions, in particular before, during and after a storm event; and • Carry out regular maintenance or desilting works to maintain effectiveness of the construction site drainage and treatment facilities in particular before, during and after a storm event.						
5.7.1.32	All DPs and Non-DPs	An Emergency Response Plan (ERP) should be developed to minimise the potential impact from construction site discharges under failure of treatment facilities during emergency situations or inclement weather. The ERP should give the emergency contacts to mobilise flood retention facilities and stakeholders to be notified as well as the details of the proposed construction site drainage system and the design and operation of duty and standby treatment facilities. The ERP should also provide the procedures and guidelines for routine integrity checking and maintenance of the drainage system and treatment facilities as well as the emergency response and rectification procedures to restore normal operation of the treatment facilities in case of treatment failure during emergency situation or inclement weather. The Best Management Practices (BMPs) in controlling water pollution arising from the construction activities and an event and action plan with action and limit levels for water quality monitoring should be included in the ERP. The ERP should be submitted to the EPD for approval before commencement of the construction works.	Construction Sites / Construction Phase	Contractor		√		• WPCO • EIAO-TM • ProPECC PN 2/23 • TM-DSS

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Design and Operation Phases								
5.7.2.1	DP2	Given the sensitivity of inner Deep Bay in term of water quality and ecology, extensive effort will be expedited to avoid the occurrence for emergency discharge. In order to achieve this, the design of STLMC Effluent Polishing Plant (EPP) will be cautiously reviewed to include additional provisions including as follows: • Applied peaking factors for all major treatment units and electrical and mechanical equipment to avoid equipment failure; • By-pass mechanism would be provided for both coarse screens and fine screens in the inlet to avoid/minimise failure in coarse/fine screens; Interim by-pass would be provided after the primary sedimentation tank to avoid raw sewage by-pass as much as possible; • Standby unit for all major equipment would be provided in case of unexpected breakdown of pumping and treatment facilities such that the standby pumps and treatment facilities could take over and function to replace the broken pumps; and • Back-up power for dual power supply would be provided in case of power failure to sustain the function of pumping and treatment facilities.	Project site / Design and Operation Phase	Project Proponent	√		√	• WPCO • EIAO-TM • ProPECC PN 1/23
5.7.2.2	DP2	To provide a mechanism to minimise the impact of emergency discharges and facilitate subsequent management of any emergency, an Emergency Response Plan will be formulated prior to commissioning of STLMC EPP to set out the emergency response procedures and actions to be followed in case of equipment or sewage treatment failure. The plant operators of STLMC EPP should carry out necessary follow-up actions according to the procedures of the contingency plan	Project site / Design and Operation Phase	Project Proponent	√		√	• WPCO • EIAO-TM • ProPECC PN 1/23

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		to minimise any impacts on the identified water sensitive receivers (WSRs) due to emergency bypass. Regular maintenances and inspections to all treatment units, penstocks and plant facilities are necessary to maintain a good operation condition. A follow-up water quality monitoring exercise shall be conducted after each emergency discharge event to monitor the recovery of water quality in the vicinity.						
5.7.2.3	Non-DPs	The following precautionary measures are recommended to minimise the risk of failure of the proposed sewerage system: • Regular inspection, checking and maintenance of the sewerage system; • Provisions of twin rising mains as backup and to facilitate maintenance and repairing purposes; • Provisions of leakage collection systems linking to the nearest chamber at its downstream to the rising main for collection of sewage leakage from the damaged rising main; • Use tankers to store emergency discharge and transport to the EPP by registered tankers companies for disposal in case of both twin rising mains failure; and • Provisions of spare / standby parts of sewage pipeworks to facilitate maintenance and repairing of equipment.	Project site / Design and Operation Phase	Project Proponent	√		√	• WPCO • EIAO-TM • ProPECC PN 1/23 • Sewerage Manual_Part 2 (DSD)
5.7.2.4	Non-DPs	In order to minimise the chance of emergency sewage discharge, the following precautionary measures are proposed to be incorporated in the design of the Sewage Pumping Stations (SPS): • A standby pump and screen should be provided to cater for breakdown and maintenance of the duty pump in order to avoid emergency discharge;	Project site / Design and Operation Phase	Project Proponent	√		√	• WPCO • EIAO-TM • ProPECC PN 1/23 • Sewerage Manual_Part 2 (DSD)

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		• Backup power supply in the form of dual / ring circuit power supply or generator should be provided to secure electricity supply; • An alarm should be installed to signal emergency high water level in the wet well; • An emergency storage tank should be provided for the proposed SPS to cater for breakdown and maintenance of duty pump; • Regular maintenance and checking of plant equipment should be undertaken to prevent equipment failure; • Twin rising mains system should be provided to facilitate maintenance works and to avoid emergency discharge of sewage; • A telemetry system to the nearest manned station / plant should be provided so that swift action can be undertaken in case of malfunction of the unmanned facilities; and • A bar screen (with clear spacing of approximately 25 mm) should be provided to cover the lower half of the opening of any emergency sewage bypass which can prevent the discharge of floating solids into receiving waters as far as practicable while ensuring flooding at the facilities would not occur event if the screen is blocked.						
5.7.2.5	Non-DPs	A Contingency Plan to deal with the emergency discharges that may occur during operation of the SPS should be developed in the detailed design stage including the following items: • Locations of water bodies or WSRs in the vicinity of the emergency discharges; • A list of relevant government departments to be informed and to provide assistance in the event of emergency	Project site / Design and Operation Phase	Project Proponent	√		√	• WPCO • EIAO-TM • ProPECC PN 1/23

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		discharge, including key contact persons and telephone numbers; • Reporting procedures required in the event of emergency discharges; and • Procedures listing the most effective means in rectifying the breakdown of the SPS in order to minimise the discharge duration.						
5.7.2.6 – 5.7.2.14	All DPs and Non-DPs	Best Management Practices (BMPs) to reduce storm water and non-point source pollution are also proposed as follows: <u>Design Measures</u> • Exposed surface shall be avoided within the development sites to minimise soil erosion. The development site shall be either hard paved or covered by landscaping area and plantation where appropriate. • The major water channels and nullahs within the development sites should be retained as far as practicable to maintain the original flow path. The drainage system should be designed to avoid flooding. • Green areas / tree / shrub planting etc. should be introduced within the development site as far as possible including open space and along roadside amenity strips and central dividers, which can help to reduce soil erosion. <u>Devices/ Facilities to Control Pollution</u> • Screening facilities such as standard gully grating and trash grille, with spacing which is capable of screening large substances such as fallen leaves and rubbish should be provided at the inlet of drainage system. • Road gullies with standard design and silt traps and oil interceptors should be incorporated during the detailed	Project site / Design and Operation Phase	Project Proponent	√		√	• WPCO • ProPECC PN 1/23

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		design to remove particles present in stormwater run-off, where appropriate. • Evergreen tree species, which in general generate relatively smaller amount of fallen leaves, should be selected where possible. <u>Administrative Measures</u> • Good management measures such as regular cleaning and sweeping of road surface / open areas is suggested. The road surface / open area cleaning should also be carried out prior to occurrence of rainstorm. • Manholes, as well as storm water gullies, ditches provided among the development areas should be regularly inspected and cleaned (e.g. monthly). Additional inspection and cleansing should be carried out before forecast heavy rainfall.						
5.7.2.15	All DPs and Non-DPs	For maintenance of stormwater drainage system, reference should be made to ETWB TC (Works) No. 14/2004 "*Maintenance of Stormwater Drainage Systems and Natural Watercourses*" where applicable. The circular sets out the departmental responsibilities for the maintenance of stormwater drainage systems and natural watercourses in government and private lands. Any required maintenance or desilting work (e.g. to remove any silt, grit or rubbish deposited in the inland water system) should be carried out during periods of low flow in the dry season to minimise impacts on downstream water quality and sediment suspension.	Project site / Design and Operation Phase	Project Proponent	√		√	• WPCO • ProPECC PN 1/23 • ETWB TC (Works) No. 14/2004
5.7.2.16	DP3	A new water reclamation plant is proposed under this Project which will receive the tertiary treated effluent from the STLMC EPP during operation phase. Ultrafiltration treatment process is recommended to employed for water reclamation. Once the water reclamation plant has commenced operation, the tertiary treated effluent from the STLMC EPP will be further polished	Design and Operation Phase	Project Proponent	√		√	• Reclaimed water quality standards endorsed by the "*Working Group on the Implementation of Reclaimed Water*

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		into reclaimed water which will cut down the freshwater demand in the area, saving precious freshwater resources and reducing the pollution loading discharge to the Deep Bay waters. The potential water quality impact from the STLMC EPP effluent would decrease as compared with the worst-case scenario of STLMC EPP with full discharge of 125,000 m3/day to Deep Bay.						*Supply in Sheung Shui and Fanling*"
Sewerage and Sewage Treatment								
Operation Phase								
6.13.1 – 6.13.2	Non-DPs	Non-dosing solutions should be considered in prior to dosing solutions. Direct injection of oxygen into the rising mains and pre-aeration in the wet well of the pumping stations are adopted as the sewage septicity control measures.	Project site / Operation Phase	Project Proponent			√	• EIAO-TM • WPCO
6.13.3	Non-DPs	Enclosed the pumping station inside building structure is considered as an odour mitigation measures. The structure is equipped with adequate odour control measures such as scrubber and activated charcoal filter at the exhaust of the ventilation system. The vent will be located away from air sensitive uses including the proposed development itself.	Project site / Operation Phase	Project Proponent			√	• EIAO-TM • WPCO
6.13.4	DP2	The effluent from STLMC EPP should follow a stringent standard and fulfil discharge limits of pollutants in Standards for Effluents Discharged into Drainage and Sewage System, Inland and Coastal Waters, the Water Pollution Control Ordinance (CAP 358) which won't deteriorate the Deep Bay water quality.	Project site / Operation Phase	Project Proponent			√	• EIAO-TM • WPCO
6.13.5	DP2	To avoid the occurrence for emergency discharge, the design of STLMC EPP will be cautiously reviewed to include additional provisions including as follows:	Project site / Operation Phase	Project Proponent			√	• EIAO-TM • WPCO

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		• Applied peaking factors for all major treatment units and electrical and mechanical equipment to avoid equipment failure; • Standby unit for all major equipment would be provided in case of unexpected breakdown of pumping and treatment facilities such that the standby pumps and treatment facilities could take over and function to replace the broken pumps; and • Back-up power for dual power supply would be provided in case of power failure to sustain the function of pumping and treatment facilities.						
Waste Management Implication								
Construction Phase								
7.6.1.1— 7.6.1.2	All DPs and Non-DPs	Waste Management Hierarchy The waste management hierarchy should be applied including the following in descending preference: • Avoidance and minimisation of waste generation; • Reuse of materials as far as practicable; • Recovery and recycling of residual materials where possible; and • Treatment and disposal of waste according to relevant laws, guidelines and good practices. To minimize C&D materials generation and encourage proper management of such materials, a C&DMMP should be prepared. An EMP and trip-ticket system are recommended for monitoring management of waste. Specific measures targeting the mitigation of impacts in works areas and the transportation of waste off-site should be provided to	Construction Sites	Contractor		√		• WDO • ETWB TCW No. 19/2005 • DEVB TCW No. 06/2010 • Project Administration Handbook (PAH) got Civil Engineering Works

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		minimise the potential impacts to the surrounding environment.						
7.6.1.3	All DPs and Non-DPs	Good Site Practices The following good site practices are recommended during the construction phase: • Nomination of an approved personnel, such as a site manager, to be responsible for the implementation of good site practices; • Training of site personnel in site cleanliness, proper waste management and chemical handling procedures; • Provision of sufficient waste disposal points and regular collection of waste for disposal; • Adoption of appropriate measures to minimise windblown litter and dust during handling, transportation and disposal of waste; and Preparation of a WMP in accordance with the ETWB TCW No. 19/2005 Environmental Management on Construction Sites and submitted it to the Engineer for approval.	Construction Sites	Contractor		√		• WDO • Public Cleansing and Prevention of Nuisances Regulation (Cap. 132BK)
7.6.1.4	All DPs and Non-DPs	Waste Reduction Measures Recommendations to achieve waste reduction include: • Segregate and store different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; • Adopt proper storage and site practices to minimise the potential for damage to, and contamination of, construction materials; • Plan the delivery and stock of construction materials carefully to minimise the amount of waste generated;	Construction Sites	Contractor		√		• WDO

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		• Sort out demolition debris and excavated materials from demolition works to recover reusable / recyclable portions (i.e. soil, rock, broken concrete, etc.); • Maximise the use of reusable steel formwork to reduce the amount of C&D materials; • Minimise over ordering of concrete, mortars and cement grout by doing careful check before ordering; and • Adopt pre-cast construction method instead of cast-in-situ method for construction ofconcrete structures as far as possible.						
7.6.1.5	All DPs and Non-DPs	Storage of Waste Recommendations to minimise the impacts include: • Waste, such as soil, should be handled and stored well to ensure secure containment, thus minimising the potential of pollution; • Maintain and clean storage areas routinely; • Stockpiling area should be provided with covers and water spraying system to prevent materials from being wind-blown or washed away; and • Different locations should be designated to stockpile each material to enhance reuse.	Construction Sites	Contractor		√		• WDO
7.6.1.6	All DPs and Non-DPs	Collection of Waste Waste hauler with appropriate permits should be employed by the Contractor for the collection and transportation of waste from works areas to respective disposal outlets. The following recommendation should be implemented to minimise the impacts: • Remove waste in timely manner;	Construction Sites	Contractor		√		• WDO

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		• Employ the trucks with cover or enclosed containers for waste transportation; • Obtain relevant waste disposal permits from the appropriate authorities; and • Dispose of waste at licensed waste disposal facilities.						
7.6.2.1	All DPs and Non-DPs	Construction and Demolition Materials Careful design, planning together with good site management can reduce over-ordering and generation of Construction and Demolition (C&D) materials such as concrete, mortar and cement grouts. Formwork should be designed to minimise the use of standard wooden panels, so that high reuse levels can be achieved. Alternatives such as steel formwork or plastic facing should be considered to increase the potential for reuse.	Construction Sites	Contractor		√		• WDO
7.6.2.2	All DPs and Non-DPs	The inert C&D materials with suitable characteristics / size should be reused on-site as fill or recycled as aggregate for other projects as far as practicable. When disposing C&D material at a public filling reception facility for beneficial reuse, the material should only consist of soil, rock, concrete, brick, cement plaster / mortar, inert building debris, aggregates and asphalt. The material should be free from household refuse, plastic, metals, industrial and chemical waste, animal and vegetable matter, and other material considered to be unsuitable by the Filling Supervisor. Prior to disposal of non-inert C&D materials, wood, steel and other metals should also be separated for reuse and / or recycling where practicable so as to minimise the quantity of waste to be disposed of at landfill.	Construction Sites	Contractor		√		• WDO
7.6.2.3	All DPs and Non-DPs	Suitable areas should be designated within the site boundaries for sorting and providing temporary stockpiling of C&D materials. Within stockpile areas, the following measures	Construction Sites	Contractor		√		• WDO

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		should be taken to control potential environmental impacts or nuisance: • Surface of stockpiled soil should be regularly wetted with water especially during dry season; • Disturbance of stockpile soil should be minimised; • Stockpiled soil should be properly covered with tarpaulin especially when heavy storms are predicted; and • Stockpiling areas should be enclosed where space is available.						• ETWB TCW No.19/2005
7.6.2.4	All DPs and Non-DPs	In order to monitor the delivery of C&D materials at the designated public fill reception facility and landfill and to control fly-tipping, a trip-ticket system should be included. A recording system for the amount of waste generated, recycled and disposed, including the disposal sites, should also be set up. Warning signs should be put up to remind the designated disposal sites. CCTV should also be installed at the vehicular entrance and exit of the site to monitor handling of C&D materials disposal. To prohibit illegal dumping and landfilling of C&D materials, as well as proper delivery to concurrent project sites for re-use, the dump trucks engaged on site should be equipped with GPS or equivalent automatic system for real time tracking and monitoring of their travel routings, parking locations and disposal activities.	Construction Sites	Contractor		√		• WDO • DEVB TC(W) No.06/2010 • Land (Miscellaneous Provisions) Ordinance (Cap. 28)
7.6.2.5 – 7.6.2.7	All DPs and Non-DPs	Due to the potential large amount of asbestos containing materials (ACM) during the site clearance stage, asbestos investigation is required. However, as asbestos investigation will involve a large number of buildings and most premises will involve private access, which cannot be obtained at this stage, it is considered that an asbestos specialist shall be employed by the responsible parties during the construction stage to investigate this issue.	Construction Sites	Contractor		√		• APCO • Code of Practice on Handling, Transportation and Disposal of Asbestos Waste • ProPECC PN 2/97 Handling of

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		Sufficient and reasonable lead time shall be allowed for preparation, vetting and implementation of Asbestos Investigation Report and Asbestos Abatement Plan in accordance with Air Pollution Control Ordinance before commencement of any demolition or site clearance work. Some key precautionary measures related to the handling and disposal of asbestos are listed as following: • Adoption of protection, such as full containment, mini containment, or segregation of work area; • Provision of decontamination facilities for cleaning of workings, equipment and bagged waste before leaving the work area; • Adoption of engineering control techniques to prevent fibre release from work area, such as use of negative pressure equipment with high efficiency particulate air (HEPA) filters to control air flow between the work area and the outside environment; • Wetting of asbestos containing materials before and during disturbance, minimising the breakage and dropping of asbestos containing materials, and packing of debris and waste immediately after it is produced; • Cleaning of work area by wet wiping and vacuuming with HEPA-filtered vacuum cleaner; • Coating on any surfaces previously in contact with or contained by asbestos with a sealant; • Proper bagging, safe storage and disposal of asbestos and asbestos-contaminated waste; • Pre-treatment of all effluent from the work area before discharged; and						Asbestos Containing Materials in Buildings

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		• Air monitoring strategy to check the leakage and clearance of the work area during and after the asbestos work.						
7.6.2.9 – 7.6.2.10	All DPs and Non-DPs	Chemical Waste For those processes which generated chemical waste, it may be possible to find alternatives to eliminate the use of chemicals, to reduce the generation quantities or to select a chemical type of less impact on environment, health and safety as far as possible. If chemical waste is 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 Waste. Chemical waste should be stored in appropriate containers and collected by a licensed chemical waste contractor. Chemical waste (e.g. spent lubricant oil) should be recycled at an appropriate facility as far as possible, while chemical waste that cannot be recycled should be disposed of at either the Chemical Waste Treatment Centre (CWTC), or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	Construction Sites	Contractor		√		• Waste Disposal (Chemical Waste) General) Regulation • Code of Practice on the Packaging, Labelling and Storage of Chemical Waste
7.6.2.11 – 7.6.2.12	All DPs and Non-DPs	General refuse General refuse should be stored in enclosed bins or compaction units separate from C&D materials and chemical wastes. A reputable waste collector should be employed by the contractor to remove general from the site, separately from C&D materials and chemical wastes, on a daily basis to minimise odour, pest and litter impacts. The collected general refuse would be disposed of at designated landfill. Clearly labelled recycling bins should be provided on site in order to encourage segregation and recycling of aluminium and plastic	Construction Sites	Contractor		√		• WDO

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		wastes, and wastepaper in order to reduce general refuse production. The contractor should carry out an education programme for workers in avoiding, reducing, reusing and recycling of materials generation. Posters and leaflets advising on the use of the bins should also be provided onsite as reminders. The recyclable waste materials should then be collected by reliable waste recycling agents on a daily basis.						
7.6.2.13	All DPs and Non-DPs	Excavated Sediment Since the amount of excavated sediment generated from the pond excavation works is expected to be small, all excavated sediment will be treated and reused on-site as backfilling materials for the Project. This approach avoids the need for off-site disposal that may result in impacts on the marine environment. In addition, all construction works near the watercourses should be undertaken within a dry zone and during dry season to avoid adverse impacts to the environment. The excavated sediment, if stockpiled on site, should be stored in enclosed containers and transported to the on-site treatment facilities as soon as practicable to minimise any potential odour impacts.	Construction Sites	Contractor		√		• WDO
7.6.2.14	All DPs and Non-DPs	Floating Refuse In case of floating refuse is identified, the floating materials should be removed and eventually stored and disposed of together with the general refuse, after separating the recyclables for recycling. Any floating refuse trapped within the Project area will be collected by the Contractor and disposed together with other general refuse. Apart from collecting and storing waste with good waste management practice on site to avoid having waste transported to river channels or water bodies under extreme weather conditions, the contractor should be responsible for the collection of refuse, if any, within	Construction Sites	Contractor		√		• WDO

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		the works area. Contractor shall collect and remove floating refuse at regular intervals on a daily basis to keep river channels or water bodies within the Project area and the neighbouring water free from rubbish during the construction phase.						
Operation Phase								
7.6.3.1 – 7.6.3.2	All DPs and Non-DPs	<u>Municipal Solid Waste</u> Implementation of a waste prevention programme as well as materials recovery and recycling programme are recommended in order to minimise the production of waste. The programmes should consist of the following components: • Recycling bins such as paper, aluminium cans, plastic bottles, glass bottles, etc. should be placed at prominent locations to encourage recycling; • Banner should be erected at the recycling bins area; • Operator should make arrangements with the recycler to collect and recycle used fluorescent lamps, toner cartridges as well as the scrap electronic equipment, such as computers to avoid disposal at landfills as far as practicable; • Staff awareness training should be provided on waste management procedures, including waste reduction and recycling; • Operator should set up waste reduction and recycled targets; and • Operator should participate in the Wastewi$e Label scheme to facilitate waste reduction. MSW generated from residential, commercial and industrial buildings should be collectedwith lidded bins, delivered to the refuse collection room and stored in enclosed containers	Operation Phase	FEHD/ relevant operators			√	• WDO

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		installed in each building at the ground floor to prevent windblown, vermin, water pollution and visual impact. At least daily collection should be arranged by the waste collector to transport the waste to the refuse collection points (RCPs) or refuse transfer station (RTS) within the STLMDC DN. Odour removal installations are recommended to be installed at the RCPs and RTS to treat the exhaust air. Such arrangements will minimise potential environmental impacts. The above recommendations are proposed as technical guidelines for the operator's consideration and will be subject to detailed design.						
7.6.3.3	All DPs and Non-DPs	Chemical Waste The proposed mitigation measures for operation phase are the same as that proposed for the construction phase. The operator should register with 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. Chemical waste should be stored in appropriate containers and collected by a licensed chemical waste contractor. Chemical waste (e.g. spent lubricant oil) should be recycled at an appropriate facility as far as possible, while chemical waste that cannot be recycled should be disposed of at either the CWTC, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	Operation Phase	Relevant operators			√	• Waste Disposal (Chemical Waste) (General) Regulation • Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes
7.6.3.4	DP2	Screenings, Grits and Sewage Sludge Screenings and grits generated from the EPP is suggested to be disposed of at the NENT Landfill whereas the dewatered sludge generated from the EPP is suggested to be treated at the STF. The screenings, grits and dewatered sludge will be delivered by road transport in water tight containers or skips to avoid odour emission during transportation. Unloading process will be operated in the designated room inside STF	Operation Phase	DSD / relevant operators			√	• WDO

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		which should be enclosed and served by negative pressure by extracting odorous gas to deodorising unit.						
Hazard to Life								
13.9.1.1	N/A	Since hazard to life issue would not be anticipated, no mitigation measure is considered necessary for the Project.	N/A	N/A	N/A	N/A	N/A	N/A
Land Contamination								
Construction Phase								
8.8.3.2 - 8.8.3.8	All DPs and Non-DPs	Potentially Contaminated Sites Prior to development of these sites, the Project Proponent should appoint a consultant to re-appraise these sites to update the corresponding findings and sampling and testing requirements presented in the Contamination Assessment Plan (CAP). Supplementary CAP(s), incorporating the findings of the site re-appraisal and the updated sampling and testing strategy, should be prepared and submitted to EPD for approval prior to conducting any site investigation (SI) works. SI works should then be carried out according to the supplementary CAP(s). Contamination Assessment Report (CAR(s)) and, if contaminated soil and/or groundwater identified, Remediation Action Plan (RAP(s)) should be prepared and submitted to EPD for approval. For the nine (9) sites (namely S201, S202, S301, S302, W101, W102, W103, W104 and W105), the Project Proponent shall carry out site investigation and sampling works in accordance with the CAP in Appendix 8.1 of the EIA Report at a later stage.	All Potentially Contaminated Sites as listed in CAP / After the land is resumed and handed over to the Project Proponent and prior to commencement of any remediation / construction works.	Project Proponent / Contractor		√		• Annex 19 of the EIAO-TM • Guidance Note for Contaminated Land Assessment and Remediation (EPD, Revised in April 2023) • Practice Guide for Investigation and Remediation of Contaminated Land (EPD, Revised in April 2023) • Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management (EPD, Revised in April 2023)

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8.8.3.9 - 8.8.3.12	All DPs and Non-DPs	Sites Requiring Further Appraisal & Non-Contaminated Sites After the sites are handed over to the Project Proponent for development, the Project Proponent should appoint a consultant for site re-appraisal to assess the latest land uses and site conditions. If any of these sites are found to have potential land contamination issues, the Project Proponents appointed consultant should prepare and submit supplementary CAP(s) to EPD for approval prior to conducting any SI works. SI works should then be carried out according to the supplementary CAP(s). CAR(s) and, if contaminated soil and/or groundwater identified, RAP(s) should be prepared and submitted to EPD for approval.	All Sites Requiring Further Appraisal & Non-Contaminated Sites as listed in CAP / After the land is resumed and handed over to the Project Proponent and prior to commencement of any remediation / construction works.	Project Proponent / Contractor		√		• Annex 19 of the EIAO-TM • Guidance Note for Contaminated Land Assessment and Remediation (EPD, Revised in April 2023) • Practice Guide for Investigation and Remediation of Contaminated Land (EPD, Revised in April 2023) • Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management (EPD, Revised in April 2023)
8.8.3.13 - 8.8.3.15	All DPs and Non-DPs	Sites not to be Developed In the event of a change to the Project plan wherein these sites will be developed, re-appraisal will be required to assess the potential land contamination status at such time that the site become accessible	All Sites not to be Developed as listed in CAP / After the land is resumed and handed over to the Project Proponent and prior to commencement of any remediation / construction works.	Project Proponent / Contractor		√		• Annex 19 of the EIAO-TM • Guidance Note for Contaminated Land Assessment and Remediation (EPD, 2 Revised in April 2023) • Practice Guide for Investigation and Remediation of

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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								Contaminated Land (EPD, Revised in April 2023) • Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management (EPD, Revised in April 2023)
8.12.5.2	All DPs and Non-DPs	Further arsenic assessment should be carried out during site formation and during construction of foundation. The Government will treat the HAC soil in the shallow region before land allocation or land lease. The treatment depth will depend on the future land use in RODP. Subsequent Developer/Works Departments will treat HAC soil in deep regions for excavations required for basements, piles and utilities.	After the land is resumed and handed over to the Project Proponent and prior to commencement of any remediation / construction works.	Project Proponent / Contractor		√		• EIAO-TM
Landfill Gas Hazard								
Construction Phase								
9.7.2.1	Non-DPs	During construction phase, the risk was classified as very low (insignificant) that no precautionary measures are required.	Not required	Not Required				• Landfill Gas Hazard Assessment Guidance Note
Operation Phase								
9.7.3.1 – 9.7.3.9	Non-DPs	<u>Generic Passive Precautionary Measures</u> • Utility protection measures for services passing through the consultation zone.	Development within 250m Landfill Consultation Zone	Project Proponent / Contractor			√	• Landfill Gas Hazard Assessment Guidance Note

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		• Creation of a subsurface preferential gas venting pathway or construction of a subsurface gas barrier. • Venting of manholes and above ground terminations. • In ground venting or gas barrier protection measures may be located on the boundary of the development closest to the landfill. • Dependent upon the orientation of the development and detailed design, utilities penetrating a ground floor slab on grade may require sealing. <u>Utility Protection Design Measures</u> • The void around any service ducts, pipes or cables within conduits at the point where the trench passes through the perimeter of the consultation zone should be filled with gas resistant mastic. • All ducts, manholes and chambers to utility services should be sealed from the surrounding ground to prevent gas entry and provided with vented covers to allow any gas that enters to dissipate to atmosphere. • The service run should be designated as a "special route" and utility companies should be informed to that effect so that they may implement precautionary measures. Precautionary measures should include ensuring that staff members are aware of the potential hazards of working in confined spaces such as manholes and service chambers, and that appropriate monitoring procedures are in place to prevent hazards due to asphyxiating atmospheres in confined spaces. <u>Structure Protection Design Measures</u> • For sub-surface building services/utilities, generic protection measures should include U-bends fitted to water pipes and sewers which are not always fully filled						

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		to effectively seal off the conduit and prevent gas-phase transport. • For building services penetrating the ground floor slab, collar seals should be installed to prevent gas ingress via the penetration. • Vent pipes or gridded manhole covers may be used to avoid build-up of gas in underground utility manholes.						
9.7.4.1 – 9.7.4.2	Non-DPs	Any service voids, manholes or chambers which are large enough to permit access to personnel should be subject to entry safety procedures. Works in confined spaces are controlled by the Factories and Industrial Undertakings (Confined Spaces) Regulation of the Factories and Industrial Undertakings Ordinance and the Safety Guide to Working in Confined Spaces should be followed to ensure compliance with the Regulation. In general, when work is being undertaken in confined spaces, sufficient approved resuscitation equipment, breathing apparatus and safety torches should be made available. Persons involved in or supervising such work should be trained and practiced in the use of such equipment. A permit-to-work system for entry into confined spaces should be developed by an appropriately qualified person and the system should be consistently employed. The safety measures recommended in Chapter 8 of the Landfill Gas Hazard Assessment Guidance Note should also be strictly followed.					√	• Factories and Industrial Undertakings (Confined Spaces) Regulation of the Factories and Industrial Undertakings Ordinance • Safety Guide to Working in Confined Spaces • Landfill Gas Hazard Assessment Guidance Note
Ecological Impact (Terrestrial and Aquatic)								
Construction Phase								
10.11.1.4	Non-DPs	Enhanced Wetland within the proposed SPS WCP	Enhanced Wetland within the proposed SPS WCP /	Construction phase: AFCD as		√	√	• EIAO-TM

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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		The Government will develop the Sam Po Shue Wetland Conservation Park (SPS WCP) with a proposed area of approximately 338 ha to create environmental capacity for the development of San Tin Technopole. Among the 338 ha, while 10 ha is reserved for supporting facilities such as visitor center and other basic infrastructure, the Government will enhance the ecological function and capacity of 288 ha of wetlands and fisheries resources of 40 ha of fishponds by establishing the SPS WCP with active conservation management and modernised aquaculture to compensate for the loss in wetland habitats and fisheries resources arising from the development of San Tin Technopole and to achieve no-net-loss in ecological function and capacity of the wetlands concerned. Among the 288 ha, there will be 253 ha of "ecologically enhanced fishponds" compensating for pond habitat loss, and 35 ha of "enhanced freshwater wetland habitat" compensating for other freshwater wetland habitat loss. The Government aims to start the development of SPS WCP in around 2026/2027 for completion by 2039 or earlier to tie in with the full operation of San Tin Technopole. For the site formation works of the first batch of land at San Tin Technopole targeted for commencement in late 2024, no pond filling will be involved. On current planning, pond filling works will not start until 2026/27, and the pace of pond filling will tie in with the development progress of the SPS WCP. To this end, a working group will be formed between CEDD (as San Tin Technopole's works agent) and AFCD (as SPS WCP's sponsoring department) to coordinate the progress of pond filling and SPS WCP implementation. Enhancement measures in the form of improvement of tidal channel near Mai Po Nature Reserve and removal of exotic mangrove species in the Deep Bay area will also be implemented. Furthermore, interim wetland enhancement works would also be conducted at suitable ponds in the Inner	Construction and Operation Phase	project proponent of SPS WCP; CEDD as works agent Operation phase: AFCD (within completed phases of SPS WCP handed over to AFCD only)				• TPB PG-NO. 12C (Revised May 2014)

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		Deep Bay area prior to the commencement of pond filling works. Both of these measures are further described below.						
10.11.3.3 – 10.11.3.4	Non-DPs	Enhanced Wetland for Pond Habitat Under the current wetland enhancement strategy, about 253 ha of enhanced wetland in the form of "ecologically enhanced fishponds" shall be established within the proposed SPS WCP. These ecologically enhanced fishponds would comprise existing pond habitats, and ponds that would be converted from existing brownfield or wasteland areas. These ponds shall be further enhanced with various features to increase the functional value and the carrying capacity to accommodate for higher abundance of wildlife. Enhancement measures could include: • Increase in pond area and enhance connectivity; • Physical modification of pond habitats to increase environmental carrying capacity; • Managing and sequencing pond drain down across multiple ponds in the dry season to maximize feeding opportunities for avifauna and other wildlife; • Providing fencing/controlling access to reduce disturbance from human activities and also prevent disturbance and predation of wildlife by feral dogs; • Removal of existing bird scaring devices at actively managed ponds, where appropriate • Stocking ponds with suitable prey items (i.e., trash fish) for target wildlife species (may be considered as an enhancement measure to achieve higher enhancement value).	Enhanced Wetland within the proposed SPS WCP / Construction and Operation Phase	Construction phase: AFCD as project proponent of SPS WCP; CEDD as works agent Operation phase: AFCD (within completed phases of SPS WCP handed over to AFCD only)		√	√	• EIAO-TM

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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10.11.3.6	Non-DPs	Physical Modification of Pond Habitats Across the entire ecologically enhanced fishpond areas, ponds could be physically modified to enhance ecological function and capacity. Typical measures to be implemented could be based on successful examples in Hong Kong such as the LMC EEA, including: • Consolidating smaller, fragmented ponds into larger waterbodies that support higher densities of avifauna and attract larger, more disturbance sensitive species; • Reprofiling pond banks to make the edges more gently sloping and shallower, increasing the available foraging area for avifauna; • Creating habitat islands that provide refuge for avifauna and other wildlife; and • Floating platforms / wetlands will be placed in each pond to provide additional foraging areas for wetland avifauna and potential breeding sites for other species.	Enhanced Wetland within the proposed SPS WCP / Construction and Operation Phase	Construction phase: AFCD as project proponent of SPS WCP; CEDD as works agent Operation phase: AFCD (within completed phases of SPS WCP handed over to AFCD only)		√	√	-
10.11.3.7 – 10.11.3.9	Non-DPs	Pond Drain-down and Water Management To help enhance the functional value of fishpond habitats, the total number of ponds drained down at any one time can be increased over and above levels currently implemented under the current Management Agreement (MA) practice. Under current MA practice, a relatively small number of ponds across the SPS WCP are drained down at any one time. Furthermore, most ponds participating in the programme are only partially drained for a period of 7 days. Feeding opportunities for avifauna could be enhanced by making the following changes to drain-down practices: • The total area of fishponds drain-down at any one time could be increased;	Enhanced Wetland within the proposed SPS WCP / Construction and Operation Phase	AFCD (within completed phases of SPS WCP handed over to AFCD only)		√	√	-

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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		• Full drain-down will be implemented rather than partial draining; and • Similar to recommendations in the approved EIA report for Proposed Development at Fung Lok Wai, Yuen Long (Mutual Luck Investment Limited, 2008), drain-down periods will be extended to longer than typical commercial practices or drain-downs under current practices. • Extending the length of drain down would allow for water levels to be lowered more gradually. Where ponds have been reprofiled to have a shallower gradient, this would result in progressively larger areas of shallow water/mud being exposed. Overall, this would provide a more stable, high-value feeding habitat for avifauna compared to ponds which are drained down more quickly. Fishpond water will primarily be supplied by direct rainfall that will be retained and re-circulated during drain-down periods. As with current practice in the area, supplemental water can be sourced from drainage channels that traverse the site as required. For controlling water levels in the ponds, adjustable sluices or similar water control devices can be provided to connect adjacent ponds, with ponds adjacent to retained drainage channels also having similar devices connecting the ponds to the drainage channels. The water control device levels can be adjusted to allow excess water to flow from pond to pond towards the drainage channels gravity during storm events to prevent overtopping.						
10.11.3.10 – 10.11.3.11	Non-DPs	<u>Controlled Access and Feral Dog Control</u> Public access to ecologically enhanced fishponds habitat area could be controlled to reduce disturbance from human	Enhanced Compensatory Wetland within the proposed SPS WCP /	AFCD (within completed phases of SPS		√	√	-

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		activities. This could be achieved by potentially gating key access points along the Border Road, Tun Yu Road and San Tin Tsuen Road (where appropriate, subject to detailed design). Smaller gates can be provided to control vehicular access along fishpond bunds. Site access would be maintained and controlled during the construction and operation phases of the SPS WCP. Measures (such as trapping and neutering) would be adopted to minimize disturbance and predation of wildlife by feral dogs.	Construction and Operation Phase	WCP handed over to AFCD only)				
10.11.3.12	Non-DPs	Removing Bird-scaring Devices The use of wire strung across ponds or other devices to discourage birds predating on fish stocks is still relatively common across the proposed SPS WCP area, particularly in the west close to MPNR. Removing these devices will add value to the ponds for wetland avifauna.	Enhanced Compensatory Wetland within the proposed SPS WCP / Construction and Operation Phase	AFCD (within completed phases of SPS WCP handed over to AFCD only)		√	√	-
10.11.3.13 & 10.11.3.26	Non-DPs	Trash Fish Stocking Stocking shallow ponds with small fish provides a high-quality feeding resource for many species of bird and other fish-eating species and may be considered as an additional measure to achieve higher enhancement value). This measure will be derived as needed to further enhance the functional value of the ponds.	Enhanced Compensatory Wetland within the proposed SPS WCP / Construction and Operation Phase	AFCD (within completed phases of SPS WCP handed over to AFCD only)		√	√	-
10.11.3.28 – 10.11.3.34	Non-DPs	Enhanced Wetland for Other Freshwater Wetland Habitats Under the current wetland enhancement strategy, about 35 ha of "enhanced freshwater wetland habitats" shall also be established within the proposed SPS WCP, alongside the compensation of "ecologically enhanced fishponds". The "enhanced freshwater wetland habitats" would be designed to compensate for impacts on a like-for-like basis as far as practicable, and could include various habitat types that	Enhanced Wetland within the proposed SPS WCP / Construction and Operation Phase	Construction phase: AFCD as project proponent of SPS WCP; CEDD as works agent		√	√	EIAO-TM

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		would support communities currently utilising impacted freshwater habitats: • Ducks and Grebes; • Freshwater Wetland Avifauna; • Other Wetland-associated Avifauna Species; • Eurasian Otters; and • Other Non-Avifaunal Species of Conservation Interest Details on the habitat requirement of these species are provided in Section 10 of the EIA report, and in the subsequent HCMP. Disturbance impact from the Project is anticipated to result in EZ and RDZ along the Project boundary, which is expected to support lower densities of disturbance sensitive of wildlife, in particular avifauna species. As the species recorded in marsh / reed habitats tend to be less disturbance-sensitive than species utilizing more open wetland habitats, the proposed "enhanced freshwater wetland habitats" could be considered along these EZ and RDZ, where the remaining areas of the proposed SPS WCP (outside the EZ and RDZ) can be maximised for ecologically enhanced fishponds. Upon the establishment of the proposed SPS WCP, it could be able to accommodate the aforementioned enhanced wetland of about 288 ha (253 ha of "ecologically enhanced fishponds" and 35 ha of "enhanced freshwater wetland habitats"). The Government will enhance the ecological function and capacity of 288 ha of wetlands in the proposed SPS WCP with active conservation management to compensate for the loss in wetland arising from the development of San Tin Technopole, which would create sufficient environmental capacity to support the compensation requirement of the Project.		Operation phase: AFCD (within completed phases of SPS WCP handed over to AFCD only)				

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10.11.3.35	Non-DPs	*Habitat Creation and Management Plan (HCMP)* Details of the "ecologically enhanced fishponds" and "enhanced freshwater wetland habitat", including detailed design of habitats, habitat requirement for the aforementioned target species, details of management practices, implementation details, as well as the monitoring requirements (e.g., monitoring period, location, frequency, parameters, and target levels), will be provided in the subsequent HCMP. The HCMP should be submitted for approval from relevant Government departments (including AFCD and EPD), at least three months before the commencement of pond filling works.	Enhanced Wetland within the proposed SPS WCP / Design Phase	Design phase: Project Proponent, in consultation with AFCD (as project proponent) and CEDD (as works agent) of SPS WCP	√			-
10.11.3.36	Non-DPs	Minimising Construction Phase Indirect Impacts on Sites of Conservation Importance and Associated Habitats Phasing of pond filling works in San Tin – Sam Po Shue area should be adopted. The pond filling works will be phased to tie in with the phased development of the SPS WCP, with a working group formed to coordinate the progress of pond filling and SPS WCP implementation. The pond filling works should also be started from urbanised area towards the wider wetland area (i.e. from the southeast near STEMDC or San Tin Highway towards the northwest) and construction activities should be minimised at any one time, so as to allows gradual migration of wildlife to the wetland habitats northwest to the Project area. Pond filling works should also be conducted in wet season as far as possible when there is a lower abundance of avifauna. In order to reduce the scale of disturbance and the total area of pond filling at the same time, filling of ponds in San Tin / Sam Po Shue should be conducted in multiple wet seasons (at least 2 years or more).	Project site / Design and Construction Phase	Project Proponent / Design stage consultant / Contractor	√	√		-
10.11.3.37	Non-DPs	Minimising Construction Phase Indirect Impacts on Sites of Conservation Importance and Associated Habitats	Project site / Construction Phase	Contractor		√		-

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		Site hoarding of about 3 m high should be erected along the works site and works area before commencement of construction activities, to shield the avifauna in the nearby wetlands from the disturbance of human activities during construction phase. Such hoarding would be non-transparent and superimposing dark patterns or stripes to avoid the risk of potential bird collision.						
10.11.3.38	Non-DPs	<u>Minimising Construction Phase Indirect Impacts via the establishment of an "Eco-Interface"</u> Under the Revised RODP, an "eco-interface" area with width of about 35 m was proposed along the northwest of the Project boundary, between the proposed Project area in San Tin and the wider pond habitats in San Tin and Sam Po Shue; while another "eco-interface" area with width of about 20 m was also proposed along the east of STEMDC, creating a buffer between the "OU(I&T)" land use and the watercourse STEMDC. The "eco-interface" would be established in the form of a landscape buffer via landscape planting, comprising native tree species, shrub mix and riparian vegetation, and incorporating a gentle slope interface, with an aim to minimise disturbance from Project area by providing a buffer between the development and the adjacent wetland habitats and associated fauna.	Project site / Design and Construction Phase	Design stage consultant / Contractor	√	√		-
10.11.3.39 – 10.11.3.41	Non-DPs	<u>Wetland Enhancement Measure</u> Together with the development of the Project, enhancement measures would also be implemented to enhance the ecological value of wetland habitats in the Deep Bay area. Two management issues at Mai Po Inner Deep Bay Ramsar Site could be addressed to enhance environmental capacity across the broader North West New Territories (NWNT) wetland system:	Off-site enhancement area / Construction and Operation Phase	Project Proponent / Contractor	√	√	√	-

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		• Firstly, tidal channels that link *gei wai* in the Mai Po Nature Reserve to the Inner Deep Bay have become silted up over time, limiting tidal exchange and degrading the function of habitats within the *gei wai*. Improvement of these channels via de-silting can promote tidal exchange and enhance habitat condition within the *gei wai.* • Secondly, the invasive exotic mangrove *Sonneratia* sp. has spread rapidly across mudflat habitats and drainage channels across the NWNT. Selective clearance of larger *Sonneratia* stands can help restore wetland habitats in affected areas. Realising the beneficial effects brought by the enhancement measures, they are targeted to be commenced as early as possible. Both enhancement measures shall be undertaken in the wet season (April – September) to minimise disturbance impacts to overwintering avifauna and hence they are proposed to be commenced earliest at the start of the 2025 wet season. Details of the enhancement measures (e.g. details, timeframe and requirement/frequency of repetition for the enhancement works) shall be provided in a separate work plan prepared by the project proponent, and submitted to AFCD for agreement at least three months prior to the commencement of these works.						
10.11.3.42 – 10.11.3.44	Non-DPs	<u>Improvement of Tidal Channel</u> Selected tidal channels could be de-silted. These channels connect to the sluice-gates of several existing *gei wai*, where proposed de-silting works could potentially enhance the functioning of *gei wai*. De-silting works would be undertaken in the wet season (April – September) by phases to minimise disturbance impacts to overwintering avifauna.	Off-site enhancement area / Construction and Operation Phase	Project Proponent / Contractor	√	√	√	-

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10.11.3.45 – 10.11.3.46	Non-DPs	<u>*Sonneratia* Clearance</u> Additional enhancement of the Deep Bay area will be provided by the removal of exotic mangrove species on mudflat (*Sonneratia* spp.). The removal of exotic mangrove species would be undertaken in the wet season (April – September) selectively to minimise disturbance impacts to overwintering avifauna.	Off-site enhancement area / Construction and Operation Phase	Project Proponent / Contractor	√	√	√	-
10.11.3.47	Non-DP	<u>*Interim Wetland Enhancement*</u> Interim wetland enhancement measures prior to the commencement of pond filling works would also be implemented. Suitable ponds in the Inner Deep Bay area will be identified for implementing interim enhancement works, which may comprise restoration of abandoned ponds and arrangement of active management including fish stocking for suitable ponds. Details of the suitable ponds and interim enhancement works shall be provided in a separate Interim Wetland Enhancement Plan and submitted for approval from relevant Government departments (including AFCD and EPD) at least three months before the commencement of these interim enhancement works.	Off-site interim wetland enhancement area / Construction Phase	Project Proponent / Contractor	√	√		-
10.11.2.2, and 10.11.4.3 – 10.11.4.4	DP7, Non-DPs	<u>Impact on Egretries: Mai Po Lung Village (MPLV) Egretry</u> The Revised RODP of the Project was carefully designed with the aim to preserve the MPLV Egretry, and the vegetation currently used by the breeding ardeids. An "Open Space" is currently proposed to preserve the core area of the egretry and the vegetation. Detailed design of this "Open Space" shall incorporate enhancement features, which may include: • Preservation of trees currently within the core area of the MPLV Egretry; • Incorporation of water features within the "Open Space" area, adjacent to the existing of MPLV Egretry;	Construction sites in the vicinity of the egretries / Design and Construction Phase	Project Proponent / Design stage consultant / Contractor	√	√		Guidelines for Planning and Carrying out Construction Works at Egretries

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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		• Planting of mature trees adjacent to the water features, with native species that are currently used as egretry substratum; and • Maintaining a buffer area between the water features and the established mature trees from the adjacent proposed land-uses (e.g. logistics storage and workshop, district cooling system, and traffic roads). The enhancement measures would be established during the construction phase. Buffer planting along the Open Space could also minimise potential indirect disturbance impacts on the egretry from adjacent proposed land-use and traffic network during operation phase. Under the proposed "Open Space", only low intensity activities would be allowed (e.g. plant nursery), while other recreational activities (e.g. sports and recreation) would not be included in the "Open Space" in order to minimise the disturbance to the MPLV Egretry. A pre-construction surveys are necessary to confirm the latest boundary and condition MPLV Egretry before commencement of the construction works. Any construction activities within the 100 m distance of the egretry (subject to findings of pre-construction survey) should be subject to seasonal control. An Egretry Habitat Enhancement and Management Plan including the details of design plan, site preparation works, works schedule and management plan should be prepared for approval from relevant Government departments (including EPD and AFCD) before the commencement of construction works. Maintenance of enhancement features suggested above (e.g. preservation and planting of egretry substratum, incorporation of water features, and maintaining buffer area) shall be implemented during the period of egretry monitoring.						

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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10.11.4.10 – 10.11.4.12	DP1, DP7, Non-DPs	*Minimising Construction Phase Impacts on Egretries* Considering the close proximity between the proposed development and both MPLV Egretry and MPV Egretry, encroachment into the trees at both egretries shall be strictly avoided during construction phase (except for the minor encroachment of the MPLV egretry). The latest boundary, condition, flight paths of both MPLV Egretry and MPV Egretry and the associated mitigation measures should be confirmed by pre-construction surveys before commencement of the construction works. Potential disturbance impact on the breeding ardeids shall be further minimised by establishing a buffer area of 100 m from the footprint of both egretries. In addition, the boundary of the 100 m buffer area should be updated subject to the findings of pre-construction survey. Stringent seasonal control would be implemented within the buffer area, where construction activities shall be avoided during the ardeid breeding period (i.e. from March to early September). Construction activities shall be conducted from late September to February in the following year, unless AFCD's prior approval on construction method has been obtained and appropriate mitigation measures have been proposed and adopted. Tree crown pruning works at the egretries shall be avoided as best as possible, and where necessary, shall also be conducted and completed outside the ardeid breeding season to minimise disturbance to any breeding ardeids that may be present. Method Statement on construction activities near the egretries and necessary tree crown pruning works shall be submitted to AFCD in advance of the works. Other stringent control measures shall also be implemented (e.g. establishment of hoarding and regular auditing). Aside from the construction activities, any associated temporary works areas (e.g. site office, stockpiling / material storage	Construction sites in the vicinity of the egretries / Design and Construction Phase	Design stage consultant / Contractor	√	√		Guidelines for Planning and Carrying out Construction Works at Egretries

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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		area, etc.) shall be strictly restricted outside the egretries as well. Potential pruning works shall only be conducted where necessary, limited at overgrown tree branches that may affect construction activities.						
10.11.5.3 – 10.11.5.5	Non-DPs	<u>Re-provision of Roosting Substratum for Ha Wan Tsuen Night Roost</u> A re-provision of roosting area which comprises water features and riparian vegetation shall be provided before the removal of Ha Wa Tsuen Night Roost, adjacent to the proposed fisheries research centre under the Revised RODP. The re-provided roosting area would comprise mature individuals of native tree species that are currently used as a roosting substratum. The incorporation of these features (water features and associated roosting trees) shall be completed before dry season (October to March), prior to the arrival of the overwintering birds, in order to provide suitable roosting opportunities. A pre-construction survey is necessary to confirm the latest boundary and condition of the night roosts before commencement of the construction works. Prior to the tree removal at the existing Ha Wan Tsuen Night Roost, noisy construction activities within 100 m of the existing Ha Wan Tsuen Night Roost would be subject to timing control during dry season (October to March) to minimise indirect disturbance impacts; while upon the tree removal at Ha Wan Tsuen Night Roost (and the re-provision of roosting substratum at the Fisheries Research Centre), the same timing control would be implemented within 100 m of the re-provided night roost. During dry season (October to March), noisy construction activities (with the use of PME) within the 100 m buffer area should cease at least an hour before sunset, and shall commence at least an hour after sunrise on the following day, making reference to the time of sunrise and sunset from the Hong Kong Observatory	Construction sites, existing night roosts, and re-provision roosting area / Design and Construction Phase	Project Proponent / Design stage consultant / Contractor	√	√		-

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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10.11.5.6 – 10.11.5.7	DP6, DP7	<u>Re-provision of Roosting Substratum for San Tin Open Storage Area Night Roost</u> Roosting opportunity shall be provided at the "Open Space" along the bank of the diverted and revitalised WC-N8 (STWMDC), approximately 110 m east of the original night roost. The reinstated roosting area should instead include mature native tree species recorded in other night roost, including but not limited to mature *Ficus* spp. The re-provision of roosting area should be completed before dry season (October to March), prior to the arrival of the overwintering birds, in order to provide suitable roosting opportunities. A pre-construction survey is necessary to confirm the latest boundary and condition of the night roosts before commencement of the construction works. Furthermore, construction activities within 100 m of the re-provided night roosts of San Tin Open Storage Area Night Roost shall be subject to timing control during dry season (October to March) to minimise indirect impacts. Prior to the tree removal at the existing roosting site, noisy construction activities within 100 m of the existing San Tin Open Storage Area Night Roost would be subject to timing control during dry season (October to March) to minimise indirect disturbance impacts; while upon the tree removal (and the re-provision of roosting substratum along the revitalised STWMDC), the same timing control would be implemented within 100 m of the re-provided night roost. During dry season (October to March), noisy construction activities (with the use of PME) within the 100 m Buffer Area should cease at least an hour before sunset, and shall commence at least an hour after sunrise on the following day, making reference to the time of sunrise and sunset from the Hong Kong Observatory. Monitoring of the re-provided roosting sites (e.g. conditions of the re-provided tree individuals) shall also be conducted, with	Construction sites, existing night roosts, and re-provision roosting area / Design and Construction Phase	Project Proponent / Design stage consultant / Contractor	√	√		-

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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		maintenance conducted by the Project Proponent and Contractor during the period of night roost monitoring.						
10.11.5.1 – 10.11.5.8	Non-DPs	<u>Minimising Construction Phase Direct / Indirect Impacts on Night Roost</u> The construction activities and tree felling in Ha Wan Tsuen Night Roost and San Tin Open Storage Area Night Roost should be allowed only in wet season (April – September) which no roosting individual was recorded in current survey. Re-provision planting of the roosting substratum both night roosts should also be commenced as early as possible before the commencement of construction activities that may result in the loss of both night roosts. In the case where construction activities or temporary works cannot be avoided during the overwintering season, As discussed above, in the case where construction activities or temporary works near the re-provided night roosts cannot be avoided during the overwintering season (October to March), noisy construction works within 100 m of the existing night roosts (prior to tree felling) and re-provided night roosts (upon re-provision) (exact area would be subject to the pre-construction survey finding and detailed design in the future) should cease before the peak returning time (an hour before sunset) of the ardeids and Great Cormorants, and shall commence at least an hour after sunrise on the following day, making reference to the time of sunrise and sunset from the Hong Kong Observatory. Monitoring of the re-provided roosting sites (e.g. conditions of the re-provided tree individuals) shall also be conducted, with maintenance conducted by the Project Proponent and Contractor during the period of night roost monitoring.	Construction sites, existing night roosts, and re-provision roosting area / Construction Phase	Design stage consultant / Contractor	√	√		-

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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10.11.6.1 – 10.11.6.3	Non-DPs	Impact on Flight Paths: MPLV Egretry A Non-Building Area (NBA) of about 70 m wide is proposed to the northwest from the existing MPLV Egretry. Under the Project, obstruction of flight paths will also be further minimised by maintaining flight corridors along the proposed Road D3, allowing connection of flights between the MPLV and the diverted WC-N8 located towards the northeast, and along the proposed Road L11 towards the west. No tall structures are anticipated above the proposed Road D3 and Road L11, thus expected to allow flight to and from the MPLV Egretry, partially coinciding with the observed Flight Paths. Heights of associated structures on these corridors shall be limited in order to allow flight movement. In order to minimize the disturbance on the flight path along the NBA during breeding period of the egretry (i.e. from March to early September) and encourage ardeid usage, the noisy construction works (with the use of PME) within the 70 m wide NBA should cease at least an hour before sunset, and shall commence at least two hours after sunrise on the following day, making reference to the time of sunrise and sunset from HKO), to avoid the period of highest utilisation of flight path. Further disturbances shall be minimised along the proposed flight paths, by incorporation of greening features of suitable heights, where appropriate, to minimise visual disturbance on the ardeids from human activities and further encourage flight usage.	Construction sites / Design and Construction Phase	Design stage consultant / Contractor	√	√		-
10.11.6.4 – 10.11.6.5	Non-DPs	Impact on Flight Paths: MPV Egretry The proposed “eco-interface” with provision of greening and wetland habitats is overlapped with certain flight paths from MPV Egretry, thus promoting the connectivity and movement corridor of the MPV Egretry and the wider wetland habitats.	Construction sites / Design and Construction Phase	Design stage consultant / Contractor	√	√		-

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10.11.6.6 – 10.11.6.9	Non-DPs	Maintaining Flight Corridor Across LMC BCP The Project would incorporate a flight corridor with width of about 300m. This flight corridor would comprise the proposed AFCD Fisheries Research Centre (near the Loop), a few GIC sites (reserved for a pumping station, HKPF Weigh Station and Customs dog base) and a proposed NBA within I&T sites near STEMDC to preserve a corridor for flight movement between the east and the west. Minimal building structures with small area are anticipated at the AFCD Fisheries Research Centre and the GIC sites, with building height of not more than 15 mPD. No aboveground building structures would be established above the STEMDC and the NBA. Noisy construction works (with the use of PME) within the 300 m wide flight corridor should cease at least an hour before sunset, and shall commence at least two hours after sunrise on the following day (making reference to the time of sunrise and sunset from HKO) during dry season (October to March) to avoid the period of highest utilisation of the flight corridor. To further promote flight movement, stepping height of the building structures adjacent to the flight corridor would also be implemented, with building height of not more than +35mPD proposed on both north and south sides of the flight corridor to encourage usage of this corridor and minimise potential obstruction impact.	Construction sites / Design and Construction Phase	Design stage consultant / Contractor	√	√		• -
10.11.8.2 – 10.11.8.4	Non-DPs	Woodland Compensation Compensatory planting would be performed for the loss of the 1.64 ha woodland of "moderate value" at an off-site woodland compensation site. A suitable area was identified near the compensatory woodland for the Lok Ma Chau Loop Project. Native species of different growth form with high market availability are preferred for compensatory planting. Compensatory planting would be provided sequentially upon	Off-site woodland compensation area / Design, Construction and Operation Phase	Project Proponent / Design stage consultant / Contractor & Qualified Botanist / Ecologist	√	√		EIAO-TM

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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		the completion of works within the Project area. To facilitate successful establishment of the compensatory woodland, a detailed Woodland Compensation Plan should be prepared by local ecologists / botanist with at least 5 years of relevant experience. The plan should include implementation details, management requirement and monitoring requirements (e.g., methodology, schedule, frequency of monitoring, and monitoring parameters), and should be submitted to relevant Government departments (including AFCD and EPD) for approval at least two months before commencement of the planting.						
10.11.8.2 – 10.11.8.4; EM&A Manual 9.3.6	Non-DPs	Upon the completion of planting, monitoring and maintenance works (e.g., irrigation, weeding, pruning, control of pests and diseases, replacement planting and repair of damage) of the compensatory woodland should be implemented. Upon the completion of compensatory planting, a three-year monitoring by local ecologist / botanist with at least 5 years relevant experience is recommended to ensure proper establishment of this compensatory woodland. The monitoring frequency should be monthly within the first year upon the establishment of the compensatory planting, and bi-monthly in the next two years of the monitoring.	Off-site woodland compensation area / Construction and Operation Phase	Project Proponent / Contractor & Qualified Botanist / Ecologist		√	√	-
10.11.9.1 – 10.11.9.3	Non-DPs	<u>Avoiding Direct Loss of Species of Conservation Importance</u> A few individuals of the flora species of conservation importance were recorded at areas which would be zoned as 'Green Belt' (GB) land use under the Revised RODP. As habitat and vegetation would be preserved at these GB zones, direct impact to the Incense Trees would be avoided. Direct impact on other flora and fauna species of conservation importance shall be further avoided / minimised by mitigation measures such as pre-construction surveys and	Construction sites / Design and Construction Phase	Design stage consultant / Contractor & Qualified Ecologist	√	√		EIAO-TM

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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		transplantation / translocation / nest control measure of the species.						
10.11.9.4 – 10.11.9.5	Non-DPs	<u>Flora Species of Conservation Importance</u> Transplantation is recommended as far as possible for Cycad-fern and Incense Tree to minimise the direct impact to this species. Prior to the commencement of the construction phase, a detailed vegetation survey would be conducted by a qualified botanist / ecologist to confirm the locations and health condition of Cycad-fern and Incense Tree. All the healthy individuals suitable for transplantation would be identified and rescued. They would be transplanted to suitable receptor site outside Project area, ideally at wooded habitats such as mixed woodland, plantation, shrubland or woodland outside the Project area. Pre-construction survey, screening / selection of receptor site(s) and preparation of a Protection and Transplantation Proposal describing details of the transplantation methodologies would be prepared by qualified botanist / ecologist and submitted for approval prior to transplantation. Mitigation for Luofushan Joint-fir is recommended in compensation manner. Seedling planting of Luofushan Joint-fir is recommended in receptor site(s). However, it should be planted in low density to reduce its shading stress to the receptor site(s) in future. Pre-construction survey, collection of seeds, screening / selection of receptor site(s) and preparation of a Protection and Seedling Planting Proposal should be prepared by qualified botanist / ecologist for approval.	Construction sites / Design and Construction Phase	Project Proponent / Design stage consultant / Contractor & Qualified Botanist / Ecologist	√	√		• EIAO-TM

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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10.11.9.4 – 10.11.9.5; EM&A Manual 9.3.7	Non-DPs	Upon the transplantation / seedling planting of the identified individuals, a three-year post-transplantation / post-seedling planting monitoring should be implemented to monitor the health conditions and survival of the transplanted individuals. The suggested monitoring frequency should be monthly within the first year upon the establishment of the transplantation, and bi-monthly in the next two years of the monitoring.	Receptor site of flora species of conservation importance (e.g., off-site woodland compensation area) / Construction and Operation Phase	Project Proponent / Contractor & Qualified Botanist / Ecologist		√	√	-
10.11.9.6 – 10.11.9.12	Non-DPs	Fauna Species of Conservation Importance *Breeding Ground of Avifauna Species of Conservation Importance* In order to avoid direct injury to the breeding pairs, chicks and eggs, nest control measures should be implemented in non-breeding season (late August to early February) to discourage breeding behaviour within Project area prior to construction works. To avoid nesting of Little Ringed Plover in drained ponds, drained ponds should be covered by black pond liner immediately to discourage Little Ringed Plover from nesting on the drained ponds. To discourage nesting of White-shouldered Starling, box attached to electric pole should be sealed / removed in non-breeding season. To discourage nesting of White-throated Kingfisher, the mud wall and mud wall tunnels within Project area on Ngau Tam Shan should be sealed in non-breeding season. Prior to nest control measures, the drained pond, box and mud wall tunnel should be checked carefully by qualified ecologists to ensure no avifauna / eggs are present. Preparation of Nest Control Proposal, pre-construction survey and the nest control measures mentioned should be conducted by qualified ecologist with at least 10 years relevant experience to ensure the control measures and the subsequent works would not injure any breeding pairs, chicks or eggs.	Construction sites / Design and Construction Phase	Project Proponent / Design stage consultant / Contractor & Qualified Ecologist	√	√		• EIAO-TM

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		Freshwater Fauna Species of Conservation Importance Pre-construction survey would be conducted for Rose Bitterling, followed with measures to capture and translocate them to suitable habitat(s) nearby, which are free from development pressure. Qualified ecologist with freshwater fauna experience with at least 5 years relevant experience should prepare a detailed Translocation Proposal for approval. For example, considering the Rose Bitterling has a spawning symbiosis relationship with Chinese Pond Mussel, translocation of Chinese Pond Mussel should also be included in the scope of translocation; while mud should also be deposited to support the mussel, etc. The potential receptor sites should be in similar size compared to the original fishponds (approximately 0.42 ha / pond). The abiotic (temperature, pH, salinity, level of dissolved oxygen, turbidity and pollution) and ecological (vegetation, presence of invasive fish / predators) parameters of receptor site(s) should be examined prior to translocation. Screening and selection of potential receptor sites would be included in the Translocation Proposal, conducted by qualified ecologist before the commencement of construction phase. Capture and translocation are recommended two freshwater crab species of conservation importance (*Cryptopotamon anacoluthon* and *Somanniathelphusa zanklon*). Pre-construction survey focusing the locations where they were previously recorded in Project area should be conducted, identified individuals should be captured and translocate to suitable receptor sites. Preparation of Translocation Proposal, screening / selection of receptor sites and capture – release process should be conducted by qualified ecologist with relevant experience. *Herpetofauna Fauna Species of Conservation Importance*						

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		Translocation is suggested for amphibian species of conservation importance. Similar capture – release approach would also be adopted for amphibians. Both adults and tadpole shall be included in the scope of translocation. The pre-construction survey, capture and release should be conducted during night-time in wet season when amphibian is relatively active to maximise capture rate. Preparation of Translocation Proposal, screening / selection of receptor sites and capture – release process should be conducted by qualified ecologist with relevant experience.						
10.11.9.9 – 10.11.9.13; EM&A Manual 9.3.8	Non-DPs	Upon the translocation of the identified individuals, a three-year post-translocation monitoring should be implemented to investigate the survival of translocated individuals as best as possible. The suggested monitoring frequency should be monthly within the first year upon translocation, and bi-monthly in the next two years of the monitoring.	Receptor site of fauna species of conservation importance / Construction and Operation Phase	Project Proponent / Contractor & Qualified Ecologist		√	√	-
10.11.9.4 – 10.11.9.12	Non-DPs	Post-transplantation, post-plantation and post-translocation monitoring programs for the mentioned flora / fauna species are required for determining the success of mitigation. Direct observation and counting, mark-recapture and active search would be potential methodology for the monitoring programs depend on the target species. Detailed methodology, schedule and frequency of monitoring program would be provided in the corresponding Transplantation / Translocation Proposal(s).	Construction sites / Construction and Operation Phase	Project Proponent / Design stage consultant / Contractor & Qualified Ecologist		√	√	• EIAO-TM
10.11.9.15	Non-DPs	<u>Eurasian Otter</u> While no significant ecological impacts are anticipated on the low occurrence of Eurasian Otters, a conservative approach has been adopted, and their potential movement corridor across the Project area was considered under the Revised RODP with the inclusion of a wildlife corridor (detailed in Section 10). Further pre-construction site check will be	Construction sites / Construction Phase	Contractor & Qualified Ecologist	√	√		• EIAO-TM

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		included under a conservative approach on this highly elusive species.						
10.11.10.1	All DPs and Non-DPs	Minimising Direct Injury / Mortality of Wildlife Proper screening (e.g. hoarding or barrier) would be provided to restrict construction activities within the Project sites, to minimise potential direct injury to nearby wildlife by confining the construction activities, and to avoid the wildlife from accidentally entering the Project sites.	Construction sites / Construction Phase	Contractor		√		• -
10.11.12.1 – 10.11.12.2	All DPs and Non-DPs	Minimising Construction Disturbance to Habitats, Sites of Conservation Importance and Wildlife Mitigation measures should be implemented to minimise the disturbance impacts (e.g. noise, glare and dust) to the adjacent habitats and their associated wildlife arising from the construction activities, including but not limited to the following: • Noise mitigation measures by effective placing of site hoarding, temporary noise barriers and material stockpiles where practicable as screening, shut down of machines and plants that are in intermittent use, and the use of quality power mechanical equipment (PME) to limit noise emissions at source. Machines and plant known to emit strong directional noise should, wherever practicable, be orientated so that the noise is directed away from the nearby habitats. QMP and other machines and plants should be covered by noise enclosure to further reduce noise impact; • A balance between lighting for safety, and avoiding excessive lighting can be achieved through the use of directional lighting to avoid light spill into sensitive areas (e.g. construction activities near the egretries and ardeid night roosts), hoarding provision, and control night-time lighting periods, particularly for the works site(s) located	Construction sites / Construction Phase	Contractor		√		• Noise Control Ordinance (NCO) • Air Pollution Ordinance (Construction Dust) Regulation)

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		in proximity, and during peak season of activities (e.g. breeding season of the egretries, peak roosting season of ardeids at night roosts during dry season), hence minimising the potential indirect impact on the community of the breeding and night-roosting ardeids; • Dust suppression measures (such as regular spraying of haul roads, proper storage of construction materials, covering trucks or transporting waste in enclosed containers, and environmental control measures as stipulated in the Air Pollution Ordinance (Construction Dust) Regulation) to avoid and minimise emission and dispersal dust, which would cover vegetation and potentially discourage usage of nearby wildlife; and For construction activities at pond habitats within the Wetland Conservation Area, percussive piling works and demolition using excavator mounted breakers should be avoided from November to March. Where such construction activities are unavoidable, additional agreement with relevant Government departments (including EPD and AFCD) should be sought prior to the commencement of works.						
10.11.12.2	All DPs and Non-DPs	Good site practices should be strictly followed to avoid / minimise adverse impacts arising from the construction activities. Recommendations for good site practices during the construction phase include: • Nomination of approved personnel, such as a site manager, to be responsible for implementation of good site practices, arrangements for waste collection and effective disposal to an appropriate facility; • Training of site personnel in site cleanliness, concepts of waste reduction, reuse and recycling, proper waste management and chemical waste handling procedures;	Construction sites / Construction Phase	Contractor		√		• WDO • Public Cleansing and Prevention of Nuisances Regulation (Cap. 132BK)

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		• Provision of sufficient waste reception/ disposal points, and regular collection of waste; • Adoption of appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; • Provision of regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; • Adoption of a recording system for the amount of wastes generated, recycled and disposed (including the disposal sites); and Preparation of Waste Management Plan (WMP), as part of the Environmental Management Plan (EMP).						
10.11.12.3	All DPs and Non-DPs	<u>Minimising Water Quality Impacts</u> Good site practices during the construction phase should be adopted to avoid any pollution entering any nearby watercourses. Practices to minimise surface run-off and to reduce suspended solid levels should be undertaken during construction: • Surface run-off from construction sites should be discharged into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sedimentation basins; • Open stockpiles of construction materials (e.g. aggregates, sand and fill material) on sites should be covered with tarpaulin or similar fabric during rainstorms; • General refuse and construction waste should be collected and disposed of in a timely and appropriate manner;	Construction sites / Construction Phase	Contractor		√		• WPCO • ProPECC PN 2/23 • EIAO-TM

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		• Drainage arrangements should include sediment traps to collect and control construction run-off; • Silt removal facilities, channels and manholes should be maintained, and the deposited silt and grit should be removed regularly, at the onset of and after each rainstorm to prevent local flooding; • All works and storage areas should be restricted to the site boundary; • All vehicles and plant should be cleaned before they leave a construction site to minimise the deposition of earth, mud, debris on roads; and Regular check of the construction boundary to avoid unmitigated impacts imposed on nearby watercourse.						
Construction and Operation Phase								
10.11.10.2	All DPs and Non-DPs	<u>Minimising Bird Collision</u> The potential bird collision should be avoided by using low reflective materials (e.g. tinted glass, low reflective window film) and appropriate architectural features on building structures c-transparent panels should also be used as noise enclosure, as well as adopting non-glaring tinted materials, or superimposing dark patterns at the majority of glazing along barriers to avoid and minimise bird mortality from collision.	Construction sites / Design, Construction and Operation Phase	Design stage consultant / Contractor / Operator	√	√	√	• Guidelines on Design of Noise Barriers • Practice Notes No. BSTR/PN/003 (Revision E) Noise Barriers with Transparent Panels
10.11.12.1 – 10.11.12.2	Non-DPs	<u>Wildlife Corridor</u> Under the Revised RODP, wildlife corridors have been incorporated to provide opportunity for ecological linkage between STEMDC, Ha Wan Tsuen and Lok Ma Chau. This wildlife corridor should comprise underground sections (concrete underpasses across proposed roads) and aboveground sections which would be provided within the AFCD Fisheries Research Centre, to provide connection	Construction sites / Design, Construction and Operation Phase	Project Proponent / Design stage consultant / Contractor	√	√		-

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		between the AFCD Fisheries Research Centre and the STEMDC. Indicative locations of these proposed wildlife corridors are presented in **Figure 10.10A**, which would provide opportunity for wildlife movement across the area, in particular the mammal species currently recorded, as well as potential usage of Eurasian Otters. Revitalisation works would be conducted along the STEMDC to provide eco-friendly habitats for wildlife including target mammal species. Continuous fencing of suitable height for mammal barrier should be erected along the wildlife corridor in order to prevent roadkill and guiding wildlife into the underpasses. Wildlife corridors shall be considered to provide ecological linkage between the various "GB" under the Revised RODP, targeting mammal species of conservation importance recorded including East Asian Porcupine, Leopard Cat and Red Muntjac. Details of the proposed wildlife corridor shall be formulated in detailed design in later stages, and shall be agreed with relevant Government departments (including AFCD and EPD) prior to commencement of construction works. It is expected that, provision of wildlife corridor can maximise the ecological function of preserved "GB" and mitigate the habitat fragmentation impact. Potential usage of the wildlife corridor should also be recorded (e.g. with the use of camera traps). Maintenance work such as weeding, screening, and repairing broken fencing / structure should be conducted, where necessary, during the period of monitoring of the wildlife corridor conditions						

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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10.11.13.1	Non-DPs	Eco-Interface The "eco-interface" could provide opportunities for further enhancement measure to promote wildlife usage. Installation of artificial nest boxes and bat boxes are recommended in "eco-interface" areas to attract avifauna and bat species including species of conservation importance such as White-shouldered Starling and Japanese Pipistrelle. Location and selection of nest box and bat box would be subject to detailed design.	Construction sites / Design, Construction and Operation Phase	Design stage consultant / Contractor	√	√		
10.11.13.2	DP6 and DP7	River Revitalisation Major watercourse including WC-N3 and WC-3 (i.e. STEMDC) and WC-N8 (i.e. STWMDC) would be reinstated and revitalised, while details of the revitalisation would be available after detailed design. Opportunities for ecological enhancement (e.g. bioengineering, creating meanders) would be explored to improve its ecological value. Provision of natural substrate that would encourage colonisation of flora and freshwater fauna in the bottom and banks of the revitalised watercourses would be considered, subject to detailed design of the proposed revitalisation measures. Vegetation species to be planted along the riparian zone would be selected on the basis that it would benefit the wildlife recorded in the vicinity. Fauna species recorded from recent surveys and previous studies (e.g. foraging ground for avifauna species, drinking site for bat species) would be potentially benefit from the revitalised watercourse. Maintenance works (e.g. weeding, de-silting, replacement planting, repair of damage, etc.) should also be conducted as necessary.	Construction sites / Design, Construction and Operation Phase	Project Proponent / Design stage consultant / Contractor / DSD	√	√	√	• -
10.11.13.3	Non-DPs	Enhanced Connectivity at Green Belts With the inclusion of the proposed wildlife corridors, enhanced connectivity is anticipated between Green Belts to benefit wildlife usage. Other Green Belts were also retained under the	Construction sites / Design, Construction and Operation Phase	Project Proponent / Design stage	√	√		-

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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		Revised RODP. While some Green Belts on the southern portion of the Project area was not recorded with particular mammal species of conservation importance (e.g. GB.3.1 and GB.5.5), similar underpass structures are proposed to connect these Green Belts in order to provide enhanced connectivity for general wildlife (e.g. future urban wildlife within the Revised RODP). No specific ecological monitoring would be required for this enhancement feature.		consultant / Contractor				
10.11.13.4	All DPs and Non-DPs	Greening Opportunity Greening opportunities should be explored to promote the overall habitat quality and ecological connection. Native tree, shrub and herb species should be considered as far as possible, with consideration of market availability, for landscape planting and buffer planting in the Project area and Project boundary. Furthermore, native host plants and nectar plants should preferentially be considered in the planting plan to provide a butterfly-friendly environment. Beside planting host and nectar plant for attracting butterfly, *Livistona chinensis* could also be planted to create favourable roosting habitat for Short-nosed Fruit Bats recorded in the present study, and native fruits trees with food sources (e.g. *Ficus microcarpa*, *F. subpisocarpa*, *F. variegata*, *Dimocarpus longan*, *Clausena lansium*) be planted to attract birds. Buffer planting together with nectar plants and host plants is highly recommended especially in the south of Pang Loon Tei, close to CA in the hillside, where a high diversity of butterfly species was recorded.	Construction sites / Design, Construction and Operation Phase	Design stage consultant / Contractor	√	√		-
Fisheries Impact								
11.7.1.1	DP1, DP6, DP7, Non-DPs	Maintaining Bund Stability During the construction stage, all ponds to be removed (including ponds partially encroached by the Project boundary) shall be isolated and not connected to any existing	Construction sites / Construction Phase	Contractor		√		-

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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		watercourse. The pond would then be drained before filling up these areas or before commencement of any excavation and construction works. To maintain bund stability of remaining adjacent ponds, a layer of shoring or sheet pile wall should be erected along the site boundary adjacent to fishponds. In addition, the shoring / sheet pile wall should have grouting or a grout curtain to avoid water seepage from the fishpond to the excavation area.						
11.7.1.2 – 11.7.1.3	DP1, DP6, DP7, Non-DPs	<u>Minimisation of Potential Water Quality Impacts</u> Mitigation measures and good site practices should be implemented during the construction phase, as proposed in **Section 5** (e.g. proper covering of construction debris and stockpiling of material to avoid runoff into the ponds), to further minimise potential water quality impact on the ponds adjacent to the Project boundary. Surface drainage system shall also be provided to collect road run-off during the operation phase of the Project. Examples of mitigation measures for potential water quality impact include: *Control of Site Run-off* • Implementation of Best Management Practices (BMPs), following the guidelines for handling and disposal of construction site discharges detailed in ProPECC PN 2/23 "Construction Site Drainage"; • Controlling surface run-off from construction site into storm drains via adequately designed channels, earth bunds or sand bag barriers, directing the runoff to sand / silt removal facilities such as sand traps, silt traps and sedimentation basins; • Minimising soil excavation in wet season (April to September), or where impracticable, proper covering of temporarily exposed slope surfaces, while intercepting	Construction sites / Construction Phase	Contractor		√		• ProPECC PN 2/23 • WDO • Waste Disposal (Chemical Waste) (General) Regulation • EIAO-TM

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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		channels should be provided along the crest / edge of excavation; • Proper covering of open stockpiles of construction materials during rainstorms (e.g. with tarpaulin or similar fabric). *Control of Other Construction-Related Activities* • All vehicles and plants should be cleaned before they leave the construction site to minimise the deposition of earth, mud and debris in surrounding areas; • Acidic wastewater generated from acid cleaning, etching, pickling and similar activities should be neutralised to within the pH range of 6 to 10 before discharging into foul sewers. If there is no public foul sewer in the vicinity, the neutralised wastewater should be tankered off site for disposal into foul sewers or treated to a standard acceptable to storm drains and the receiving waters; • The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation, should be observed and complied with for control of chemical wastes. The Contractor is also recommended to develop management procedures for chemicals used and prepare an emergency spillage handling procedure to deal with chemical spillage in case of accidents.						
11.7.2.3 – 11.7.2.4	Non-DPs	<u>Fisheries Compensation Requirement and Location</u> The requirement of fisheries compensation mainly arises from the direct permanent loss of active fishponds (which support existing aquaculture activities and production), and the permanent loss of inactive fishponds (with potential value to support future aquaculture activities upon conversion). The Government will introduce a suite of mitigation measures to enhance the fisheries resources (e.g. fisheries activities and	Fisheries compensation area within the proposed SPS WCP / Construction and Operation Phase	Construction phase: AFCD as project proponent of SPS WCP; CEDD as works agent		√	√	• EIAO-TM

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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		production, culture area and aquaculture potential etc.) of the proposed SPS WCP with a view to compensate for the loss of fishponds arising from the development of the San Tin Technopole as well as making an overall improvement to the utilisation of fisheries resources for aquaculture and promoting sustainable development of the industry in the long run. The Government will enhance the fisheries resources of 40 ha of land in the SPS WCP, including incorporation of modernised aquaculture, to compensate for the loss in fisheries resources arising from the development of San Tin Technopole. The Government will reserve 40 ha of land in the proposed SPS WCP as a fisheries enhancement area, in which the fisheries resources will be enhanced by incorporation of modernised aquaculture and proper planning and management of aquaculture activities therein. The fisheries enhancement area shall be delineated separately from the "ecologically enhanced fishponds", of which the purpose would conflict with aquaculture activities for food fish production since the "ecologically enhanced fishponds" mainly serve to provide ecological enhancement and attract foraging birds and other wildlife.		Operation phase: AFCD				
11.7.2.5 – 11.7.2.6	Non-DPs	<u>Development of Modernised Aquaculture</u> The proposed fisheries enhancement area shall utilise existing fishponds, abandoned fishponds, and brownfield areas within the proposed SPS WCP as far as possible, and shall be actively managed for modernised aquaculture, comprising both indoor and outdoor facilities, where aquaculture activities and fisheries production are generally anticipated to be multiplied upon establishment. The aforementioned measures would improve both the yield and the quality of aquaculture production, promoting the sustainable development and modernization of the fisheries industry.	Fisheries compensation area within the proposed SPS WCP / Operation Phase	AFCD as project proponent of SPS WCP			√	

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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		Modernised aquaculture generally refers to intensive high-density aquaculture activities, indoor or outdoor, with the adoption of innovative green technologies, such as recirculating aquaculture system (RAS), compartmentalisation, remote real-time environmental monitoring, species selection, ecological polyculture, nutrition management, disease prevention and health management, etc., that create water bodies and environmental conditions suitable for fish growth under high-density stocking conditions.						
11.7.2.10 – 11.7.2.11	Non-DPs	<u>Establishing the AFCD Fisheries Research Centre</u> Proper technical support would ensure the proper implementation of these practices to enhance actual fisheries aquaculture production. As such, under the Project, an AFCD Fisheries Research Centre shall be established at a location near the Loop to bridge the technical gap by providing support to the modernised aquaculture that is currently practised only in a limit extent in Hong Kong. Details of layout and design are subject to AFCD's approval on the site requirement in the design and construction stage. The proposed AFCD Fisheries Research Centre shall be implemented with accorded priority under the initial phase of the Project, for it is indispensable in serving a vital role in the provision of mitigation measures by promoting modernised aquaculture, conducting aquaculture research, and transferring modernised aquaculture techniques to local fish farms, thus facilitating the transformation and upgrading of the industry through technological advancement and improving aquaculture activities in the area. Furthermore, the proposed AFCD Fisheries Research Centre would be implemented under the initial phase of the Project, while the majority of the fishpond loss in San Tin and Sam Po Shue would occur during the main phase of the Project (refer to **Appendix 2.1** for development phasing plan). With the	OU(I&T)6 site in the northern portion of the Project area, southwest to the Loop / Construction and Operation Phase	Construction phase: AFCD as project proponent of Fisheries Research Centre; CEDD as works agent Operation phase: AFCD		√	√	

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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		early establishment of the Fisheries Research Centre, early enhancement of aquaculture production and activities would be possible, thus minimising fisheries impact before the establishment of fisheries enhancement area in the proposed SPS WCP.						
11.7.2.13	Non-DPs	*Proper Planning of Aquaculture Activities in the proposed SPS WCP* The compensation strategy within the proposed SPS WCP shall include proper replanning of fishpond areas and wetland habitats within the SPS WCP, incorporating suitable modernised aquaculture technology and management practice in accordance with the environmental constraints and the purpose of aquaculture operation, and centralising the same types of aquaculture activities in the same area, etc. Details of the compensation strategy would be further formulated in later detailed studies of the proposed SPS WCP project.	Fisheries compensation area within the proposed SPS WCP / Operation Phase	AFCD as project proponent of SPS WCP			√	
Impact on Cultural Heritage								
12.5.4.1	DP2, Non-DPs	Cartographic and Photographic Record Preservation by record must be carried out before the demolition of Tin Tak Heroes Temple, Mai Po Lung Vegetable Marketing Co-operative Society Ltd. and Sun Tin Vegetable Marketing Co-operative Society Ltd.. A comprehensive record through 3D scanning, video recording and cartographic and photographic recording should be conducted by the project proponent of subsequent developer(s) prior to any construction works. A copy of these records should be provided to Antiquities and Monuments Office (AMO) for record purpose and future use, such as research, exhibition and educational programmes.	Construction sites / Construction Phase	Contractor		√		• EIAO-TM • Guidance Note on Assessment of Impact on Sites of Cultural Heritage in Environmental Impact Assessment Studies (GCH-EIA) • Hong Kong Planning Standards and Guidelines (HKPSG) • Guidelines for Cultural Heritage

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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								Impact Assessment (GCHIA)
12.5.4.2-12.5.4.7	DP1, Non-DPs	<u>Monitoring of ground-borne vibration, tilting and ground settlement</u> Monitoring of ground-borne vibration, tilting and ground settlement, shall be employed for Entrance Gate, Enclosing Walls and Shrine, Yan Shau Wai (HBN186) during the site formation and construction phases. The monitoring should be incorporated with a set of Alert, Alarm and Action (3As) system strictly following AMO's monitoring requirements for grade 3 historic building. The actual 3As criteria should be agreed with the AMO prior to the commencement of construction works. A monitoring proposal, including checkpoint locations, installation details, response actions to be taken when reaching each of the Alert/ Alarm/ Action (3As) levels and frequency of monitoring should be submitted to AMO and relevant stakeholder(s) for consideration before commencement of the works. Prior agreement and consent should be sought from the owner(s), stakeholder(s) and relevant Government department(s) for the installation of monitoring points before commencement of the works. Record of monitoring should be submitted regularly to AMO during the construction. AMO should be alerted in case any irregularities are observed. Monitoring of ground-borne vibration, tilting and ground settlement is also proposed to be employed for Yeung Hau Temple (San Tin) (MPT01) and Structure between No. 5 and No. 7, Shek Wu Wai (SWW01) during the site formation and construction phases. The monitoring should be incorporated	Construction sites / Construction Phase	Contractor		√		• EIAO-TM • Buildings Ordinance

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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		with a set of Alert, Alarm and Action (3As) system strictly following the requirements set out in Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers - Ground-borne Vibrations and Ground Settlements Arising from Pile Driving and Similar Operations (PNAP APP-137) on vibration-sensitive and dilapidated buildings. If the alert level is exceeded, the monitoring frequency should be increased. If the alarm level is exceeded, the design of the construction may have to be amended. If the action level is exceeded, all works should be stopped. The actual 3As criteria shall be further confirmed via an assessment on the effects of ground-borne vibrations, settlements and tilting on MPT01 and SWW01. Prior agreement and consent should be sought from the owner(s), stakeholder(s) and relevant Government department(s) for the installation of monitoring points on the building before commencement of the works. Record of monitoring should be submitted regularly to the Buildings Department during the construction under Buildings Ordinance. Buildings Department should be alerted in case any irregularities are observed. Seven other identified items may experience impacts of ground borne vibration, tilting and settlement, namely Gurkha Cemetery (BH03), Mans' Boundary Stone (BH06), Grave of Man Lun Fung ("麒麟吐玉書") (BH07), Grave of Man Chung Luen (BH08), Grave of Man Chu Shui (BH10), Grave of Mrs Man Leung (BH11) and Grave of Chong Yin Kei (BH12). With an aim to define the vibration limit and to evaluate if ground-borne vibration, tilting and ground settlement monitoring and structural strengthening measures are required during construction phase, a baseline condition survey and baseline vibration impact assessment should be conducted for these non-building structures by a qualified building surveyor or qualified structural engineer during pre-						

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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		construction stage of the proposed developments. This is to ensure the construction performance meets with the vibration standard stated in the EIA report.						
12.5.4.8-12.5.4.9	DP1, Non-DPs	Safe Access The entrance door of Yeung Hau Temple (San Tin) leads directly to the Project boundary. A safe access route shall be maintained for visitors during the construction stage. There would be a temporary change of access to Gurkha Cemetery, Grave of Man Lun Fung ("麒麟吐玉書"), Grave of Man Chung Luen, Grave of Man Chu Shui and Grave of Mrs Man Leung during the construction phase. A safe access route to these burial grounds should be maintained for conducting any mitigation measures, in particular during *Ching Ming* Festival, *Chung Yeung* Festival and *Purkha Divas*.	Construction sites / Construction Phase	Contractor		√		• EIAO-TM
12.5.4.10	Non-DPs	Protective Barrier The contractors should enforce protocol to forbid any light machinery, such as handheld jackhammer, or heavy machinery to come into direct contact with Yeung Hau Temple (San Tin), which is located right next to the Project boundary. Physical protective barriers/ covers or intervention/cushioning materials, including but not limited to covering or sheltering, shall be provided during the proposed construction works to separate the works areas from the structure. No piling works shall be allowed within the protective zone. No worker or any construction related equipment(s) and material(s) should trespass the protective zone. The contractor should propose the actual extent of the protective zone and suitable protective covering materials to the satisfaction of AMO prior to the commencement of the proposed construction works.	Construction sites / Construction Phase	Contractor		√		• EIAO-TM
12.5.4.11	Non-DPs	Dust Suppression	Construction sites / Construction Phase	Project Proponent		√		• EIAO-TM

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		Implementation of mitigation measures in the *Air Pollution Control (Construction Dust) Regulation*, dust suppression measures and good site practice should be observed by the project proponent on Yeung Hau Temple (San Tin) and Grave of Chong Yin Kei during the construction phase.						• Air Pollution Control (Construction Dust) Regulation
12.6.7.1	DP1, DP2, Non-DPs	Archaeological Watching Brief is recommended to be carried out in Shek Wu Wai Archaeologically Sensitive Area (ASA) and Mai Po Lung (South) ASA should works involve soil disturbance occurred (such as site formation) during the construction phase. The project proponent or future subsequent developer(s) should employ an archaeologist who must obtain a *Licence to Excavate and Search for Antiquities* from the Antiquities Authority prior the commencement of the fieldworks. The scope, methodology and programme of the archaeological survey shall be agreed with AMO.	Construction sites / Construction Phase	Project Proponent		√		• EIAO-TM
12.6.7.2-12.6.7.4	DP1, DP2, DP5, Non-DPs	Further archaeological survey at later stages after land resumption but before site formation works is recommended for Hop Shing Wai ASA, Mai Po ASA, Siu Hum Tsuen (West) ASA, Siu Hum Tsuen (East) ASA and Pang Loon Tei ASA. The survey shall be conducted by an archaeologist who must obtain a *Licence to Excavate and Search for Antiquities* from the Antiquities Authority prior the commencement of the fieldworks. The scope, methodology and programme of the archaeological survey shall be agreed with AMO.	Construction sites / Construction Phase	Project Proponent		√		• EIAO-TM
12.6.7.8	All DPs and Non-DPs	If antiquities or supposed antiquities under the Antiquities and Monuments Ordinance (Cap. 53) are discovered, the project proponent is required to inform AMO immediately for discussion of appropriate mitigation measures to be agreed by AMO before implementation by the project proponent to the satisfaction of AMO.	Construction sites / Construction Phase	Project Proponent		√		• EIAO-TM • Antiquities and Monuments Ordinance

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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Hazard to Life								
13.9.1.1	N/A	Since hazard to life issue would not be anticipated, no mitigation measure is considered necessary for the Project.	N/A	N/A	N/A	N/A	N/A	N/A
Landscape and Visual Impact								
Table 14.9	Non-DPs	Provision of Wildlife corridor where appropriate and applicable (DM1) - Opportunity for ecological linkage is proposed at below location - 1) Between STEMDC, Ha Wan Tsuen and Lok Ma Chau should be provided for target mammal species via culvert / constructed wetland in order to prevent roadkill and guiding wildlife into the underpasses. - 2) Provide ecological linkage between the various "GB" under the Revised RODP, targeting mammal species of conservation importance - Details of the proposed wildlife corridor shall be formulated in detailed design in later stages, and shall be agreed with relevant authorities (e.g. AFCD and EPD) prior to commencement of construction works. It is expected that, provision of wildlife corridor can maximise the ecological function of preserved "GB" and mitigate the habitat fragmentation impact. - To enhance visual and air permeability For further details, refer to Section 10.11 of the Ecological Impact Assessment	Design Construction and Operation Phase	Design stage consultant / Contractor / Operator	√	√	√	
Construction Phase								
Table 14.10	All DPs and Non-DPs	Preservation of Existing Vegetation (CM1) • All the existing vegetation and trees to be retained and not to be affected by the Projects shall be carefully	Project site / Construction Phase	Contractor	√	√		DEVB TC(W) No. 4/2020 - Tree Preservation

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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		protected during construction by means of fencing during construction stage to prevent damage to tree canopies and root zones from vehicles and storage of materials. • The tree preservation and tree treatment shall be subject to the detailed design stage and in accordance with DEVB TC(W) No. 4/2020 - Tree Preservation and the latest guidelines on Tree Preservation during Development issued by GLTMS of DEVB. • A detailed tree survey will be carried out for the Tree Preservation and Removal proposal (TPRP) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will propose which trees should be retained, transplanted, or removed and will include details of tree protection measures for those trees to be retained.						
Table 14.10	All DPs and Non-DPs	<u>Transplanting of Existing Trees (CM2)</u> • Trees unavoidably affected by the works should be transplanted as far as possible in accordance with DEVB TC(W) No. 4/2020- Tree preservation and the latest Guidelines on Tree Preservation during Development issued by GLTMS of DEVB. • Sufficient time should be reserved for the advanced tree transplanting preparation works to enhance the survival rate of the transplanted trees. The transplanting proposals are subject to review at the detailed design stage and to agreement-in-principle with the relevant management and maintenance agents and/or government departments.	Project site / Construction Phase	Design stage consultant / Contractor		√		DEVB TC(W) No. 4/2020 - Tree Preservation
Table 14.10	All DPs and Non-DPs	<u>Reinstatement of Temporarily Disturbed Landscape Areas (CM3)</u>	Project site / Construction Phase	Contractor		√		• EIAO-TM

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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		All hard and soft landscape areas disturbed. All hard and soft landscape areas disturbed temporarily during construction should be reinstated on like-to-like basis, to the satisfaction of the relevant Government Departments.						
Table 14.10	All DPs and Non-DPs	Minimise Disturbance on Watercourses (CM4) The design shall minimise disturbance on watercourses, particularly for natural watercourse. Good site practices as described in ETWB TCW No. 5/2005 "Protection of natural streams/rivers from adverse impacts arising from construction works" shall also be adopted to avoid any pollution entering the watercourses nearby where applicable. Should temporarily or indirect disturbance on watercourse is unavoidable, it shall be reinstated to the satisfaction of relevant Government Departments.	Project site / Construction Phase	Contractor		√		• ETWB TCW No. 5/2005
Table 14.10	All DPs and Non-DPs	Minimise topographical changes (CM5) The proposed site formation works should be optimised to reduce topographical/ landform changes, as well as reduce land take and interference with natural terrain. • Where there is a need to significantly cut into the existing landform, retaining walls should be considered and cut slopes should be considered to minimise landform changes and land resumption. • Earthworks and engineered slopes should be designed to be a visually interesting landform, compatible with the surrounding landscape and maximise greening opportunities.	Project site / Construction Phase	Contractor		√		• EIAO-TM •
Table 14.10	All DPs and Non-DPs	Management of Construction Activities and Facilities (CM6)	Project site / Construction Phase	Contractor		√		• EIAO-TM

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		Management of facilities on work sites which give control on the height and disposition/arrangement of all facilities on the works site to minimise visual impact to adjacent VSRs.						
Table 14.10	All DPs and Non-DPs	Control of Night-time Lighting (CM7) Control of night-time lighting glare to prevent light overspill to the nearby VSRs and into the sky. Relevant best practices as suggested in the "Charter on External Lighting" and Guidelines on Industry Best Practices for External Lighting Installations" promulgated by The Environment Bureau (ENB) shall be adopted.	Project site / Construction Phase	Contractor		√		• Charter of External Lighting issued Guidelines on Industry Best Practices for External Lighting Installations
Table 14.10	All DPs and Non-DPs	Construction of Decorative Hoarding around Construction Works (CM8) Erection of decorative screen hoarding or hoarding compatible with the surrounding setting.	Project site / Construction Phase	Contractor		√		• EIAO-TM •
Table 14.10	All DPs and Non-DPs	Advance Planting of Screen Planting (CM9) Advance screen planting of fast-growing tree and shrub species to proposed development	Project site / Construction Phase	Contractor		√		• EIAO-TM
Table 14.10	DP 6,7 and Non-DPs	Creating interface between Ponds, Wetland and the proposed Project (CM10) • The 20m "landscape buffer" between STEMDC and OU(I&T) and the 35m "landscape buffer" are being proposed to create buffer between the existing and/or the development and wetland. • Native tree species, shrub mix, and riparian vegetation should be incorporated in the "landscape buffer". • Phasing of pond filling works in San Tin – Sam Po Shue area should be adopted. The pond filling works should be started from urbanised area towards the wetland area	Project site / Construction Phase	Contractor		√		• EIAO-TM

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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		(i.e. from the southeast near STEMDC or San Tin Highway towards the northwest) and construction activities should be minimised at any one time, so as to allow gradual displacement of wildlife. It shall be conducted during wet season as far as practicable. For details of the wetland enhancement areas, please refer to Section 2 - Project description and Section 10 -Ecological Impact Assessment						
14.9.4	All DPs and Non-DPs	The following good site practice measures will also be incorporated in the construction phase of the Project: • Topsoil, where identified, shall be stripped, and stored for re-use in the construction of the soft landscape works. Existing trees to be retained on site shall be carefully protected during construction.	Project site / Construction Phase	Contractor		√		• EIAO-TM
Operation Phase								
Table 14.10b	All DPs and Non-DPs	<u>Sensitive and aesthetically pleasing Design of Aboveground structures (OM1)</u> • Aesthetically pleasing design as regard to the form, material and façade finishes should be incorporated to the proposed above ground structures for both Schedule 2 and Schedule 3 DPs above ground structures. Implementation of lighter colour tone, natural materials on façade design should be implemented where appropriate. The planning of the Revised RODP has considered reducing potential visual impacts, enhancing visual amenity, and keeping visual corridors. The proposed development will ensure the building massing is compatible with its surroundings.	Design and Operation Phase	Contractor	√		√	• EIAO-TM • DSD TC No. 2/2022-Vetting Committee on Aesthetic Design of Drainage Services Buildings APP-152: Sustainable Building Design Guidelines

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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Table 14.10b	All DPs and Non-DPs	Landscape integration of Built Development (OM2) • Buffer tree planting and vertical greening shall also be maximised for ventilation building, engineering structures and associated facilities as far as appropriate to provide a source of green visual relief, minimise any potential adverse landscape and visual impacts through greening effect (e.g., provision of tree / shrub / climber planting), and to blend in the structures to the adjacent landscape and visual context. Integration of biophilic/ resilient/sustainable landscape design, smart landscape infrastructure and edible planting are encouraged where practicable subject to detail design stage.	Design and Operation Phase	Contractor	√		√	• EIAO-TM
Table 14.10b	All DPs and Non-DPs	Provision of roadside planting/ amenity planting/ peripheral screening or planting (OM3) Roadside soft landscape should be incorporated to the proposed vehicular roads, station and associated engineering facilities. Ornamental and native species suited for roadside planting should be proposed to soften the road corridors. Shade tolerant plants with tall to medium height should be planted to under the viaduct to soften the hard edges and provide screening. When technically feasible, application of blue-green infrastructure and sustainable drainage system shall be incorporated in roadside planters.	Design and Operation Phase	Contractor	√		√	• EIAO-TM
Table 14.10b	All DPs and Non-DPs	Provision of new tree planting (OM4) • Compensatory tree planting should be provided in accordance with DEVB TC(W) 4/2020 – Tree Preservation to compensate for felled trees and maintained until end of the establishment period. Compensatory shrub planting should be provided to	Design and Operation Phase	Contractor	√		√	• DEVB TC(W) 4/2020

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		compensate for the loss of shrub planting in amenity areas. • As far as practicable, tree compensation within the proposed Project will be provided at a 1:1 ratio when appropriate and applicable. Trees affected by DPs will be compensated within their respective DP areas.						
Table 14.10b	All DPs and Non-DPs	Incorporation of green roof (OM5) Roof Greening should be proposed to the roof area of the proposed structures as far as practical to enhance the landscape quality of the structures and mitigate any potential visual impact on adjacent VSRs. Roof greening which compliance with the site coverage of greenery requirements shall be in accordance with DEVB TC(W) No. 3/2012 – Site Coverage of Greenery for Government Building Projects.	Design and Operation Phase	Contractor	√		√	• DEVB TC(W) No. 3/2012
Table 14.10b	All DPs and Non-DPs	Sensitive design of noise barriers (OM6) The proposed noise barriers & enclosures shall be design in an elegant manner that includes suitable combination of transparent and sound absorbent materials, appropriate colour selection of panels and supporting structures, or provision of at-grade planting of trees, shrubs and/or climbers.	Design and Operation Phase	Contractor	√		√	• EIAO-TM
Table 14.10b	All DPs and Non-DPs	Control of night-time lighting glare (OM7) All the night-time lighting shall be avoided except for safety purpose. No light glare shall illuminate directly outside the Project. Relevant best practices as suggested in the "Guidelines on Industry Best Practices for External Lighting Installations" promulgated by ENB shall be adopted.	Design and Operation Phase	Contractor	√		√	• Guidelines on Industry Best Practices for External Lighting Installations

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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Table 14.10b	All DPs and Non-DPs	<u>Revitalisation and naturalisation of river to create a blue-green network (OM8)</u> • The major drainage channel/ man-made watercourse channels within the Project area will be affected by the works. • It presents an opportunity to better integrate integrated blue-green infrastructure into the urban and landscape design. As such, forming a more resilient blue-green feature facilitating drainage function and a more scenic recreation destination. • Where technically feasible, soft banks allowing reed planting, tree planting shall be encouraged. Ponds and water features should be incorporated where appropriate	Design and Operation Phase	Contractor	√		√	• EIAO-TM • DEVB TC(W) No. 09/2020: Blue-Green Drainage Infrastructure • DSD PN No. 2/2022 - Guidelines on Application of Floodable Area and Drainage Facility Co-Use in Drainage Management
Table 14.10b	All DPs and Non-DPs	<u>Maximise greening on engineering structures and surfaces (OM9)</u> • Where technically feasible and appropriate (i.e. where suitable depth of planting medium, maintenance access and enough light penetration to ground level available) climber should be proposed at vertical surfaces such as greening facade of building blocks, viaduct piers or noise barriers to break up the appearance of uniform engineered structures and surfaces. • Tree planting integrate with wider streetscape elements such as hardscape paving, outdoor furniture and lighting poles should be considered to create a pedestrian-friendly network. • At-grade road planting should be considered along central median planters and on the road island with reference to DEVB TC(W) No. 2/2012, DEVB TC(W) No. 1/2018, DEVB TC(W) No. 6/2015.	Design and Operation Phase	Contractor	√		√	• HQ/GN/15 – "Guidelines for Greening Works along Highways". • DEVB TC(W) No. 2/2012 • DEVB TC(W) No. 1/2018 • DEVB TC(W) No. 6/2015

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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		For greening of highways specifically, refer to HQ/GN/15 – "Guidelines for Greening Works along Highways". The above mitigation measures would only be implemented for public developments/projects.						
Table 14.10b	All DPs and Non-DPs	<u>Landscape treatment on slope (OM10)</u> • To minimise adverse impacts in relation to LRs, LCAs and VSRs site formation should be reduced as far as possible to avoid substantial slope cutting. When condition does not allow, slope landscaping shall be explored wherever possible. • Hydroseeding of modified slopes should be done as soon as grading works are completed to prevent erosion and subsequent loss of landscape resources and character. - Tree seedlings and/ or shrubs should be planted where the slope gradient and site conditions allow. Greening shall be planted on retaining structures associated with modified slopes, where technically feasible. • All slope landscaping works should comply with GEO Publication No. 1/2011- Technical Guidelines on landscape Treatment for Slopes.	Design and Operation Phase	Contractor	√		√	• GEO Publication No. 1/2011 - Technical Guidelines on landscape Treatment for Slopes.
Table 14.10b	All DPs and Non-DPs	<u>Sensitive design of landscape areas / provision of Open Space (OM11)</u> • The principles adopted in the RODP ensure that Urban design and Landscape Framework are incorporated which will also improve the landscape visual amenity. • Elegant, sensitive design and generous planting of the associated landscape areas. • Provision of wetland/freshwater habitat/water pond at appropriate location for habitat creation.	Design and Operation Phase	Contractor	√		√	• EIAO-TM

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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		• All requirements for Open Space areas stated in the EIA Report should be adhered to.						
Table 14.10b	All DPs and Non-DPs	Off-site woodland compensation (OM12) • Woodland compensatory is proposed for woodland that are unavoidably affected. The proposed location and detailed design is subject to further agreement. • Woodland compensation would be provided based on "no net loss" and "like for like" basis or by providing a compensation area with equivalent or higher ecological function. However, in light of a paucity of suitable area for on-site compensation within the Project area, off-site woodland compensation is considered instead. • Plant species should be selected to include a mix of species with pioneering characteristics (fast-growing/ light-tolerant/ drought-tolerant/ wind-tolerant, etc.) and native species and complementary species to the local area. For further detailed for the proposed location and list of recommended species, refer to S10.13 of the EIA Report.	Design and Operation Phase	AFCD	√		√	• EIAO-TM
Table 14.11	All DPs and Non-DPs	Creation of landscape buffer (OM13) • An NBA namely "landscape buffer" area was proposed along the north-western boundary of the Revised ROPD, between the proposed Project area in San Tin and Sam Po Shue Wetland, and also at the existing LMC BCP, between the land use "OU(I&T).1.1.1" and STEMDC. • The "landscape buffer" would minimise disturbance from Project Area by providing a buffer area between the development and the adjacent wetland and by	Design and Operation Phase	Contractor	√		√	• EIAO-TM

EIA Ref.	Relevance to Designated Project (DP)	Environmental Protection Measures	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Implementation Stage*			Relevant Legislation & Guidelines
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		incorporating gentle slope interface with the ponds and planting of trees and native/ suitable vegetation. For further details, refer to Section 10.11.12.						
Table 14.11	All DPs and Non-DPs	<u>Stepped building height profile (OM14)</u> • The building height profile shall make reference to the recommended Building Height Concept (Appendix 14.2.4) down from the south to the north to respond to the SPS WCP and the important bird flight paths adjacent to the LMC station in order to minimise negative impacts on the sensitive area. The pinnacles and building profiles of each character zone shall also respect the peak and ridge line in the backdrop. • As a broad general principle, the maximum development height permitted will be reduced as they approach villages, low rise developments and open space. While high-rise development shall be considered at mixed use development and critical pedestrian and vehicular entry. • Low rise profiles shall be adopted along ecologically sensitive areas. A stepdown approach shall be used along important bird flight paths. For further detail, refer to S14.5.17-14.5.19 and Appendix 14.2.4 of the EIA Report.	Design Construction and Operation Phase	Contractor	√	√	√	• HKPSG Ch11- Urban Design Guidelines.
Table 14.11	All DPs and Non-DPs	<u>Provision of Breezeway/ Airpaths (OM15)</u> • Provision of Breezeway/ Airpaths to ensure effective air ventilation going through the Area and to improve the micro-climate of its proposed urban environments in accordance to the HKPSG Ch11- Urban Design Guidelines. • Major ones include 1) along San Tin Highway and Fanling Highway towards Kwu Tung North New Development	Design Construction and Operation Phase	Contractor	√	√	√	• HKPSG Ch11- Urban Design Guidelines.

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		Area to the east; 2) along proposed open space to the southeast of the proposed San Tin Station, namely Town Park. 3) along the proposed major road of Road D1 parallel to Town Park across the San Tin Town Centre (East) through the proposed open space along STEMDC, namely Riverside Park towards the low-rise education uses and Ki Lun Shan. • Other breezeways are generally following the revitalised river channels – STEMDC and STWMDC, major walkways and public open space. • To enhance visual and air permeability • For further details, refer S14.5.23-25 of the EIA Report.						
Table 14.11	All DPs and Non-DPs	Provision of view corridor (OM16) View Corridor are proposed to maximise and aligned principally along major breezeways and visual connection to local landmarks and visual resources.	Design Construction and Operation Phase	Contractor	√	√	√	• HKPSG Ch11-Urban Design Guidelines.
Table 14.11	DP2, DP3 and Non-DPs	Sensitive layout design of drainage related above-ground structures (OM17) • All above-ground structures, including STLMC Effluent Polishing Plant (DP2) and STLMC Water Reclamation Plant (DP3), etc. shall be sensitively designed in a manner that responds to the existing and planned urban context. The height, form and layout shall be optimised to minimise potential visual impact. • The footprint layout and massing of development components and the works area should also be kept to a practical minimum and the detailed design of development components for construction phase should follow the Sustainable Building Design Guidelines.	Design and Operation Phase	Contractor	√		√	• EIAO-TM

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		The form, textures, finishes and colours of the proposed development components should aim to be compatible with the existing surroundings.						
Table 14.11	DP6, DP7, Non-DPs	<u>Watercourse impact mitigation within Wetland conservation Area (OM18)</u> For channelised watercourses, if these are modified, the DSD PN No. 3/2021- Guidelines on Design for Revitalisation of River Channel, should be considered and appropriate mitigation measures included ensuring the new watercourses match the existing as far as possible. Measures can include enhancement planting to upgrade the channels as appropriate, including consideration of wetland planting along embankments where appropriate; as well as consideration of the best materials for the channel lining (e.g. gabion). All measures must also ensure any necessary maintenance work can be carried out and that the channel meets all its requirements for water flow.	Design and Operation Phase	Contractor	√		√	• DSD PN No. 3/2021- Guidelines on Design for Revitalisation of River Channel • DSD PN No. 2/2022 - Guidelines on Application of Floodable Area and Drainage Facility Co-Use in Drainage Management
Impacts from Electric and Magnetic Fields								
15.6.1.1	N/A	Since electric and magnetic fields issue would not be anticipated, no mitigation measure is considered necessary for the Project.	N/A	N/A	N/A	N/A	N/A	N/A

*Des = Design; C = Construction; O = Operation