CONSULTANCY REF.: AFCD/FIS/02/19 CONSULTANCY SERVICE FOR ENVIRONMENTAL IMPACT ASSESSMENT STUDY FOR DESIGNATION OF NEW FISH CULTURE ZONES Environmental Impact Assessment (EIA) Report for Establishment of Fish Culture Zone at Outer Tap Mun

APPENDIX 10A IMPLEMENTATION SCHEDULE OF RECOMMENDED ENVIRONMENTAL PROTECTION MEASURES / MITIGATION MEASURES

APPENDIX 10A

EIA Reference	EM&A Reference	Recommended Environmental Protection Measures / Mitigation Measures	Location / duration of recommended	Implementation Agent ^(a)		lemen ge ^(b)	tation	Relevant Legislation & Guidelines
			measures & timing of completion of recommended measures		D	С	0	-
Water Qual	ity							1
S3.9.1	S2	Any sewage / wastewater generated should be collected at the transportation / work vessel(s) for disposal at appropriate facilities on land.	All area / During construction	Contractor(s)		-		Cap. 358 Water Pollution Control Ordinance
S3.9.2	S2	The licensees will adopt the operational measures and best practice for mariculture activities.	All area / During operation	Contractor(s)			 ✓ 	Cap. 353 Marine Fish Culture Ordinance
S3.9.2	S2	Standing stock should not exceed 684.5 ton at any given time. AFCD will ensure the production scale of the Project site will not exceed the maximum standing stock level by controlling the mariculture production scale permitted under individual license.	All area / During operation	AFCD			•	Cap. 353 Marine Fish Culture Ordinance
S3.9.2	S2	In case of potential circumstances (e.g. red tide event, outbreak of fish disease), the licensees will review the need of fish raft relocation and propose the fish raft relocation plan as necessary for agreement with AFCD.	All area / During operation	Contractor(s) / AFCD			*	Cap. 353 Marine Fish Culture Ordinance
S3.9.2	S2	Only pellet feed or alternative feed with better feed conversion ratio will be permitted within the proposed FCZ.	All area / During operation	AFCD			√	Cap. 353 Marine Fish Culture Ordinance
S3.9.2	S2	No chemically-laden solution from culture gears disinfection should be discharged into the sea.	All area / During operation	Contractor(s)			v	Cap. 358 Water Pollution Control Ordinance

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			measures & timing of completion of recommended measures		D	С	0	
S3.9.2	S2	Onsite storage of chemicals should be controlled and minimised as practicable. Excess chemicals as well chemical waste generated should be removed from the site at appropriate facilities or by licensed contractor as soon as possible.	All area / During operation	Contractor(s)			•	Cap. 354C Waste Disposal (Chemical Waste) (General) Regulation
S3.9.2	S2	Fuel storage onsite should be minimised, and if needed, be located at sheltered and secure location.	All area / During operation	Contractor(s)			1	Cap. 354C Waste Disposal (Chemical Waste) (General) Regulation
S3.9.2	S2	Littering of the sea should be prohibited.	All area / During operation	Contractor(s)			~	Cap. 228 Summary Offences Ordinance
S3.12	S2	Water quality monitoring for operation is recommended when the standing stock is expected to achieve 75% of the carrying capacity (i.e. 684.5 ton x 75% = 513.4 ton) or when the standing stock is expected to achieve 95% of the carrying capacity (i.e. 684.5 ton x 95% = 650.3 ton) for at least a month in a fish farming cycle.	All area / During operation	ET / IEC			•	-
Marine Eco	logy		•					
S4.8	S3	The mitigation measures designed to mitigate water quality impacts through proper fish farm management shall be adopted.	All area / During operation	AFCD / Contractor(s			•	-
Fisheries								
S5.8	S4	The mitigation measures designed to mitigate water quality impacts and proper fish farm	All area / During operation	AFCD / Contractor(s)			~	-

EIA Reference	EM&A Reference	Recommended Environmental Protection Measures / Mitigation Measures	Location / duration of recommended	Implementation Agent ^(a)		lemen ge ^(b)	tation	Relevant Legislation & Guidelines
			measures & timing of completion of recommended measures		D	С	0	
		management designated to mitigate marine ecological impacts shall be adopted.						
Waste Man	agement							
S6.5.1	S5	 The contractor(s) / fish farmers shall implement the following control measures: Submit an Environmental Management Plan under the Fish Farm Operational Plan on the control of environmental impacts from the mariculture activities for agreement with AFCD; Disposal or destruction of any fish within any site found or suspected to be suffering from any infectious disease; Disposal of any noxious or waste matter resulting from the fish collection or fish harvest. 	All area / during construction / during operation	Contractor(s)		1	•	Marine Fish Culture Ordinance (Cap. 353)
S6.5.1	S5	 The contractor(s) / fish farmers shall implement the following control measures: Liquid oil waste or any other mixtures which contain oil and noxious liquid substances or any such residues shall not be discharged into the sea; Oily waste from vessels should be discharged to CWTC. 	All area / during construction / during operation	Contractor(s)		•	•	Merchant Shipping (Prevention and Control of Pollution) Ordinance (Cap. 413)
S6.5.1	S5	The Contractor(s) will consult AFCD for the final disposal of wastes and, as appropriate,	All area during contract mobilisation / during	Contractor(s)		~	1	Marine Fish Culture Ordinance (Cap. 353)

EIA Reference	EM&A Reference	Recommended Environmental Protection Measures / Mitigation Measures	Location / duration of recommended	Implementation Agent ^(a)		lemen ge ^(b)	tation	Relevant Legislation & Guidelines
		co re m	measures & timing of completion of recommended measures		D	С	0	
		implement the good site practices and mitigation measures given below.	construction / during operation					
		Nomination of approved personnel (e.g. environmental officer of the contractor(s), representative of the project proponent) to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility of all wastes generated at the site;						
		 Training of site personnel in proper waste management and handling procedures by AFCD; 						
		 Provision of sufficient waste disposal points and regular collection for disposal; 						
		 Appropriate measures to reduce windblown / floating litter and dust during transportation of waste by transporting wastes in enclosed containers; and 						
		A recording system (e.g. log book for mariculture operation) for the amount of wastes generated, recycled and disposed of and the disposal sites for checking by AFCD.						
S6.5.2	S5	The Contractor(s) must ensure that all the necessary waste disposal permits or licences (e.g. registration as a chemical waste producer) are obtained prior to the commencement of the construction works.	All area during contract mobilisation / during construction	Contractor(s)		•		Waste Disposal (Chemical Waste) (General) Regulation (Cap 354C)

EIA EM&A Reference Reference		Recommended Environmental Protection Measures / Mitigation Measures	Location / duration of recommended	Implementation Agent ^(a)		lemen ge ^(b)	tation	Relevant Legislation & Guidelines
		c r	measures & timing of completion of recommended measures		D	С	0	-
S6.5.2.1	S5	General refuse and floating refuse will be stored in enclosed bins. The general refuse and floating refuse will be delivered to the nearest accessible FEHD refuse collection points with public pier on a regular basis to reduce odour, pest and litter impacts following the existing practice under Cap. 353.	All area / During construction	Contractor(s)		•		Cap. 132BK Public Cleansing and Prevention of Nuisances Regulation Marine Fish Culture Ordinance (Cap. 353)
S6.5.2.1 S6.5.3.1 S6.5.3.3	S5	General refuse, floating refuse and organic waste requiring disposal will be collected in designated garbage bags after the official implementation of MSW charging scheme.	All area / During construction / During operation	Contractor(s)		1	*	Waste Disposal (Charging for Municipal Solid Waste) (Amendment) Ordinance 2021
S6.5.2.1 S6.5.3.1 S6.5.3.3	S5	Public transport will not be used for handling (including stockpiling, labelling, packaging & storage), collection, transportation and re-use / disposal of wastes generated under the Project. Thus, impacts to public transport is not expected and specific mitigation measure for public transport is considered not necessary.	All area / During construction / During operation	Contractor(s)		~	•	-
S6.5.2.1 S6.5.3.3	S5	Recycling bins will be provided at appropriate locations to facilitate collection of recyclable materials (including aluminium can, waste paper, glass bottles and plastic bottles) from the Project site.	All area / During construction / During operation	Contractor(s)		•	~	-
S6.5.2.1 S6.5.3.3	S5	To avoid entrapment of floating refuse within the Project site, the fish cages / rafts and vessels should be properly designed such that there are no sharp turns or abrupt	All area / During construction / During operation	Contractor(s)		•	•	-

EIA EM&A Reference Referenc	EM&A Reference	Recommended Environmental Protection Measures / Mitigation Measures	Location / duration of recommended	Implementation Agent ^(a)		lemen ge ^(b)	tation	Relevant Legislation & Guidelines
			measures & timing of completion of recommended measures		D	С	0	
		indentation in order to avoid or minimise any trapped or accumulated refuse.						
S6.5.2.2	S5	Prior to the commencement of the construction works, AFCD will provide training to the construction workers on the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, re-use and recycling. In particular, the training will emphasize no dumping of waste into the sea is allowed, particularly within the licensed area and on marine vessels.	All area / During construction	AFCD		•		-
S6.5.3.1	S5	Good quality feed, such as pellet feed, should be used for feeding instead of trash fish as it effectively reduces the feed conversion ratio, and thus the quantity of uneaten feed wastage.	All area / During operation	Contractor(s)			•	Cap. 353 Marine Fish Culture Ordinance
S6.5.3.1	S5	Optimal feed input should be implemented while the fish feed should be even distributed within the licensed area. The feed will also be sieved to remove broken pieces and dust before feeding.	All area / During operation	Contractor(s)			•	Cap. 353 Marine Fish Culture Ordinance
S6.5.3.1	S5	The fish farmers will keep detailed operational records for each licensed area including the type and quantity of feed used, estimated number of fish stock and biomass, water temperature and growth rates of cultured organisms to allow more accurate estimation of fish feed input and to minimise unnecessary wastage of feeds.	All area / During operation	Contractor(s)			•	Cap. 353 Marine Fish Culture Ordinance
S6.5.3.1	S5	The fish farmers and other personnel are required to take all precautions to prevent	All area / During operation	Contractor(s)			~	Cap. 353 Marine Fish Culture Ordinance

EIA Reference	EM&A Reference	Recommended Environmental Protection Measures / Mitigation Measures	Location / duration of recommended	Implementation Agent ^(a)		lemen ge ^(b)	tation	Relevant Legislation & Guidelines
			measures & timing of completion of recommended measures		D	С	0	
		spillage during the delivery of feed to the Project site.						
S6.5.3.1	S5	The uneaten feeds should be cleaned up immediately, especially during summer times when the decomposition of organic waste is more rapid, so as to minimise leaching to the adjacent water.	All area / During operation	Contractor(s)			*	Cap. 353 Marine Fish Culture Ordinance
S6.5.3.1	S5	The quantity of feed delivered to the licensed area will also be recorded in order to ensure an appropriate quantity of feed stock is procured.	All area / During operation	Contractor(s)			•	Cap. 353 Marine Fish Culture Ordinance
S6.5.3.1	S5	It is recommended that the fish pellets should be stored in covered areas to prevent unnecessary spoilage and spillage to adjacent waters.	All area / During operation	Contractor(s)			*	Cap. 353 Marine Fish Culture Ordinance
S6.5.3.1 S6.5.3.3	S5	General refuse, floating refuse and organic waste will be stored in enclosed bins. The general refuse, floating refuse and organic waste will be delivered to the landside refuse collection points on a regular basis to reduce odour, pest and litter impacts.	All area / During operation	Contractor(s)			•	Cap. 132BK Public Cleansing and Prevention of Nuisances Regulation Marine Fish Culture Ordinance (Cap. 353)
S6.5.3.1	S5	In case of large quantity of organic waste generated as a result of extensive fish deaths, for example, due to algal bloom or fish diseases, the fish farmers will report to AFCD in due course, and AFCD, Food and Environmental Hygiene Department (FEHD), Marine Department (MD) and other relevant departments will provide assistance to the	All area / During operation	AFCD / Contractor(s)			•	Cap. 353 Marine Fish Culture Ordinance

EIA EM&A Reference Refere	EM&A Reference	Recommended Environmental Protection Measures / Mitigation Measures	Location / duration of recommended	Implementation Agent ^(a)		lemen ge ^(b)	tation	Relevant Legislation & Guidelines
			measures & timing of completion of recommended measures		D	С	0	
		fish farmers to transport the organic waste directly to NENT landfill for disposal.						
\$6.5.3.2	S5	The fish farmers will register as a chemical waste producer with the EPD. Chemical waste will be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.	All area / During operation	Contractor(s)			*	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes
S6.5.3.2	S5	 Containers used for storage of chemical wastes will: Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; Have a capacity of less than 450 L unless the specifications have been approved by the EPD; and Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations. 	All area / During operation	Contractor(s)			•	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes
S6.5.3.2	S5	 The storage area for chemical wastes will: Be clearly labelled and used solely for the storage of chemical waste; Be enclosed on at least 3 sides; Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest; 	All area / During operation	Contractor(s)			•	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes

EIA Reference	EM&A Reference	ference Measures / Mitigation Measures	Location / duration of recommended	Implementation Agent ^(a)	Implementation Stage ^(b)			Relevant Legislation & Guidelines
			measures & timing of completion of recommended measures		D	С	0	
		 Have adequate ventilation; Be covered to prevent rainfall entering (water collected within the bund must be tested and disposed of as chemical waste, if necessary); and Be arranged so that incompatible materials are appropriately separated. 						
S6.5.3.2	S5	 Chemical waste will be disposed of: Via a licensed waste collector; and To a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility which also offers a chemical waste collection service and can supply the necessary storage containers. 	All area / During operation	Contractor(s)			-	Waste Disposal (Chemical Waste) (General) Regulation; Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes
S6.5.3.4	S5	Prior to the commencement of the operation phase, AFCD will provide on-farm training to all staff working at the Project site on the concepts of sustainable mariculture practice, site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling.	All areas / During operation	AFCD			√	-
S6.7	S5	Site inspections at the Project site (on marine vessels) are recommended on a regular basis at bi-weekly interval during the time of construction activities by the ET to check if wastes are being managed in accordance with good site practices and the recommended mitigation measures. The inspections will investigate all aspects of waste management including waste	All area / During construction	ET / IEC		•		-

EIA Reference	EM&A Reference	Recommended Environmental Protection Measures / Mitigation Measures	Location / duration of recommended	Implementation Agent ^(a)		lemen ge ^(b)	tation	Relevant Legislation & Guidelines
			measures & timing of completion of recommended measures		D	С	0	-
		generation, storage, handling, recycling, transportation and disposal.						
S6.7	S5	AFCD will conduct regular inspections at monthly interval and review on FCZ operation to check if wastes are being managed in accordance with good site practices and the recommended mitigation measures. The inspections will investigate all aspects of waste management including waste generation, storage, handling, recycling, transportation and disposal.	All area / During operation	AFCD			~	Cap. 353 Marine Fish Culture Ordinance
Visual	*						*	
S7.9	S6	Pre-construction and construction period for the Project site should be reduced as far as practical to lower visual impact.	All area / Detailed design / During construction	Contractor(s)	 ✓ 	1		-
S7.9	S6	The new structures will be designed in accordance with relevant marine safety standards and regulations. Sensitive architectural design will be considered where practicable. This should take into account material texture, colour, finishes to structures to ensure the fish rafts / cages blend into the existing context, cause least disturbance to the existing seascape, and are the most visually appealing.	All area / Detailed design / During construction	AFCD / Contractor(s)	•	•		-
S7.9	S6	After operation, the open water occupied by the Project site will be reinstated to their former state.	All area / After operation	Contractor(s)			1	-

EIA Reference	EM&A Reference	Recommended Environmental Protection Measures / Mitigation Measures	Location / duration of recommended	Implementation Agent ^(a)		lemen ge ^(b)	tation	Relevant Legislation & Guidelines
			measures & timing of completion of recommended measures		D	С	0	
S7.9	S6	Light intensity and beam directional angle should be controlled at the Project site at the design stage to reduce light pollution and glare (e.g. hooded lights, specific directional focus, etc.) In addition, lighting will be limited to auxiliary structures to reduce night-time impacts.	All area / Detailed design / During operation	AFCD / Contractor(s)	•		•	-
Air Quality								
S8.8.1	S7.1	Ultra-low sulphur diesel (ULSD) will be used for all construction equipment, as defined as diesel fuel containing not more than 0.005% sulphur by weight).	All area / during construction	Contractor(s)		~		Environment, Transport and Works Bureau Technical Circular (ETWB-TC(W)) No 19/2005 on Environmental Management on Construction Sites
S8.8.1	S7.1	The engine of the construction equipment during idling shall be switched off.	All area / during construction	Contractor(s)		√		Air Pollution Control (Construction Dust) Regulation
S8.8.1	S7.1	Regular maintenance of the construction equipment shall be conducted to prevent black smoke emission.	All area / during construction	Contractor(s)		1		Air Pollution Control (Construction Dust) Regulation
S8.8.1	S7.1	All marine vessels shall operate using marine light diesel with sulphur content lower than 0.05%	On marine vessels / during construction	Contractor(s)		•		Air Pollution Control (Marine Light Diesel) Regulation
S8.8.1	S7.1	Construction equipment, e.g. mobile generator and air compressor, shall comply with the prescribed emission standards with a proper label approved by EPD.	All area / during construction	Contractor(s)		√		Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation

EIA Reference	EM&A Reference	Recommended Environmental Protection Measures / Mitigation Measures	Location / duration of recommended measures & timing of completion of recommended measures	Implementation Agent ^(a)	Implementation Stage ^(b)		tation	Relevant Legislation & Guidelines
					D	С	0	
S8.8.2	S7.2	Ultra-low sulphur diesel (ULSD) will be used for the small power generators, as defined as diesel fuel containing not more than 0.005% sulphur by weight).	All area / during operation	Contractor(s)			1	Air Pollution Control (Fuel Restriction) Regulation
S8.8.2	S7.2	The engine of the small power generators shall be switched off if not in use.	All area / during operation	Contractor(s)			~	-
S8.8.2	S7.2	Regular maintenance of the small power generators shall be conducted to prevent black smoke emission.	All area / during operation	Contractor(s)			~	-
S8.8.2	S7.2	All marine vessels shall operate using marine light diesel with sulphur content lower than 0.05%.	On marine vessels / during operation	Contractor(s)			~	Air Pollution Control (Marine Light Diesel) Regulation
S8.8.2	S7.2	Small power generators shall comply with the prescribed emission standards with a proper label approved by EPD.	All area / during operation	Contractor(s)			•	Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation
Cultural He	eritage					1		
S9.7	S8.1	A buffer area of 20 m radius as shown in <i>Figure 9.1</i> of the EIA Report from each of the 3 sonar contacts (B-SC001, B-SC011 and B-SC021) to avoid any tug boat anchoring, and anchoring of the fish rafts/cages.	A buffer area of 20 m radius from each of the 3 sonar contacts (B- SC001, B-SC011 and B- SC021) / during the construction and operation stage of the Project	AFCD / Contractors		•	•	-
S9.7	S8.1	Site inspections on a regular basis by the Environmental Team are recommended to check if any seabed disturbance work is	Buffer area / during construction stage of the Project.	ET / IEC		1		-

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					D	С	0	
		conducted in the buffer area during construction phase of the Project.						
S9.7	S8.1	AFCD will conduct regular inspections to check if any seabed disturbance work is conducted in the buffer area.	Buffer area / during operation stage of the Project	AFCD			~	-

(a) AFCD: Project Proponent; Contractor(s): Licensee(s) / the contractor(s) supporting the construction of fish raft structures; ET: Environmental Team; IEC: Independent Environmental Checker

(b) D: Design, C: Construction, O: Operation